



**THE WORKERS' COMPENSATION  
RATING AND INSPECTION BUREAU**

**WORKERS' COMPENSATION  
INSURANCE RATE FILING**

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**Volume 1 of 2**

**MAIN RATE FILING**

***Proposed Effective Date: September 1, 2011***  
***Filing Date: March 1, 2011***



**THE WORKERS' COMPENSATION  
RATING AND INSPECTION BUREAU**

March 1, 2011

The Honorable Joseph G. Murphy  
Commissioner of Insurance  
Massachusetts Division of Insurance  
One South Station  
Boston, Massachusetts 02110-2208

Dear Commissioner Murphy:

In accordance with General Laws, Chapter 152, Sections 52 and 53A, as amended by St. 1985, c. 572, I submit, on behalf of all members and subscribers of The Workers' Compensation Rating and Inspection Bureau of Massachusetts (WCRIBMA), a General Revision of Workers' Compensation Insurance Rates and Rating Values.

With this letter, I am submitting the technical support for the analysis underlying the proposed statewide increase in average rates of 6.6%. Our Cost Containment filing is attached as Volume 3 of the filing.

We propose the manual rates to be effective 12:01 A.M., September 1, 2011, and to apply to each risk as of the first normal anniversary rating date following that effective date.

Sincerely,

A handwritten signature in cursive script that reads "Paul F. Meagher".

Paul F. Meagher  
President

**COMMONWEALTH OF MASSACHUSETTS  
DIVISION OF INSURANCE**

**Docket No. 11-**

***In re:***

**APPLICATION OF THE WORKERS'  
COMPENSATION RATING AND INSPECTION  
BUREAU OF MASSACHUSETTS FOR APPROVAL  
OF A GENERAL RATE REVISION TO BE  
EFFECTIVE ON AND AFTER SEPTEMBER 1, 2011**

**PRE-FILED DIRECT TESTIMONY OF DAVID APPEL**

The Workers' Compensation Rating and Inspection Bureau of Massachusetts ("WCRIBMA") submits the following direct testimony of David Appel in support of its application for a general rate revision to be effective on and after September 1, 2011.

Q. Please state your full name.

A. David Appel.

Q. What are your professional qualifications?

A. I am a Principal and Director of Economics Consulting with the firm of Milliman, Inc. Milliman is one of the nation's largest independently owned consulting firms specializing in the areas of risk and insurance. The company has more than 2500 employees, and operates offices in over 50 cities in the U.S., Europe, Asia and Latin America. Our clients number in the thousands: they include insurers, self-insured entities, Federal and State Governments, private corporations, non-profit organizations, unions, and many others. I am a Principal with the firm, and I am in charge of its Economics Consulting practice. A complete description of my academic and professional credentials can be found in my curriculum vitae, which is attached to this testimony.

Q. What was your role in the preparation of the current WCRIBMA filing for a general rate revision?

A. I was responsible for and sponsor the materials in Section VII of the WCRIBMA's filing dealing with the estimation of the cost of capital and the use of an internal rate of return (IRR) model to derive the underwriting profit provision proposed by the WCRIBMA this year. To the best of my knowledge, information and belief, the data and calculations underlying Section VII of the filing are complete and accurate, and the narrative statements offered in support of Section VII are also accurate and correct.

Q. Are you familiar with the underwriting profit provision used by the WCRIBMA in calculating the proposed rates?

A. Yes.

Q. Are you familiar with the statutory standard that must be applied by the Commissioner in reviewing the rates proposed in the WCRIBMA's current filing – that they “are not excessive, inadequate or unfairly discriminatory” and that they “fall within a range of reasonableness”?

A. Yes. That is the standard typically applied by regulators in assessing insurance rates.

Q. Do you have an opinion as to whether the rates proposed in the WCRIBMA's current filing satisfy the statutory standard?

A. Yes.

Q. What is your opinion?

A. For the reasons I offer in Section VII-B and in the accompanying Appendix, it is my professional opinion that if the actuarial projections of losses, expenses and premiums in

the filing are reasonable, then the proposed rates satisfy the statutory standard because the underwriting profit provision has been calculated so that the rates will yield a fair return to the insurers who have invested their capital in the Massachusetts workers' compensation market.

Q. Do you have anything to add to the text of Section VII of the filing at this time?

A. Yes. While I have concluded that the rates as filed by the WCRIBMA are reasonable and not excessive, I must also note that I believe that the calculations used to derive the indicated profit provision are extremely conservative in the sense that they overstate the income insurers would reasonably expect to earn from the sale of workers' compensation insurance in Massachusetts. To the extent that income is overstated, of course, the required rate change will be set too low. There are five principal reasons for this.

First, the WCRIBMA has not reflected the true cost of policyholder dividends in the IRR model. Policyholder dividends are refunds of premium paid at the end of the policy period (and are frequently tied to the loss experience of the insured). Dividend payments definitively reduce insurer income, and should be reflected as such in the IRR. However, in her Decision on 2003 Rates, the Commissioner rejected consideration of dividends in any fashion, and hence in this year's model the WCRIBMA has not considered policyholder dividends in any form. (I understand that previous practice in Massachusetts had been to simply reflect the reduction in investible funds due to the payment of policyholder dividends, but not to reflect the dividend expense itself. In this filing neither the dividend expense nor the reduction in investible funds has been reflected.)

Second, the WCRIBMA has included a provision for the cost of reinsurance in the current filing, but its provision is restricted solely to the reinsurer's expense costs. That is, it does not consider the true net cost of reinsurance, which includes not only the reinsurer's expenses, but also the reinsurer's required profit. Had the reinsurer's required profit been reflected, the required rate change would have been higher.

Third, the weight attributed to debt capital in the WCRIBMA's calculation of the weighted average cost of capital is higher than would generally be expected, due to the precipitous declines in equity values in the recent past for firms in the financial services sectors. Any increase in the debt share reduces the overall cost of capital which acts to lower the proposed rates; had the expected debt share been used, the required rate change would have been higher.

Fourth, the WCRIBMA has assumed that all special revenue bonds are tax-exempt, an assumption known to be untrue. A portion of such bonds – approximately half based on recent research – are subject to Federal tax, which, if recognized, would reduce the after tax yield on the investment portfolio. Had a lower after tax portfolio yield been used in the model, the required rate change would have been higher.

Finally, the WCRIBMA's IRR model treats all premium balances as admitted assets, even though the premium collection pattern indicates that some premium balances are more than 90 days past due and hence are non-admitted assets. Had the model correctly reflected non-admitted premium balances, the amount of surplus would have been greater and hence the required rate change would have been higher as well.

It is evident that each of these assumptions provides a degree of conservatism in the filing, in that each works to lower the profit provision or required rate change estimated

by the WCRIBMA. I have estimated the impact of relaxing each of these assumptions on the indicated underwriting profit factor or required rate change and have found that in each instance, a less conservative assumption would have increased the indication significantly, in some instances raising the indicated rate change by as much as 3 percentage points. Therefore, I conclude that the WCRIBMA has been quite conservative in its rate request.

Lastly, I would add that I have not adjusted the target rate of return to reflect the arguably greater risk of workers' compensation relative to the average line of property/casualty insurance. I note that had I set the target return higher, a higher underwriting profit and rate change would have been indicated as well.

Signed this 17 day of February 2011 under the pains and penalties of perjury.

A handwritten signature in black ink, appearing to read "David Appel", written over a horizontal line.

David Appel

**DAVID APPEL**

One Pennsylvania Plaza  
New York, NY 10119  
(646) 473-3000

**PROFESSIONAL EXPERIENCE:**

1989 to present                    **MILLIMAN, INC.**  
Principal & Director - Economics Consulting  
  
Responsible for the formation, development and management of  
a national consulting practice in insurance economics.

1980 to 1989                    **NATIONAL COUNCIL ON COMPENSATION INSURANCE**  
Economic and Social Research Division  
1985 to 1989                    Vice President  
1983                                Assistant Vice President  
Responsible for all economic and social research of NCCI

1982                                Director of Economic and Social Research  
1981                                Senior Research Economist  
1980                                Associate Research Economist

1976 to 1997                    **RUTGERS UNIVERSITY**

1981-97                            Associate of the Graduate Faculty,  
Department of Economics, Newark, New Jersey

1981-93                            Teach variety of graduate courses including:  
Microeconomic Theory, Industrial Organization, Public Finance

1978-80                            Instructor, Department of Economics,  
New Brunswick, New Jersey

1976-78                            Adjunct Instructor, Department of Economics,  
Newark, New Jersey

**EDUCATION:**

1980                                Ph.D., Economics, Rutgers University  
1976                                M.A., Economics, Rutgers University  
1972                                B.A., Economics, Brooklyn College, CUNY  
Certified ARIAS Arbitrator and Umpire  
Member: AAA Panel of Neutrals  
Fellow: National Academy of Social Insurance

**PAPERS AND PUBLICATIONS**

"Comment on Jaffee and Russell" in Deregulating Property-Liability Insurance, J. David Cummins, Editor, Brookings Institution Press, Washington, DC, 2002

"Dynamic Financial Analysis of a Workers Compensation Insurer", CAS Call Papers Program, 1997 (with Susan Witcraft and Mark Mulvaney)

"The Impact of Managed Care on Workers Compensation Claim Costs," in a volume of conference proceedings published by the Workers' Compensation Research Institute, September 1994, (with Philip Borba).

"Health Care Costs in Workers' Compensation", Benefits Quarterly, Vol. 9, No. 4, Fourth Quarter, 1993

"The Transition From Temporary to Permanent Disability: A Longitudinal Analysis" in Workers' Compensation Insurance: Claims Costs, Prices and Regulation, David Durbin and Philip Borba, Editors, Kluwer Academic Publishers, Boston, 1992, (with Richard Butler, David Durbin and John Worrall)

"Leverage, Interest Rates and Workers' Compensation Survival" in Workers' Compensation Insurance: Claims Costs, Prices and Regulation, David Durbin and Philip Borba, Editors, Kluwer Academic Publishers, Boston, 1992, (with Richard Butler, David Durbin and John Worrall)

Benefits, Costs and Cycles in Workers' Compensation, Kluwer Academic Publishers, Boston, 1990, (co-editor with Philip Borba)

"Benefit Increases in Workers' Compensation", Southern Economics Journal, January 1990, (with Richard J. Butler)

"Internal Rate of Return Criteria in Ratemaking", NCCI Digest, Vol. IV, Issue III, September 1990, (with Richard J. Butler).

"Social Inflation in Workers' Compensation: The Phenomenon of Benefit Utilization", Proceedings of the Casualty Loss Reserve Seminar, 1988. Also in Contingencies, Nov./Dec., 1989.

Workers' Compensation Insurance Pricing: Current Programs and Proposed Reforms, Kluwer Academic Publishers, Boston, 1988,(co-editor with Philip Borba)

"Prices and Costs of Workers' Compensation" in Workers' Compensation Insurance Pricing: Current Programs and Proposed Reforms, Kluwer Academic Publishers, Boston, 1988, (with Philip Borba)

"1986 Tax Reform Act: Effects on Workers' Compensation Profitability", NCCI Digest, Vol. II, Issue II, July 1987 (with James Gerofsky)

"The Propensity for Permanently Disabled Workers' to Hire Legal Services" , Industrial and Labor Relations Review, April 1987, (with Philip Borba)

"Sex, Marital Status, and Medical Utilization by Injured Workers", Journal of Risk and Insurance, Vol. LIV, No. 1, March 1987, (with John Worrall and Richard Butler)

"The Impact of Workers' Compensation Benefits on Low Back Claims" in Clinical Concepts in Regional Musculoskeletal Illness, Nortin M. Hadler, ed. (Boston: 1986, Grune and Stratton), (with John Worrall)

"Workers' Compensation and Employment: An Industry Analysis" in Disability and the Labor Market: Economic Problems, Policies and Programs, M. Anne Hill and Monroe Berkowitz, eds., (Ithaca:1986 ILR Press), (with James Lambrinos)

"Some Benefit Issues in Workers' Compensation", in Workers' Compensation Benefits: Adequacy, Equity, Efficiency. (Ithaca:1985 ILR Press), (with John Worrall)

Workers' Compensation Benefits: Adequacy, Equity, Efficiency. (co-editor with John Worrall), (Ithaca:1985 ILR Press)

"Survivorship and the Size Distribution of the Property-Liability Insurance Industry", Journal of Risk and Insurance, October 1985, (with John Worrall and Richard Butler).

"Regulating Competition-The Case of Workers' Compensation Insurance", Journal of Insurance Regulation, (with James Gerofsky), June 1985.

"The Wage Replacement Rate and Benefit Utilization in Workers' Compensation Insurance", Journal of Risk and Insurance, September 1982 (with John Worrall)

"Property Damages", in Joseph Seneca and Peter Asch, The Benefits of Air Pollution Control in New Jersey, Center for Coastal and Environmental Studies, Rutgers University, 1979

#### WORKING PAPERS

"Workers' Compensation Pricing: The Role of Policyholder Dividends" (with David Durbin)

"The Impact of Lifetime Work on Mortality: Do Unisex Pensions Matter?" (with Richard J. Butler)

"Regulatory Survival: Rate Changes in Workers' Compensation" (with Richard J. Butler and John D. Worrall)

"Framing, Firm Size and Financial Incentives in Workers' Compensation Insurance" (with Richard J. Butler and John D. Worrall)

"Application of NAIC Profitability Models to Long Tailed Lines of Insurance" (with James Gerofsky)

INVITED PRESENTATIONS

Chicago, IL , March 17, 2010

CAS Ratemaking Seminar

“Logic, Fallacies and Paradoxes in Risk/Profit Loading in Ratemaking: A Socratic Dialogue”

Chicago, IL , March 16, 2010

CAS Ratemaking Seminar

“Quantifying Risk Loads for Property Catastrophe Exposure”

Las Vegas, NV, March 10, 2009

CAS Ratemaking Seminar

“Using Catastrophe Bonds to Infer Risk Loads/Profit Margins/Reinsurance Costs”

Boston, MA, March 17, 2008

CAS Ratemaking Seminar

“Using Catastrophe Bonds to Infer Risk Loads/Profit Margins/Reinsurance Costs”

Pinehurst, North Carolina, May 21, 2007

Workers Compensation Insurance Organizations Annual Meeting

“Enterprise Risk Management: What Is It and Why Is It Important?”

Salt Lake City, Utah, March 13, 2006

CAS Ratemaking Seminar

“Including Reinsurance Costs in Primary Insurance Rates”

New Orleans, Louisiana, March 11, 2005

CAS Ratemaking Seminar

“Including Reinsurance Costs in Primary Insurance Rates”

Philadelphia, Pennsylvania, March 11, 2004

CAS Ratemaking Seminar

“The Consideration of Risk Loads and Reinsurance Costs in Primary Insurance Ratemaking”

New York, New York, December 12, 2003

Goldman Sachs Insurance Conference

“Interest Rate Changes and Insurance Underwriting”

San Antonio, Texas, March 28, 2003

CAS Ratemaking Seminar

"The Consideration of Risk Loads and Reinsurance Costs in Primary Insurance Ratemaking"

San Antonio, Texas, March 27, 2003

CAS Ratemaking Seminar

"Rate of Return Models in Insurance Ratemaking"

San Diego, California, May 20, 2002

CAS Annual Meeting

“The Actuary as an Expert Witness”

Tampa, Florida, March 7, 2002

CAS Ratemaking Seminar

"Parameterizing Rate of Return Models in Insurance Ratemaking"

Chicago, Illinois, December 10, 2001

NAIC Meeting

“The Impact of Proposition 103 in California”

Kansas City, Missouri, April 30, 2001  
NAIC Meeting  
"Personal Lines Regulation"

Las Vegas, Nevada, March 12, 2001  
CAS Ratemaking Seminar  
"Parameterizing Rate of Return Models in Insurance Ratemaking"

Washington DC, January 18, 2001  
Brookings Institution Conference on Insurance Regulation  
"Auto Insurance Experience in California"

Bermuda, September 14, 2000  
Ace Insurance Worldwide Actuarial Conference  
"Rate of Return Models In Property Casualty Insurance Ratemaking"

Orlando, Florida, June 9, 1998  
Florida Managed Care Institute Annual Conference  
"Issues in Integrated Health Care"

Seattle, Washington, July 21, 1997  
CAS Dynamic Financial Analysis Seminar  
"Dynamic Financial Analysis of a Workers Compensation Insurer"

Boston, Massachusetts, March 14, 1997  
CAS Ratemaking Seminar  
"Discounted Cash Flow Models in Insurance Ratemaking"

East Lansing, Michigan, July 15, 1996  
National Symposium on Workers Compensation  
"Managed Care in Workers Compensation"

New Orleans, Louisiana, March 20, 1996  
Global Business Research Seminar: Partnerships Between Insurers and Providers  
"Integrating the Data Systems"

Orlando, Florida, November 15, 1995  
Global Business Research Seminar: Documenting Savings From Managed Care  
"Evaluating Savings From Managed Care"

Orlando, Florida, October 27, 1995  
Self Insurance Association of America Annual Meeting  
"Managed Care in Workers Compensation: A Magic Act or Humbug?"

San Diego, California, October 16, 1995  
Global Business Research Seminar: Documenting Savings From Managed Care  
"Technical Issues in Measuring Savings From Managed Care"

Durham, North Carolina, September 6, 1995  
North Carolina HMO Association Annual Meeting  
"Workers Compensation in North Carolina: Risks and Opportunities for HMO's"

Washington, DC, May 22, 1995  
Global Business Research Seminar: Outcomes for Workers' Compensation Managed Care  
"Measuring and Reporting the Savings"

Orlando, Florida, April 13, 1995  
NCCI Annual Meeting  
"Managed Care in Workers Compensation"

Phoenix, Arizona, April 3, 1995  
Casualty Actuarial Society Seminar on Profitability  
"Rate of Return Models - Selecting the Parameters"

New Orleans, Louisiana, March 16, 1995  
Casualty Actuarial Society Ratemaking Seminar  
"Discounted Cash Flow Models for Insurance Ratemaking"

Orlando, Florida, March 14, 1995  
Standard & Poor's Rating Conference  
"Consolidation in the Property/Casualty Insurance Industry"

Minneapolis, Minnesota, October 11, 1994  
Casualty Actuarial Society Seminar on Medical Cost Containment  
"Managed Care and Workers' Compensation"

Toronto, Ontario, August 22, 1994  
American Risk and Insurance Association Annual Meeting  
"Current Issues in Workers' Compensation"

Boston, Massachusetts, May 17, 1994  
Casualty Actuarial Society Annual Meeting  
"Standard Of Practice on Profit and Contingency"

Hartford, Connecticut, April 20, 1994  
University of Connecticut Blue Cross/Blue Shield Symposium  
"24 Hour Coverage - What Will It Involve"

Atlanta, Georgia, March 10, 1994  
Casualty Actuarial Society Ratemaking Seminar  
"Cash Flow Models for Insurance Ratemaking"

Cambridge, Massachusetts, March 2, 1994  
Workers' Compensation Research Institute Health Care Reform Conference  
"Early Results of the Florida Pilot Project"

Phoenix, Arizona, November 15, 1993  
Casualty Actuarial Society Annual Meeting  
"The Use Of Managed Care in Workers' Compensation"

New York, New York, October 20, 1993  
Insurance Information Institute/Reinsurance Association of America Research Conference  
"The Impact of Health Care Reform on Casualty Insurance"

Somerset, New Jersey, July 13, 1993  
National Symposium on Workers' Compensation  
"Economic Analysis of Workers' Compensation Issues"

Boston, Massachusetts, June 30, 1993  
Institute of Actuaries of Japan Special Meeting  
"Health Care Costs in Workers' Compensation"

Dallas, Texas, June 15, 1993  
Stirling-Cooke Workers' Compensation Seminar  
"Workers' Compensation Medical Costs: Trends, Causes and Solutions"

New York, New York, June 3, 1993  
New York Business Group On Health  
"The Crisis in Workers' Compensation Health Care"

Mauna Lani Bay, Hawaii, May 3, 1993  
Western Association of Insurance Brokers Annual Meeting  
"Trends in Insurance Insolvency"

Kingston, Ontario, April 28, 1993  
Queen's University Workers' Compensation Conference  
"Exposure Bases for Workers' Compensation: Equity vs. Practicality"

Sanibel Island, Florida, March 29, 1993  
Workers' Compensation Reinsurance Bureau Annual Meeting  
"The Use of Managed Care in Workers' Compensation"

Baltimore, Maryland, March 23, 1993  
CAMAR Annual Meeting  
"Estimating the Cost of Capital in Insurance Ratemaking"

Philadelphia, Pennsylvania, December 1, 1992  
Economic Issues in Workers' Compensation Seminar,  
"Rate of Return Regulation in Workers' Compensation"

Seattle, Washington, October 16, 1992  
Casualty Actuarial Society Seminar on Profitability  
"Risk Based Capital Standards for Property Casualty Insurers"

Washington, DC, August 18, 1992  
American Risk and Insurance Association Annual Meeting  
"The Crisis in Workers' Compensation"

New York, New York, May 19, 1992  
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings  
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Palm Beach, Florida, April 23, 1992  
NCCI Annual Meeting  
"Is the Workers' Compensation Industry Competitive?"

Philadelphia, Pennsylvania, March 20, 1992  
University of Pennsylvania/Duncanson & Holt Special Seminar  
"Current Issues in Workers' Compensation"

Dallas, Texas, March 12, 1992  
Casualty Actuarial Society Ratemaking Seminar  
"Profitability Models in Insurance Ratemaking: Estimating the Parameters"

Houston, Texas, December 11, 1991  
NCCI/NAIC Commissioners Symposium  
"Rate Adequacy: Solvency and Safety Implications"

New York, New York, November 17, 1991  
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings  
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Philadelphia, Pennsylvania, November 12, 1991  
Casualty Actuarial Society Annual Meeting  
"The Impact of Medical Costs on Casualty Coverages"

New York, New York, May 17, 1991  
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings  
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Kiawah Island, South Carolina, April 15 & 16, 1991  
Casualty Actuarial Society Seminar on Profitability  
"Cost of Capital Estimation: Lessons From Public Utilities"

Chicago, Illinois, March 14, 1991  
Casualty Actuarial Society Ratemaking Seminar  
"The Use of Profitability Models in Insurance Ratemaking"

Orlando, Florida, October 24, 1990,  
Financial Management Association Annual Meeting,  
"Current Issues in Insurance Rate Regulation: California Prop. 103 and Pennsylvania Act 6"

New Brunswick, New Jersey, May 18, 1990,  
Joint Conference on Workers' Compensation,  
"Current State Issues and Benefit Reforms"

Orlando, Florida, May 8, 1990,  
National Association of Insurance Commissioners Southeast Zone Raters Conference,  
"Loss Cost Rating for Workers' Compensation"

Orlando, Florida, April 3, 1990,  
Workers' Compensation Reinsurance Bureau Annual Meeting,  
"Medical Costs in Workers' Compensation: Recent Trends in Cost Containment"

Philadelphia, Pennsylvania, March 15, 1990,  
CAS Ratemaking Seminar,  
"Rate of Return Models in Insurance Regulation: Return on Sales vs. Return on Equity"

Chicago, Illinois, November 10, 1989,  
Alliance of American Insurers Research Committee,  
"Recent Developments in Rate Regulation: California Proposition 103"

New York, New York, October 5, 1989,  
NCCI Legal Trends Seminar,  
"Medical Cost Containment in Workers' Compensation"

Philadelphia, Pennsylvania, September 7, 1989,  
Workers' Compensation Congress,  
"Medical Cost Containment in Workers' Compensation"

Denver, Colorado, August 21, 1989,  
American Risk and Insurance Association Annual Meeting,  
"Regulatory Survival: Rate Changes in Workers' Compensation" (with Richard J. Butler)

Hilton Head, South Carolina, April 4, 1989,  
Workers' Compensation Reinsurance Bureau Annual Meeting,  
"Prospects for Workers' Compensation in the 1990's"

Mountain Lakes, New Jersey, March 29, 1989,  
St. Clares-Riverside Medical Center,  
"Stress in the Workplace"

Dallas, Texas, March 16, 1989,  
Casualty Actuarial Society Ratemaking Seminar,  
"The Impact of Tax Reform on Insurance Profitability"

New Orleans, Louisiana, December 15, 1988,  
NAIC-NCCI Commissioners School,  
"A Forecast for Workers' Compensation"

Philadelphia, Pennsylvania, November 17, 1988,  
Economic Issues in Workers' Compensation Seminar,  
"The Impact of Regulation on the Probability of Insolvency" (with John D. Worrall and David Durbin)

Boston, Massachusetts, November 14, 1988,  
American Public Health Association Annual Meeting,  
"Stress in the Workplace"

Atlanta, Georgia, September 14, 1988,  
Casualty Loss Reserve Seminar,  
"Estimating the Cost of Social Inflation in Workers' Compensation"

Reno, Nevada, August 15, 1988,  
American Risk and Insurance Association Annual Meeting,  
"Benefit Increases in Workers' Compensation"

New York, New York, June 13, 1988,  
National Association Of Insurance Commissioners Annual Meeting,  
"Alternative Rate of Return Models for Insurance Regulation"

Syracuse, New York, May 5, 1988,  
Current Issues in Workers' Compensation Symposium,  
"Workers' Compensation Stress Claims"

Hilton Head, South Carolina, April 22, 1988,  
Workers' Compensation Reinsurance Bureau Annual Meeting,  
"A Forecast for Workers' Compensation Insurers"

Absecon, New Jersey, April 19, 1988,  
Pennsylvania Coal Mine Rating Bureau Annual Meeting,  
"The Use of Rate of Return Models in Insurance Rate Regulation"

Philadelphia, Pennsylvania, November 17, 1987,  
Economic Issues in Workers' Compensation Seminar,  
"The Transition to Permanent Disability Status" (with John D. Worrall and David Durbin)

Charlotte, North Carolina, October 20, 1987,  
American Insurance Association Government Affairs Conference,  
"Prospects for Workers' Compensation in 1988"

Minneapolis, Minnesota, September 29, 1987,  
Minnesota Workers' Compensation Reinsurance Association Annual Meeting,  
"Economic and Demographic Characteristics of Workers' Compensation Claims"

Airlie, Virginia, July 7, 1987,  
National Symposium on Workers' Compensation,  
"Forecasting Workers' Compensation Experience"

Santa Clara, California, June 30, 1987,  
Symposium on Recent Advances in Ratemaking,  
"Econometric Models of Workers' Compensation Losses"

Storrs, Connecticut, May 1, 1987,  
University of Connecticut Symposium on Current Issues in Workers' Compensation,  
"Current Research in Workers' Compensation"

Philadelphia, Pennsylvania, April 16, 1987,  
Wharton School Graduate Seminar Series,  
"Impact of Tax Reform on Workers' Compensation Profitability"

Boca Raton, Florida, December 4, 1986,  
National Association of Insurance Commissioners/NCCI Commissioners School,  
Panel Discussion on Current Issues in Workers' Compensation

Philadelphia, Pennsylvania, November 7, 1985,  
Wharton School, University of Pennsylvania, Graduate Seminar Series,  
"Litigation in Workers' Compensation"

Vancouver, British Columbia, August 19, 1985,  
American Risk and Insurance Association Annual Meeting,  
"Earnings Loss and Permanent Disability"

Washington, D.C., April 23, 1985,  
Washington Conference on the Economics of Disability,  
"Employment Effects of Workers' Compensation Insurance"

Schenectady, New York, January 18, 1985,  
Union University Graduate Business Seminar Series,  
"The Use of Modern Portfolio Theory in Insurance Regulation"

EXPERT TESTIMONY

Tallahassee, Florida, October 6, 2010

NCCI Workers Compensation Insurance Rate Hearing

Irvine, CA, April 21, 2010

Eastwood Insurance Services, Inc. et. al., vs. Titan Auto Insurance of NM, et. al. Deposition

San Francisco, California, March 9, 2010

Century National Insurance Company Proposition 103 Rollback Hearing

Santa Fe, New Mexico, November 18, 2009

Annual Title Insurance Rate Hearing

Tallahassee, Florida, October 29, 2009

NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, September 14, 2009

Biennial Title Insurance Rate Hearing

Austin, Texas, April 1, 2009

State Farm Lloyds Homeowners Rate Hearing

Santa Fe, New Mexico, November 19, 2008

Annual Title Insurance Rate Hearing

New York, New York, November 13, 2008

Georgia Hensley, et. al., vs. Computer Sciences Corp. et. al., Deposition

Tallahassee, Florida, October 29, 2008

State Farm Florida Homeowners Insurance Hearing

Raleigh, North Carolina, July 1, 2008

Auto Insurance Rate Hearing

San Francisco, California, May 5, 2008

GeoVera Insurance Company Earthquake Rate Hearing

Tallahassee, Florida, January 23, 2008

Hartford Insurance Group Homeowners Insurance Rate Hearing

Boston, Massachusetts, January 9, 2008

Commerce Insurance Group Auto Insurance Rate Hearing

San Francisco, California, November 29, 2007

Explorer Insurance Company Automobile Rate Hearing

Santa Fe, New Mexico, November 19, 2007

Annual Title Insurance Rate Hearing

Reno, Nevada, June 14, 2007

Public Hearing Regarding Merger Between UnitedHealth Group and Sierra Health Systems

Austin, Texas, May 31, 2007

State Farm Lloyds Homeowners Rate Hearing

Reno, Nevada, October 26, 2006  
Public Hearing Regarding Demutualization of Employers Insurance Group

San Francisco, California, August 30, 2006  
Hearing on Proposed Title Insurance Rate Regulations

Austin, Texas, August 14, 2006  
Biennial Title Insurance Rate Hearing

Raleigh, North Carolina, September 28, 2005  
Auto Insurance Rate Hearing

Providence, Rhode Island, September 27, 2005  
Norcal Medical Malpractice Insurance Rate Hearing

San Francisco, California, August 23, 2005  
Safeco Insurance Company Earthquake Rate Hearing

Boston, Massachusetts, April 15, 2005  
Massachusetts Workers Compensation Rate Hearing

Lawrence, Massachusetts, February 14, 2005  
Highground, Inc. v. Mazonson

New York, NY, January 21, 2005  
NFHA v. Prudential Deposition

Austin, Texas, July 13, 2004  
Medical Protective Insurance Company Medical Malpractice Insurance Rate Hearing

Austin, Texas, December 16, 2003  
Biennial Title Insurance Rate Hearing

Providence, Rhode Island, November 17, 2003  
Norcal Medical Malpractice Insurance Rate Hearing

San Francisco, California, September 16, 2003  
Century National Proposition 103 Rollback Hearing

Austin, Texas, September 11, 2003  
Farmers Insurance Exchange Homeowner Rate Rollback Hearing

Austin, Texas, September 2, 2003  
State Farm Lloyds Homeowners Rate Rollback Hearing

Austin, Texas, May 21, 2003  
Farmers Insurance Group Settlement Hearing

Boston, Massachusetts, April 29, 2003  
Massachusetts Workers Compensation Rate Hearing

Los Angeles, California, March 12, 2003  
SCPIE Medical Malpractice Rate Hearing

Raleigh, North Carolina, July 17, 2002  
Auto Insurance Rate Hearing

Tallahassee, Florida, February 25, 2002  
NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, February 5, 2002  
Biennial Title Insurance Rate Hearing

Raleigh, North Carolina, September 24, 2001  
Auto Insurance Rate Hearing

Boston, Massachusetts, August 14, 2001  
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, March 6, 2001  
Texas Auto Benchmark Rate Hearing

Boston, Massachusetts, August 23, 2000  
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, December 7, 1999  
Texas Auto Insurance Plan Association Rate Hearing

Raleigh, North Carolina, December 3, 1999  
Auto Insurance Rate Hearing

Austin, Texas, November 3, 1999  
Biennial Title Insurance Rate Hearing

Austin, Texas, September 8, 1999  
Texas Auto Benchmark Rate Hearing

Boston, Massachusetts, August 13, 1999  
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, June 22, 1999  
Texas Property Benchmark Rate Hearing

Honolulu, Hawaii, December 16, 1998  
NCCI Workers Compensation Insurance Rate Hearing

Richmond, Virginia, November 15, 1998  
NCCI Workers Compensation Insurance Rate Hearing

Boston, Massachusetts, October 9, 1998  
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, May 19, 1998  
Texas Auto Insurance Plan Association Rate Hearing

Austin, Texas, April 7, 1998  
Auto Insurance Benchmark Rate Hearing

Austin, Texas, February 17, 1998  
Property Insurance Benchmark Rate Hearing

Austin, Texas, November 18, 1997  
Biennial Title Insurance Rate Hearing

Tallahassee, Florida, September 8, 1997  
NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, April 8, 1997  
Texas Auto Insurance Plan Association Rate Hearing

Austin, Texas, March 10, 1997  
Auto Insurance Benchmark Rate Hearing

San Francisco, California, March 4, 1997  
Insurance Department Hearing on Rating Factors

Raleigh, North Carolina, July 16, 1996  
Auto Insurance Rate Hearing

San Francisco, California, March 11, 1996  
Century National Proposition 103 Rollback Hearing

Sacramento, California, January 30, 1996  
Hartford Steam Boiler Proposition 103 Rollback Hearing

San Francisco, California, January 8, 1996  
SAFECO Insurance Company Earthquake Rate Hearing

Austin, Texas, December 21, 1995  
Residential Property Insurance Benchmark Rate Hearing

Clearwater, Florida, December 8, 1995  
Florida Windstorm Underwriting Association Rate Hearing

Austin, Texas, November 28, 1995  
Private Passenger Auto Insurance Benchmark Rate Hearing

Austin, Texas, October 31, 1995  
Texas Automobile Insurance Plan Association Rate Hearing

Sacramento, California, April 18, 1995  
California Insurance Department Hearing on Auto Insurance Rating Factors

Portland, Maine, April 13, 1995  
Workers Compensation Assigned Risk Pool Fresh Start Hearing

San Francisco, California, February 6, 1995  
Farmers Insurance Group Earthquake Insurance Rate Hearing

Austin, Texas, January 6, 1995  
Special Hearing on Classification Rules for Automobile Insurance

Austin, Texas, December 15, 1994  
Residential Property Insurance Benchmark Rate Hearing

Austin, Texas, October 4, 1994  
Texas Automobile Insurance Plan Association Rate Hearing

Austin, Texas, September 27, 1994  
Private Passenger Auto Insurance Benchmark Rate Hearing

Raleigh, North Carolina, July 19, 1994  
Private Passenger Auto Insurance Rate Hearing

San Francisco, California, December 22, 1993  
Century National Homeowner's Insurance Rate Hearing

Raleigh, North Carolina, October 13, 1993  
Homeowners/Farmowners Insurance Rate Hearing

Tallahassee, Florida, October 4, 1993  
Workers' Compensation Insurance Rate Hearing

Boston, Massachusetts, September 9, 1993  
Automobile Insurance Rate Hearing

Austin, Texas, March 4, 1993  
Residential Property Insurance Benchmark Rate Hearing

Austin, Texas, February 10, 1993  
Automobile Insurance Benchmark Rate Hearing

Honolulu, Hawaii, November 18, 1992  
Liberty Mutual Insurance Automobile Rate Hearing

Raleigh, North Carolina, November 13, 1992  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, October 29, 1992  
Workers' Compensation Insurance Rate Hearing

San Francisco, California, October 14, 1992  
Workers' Compensation Insurance Rate Hearing

Atlanta, Georgia, September 24, 1992  
Workers' Compensation Insurance Rate Hearing

Nashville, Tennessee, May 27, 1992  
Workers' Compensation Insurance Rate Hearing

San Francisco, California, May 13, 1992  
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, April 10, 1992  
Mercury General Proposition 103 Rollback Proceedings

Austin, Texas, January 27, 1992  
Texas Automobile Insurance Plan Rate Hearing

Austin, Texas, December 17, 1991  
Automobile Insurance Rate Hearing

Raleigh, North Carolina, December 16, 1991  
Workers' Compensation Insurance Rate Hearing

San Francisco, California, October 22, 1991  
Workers' Compensation Rate Hearing

Los Angeles, California, May 23, 1991,  
Proposition 103 RCD-2 Proceedings

San Francisco, California, April 9, 1991  
California Workers' Compensation Rate Study Commission

Nashville, Tennessee, March 20, 1991  
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, March 12, 1991,  
California Workers' Compensation Rate Study Commission

Olympia, Washington, February 26, 1991,  
House Financial Institutions/Insurance Committee Hearing on Rules for Insurance Regulatory Legislation

Olympia, Washington, November 27, 1990,  
Insurance Department Public Hearing on Proposed Rules for Ratemaking

Harrisburg, Pennsylvania, November 12, 1990,  
Allstate Insurance Company Automobile Insurance Rate Hearing

Tallahassee, Florida, November 1, 1990,  
Scanlan v. Martinez, et.al., Superior Court of Leon County

San Bruno, California, October 1, 1990,  
SAFECO Insurance Group Proposition 103 Rate Rollback Hearing

Austin, Texas, July 23, 1990,  
Texas State Board of Insurance Special Hearing on Investment Income in Ratemaking

Harrisburg, Pennsylvania, July 18, 1990,  
Pennsylvania National Mutual Insurance Company Automobile Insurance Rate Hearing

Harrisburg, Pennsylvania, June 28, 1990,  
Harleysville Mutual Insurance Company Automobile Insurance Rate Hearing

Columbia, South Carolina, March 30, 1990,  
Workers' Compensation Insurance Rate Hearing

San Bruno, California, March 19, 1990,  
California Proposition 103 Generic Hearing

Denver, Colorado, December 12, 1989,  
Workers' Compensation Insurance Rate Hearing

Tampa, Florida, October 23, 1989,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, October 17, 1989,  
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, September 25, 1989,  
SAFECO Insurance Company of America Proposition 103 Rate Hearing

Austin, Texas, August 29, 1989,  
Texas Insurance Advisory Association Property Insurance Rate Hearing

Providence, Rhode Island, April 13, 1989,  
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, January 24, 1989,  
Workers' Compensation Insurance Rate Hearing

Hartford, Connecticut, November 14, 1988,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 3, 1988,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, November 2, 1988,  
Workers' Compensation Insurance Rate Hearing

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Workers' Compensation Insurance Rate Hearing

Augusta, Maine, March 24, 1988,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, October 27, 1987,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, October 9, 1987,  
Workers' Compensation Insurance Rate Hearing

Atlanta, Georgia, August 6, 1987,  
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, February 24, 1987,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 14, 1986,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, November 18, 1986,  
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, May 28, 1986,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, December 6, 1985,  
Workers' Compensation Insurance Rate Hearing

Oklahoma City, Oklahoma, October 10, 1985,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, July 23, 1985,  
Workers' Compensation Insurance Rate Hearing

Austin Texas, June 14, 1985,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 18, 1984,  
Workers' Compensation Insurance Rate Hearing

Austin, Texas, August 29, 1984,  
Workers' Compensation Insurance Rate Hearing

Portland, Oregon, March 6, 1984,  
NA IC Public Hearing on Investment Income and Insurance Profitability

Tallahassee, Florida, February 25, 1984,  
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, August 18, 1983,  
Workers' Compensation Insurance Rate Hearing

Austin Texas, July 13, 1983,  
Workers' Compensation Insurance Rate Hearing

Oklahoma City, Oklahoma, March 6, 1983,  
Workers' Compensation Insurance Rate Hearing

Baton Rouge, Louisiana, March 16, 1982,  
Louisiana Insurance Commission Public Hearing on Investment Income

Providence, Rhode Island, February 3, 1982,  
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, October 1, 1981,  
Workers' Compensation Insurance Rate Hearing

COMMONWEALTH OF MASSACHUSETTS  
DIVISION OF INSURANCE

Docket No. 11-

---

*In re:*

APPLICATION OF THE WORKERS'  
COMPENSATION RATING AND INSPECTION  
BUREAU OF MASSACHUSETTS FOR APPROVAL  
OF A GENERAL RATE REVISION TO BE  
EFFECTIVE ON AND AFTER SEPTEMBER 1, 2011

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**PRE-FILED DIRECT TESTIMONY OF CLAUDIA B. CUNNIFF**

The Workers' Compensation Rating and Inspection Bureau of Massachusetts ("WCRIBMA") submits the following direct testimony of Claudia B. Cunniff in support of its application for a general rate revision to be effective on and after September 1, 2011.

Q. Please state your full name.

A. Claudia B. Cunniff.

Q. Ms. Cunniff, please describe your current employment and your educational and professional experience.

A. I am presently employed as Actuary of the Workers' Compensation Rating and Inspection Bureau of Massachusetts, 101 Arch Street, Boston, Massachusetts. My educational background includes a Bachelors degree in Biology from College of the Holy Cross. I am a Fellow of the Casualty Actuarial Society. Before joining the WCRIBMA in February 2000, I worked for ten years as an actuary in Massachusetts. My actuarial career began in 1990 at Liberty Mutual Insurance Company where I focused on ratemaking issues on both personal and commercial lines. In 1994, I moved to Trust

Insurance Group, Inc., where I became a Manager and Actuary and dealt with a broad range of actuarial and financial matters. A copy of my curriculum vitae is attached to this testimony.

Q. What was your role in the preparation of the current WCRIBMA filing for a general rate revision?

A. I had principal responsibility for the preparation of the following sections of the filing, which I am sponsoring: Sections II (Loss Development) and III (Premium).

Q. Have you explained the basis of your derivation of each of the ratemaking factors that you are sponsoring in the text and accompanying exhibits found in the WCRIBMA's filing?

A. Yes.

Q. Are the data, calculations and narrative statements in the sections you are sponsoring complete and accurate?

A. To the best of my knowledge, information and belief, the data and calculations underlying Sections II (Loss Development) and III (Premium) of the filing are complete and accurate, and the narrative statements offered in support of those sections are also complete and accurate.

Q. Do you have anything to add to the text of the filing at this time?

A. No, I do not.

Signed this 22<sup>nd</sup> day of February 2011 under the pains and penalties of perjury.

  
Claudia B. Cunniff, FCAS, MAAA

**Claudia B. Cunniff, FCAS, MAAA**

101 Arch Street, 5<sup>th</sup> floor  
Boston, MA 02110  
(617) 646-7589

**PROFESSIONAL EXPERIENCE:**

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***WORKERS' COMPENSATION RATING & INSPECTION BUREAU OF MA, Boston, MA***

2/00 – present

**Vice President and Actuary**

8/01 – 9/03

**Actuary**

10/03 – present

Directs development of rate indication and strategy of filing and approval process

Directs preparation of main rate filing and other filings

Supports filings with hearing testimony

Prepares and directs preparation of informational reports

Processes information requests, etc. from members, regulators, etc.

***TRUST GROUP, INC., Taunton, MA***

8/94-1/00

**Manager - Actuary**

Financial Modeling - Developed pro-forma income statement model and assisted with the preparation of projected balance sheet and cash flow items

Merger & Acquisition analysis - Performed due diligence analysis associated with various company investment opportunities

Corporate Reporting & Reserving - Responsible for coordinating the quarterly/annual loss reserve analysis, financial booking of company results by component, and Schedule P preparation for all lines of business

Reinsurance Treaty evaluation - Analyzed company reinsurance needs, prepared data for reinsurance pricing negotiations and provided recommendations to senior management regarding reinsurance purchases

Pricing - Responsible for monitoring the regulatory environment and tracking marketplace activity including preparation of competitor analyses, rate-setting, and pricing proposals

Cession strategy - Developed a sophisticated Massachusetts Involuntary Market cession strategy model incorporating the dynamics of the company and industry

Manager - Led a team of 12 professional and technical staff responsible for profitability studies, statistical reporting, statutory reporting, price setting/monitoring, data compilation and analysis

***LIBERTY MUTUAL INSURANCE GROUP, Boston MA***

6/90-8/94

**Senior Actuarial Analyst - Personal Lines ratemaking**

Presented actuarial recommendations to Sales, Marketing, and Underwriting

Evaluated loss ratios, retention, growth, competition, and legislation by state to be incorporated in pricing decisions

Completed rate indications and provided actuarial support to the field in over 20 states

Prepared rate filings consistent with state regulatory requirements

Organized training seminars for Actuarial Student Program

**Actuarial Assistant/Analyst - Commercial Lines ratemaking**

Implemented Loss Costs and rate filings: Commercial Lines Task Force

Prepared actuarial proposals for senior management to aid in rate adequacy decisions

Analyzed Involuntary Market mechanisms and results

**EDUCATION:**

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F.C.A.S. 1999, M.A.A.A. 2000

College of the Holy Cross, Worcester, Massachusetts, B.A. Biology 1990

COMMONWEALTH OF MASSACHUSETTS  
DIVISION OF INSURANCE

Docket No. 11-

*In re:*

APPLICATION OF THE WORKERS'  
COMPENSATION RATING AND INSPECTION  
BUREAU OF MASSACHUSETTS FOR APPROVAL  
OF A GENERAL RATE REVISION TO BE  
EFFECTIVE ON AND AFTER SEPTEMBER 1, 2011

**PRE-FILED DIRECT TESTIMONY OF ROBERT MCCARTHY**

The Workers' Compensation Rating and Inspection Bureau of Massachusetts ("WCRIBMA") submits the following direct testimony of Rob McCarthy in support of its application for a general rate revision to be effective on and after September 1, 2011.

Q. Please state your full name.

A. Robert McCarthy.

Q. What are your professional qualifications?

A. I am presently employed as Senior Vice President and Actuary at the WCRIBMA. I joined the WCRIBMA in this capacity in March of 2004. I am a Fellow of the Casualty Actuarial Society. I have been working as an actuary on the workers' compensation line since 1989, when I graduated from the University of Florida with bachelors degrees in Mathematics, Business Management, and Industrial and Systems Engineering. From 1989 until 2003, I worked in a variety of capacities for the FCCI Insurance Group in Florida. My responsibilities included reserving, pricing and product development, reinsurance, data management, decision and accounting support, and investments and cash management. My curriculum vitae is attached to this testimony.

Q. What was your role in the preparation of the current WCRIBMA filing for a general rate revision?

A. I was ultimately responsible for the preparation of the entire filing. I worked closely with the WCRIBMA's actuarial staff and with our outside consulting expert, David Appel, in putting the filing together. I am testifying in support of the reasonableness of the WCRIBMA's overall rate indication and sponsor Sections I (Rate Recommendation), IV (Benefit Change Adjustments), V (Trend), VI (Expenses), XI (Small Deductible Credits), XII (Retrospective Rating), Section XIII (Cost Containment), and Section VII (Profit), to the extent that it is not sponsored by Dr. Appel. To the best of my knowledge, information and belief, the data and calculations underlying the sections of the filing I am sponsoring are complete and accurate, and the narrative statements offered in support of these sections are also accurate and correct.

Q. Mr. McCarthy, what general rate level change is the WCRIBMA recommending this year?

A. As shown in Section I of the filing, the WCRIBMA is recommending an increase in average rates of 6.6% for workers' compensation, effective September 1, 2011.

Q. Are you familiar with the statutory standard that must be applied by the Commissioner in reviewing the rates proposed in the WCRIBMA's current filing – that they “are not excessive, inadequate or unfairly discriminatory” and that they “fall within a range of reasonableness”?

A. Yes.

Q. Do you have an opinion as to whether the rates proposed in the WCRIBMA's current filing satisfy the statutory standard?

A. Yes.

Q. What is your opinion?

A. It is my professional opinion that the rates proposed in the WCRIBMA's current filing are not excessive, inadequate or unfairly discriminatory for the classifications to which they apply, and they fall within a range of reasonableness. Accordingly, I recommend that the Commissioner approve the WCRIBMA's filing.

Q. Have you explained in the text and accompanying exhibits found in the WCRIBMA's filing the basis of your derivation of the factors contributing to the overall rate increase that you are sponsoring?

A. Yes.

Q. What was your role in the preparation of the cost containment section of the current WCRIBMA filing?

A. I was responsible for preparing this section of the filing. I reviewed the cost containment surveys for the ten participating companies and contacted them about any outstanding questions the WCRIBMA may have had. I also reviewed all additional supporting material that was submitted by the companies and included it in the filing.

In addition to compiling these ten survey responses, I also obtained updated data and information from the Fraud Bureau of Massachusetts, which can be found in the cost containment filing. To the best of my knowledge, the information and exhibits in this section of the filing are complete and accurate.

Q. Are you familiar with the statutory provisions that require the WCRIBMA to make a cost containment filing?

A. Yes. It is my understanding that the legislature has mandated that the Commissioner make a finding, based on the information we submit in our filing, as to whether insurers employ acceptable "cost control programs and techniques ... which have had or are expected to have a substantial impact on fraudulent claim costs, unnecessary health care costs, and any other unreasonable costs and expenses, as well as the collection of appropriate premium charges owed" to the insurers the WCRIBMA represents.

Q. Does this filing provide the information the Commissioner would need to make a finding that the industry's cost control programs and techniques satisfy the statutory standard?

A. Yes.

Q. Do you have an opinion on what his finding should be this year?

A. Yes.

Q. What is your opinion?

A. In my professional opinion, the information we have submitted this year should lead the Commissioner to make the same finding that was made in the decision on 9/1/99 rates: that "there are acceptable 'cost control programs and techniques' presently in place which satisfy the statutory requirements."

Q. Do you have anything to add at this time?

A. No.

Signed this 22<sup>nd</sup> day of February 2011 under the pains and penalties of perjury.

  
Robert McCarthy, FCAS, CFA, MAAA

# Robert McCarthy, FCAS, CFA

101 Arch St ♦ Boston, MA 02110

E-mail: [rmccarthy@wcribma.org](mailto:rmccarthy@wcribma.org)

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## PROFESSIONAL EXPERIENCE

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WCRIBMA, Boston, MA

(Mar 2004 – Current)

Vice President & Actuary responsible for the management of the Actuarial and Financial Aggregate Services departments. Manage the process of the preparation of the workers' compensation rate filing for the state of Massachusetts.

[FCCI Insurance Group](#), Sarasota, FL

(Dec 1989 – Jan 2003)

**Senior Vice President of Decision Support & Chief Actuary** Jan 2002 – Jan 2003

**Senior Vice President of Investments & Chief Actuary** July 2001 – Dec 2001

**Vice President of Investments & Chief Actuary** July 2000 – Jun 2001

**Assistant Vice President of Investments & Chief Actuary** Jan 1999 – Jun 2000

**Chief Actuary** May 1995 – Dec 1998

**Early Positions at FCCI Included: Actuary** (May 1993 – May 1995), **Assistant Actuary** (Jan 1991 – May 1993), and **Actuarial Trainee** (Dec 1989 – Jan 1991)

### Reserving

- Responsible for internally generated reserve estimates and quarterly presentation to board.
- Collaborated with opining actuary on reserves carried in the annual statement.
- Contact for insurance department examiners and independent auditors.

### Pricing / Product Development

- Provided product development with the supporting materials needed for rate filings.
- Developed and monitored all workers compensation sliding scale dividend plans.
- Developed the workers comp large deductible product and the rating mechanism used by underwriting.

### Reinsurance

- Reviewed quotes and independently developed experience and exposure based pricing.
- Provided data to reinsurers and reinsurance brokers and served as their technical contact.
- Developed an automated system for the calculation of reinsurance recoverables.

### Data Warehouse / Decision Support

- Identify and analyze data warehouse software options that facilitated data mining and reporting.
- Developed data warehouse architecture and championed consistent definitions for terms.
- Responsible for ISO CSP statistical reporting and NCCI Aggregate Financial calls
- Responsible for the conversion of many Excel and Access based reports to SAS.

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## EDUCATION

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Bachelor of Science ♦ Industrial and Systems Engineering ♦ [University of Florida](#) ♦ 1989

Bachelor of Arts ♦ Mathematics ♦ [University of Florida](#) ♦ 1989

Bachelor of Science ♦ Business Management ♦ [University of Florida](#) ♦ 1989

Fellow of the Casualty Actuarial Society ♦ 1995

Chartered Financial Analyst ♦ 2007

Masters of Science ♦ Insurance Management ♦ [Boston University](#) ♦ 2008

**COMMONWEALTH OF MASSACHUSETTS  
DIVISION OF INSURANCE**

**Docket No. 11-**

***In re:***

**APPLICATION OF THE WORKERS'  
COMPENSATION RATING AND INSPECTION  
BUREAU OF MASSACHUSETTS FOR APPROVAL  
OF A GENERAL RATE REVISION TO BE  
EFFECTIVE ON AND AFTER SEPTEMBER 1, 2011**

**PRE-FILED DIRECT TESTIMONY OF ANTHONY SALIDO**

The Workers' Compensation Rating and Inspection Bureau of Massachusetts ("WCRIBMA") submits the following direct testimony of Anthony Salido in support of Sections VIII, IX and X of its filing for a general rate revision to be effective on and after September 1, 2011.

Q. Please state your full name.

A. Anthony Salido.

Q. Mr. Salido, please describe your current employment and your educational and professional experience.

A. I am presently employed as a Senior Actuarial Analyst / Data Administrator at the Workers' Compensation Rating and Inspection Bureau of Massachusetts, 101 Arch Street, Boston, Massachusetts. My educational background includes a Bachelors degree in Mathematics and Economics from Boston College. I joined the WCRIBMA in June 1998. I am a Fellow of the Casualty Actuarial Society. A copy of my resume is attached to this testimony.

Q. What was your role in the preparation of the current WCRIBMA filing?

A. I had principal responsibility for the preparation of the following sections of the filing, which I am sponsoring: Sections VIII (F-Class), IX (Classification), and X (Experience Rating).

Q. Have you explained the basis of your derivation of each of the ratemaking factors in the text and accompanying exhibits found in Sections VIII (F-Class), IX (Classification), and X (Experience Rating)?

A. Yes.

Q. Are the data, calculations and narrative statements in the sections you are sponsoring complete and accurate?

A. To the best of my knowledge, information and belief, the data and calculations underlying Sections VIII (F-Class), IX (Classification), and X (Experience Rating) are complete and accurate, and the narrative statements are also accurate and correct.

Signed this 22<sup>nd</sup> day of February, 2011 under the pains and penalties of perjury.

  
\_\_\_\_\_  
Anthony Salido, FCAS, MAAA

Anthony D. Salido, FCAS, MAAA  
Workers' Compensation Rating and Inspection Bureau of MA  
101 Arch St. 5<sup>th</sup> Floor  
Boston, MA 02110

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<b>Work experience</b>	<b>The Workers' Compensation Rating and Inspection Bureau of MA Boston, MA</b> <i>Senior Actuarial Analyst</i>	June 1998 - Present January 2004 - Present
	<ul style="list-style-type: none"><li>• Responsible for the preparation of various sections contained in the WCRIBMA's rate filings over the last 11 years, including loss development, premiums, benefit level adjustments, trend, expenses, experience rating, retrospective rating, class rates, and F-Class rates.</li><li>• Maintains the data structures and associated metadata for the Actuarial Department's Financial Call and Unit Stat plan databases.</li><li>• Responsible for the maintenance of the nightly batch process that populates the Actuarial Department's databases, runs the Actuarial Department's data edits, and creates content for the WCRIBMA's intranet and web site.</li><li>• Formalized and directs the process employed by the WCRIBMA for the data reconciliations mandated by the Massachusetts Workers Compensation Statistical Plan. Work with other WCRIBMA departments and data reporters to explain and/or correct anomalies identified by the reconciliation process.</li><li>• Developed and maintains Actuarial Department's intranet site which includes a history of Massachusetts workers' compensation rate filing activity, reconciliation reports, edit reports, and other content to support the WCRIBMA's rate filing efforts.</li><li>• Prepares Circular Letters and Special Bulletins.</li><li>• Responds to information requests from members, regulators, etc.</li></ul>	
<b>Actuarial Exams</b>	FCAS (2010), ACAS (2008)	
<b>Computer Skills</b>	Software: Microsoft's Excel, Access, Word, and Power Point Programming Languages: SQL, SAS	
<b>Education</b>	<b>Boston College, Chestnut Hill MA, May 1998</b> B.A. in Mathematics and Economics	

# MASSACHUSETTS WORKERS' COMPENSATION

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## **Introduction**

On behalf of our more than three hundred member carriers, including eight carriers that became members in 2010, the Workers' Compensation Rating and Inspection Bureau of Massachusetts ("WCRIBMA") recommends that average rates for workers' compensation insurance be increased by 6.6% for policies effective on and after September 1, 2011. The rates for workers' compensation insurance were most recently revised last year, when a rate decrease of 2.4% took effect on September 1, 2010. If the WCRIBMA's filing is approved, the cumulative rate decrease since 1991 – when the most recent reform legislation was enacted – would still be more than 64.6%.

In determining the recommended change in average rates, the WCRIBMA's filing for 2011 rates uses the same basic methods the WCRIBMA has used in past filings. Methodological consistency over time contributes to unbiased rates. By reflecting actual experience in the same way each year, such a consistent methodology provides for significant self-correction over time of the inevitable deviations between the projections, which must be the basis of prospective rates, and actual experience, once known. In other words, a rate that may turn out, in retrospect, to be "too low" or "too high" in one year will tend to be remedied in the following years as accumulating experience is reflected in the rates.

Rate stability benefits both insureds and insurers. Abrupt changes in rate level can impede business planning, both for insureds (especially when rates increase greatly from year to year) and for insurers (especially when revenues drop precipitously from one year to the next). The stability and predictability of rates from year to year also

fosters competitive behavior and, when rates are adequate, can relieve pressure on the residual market.

This year, the WCRIBMA is recommending the use of a new method of classification pricing that has been developed by the NCCI and has been approved for use in a number of states. This new method increases the accuracy of classification pricing and, unlike the existing method in Massachusetts, depends upon data that will continue to be available in the future.

This filing is divided into three parts. The first is the main rate level filing, with the explanatory text and actuarial exhibits underlying the rate calculations. The second part contains the rate level indication for Federal Classifications, revised experience and retrospective rating plan parameters, small deductible program parameters, and classification rate displays. The third part deals with cost containment. The pre-filed testimony of the three WCRIBMA actuaries supporting this filing (Robert McCarthy, Claudia Cunniff, and Anthony Salido) and of the WCRIBMA's outside expert witness, David Appel of Milliman, Inc., is included with this filing.

This filing presents the required testimony, data and calculations supporting the WCRIBMA's proposed rate revisions. The rates the WCRIBMA proposes are neither excessive nor inadequate; they are not unfairly discriminatory; and they fall within a range of reasonableness.

# I 000003

Section I - Rate Recommendation  
Subsection A - Introduction  
9/1/2011

Section I - A  
Exhibit 1

## RATE INDICATION SUMMARY

<b>Statewide Rate Change Summary</b>		
<i>Indication Effective Date: 9/1/2011</i>		
(1)	Indicated Rate Change Based on Policy Year 2007 Data (Section I-B, Exhibit 1)	8.5%
(2)	Indicated Rate Change Based on Policy Year 2008 Data (Section I-B, Exhibit 1)	4.7%
(3)	Average Indicated Rate Change = [ (1) + (2) ] / 2.0	6.6%

<b>Expense Constants</b>		
	Current	Proposed
(4)	For Risks developing at least \$1,000 in Standard Premium (Section VI-D, Exhibit 1)	\$338
(5)	For Risks developing at least \$200 and less than \$1,000 in Standard Premium (Section VI-D, Exhibit 1)	\$250
(6)	For Risks developing less than \$200 in Standard Premium (Section VI-D, Exhibit 1)	\$159
(7)	Per Capita Risks (for each exposure, up to a maximum of 4)	\$64

Calculation of Indicated Rate Change

	Policy Year <u>2007</u>	Policy Year <u>2008</u>
(1) Standard Earned Premium + ARAP (Section III-A)	1,000,342,409	828,804,165
(2) Composite Adjustment Factor (Section III-A)	0.998	1.033
(3) Adjusted Standard Earned Premium plus ARAP = [ (1) x (2) ]	998,159,883	856,380,022
(4) Development Factor to Ultimate (Section III-A)	1.001	1.002
(5) Factor to Adjust Premium to Current Rate Level (Section III-D)	0.812	0.920
(6) Adjusted On-Level Standard Earned Premium plus ARAP at Ultimate = [ (3) x (4) x (5) ]	811,261,122	789,394,911
Annual Wage Trend (Section V-A)	0.028	0.028
(7) Wage Trend Factor to 9/1/2012 (based on Section V-A)	1.139	1.108
(8) Standard Earned Premium plus ARAP Projected to Policy Effective Period = [ (6) x (7) ]	924,289,962	874,544,214
(9) Incurred Losses Projected to Policy Effective Period (Section I-C Exhibit I, Page 1 Item (26), Page 2 Item (26))	597,396,549	541,102,668
(10) Loss Ratio Projected to Policy Effective Period = [ (9) / (8) ]	0.646	0.619
(11) Factor to Remove the Large Deductible Contribution to the Residual Market Subsidy (Section I-D)	1.000	1.000
(12) Loss Adjustment Expense Factor (Section VI-K)	1.186	1.186
(13) Fixed Expense Ratio (Section VI-B)	0.054	0.058
(14) Indicated Policy Year Loss, LAE, and Fixed Expense Ratio = [ [ (10) x (12) ] + (13) ] x (11)	0.820	0.792
(15) Commission and Other Acquisition Expense (Section VI-J)	0.115	0.115
(16) Premium Tax Ratio (Section VI-A)	0.022	0.022
(17) Premium Discount (Section VI-H)	0.047	0.047
(18) Variable Expense Ratio = [ (15) + (16) + (17) ]	0.184	0.184
(19) Underwriting Profit Provision (Section VII-B)	0.060	0.060
(20) Permissible Loss, LAE, and Fixed Expense Ratio = [ 1.0 - (18) - (19) ]	0.756	0.756
(21) Indicated Rate Change = (14) / (20) - 1.0	<b>8.5%</b>	<b>4.7%</b>
(22) Overall Indicated Rate Change = [ (21) PY2007 + (21) PY2008 ] / 2.0		<b>6.6%</b>

Incurred Losses Projected to Policy Effective Period  
 Policy Year 2007

	<u>Paid Method</u>	<u>Paid + Case Method</u>
<b>Indemnity Losses</b>		
(1) Indemnity Losses at Latest Month - Industry Total (Section II-A)	188,922,123	268,009,271
(2) Indemnity Loss Development Factor to 252 Months (Section II-B)	1.640	1.169
(3) Tail Factor 252 Months to Ultimate (Section II-C)	1.041	1.012
(4) Factor to Adjust for Escalated Benefits (Section II-D)	1.031	1.007
(5) Estimated Ultimate Indemnity Loss = [ (1) x (2) x (3) x (4) ]	332,464,835	319,354,522
(6) Annual Indemnity Loss Trend (Section V-A)	0.013	0.013
(7) Indemnity Loss Trend Factor to 9/1/2012	1.060	1.060
(8) Estimated Indemnity Losses Trended = [ (5) x (7) ]	352,556,827	338,654,213
(9) Estimated Benefit Change Factor Prior to 1/1/2011 (Section IV-A)	1.014	1.014
(10) On Level Losses = [ (8) x (9) ]	357,470,456	343,374,080
(11) Estimated Benefit Change Factor Subsequent to 1/1/2011 (Section IV-A)	1.010	1.010
(12) Incurred Losses Projected to Policy Effective Period = [ (10) x (11) ]	361,065,359	346,827,222
<b>Medical Losses</b>		
(13) Medical Losses at Latest Month - Industry Total (Section II-A)	141,918,867	186,125,204
(14) Medical Loss Development Factor to 252 Months (Section II-B)	1.291	1.085
(15) Tail Factor 252 Months to Ultimate (Section II-C)	1.102	1.078
(16) Factor to Adjust for Escalated Benefits	1.000	1.000
(17) Estimated Ultimate Medical Loss = [ (13) x (14) x (15) x (16) ]	201,922,720	217,738,672
(18) Annual Medical Loss Trend (Section V-A)	0.025	0.025
(19) Medical Loss Trend Factor to 9/1/2012	1.124	1.124
(20) Estimated Medical Losses Trended = [ (17) x (19) ]	227,010,900	244,791,927
(21) Estimated Benefit Change Factor Prior to 1/1/2011 (Section IV-A)	1.032	1.032
(22) On Level Losses = [ (20) x (21) ]	234,275,248	252,625,269
(23) Estimated Benefit Change Factor Subsequent to 1/1/2011 (Section IV-A)	1.000	1.000
(24) Incurred Losses Projected to Policy Effective Period = [ (22) x (23) ]	234,275,248	252,625,269
<b>Total Combined Medical and Indemnity Losses</b>		
(25) Total Estimated Ultimate Losses Trended and On Level = [ (12) + (24) ]	595,340,608	599,452,491
(26) Average Incurred Losses Projected to Policy Effective Period	597,396,549	

Incurred Losses Projected to Policy Effective Period  
 Policy Year 2008

	<u>Paid Method</u>	<u>Paid + Case Method</u>
<b>Indemnity Losses</b>		
(1) Indemnity Losses at Latest Month - Industry Total (Section II-A)	104,203,046	196,889,005
(2) Indemnity Loss Development Factor to 252 Months (Section II-B)	2.903	1.488
(3) Tail Factor 252 Months to Ultimate (Section II-C)	1.041	1.012
(4) Factor to Adjust for Escalated Benefits (Section II-D)	1.031	1.007
(5) Estimated Ultimate Indemnity Loss = [ (1) x (2) x (3) x (4) ]	324,633,500	298,632,266
(6) Annual Indemnity Loss Trend (Section V-A)	0.013	0.013
(7) Indemnity Loss Trend Factor to 9/1/2012	1.047	1.047
(8) Estimated Indemnity Losses Trended = [ (5) x (7) ]	339,943,239	312,715,784
(9) Estimated Benefit Change Factor Prior to 1/1/2011 (Section IV-A)	1.003	1.003
(10) On Level Losses = [ (8) x (9) ]	340,845,890	313,546,138
(11) Estimated Benefit Change Factor Subsequent to 1/1/2011 (Section IV-A)	1.010	1.010
(12) Incurred Losses Projected to Policy Effective Period = [ (10) x (11) ]	344,273,608	316,699,316
<b>Medical Losses</b>		
(13) Medical Losses at Latest Month - Industry Total (Section II-A)	103,594,986	158,893,269
(14) Medical Loss Development Factor to 252 Months (Section II-B)	1.632	1.101
(15) Tail Factor 252 Months to Ultimate (Section II-C)	1.102	1.078
(16) Factor to Adjust for Escalated Benefits	1.000	1.000
(17) Estimated Ultimate Medical Loss = [ (13) x (14) x (15) x (16) ]	186,393,500	188,681,249
(18) Annual Medical Loss Trend (Section V-A)	0.025	0.025
(19) Medical Loss Trend Factor to 9/1/2012	1.096	1.096
(20) Estimated Medical Losses Trended = [ (17) x (19) ]	204,349,797	206,857,937
(21) Estimated Benefit Change Factor Prior to 1/1/2011 (Section IV-A)	1.024	1.024
(22) On Level Losses = [ (20) x (21) ]	209,331,564	211,900,849
(23) Estimated Benefit Change Factor Subsequent to 1/1/2011 (Section IV-A)	1.000	1.000
(24) Incurred Losses Projected to Policy Effective Period = [ (22) x (23) ]	209,331,564	211,900,849
<b>Total Combined Medical and Indemnity Losses</b>		
(25) Total Estimated Ultimate Losses Trended and On Level = [ (12) + (24) ]	553,605,172	528,600,165
(26) Average Incurred Losses Projected to Policy Effective Period	541,102,668	

## Derivation of Large Deductible Factor Applied to Remove the Benefit of the Residual Market Subsidy Paid by Large Deductible Insureds

The WCRIBMA makes rates based on the experience of voluntary market risks, excluding large deductibles, and residual markets risks. However, large deductible policies are subject to the assigned risk assessment. Consequently, the WCRIBMA must estimate the residual market subsidy that is attributable to large deductible policies, and then make an offset for this subsidy in the calculation of the indicated average rate change.

### Derivation of Factor:

#### *Assumptions*

$w_{vol}$	- Proportion of Voluntary Non-Large Deductible Exposure to the sum of Voluntary Non-Large Deductible Exposure plus Residual Market Exposure
$w_{rm}$	- $1 - w_{vol}$ - Proportion of Residual Market Exposure to the sum of Voluntary Non-Large Deductible Exposure plus Residual Market Exposure
$Q_{vol}$	- Average Voluntary Market Rate equivalent
$Q_{rm}$	- Average Residual Market Rate equivalent
$Q_{oa-0}$	- Average Rate equivalent for Voluntary and Residual Market in total assuming <b>no</b> subsidy paid for by large deductibles.
$Q_{oa-1}$	- Average Rate equivalent for Voluntary and Residual Market in total assuming a subsidy paid for by large deductibles
$u$	- Ratio of Non-Large Deductible Voluntary Assessable Premium to the Total Voluntary Assessable Premium
$d$	- $Q_{rm} / Q_{vol}$

Assuming no residual market subsidy paid by anyone other than  $W_{vol}$ .

# I 000008

$$(1) w_{vol}Q_{vol} + w_{rm}Q_{rm} = Q_{oa-0}$$

This is a weighted average of the voluntary rate and the residual market rate.

Now assume that large deductibles subsidize the residual market. The residual market subsidy would be:

$$(2) \text{Residual Market Subsidy} = w_{rm} (Q_{rm} - Q_{oa-0})$$

The large deductible share of the residual market subsidy would be:

$$(3) (1 - u) w_{rm} (Q_{rm} - Q_{oa-1})$$

The formula for the overall rate that reflects the subsidy paid by the large deductibles would follow:

$$(4) w_{vol}Q_{vol} + w_{rm}Q_{rm} - (1 - u) w_{rm} (Q_{rm} - Q_{oa-1}) = Q_{oa-1}$$

Therefore  $Q_{oa-1}$ :

$$(5) Q_{oa-1} = w_{vol}Q_{vol} - (1 - u) w_{rm} (Q_{rm} - Q_{oa-1}) + w_{rm}Q_{rm}$$

$$(6) Q_{oa-1} / Q_{oa-0} = [w_{vol}Q_{vol} - (1 - u) w_{rm} (Q_{rm} - Q_{oa-1}) + w_{rm}Q_{rm}] / [w_{vol}Q_{vol} + w_{rm}Q_{rm}]$$

If we assume that the average rate equivalent for the total market is 1.00, such that:

$$(7) w_{vol}Q_{vol} + w_{rm}Q_{rm} = Q_{oa-0} = 1.00,$$

Then the factor  $Q_{oa-1} / Q_{oa-0}$  reduces to  $Q_{oa-1}$ . Also solving (7) for  $Q_{vol}$  and  $Q_{rm}$  and introducing the variable  $d$ , results in the following:

$$(8) d = Q_{rm} / Q_{vol}$$

$$(9) Q_{vol}(w_{vol} + w_{rm}d) = 1.00$$

$$(10) Q_{vol} = 1 / (w_{vol} + w_{rm}d)$$

Similarly:

$$(11) Q_{rm} = d / (w_{vol} + w_{rm}d)$$

Given (5) and (7):

$$(12) Q_{oa-1} = 1.0 - (1 - u) w_{rm} (Q_{rm} - Q_{oa-1})$$

$$(13) \text{ Adjustment Factor} = Q_{oa-1} = [1.0 - w_{rm}Q_{rm}(1 - u)] / [1.0 - w_{rm}(1 - u)]$$

### Calculation of the “d”

“d” is defined as:  $d = Q_{rm} / Q_{vol}$

Let's define  $Q_{vol}$  and  $Q_{rm}$  as follows, based on the WCRIBMA's formula for a rate:

$$(14) Q_{vol} = (L_{vol} + F) / (1 - V_{vol} - P)$$

$$(15) Q_{rm} = (L_{rm} + F) / (1 - V_{rm} - P)$$

$$(16) w_{vol}L_{vol} + w_{rm}L_{rm} = L_f$$

where	$L_{vol}$	- Voluntary Loss & LAE Ratio to the sum of Standard Premium plus ARAP
	$L_{rm}$	- Residual Market Loss & LAE Ratio to the sum of Standard Premium plus ARAP
	$L_f$	- Voluntary plus Residual Market Loss & LAE Ratio to the sum of Standard Premium plus ARAP
	F	- Fixed Expense Ratio relative to the sum of Standard Premium plus ARAP
	$V_{vol}$	- Voluntary Variable Expenses Ratio
	$V_{rm}$	- Residual Market Variable Expenses Ratio
	P	- Profit provision relative to the sum of Standard Premium plus ARAP

# I 000010

$w_{vol}$  - Proportion of Voluntary Non-Large Deductible Exposure to the sum of Voluntary Non-Large Deductible Exposure plus Residual Market Exposure

$w_{rm}$  -  $1 - w_{vol}$

$r$  -  $L_{rm} / L_{vol}$

$$(17) w_{vol}L_{vol} + w_{rm}rL_{vol} = L_f$$

$$(18) L_{vol} = L_f / (w_{vol} + w_{rm}r)$$

$$(19) w_{vol}L_{rm} / r + w_{rm}L_{rm} = L_f$$

$$(20) L_{rm} = L_f r / (w_{vol} + w_{rm}r)$$

Consequently, if a loss ratio differential,  $r$ , is selected, the values of  $L_{vol}$  and  $L_{rm}$  can be derived.

Taking formulas (14) and (15) we can derive a formula for  $d$ :

$$(21) d = Q_{rm} / Q_{vol} = [ (L_{rm} + F) / (1 - V_{rm} - P) ] / [ (L_{vol} + F) / (1 - V_{vol} - P) ]$$

$$(22) d = Q_{rm} / Q_{vol} = [ (L_{rm} + F) / (L_{vol} + F) ] \times [ (1 - V_{vol} - P) / (1 - V_{rm} - P) ]$$

We can solve the first term given a loss ratio differential and formulas (18) and (20). This leaves the second term.

The  $V_{vol}$  and  $V_{rm}$  can be thought of as the following:

$$(23) V_{vol} = C_{vol} + A + T + D_{vol}$$

$$(24) V_{rm} = C_{rm} + A + T$$

where  $C_{vol}$  - Commission Ratio relative to the sum of Standard Premium plus ARAP for the Voluntary Market

$C_{rm}$  - Commission Ratio relative to the sum of Standard Premium plus ARAP for the Residual Market

# I 000011

A - Other Acquisition Expense Ratio relative to the sum of Standard Premium plus ARAP

T - Premium Tax Ratio relative to the sum of Standard Premium plus ARAP

$D_{vol}$  - Premium Discount relative to the sum of Standard Premium plus ARAP for the voluntary market

Then the second term in (22) becomes:

$$(25) [ 1 - (C_{vol} + A + T + D_{vol}) ] / [ 1 - (C_{rm} + A + T) ]$$

and the remaining unknowns are  $C_{vol}$  and  $C_{rm}$ .

$$(26) w_{vol}C_{vol} + w_{rm}C_{rm} = C_f$$

Introducing a new variable  $k$ , the commission ratio differential between the Residual Market and the Voluntary Market, such that:

$$(27) k = C_{rm} / C_{vol},$$

Then equations can be derived for  $C_{vol}$  and  $C_{rm}$  as follows.

$$(28) C_{vol} = C_f / (w_{vol} + w_{rm}k)$$

$$(29) C_{rm} = C_f k / (w_{vol} + w_{rm}k)$$

“ $k$ ” is the estimated commission differential. Given we have  $C_f$  as a known and we can solve for  $C_{vol}$  and  $C_{rm}$ , we now have all the variables needed to solve equation (13).

The detailed calculations for solving equation (13), the Factor to Remove the Large Deductible Contribution to the Residual Market Subsidy, are located in Section I-D, Exhibit 1, Page 1. The resulting adjustment factor is **1.000**.

What this means for the current filing is that this year no offset for the residual market subsidy paid by large deductible insureds is indicated.

# I 000012

Section I - Rate Recommendation  
 Subsection D - Reflecting the Impact of Large Deductibles  
 9/1/2011

Section I - D  
 Exhibit 1  
 Page 1

## Factor to Remove the Large Deductible Contribution to the Residual Market Subsidy

		Total Market	Residual Market ("rm")	Voluntary Market ("vol")
(1)	Permissible Loss, LAE, and Fixed Expense Ratio	75.6%		
(2)	Fixed Expense Ratio (Section VI-B)	5.6%		
(3)	Permissible Loss and LAE Ratio = [ (1) - (2) ]	70.0%		
(4)	Loss Ratio Differential, r	1.125		
(5)	Market Weight - $w_x$		15%	85%
(6)	Implied Loss and LAE Ratio		0.773	0.687
(7)	Implied Loss, LAE, and Fixed Expense Ratio		0.829	0.743
(8)	Loss, LAE, and Fixed Expense Ratio Differential	1.116		
(9)	Variable Expense Ratio	18.4%	11.4%	19.7%
(10)	Underwriting Profit Provision	5.96%		
(11)	Implied Rate Factor Equivalent		1.003	0.999
(12)	Implied Rate Differential, d	1.003		
(13)	Residual Market Rate equivalent, $Q_{rm}$	1.003		
(14)	Proportion of Total Voluntary Assessable Premium not from Large Deductibles, u	0.760		
(15)	Adjustment Factor	<b>1.000</b>		

**Notes**

- (1): Consistent with Section VI-A, Exhibit 1.
  - (2): Section VI-B, Exhibit 1, average of column (18).
  - (4): Loss Ratio Differential from Page 2, assumes LAE as % of loss is the same for Residual and Voluntary Market.
  - (5): Residual Market weight,  $w_{rm}$ , from Section I-D, Exhibit 2, Voluntary Market weight,  $w_{vol} = 1.0 - (5) w_{rm}$
  - (6): Voluntary Market Implied Loss and LAE Ratio = (3) / [ (5 $w_{rm}$ ) x (4) + (5 $w_{vol}$ ) ]  
 Residual Market Implied Loss and LAE Ratio = (4) x (6) $_{vol}$
  - (7) = (2) + (6)
  - (8) = (7) $_{rm}$  / (7) $_{vol}$
  - (9): Section VI-A, Exhibit 1, Total Market; Residual Market commission calculated based on the Residual Market - Pool Procedures - Producer Fee Schedule.
  - (10): Section VII-A, Exhibit 1.
  - (11) = (7) / [ 1.0 - (9) - (10) ]
  - (12) = (11) $_{rm}$  / (11) $_{vol}$
  - (13) = d / [  $w_{vol} + (w_{rm} \times d)$  ]
  - (14): Exhibit 2.
  - (15) = [ 1.0 -  $w_{rm} \times Q_{rm} \times (1.0 - u)$  ] / [ 1.0 -  $w_{rm} \times (1.0 - u)$  ]
- Premium discounts were discontinued in the Residual Market effective 1/1/1991.

Calculation of Residual Market to Voluntary Loss Ratio Differential  
 (\$ amounts in millions)

Policy Year	Total Market			Residual Market			Voluntary Market			Loss Ratio Differential LR <sub>rm</sub> / LR <sub>vol</sub> = (7) / (10) (11)
	Standard Earned Premium plus ARAP (2)	Paid Losses and Case Reserves (3)	Paid + Case Loss Ratio = (3) / (2) (4)	Standard Earned Premium Plus ARAP (5)	Paid Losses and Case Reserves (6)	Paid + Case Loss Ratio = (6) / (5) (7)	Standard Earned Premium Plus ARAP (8)	Paid Losses and Case Reserves (9)	Paid + Case Loss Ratio = (9) / (8) (10)	
2002	916	478	52.1%	172	89	51.8%	745	389	52.2%	0.993
2003	951	490	51.5%	195	98	49.9%	756	393	52.0%	0.961
2004	935	529	56.6%	220	144	65.5%	716	385	53.9%	1.216
2005	968	509	52.5%	221	123	55.5%	747	386	51.6%	1.076
2006	1,025	467	45.5%	197	95	48.5%	828	371	44.8%	1.082
2007	1,000	454	45.4%	160	84	52.6%	841	370	44.0%	1.195
2008	829	356	42.9%	119	59	49.9%	710	296	41.8%	1.195
(12) Average Last 2 Years				139	72	51.4%	775	333	43.0%	1.197
(13) Average All Years				183	99	53.9%	763	370	48.5%	1.112
(14) Selected Loss Ratio Differential										<b>1.125</b>

Notes:  
 Data as of 12/31/2009 from Financial Aggregate Database, excluding large deductible policies.

I 000013

Residual Market Weight "  $w_{rm}$  "  
 Proportion of Voluntary Assessable Premium Not from Large Deductibles "  $u$  "  
 (\$ amounts in millions)

Calendar Year (1)	Residual Market Direct Written Premium (2)	Take-Out Program Written Premium (3)	Voluntary Non-Large Deductible Not in Take-Out Program Written Premium (4)	Large Deductible Standard + ARAP Written Premium (5)	Residual Market Weight " $w_{rm}$ " = (2) / [ (2) + (3) + (4) ] (6)	" $u$ " -- Proportion of Assessable Premium Not from Large Deductibles = (4) / [ (4) + (5) ] (7)
2008	136	61	621	200	0.166	0.756
2009	110	48	620	193	0.142	0.763
Selected	123	54	621	197	0.154	0.760

Note:  
 Refers to the proposed effective policy period from 9/1/2011 through 9/1/2012.  
 (2),(3),(4),(5): Selected based on two-year average of Calendar Year 2008 and 2009.  
 (2),(3),(5): Massachusetts Workers' Compensation Assigned Risk Pool Special Bulletins  
 (4): Voluntary Assessable Premium + Take-Out Credit - (3) - (5).

I 000014

**INSOLVENCY FUND IMPACT ON MANUAL RATES****Background**

We calculate a loading for the recoupment of the Massachusetts Insolvency Fund (“Fund”) assessments in this Section I-E. The calculation of the insolvency fund factor this year is made the same way as in past filings, and the result flows through to Section IX-K. Although it is not considered part of the indicated change in average rates, the Insolvency Fund loading is significant in the determination of final manual rates.

Section IX-A displays the proposed manual rates and rating values for this filing. Proposed manual rates are determined by initially loading the proposed average rates to offset the impacts of the application of merit rating, experience rating and construction credits, and subsequently loading for recoupment of Insolvency Fund assessments. We continue to calculate these offsets in Section IX-K.

**Loading for Recoupment of Insolvency Fund Assessments**

Under Massachusetts law, the Fund may assess carriers to cover the Fund's costs of providing relief in the event of insurer insolvencies. If a carrier writes premium for a line of business covered by the Fund, such premium will be subject to assessment. The law provides that these assessments can be recouped from the policyholders. Beginning in 1988, workers' compensation insurance has been covered by the Fund. The loading included in this filing is intended to recoup prior year assessments consistent with the Fund Statute, Massachusetts General Laws Chapter 175D: Massachusetts Insurers Insolvency Fund.

## I 000016

The Fund does not maintain segregated accounts by line of business and consequently workers' compensation insurers may be assessed by the Fund for expenses related to the insolvency of non-workers' compensation carriers. The Fund assessment base is the total written premium for all lines covered by the Fund, and an individual carrier's assessment is a function of its written premium for all lines covered by the Fund. Therefore, we must first estimate the proportion of the total Fund assessment that is attributable to workers' compensation. This is done by dividing the Massachusetts workers' compensation Statutory Page 14 written premium by the total premium assessment base of the Fund. The assessment applicable to workers' compensation is the product of this ratio and the total Fund assessment. The resulting estimated workers' compensation assessment is then adjusted to reflect the impact of the time value of money, premium taxes, and commissions. This net assessment is divided by the expected written premium in the prospective period to arrive at the factor to load the assessment.

The Fund assessed carriers on 10/21/10. The loading shown in this filing provides for the recoupment of the portion of these assessments that is attributable to the workers' compensation line and that has not yet been recouped. The loading for the recoupment of the 2010 insolvency fund assessment is 0.0002 (Section I-E, Exhibit 1, Page 1).

# I 000017

Section I - Rate Recommendation  
Subsection E - Calculation of Loading for Recoupment of Insolvency Fund Assessments  
9/1/2011

Section I-E  
Exhibit 1  
Page 1

## Loading for Recoupment of Insolvency Fund Assessments

### Unanticipated Assessments Collected

(1)	Estimated Written Premium for Policy Period 9/1/10 - 8/31/11 Absent Insolvency Assessments	974,105,547
(2)	Unanticipated Assessment rate as a % of Premium absent Insolvency Fund 9/1/10 - 8/31/11	0.00%
(3)	Unanticipated Assessment Collected for Policy Period 9/1/10 - 8/31/11	0
(4)	Factor for Interest to the Prospective Period	1.013
(5)	Adjusted Unanticipated Assessment Collected	0

### Net Assessments

(6)	Assessments yet to be reflected in the rates	218,019
(7)	Net Assessments = (6) - (5)	218,019

### Loading for Recoupment

(8)	Projected Written Premium in the Prospective Period	1,056,565,467
(9)	Loading for Recoupment of Insolvency Fund Assessments	<b>0.02%</b>

#### Notes:

- (1): Exhibit 2 Page 1.
- (3) = (1) x (2)
- (4): Section VII-H, Exhibit 1, 1.3%.
- (5) = (3) x (4)
- (6): Exhibit 2 Page 2.
- (7) = (6) - (5)
- (8): Exhibit 2 Page 1.
- (9) = (7) / [ (7) + (8) ]

# I 000018

Section I - Rate Recommendation  
Subsection E - Calculation of Loading for Recoupment of Insolvency Fund Assessments  
9/1/2011

Section I-E  
Exhibit 2  
Page 1

## Expected Workers' Compensation Written Premium in Prospective Period

(1)	2009 Calendar Year Written Premium Absent Insolvency Assessments	969,837,334
(2)	Estimated Exposure Growth Factor from Calendar Year 2009 to Policy Period 9/1/10 - 8/31/11	1.029
(3)	Rate Change from Calendar Year 2009 Written to Policy Period 9/1/10 - 8/31/11	-2.4%
(4)	Estimated Written Premium for Policy Period 9/1/10 - 8/31/11 = (1) x (2) x [ 1.0 + (3) ]	974,105,547
(5)	Estimated Exposure Growth Factor from Policy Period 9/1/10 - 8/31/11 to Prospective Period	1.017
(6)	Average Indicated Rate Change	6.6%
(7)	Estimated Written Premium in Prospective Period = (4) x (5) x [ 1.0 + (6) ]	1,056,565,467

### Notes:

(1): The calendar year written premium is adjusted for the loading for recoupment of insolvency fund assessments from 9/1/2010.

(2): Assumes a 1.7% annual change trended for 20 months.

(3): The 9/1/2010 rate change was -2.4%.

(5): Assumes a 1.7% annual change. From Section VI-G.

(6): Section I-A, Exhibit 1.

# I 000019

### Insolvency Fund Assessments Yet to Be Reflected in the Rates by Workers' Compensation Carriers

Assessment Base Year (1)	Workers' Compensation Calendar Year Written Premium (2)	Assessment Base (3)	Percentage Charged to Workers' Compensation = (2) / (3) (4)	10/21/2010	
				Assessment (5)	Assessment Charged to Workers' Compensation = (4) x (5) (6)
1988	1,192,120,104	6,766,445,953	17.62%		
1989	1,303,051,741	6,692,131,638	19.47%		
1990	1,364,830,026	6,755,551,749	20.20%		
1991	1,436,058,443	6,868,646,572	20.91%		
1992	1,309,252,255	6,888,088,844	19.01%		
1993	1,395,560,326	7,233,247,733	19.29%	(93,794)	(18,096)
1994	1,175,326,757	7,224,575,261	16.27%	(311,412)	(50,662)
1995	1,043,750,298	7,139,153,644	14.62%		
1996	981,758,872	6,855,906,608	14.32%		
1997	914,971,260	6,781,202,666	13.49%		
1998	896,280,476	6,877,677,561	13.03%		
1999	852,073,429	6,979,043,413	12.21%	(4,500,000)	(549,406)
2000	873,456,717	7,642,598,776	11.43%		
2001	877,204,341	8,497,773,752	10.32%	(2,690,466)	(277,730)
2002	1,270,355,928	9,481,535,538	13.40%		
2003	1,248,676,750	10,132,906,831	12.32%	(3,000,000)	(369,690)
2004	1,222,962,359	10,622,095,111	11.51%	(3,000,000)	(345,401)
2005	1,335,681,276	10,811,968,884	12.35%		
2006	1,355,363,793	10,785,092,254	12.57%		
2007	1,318,054,939	10,488,212,970	12.57%		
2008	1,018,962,508	10,084,705,787	10.10%		
2009	969,294,389	9,681,198,603	10.01%	18,000,000	1,802,184

(7)	Estimated Total Assessment Charged to Workers' Compensation Carriers	191,198
(8)	Interest Adjustment Factor	1.022
(9)	Interested-Adjusted Assessment = (7) x (8)	195,425
(10)	Adjusted Total Assessments = sum (9)	195,425
(11)	Premium Tax Rate	2.2%
(12)	Commission Rate	8.2%
(13)	Net Assessment = (10) / [ 1.0 - (11) - (12) ]	218,019

**Notes:**

1988 was the first year that Workers' Compensation was included in the assessment. Base Years 2001 and prior based on a compilation of Statutory Page 14s. Assessment Base Years 2002 and beyond from the Guaranty Fund Management Services.

(2),(3): Information from Guaranty Fund Management Services.

(5): Information from Guaranty Fund Management Services, see Page 3.

(7) = Sum (6)

(8): 1.3% is the risk-free rate of interest, shown in Section VII-H, trended to the average premium collection date.

(11): Section VI-A, Exhibit 1.

(12): The average commission is 7.8%, consistent with Section VI-J.

Since the average premium discount is 4.7% (Section VI-H, Exhibit 1), the average commission as a percent of net premium is  $7.8\% / (1.0 - 4.7\%) = 8.2\%$ . The assessments of each insurer are in the proportion that the net direct written premiums of the insurer for the calendar year preceding the assessment bears to the net direct written premiums of all insurers for the calendar year preceding the assessment. MGL. Ch. 175D.

# I 000020

Section I - Rate Recommendation  
 Subsection E - Calculation of Loading for Recoupment of Insolvency Fund Assessments  
 9/1/2011

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## Insolvency Fund Assessments Yet to Be Reflected in the Rates

Assessment Date	Insolvent Company	Assessment by Base Year						
		1993	1994	1999	2001	2003	2004	2009
10/21/2010	Abington Mutual Insurance Company	0	(311,412)	0	0	0	0	0
	Employers Casualty	(93,794)	0	0	0	0	0	0
	Trust Insurance Company	0	0	(4,500,000)	0	0	0	0
	New England Fidelity Insurance Company	0	0	0	(700,542)	0	0	0
	PHICO Insurance Company	0	0	0	(1,989,924)	(3,000,000)	(3,000,000)	0
	Miix Insurance Company	0	0	0	0	0	0	3,000,000
	Eastern Casualty Insurance Company	0	0	0	0	0	0	15,000,000
10/21/2010 Total		(93,794)	(311,412)	(4,500,000)	(2,690,466)	(3,000,000)	(3,000,000)	18,000,000

Note:  
 The assessment base year is the year of written premium prior to the year of Assessment.

**LOSS DEVELOPMENT**

“The ultimate value of losses cannot be determined from reported losses alone, because losses are not always reported immediately and loss values change over time as payments are made and reserves adjusted.” Decision on 2003 Rates, p. 5. Loss development is an actuarial method of estimating the ultimate settlement value of losses based on “reported losses”<sup>1</sup> and historical patterns of development, i.e. the change in the observed value of a loss between valuation dates. Loss development factors are derived mathematically by analyzing the development of losses from initial reporting and reserving to ultimate value at the time of the final settlement. The assumption is that losses develop in a consistent pattern over time so that historical experience can be used to predict future development.

Reported losses are developed to their estimated “ultimate” level based on historical loss development patterns. The pattern of change in reported losses over time is observed at regular intervals and converted into age-to-age link ratios, each of which reflects the ratio of the loss valued as of time (T+1) to the loss valued as of time T. When applied successively, age-to-age link ratios yield the cumulative loss development factors. Cumulative loss development factors are then applied to current reported losses to estimate what the ultimate value of losses will be when all associated claims are settled.

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<sup>1</sup> In this filing, the term “reported losses” refers to either paid losses or paid losses plus case reserves.

## II 000002

In this section of the Filing, reported losses for policy years 2007 and 2008 are developed to their estimated ultimate levels using the same basic method employed by the Commissioner in the 2003 Rate Decision and by the WCRIBMA in the 2005, 2007, 2008, and 2010 rate filings. Consistent with the Statement of Actuarial Principles of the Casualty Actuarial Society, the WCRIBMA has examined the results of more than one method of estimating ultimate losses in an effort to derive a reasonable estimate of losses. The selected estimate of ultimate losses is the average of the estimates derived by developing paid losses and by developing the sum of paid losses and case reserves. The paid loss data used in this filing are the actual inception to date paid losses net of subrogation and second injury fund recoveries. The case reserve data used in this filing are the claim-specific amounts held as reserves for anticipated future claims payments.

One of the goals when using historical data as the basis for the ultimate loss predictions is to balance stability with responsiveness. Stability is desired so as to avoid any large or random fluctuations that are not truly representative of the future. Here, the more years that are considered, the more stable the result will be. We must, however, also consider responsiveness. We only want to include data that we believe represent current and ongoing conditions. This would weigh in favor of using only the most recent data. As in prior filings, our selected age-to-age development factors are the unweighted averages of the latest two indicated age-to-age link ratios.

The 2007 policy year and 2008 policy year ultimate loss estimates used in our rate indication are calculated by multiplying the reported losses by the applicable loss development factor to ultimate, which is the product of all age-to-age development factors

(including the tail factor discussed below) from a given month (“age”) of development forward to the point at which we expect no further development.

As in the five previous rate filings, the WCRIBMA has calculated ultimate losses based on aggregate industry-wide loss development data. This method is easy to understand and consistent with customary ratemaking practices. Medical and indemnity losses are developed separately because of their differing development patterns. In doing so, we also avoid potential distortions that may arise because of changes in the relative proportions of medical and indemnity losses over time. Section II-A, Exhibit 1 summarizes the results. The underlying details of the methodology are displayed in Section II-B.

As in past years, the experience for prior years of companies that have stopped writing new business in Massachusetts and that did not report policy experience valued as of the latest calendar year’s end has been excluded from our financial aggregate database in order to avoid any distortions to the rate indication.

In this filing, the WCRIBMA uses historical data and the resultant loss development factors to develop the policy year paid and the paid plus case losses to 252 months. An industry based “tail factor” accounts for development beyond 252 months to ultimate.

Indicated ultimate indemnity losses are then adjusted for escalation. We make this adjustment for escalated benefits because some of the losses in the loss development triangle do not reflect the change in the law that introduced inflation-based increases in indemnity benefits or lost wages. See St. 1986, c. 572. The development pattern of indemnity losses that are subject to escalation will differ from that of indemnity

## **II 000004**

Section II - Loss Development  
Subsection A - Summary  
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Section II - A  
Page 4

losses not subject to escalation (unless escalation is zero). See Section II-D for the details of the calculation.

**TAIL FACTOR**

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Workers' compensation carriers in Massachusetts report aggregated financial policy year loss experience to the WCRIBMA at year-end valuation points for twenty-one consecutive years (252 months). Hence the WCRIBMA can develop losses to 252 months using the age-to-age link ratios described previously. However, workers' compensation losses may continue to develop well beyond 252 months. A young person could suffer a severe work-related injury and collect workers' compensation benefits for the balance of his/her lifetime, in some cases forty years or more. The "tail factor" accounts for loss development from 252 months of development to ultimate.

Beyond 252 months of development, policy year loss experience is aggregated for statistical reporting purposes and reported in total as a single value. This loss experience is summarized and reported each year as an aggregate number "prior to" a given policy year. It does not lend itself to the calculation and application of age-to-age link ratios. However, these data can be used to develop a tail factor, which is essentially a loss development factor to ultimate intended to account for all remaining loss development beyond a given point. In this filing, we derive tail factor estimates for loss development from 252 months of development to ultimate (the point at which there is no further payment activity).

We used the same method employed by the Commissioner in the 2003 Rate Decision and by the WCRIBMA in the 2005, 2007, 2008, and 2010 rate filings. The

WCRIBMA's calculation of tail factors involves calculating the calendar year change in losses for all policy years included in the most recent "prior to" line and comparing that result to the reported losses for the oldest policy year not included in the "prior to" line.

### **Growth Factor Adjustment**

Changes in the level of ultimate losses over time can distort the calculation of the tail factor. Without a growth factor adjustment, the tail factor would aggregate all years beyond 252 months and calculate the factor based on the assumption that policy years prior to 1989 had the same level of ultimate losses as policy year 1989 – an assumption known to be false. Stated mathematically, if the ratios used to calculate the tail factor reflect losses in the numerator that relate to a different level of ultimate losses than do the losses used in the denominator, the tail factor will be distorted. This is not a problem for the age-to-age link ratios used through 252 months of development which only use the data for a given policy year in the calculation. The growth factor is intended to adjust for differences in the ultimate value of losses across policy years, thereby creating a more appropriate expectation of development in the tail (see Section II-C, Exhibit 1, Page 2 and Exhibit 2, Page 2). The growth factor decomposes the numerator, the calendar year development for policy years prior to 1989, into individual policy year components, and then adjusts each policy year individually based on its estimated contribution to the aggregate development.

In this filing, we used the same method employed by the Commissioner in the 2003 Rate Decision and by the WCRIBMA in the 2005, 2007, 2008, and 2010 rate

filings. We calculate separate tail factors directly for medical and indemnity losses in order to reflect their differing development patterns. Medical losses tend to develop differently than do indemnity losses (Section II-B). Application of separate tail factors captures the different development patterns and prevents the estimate of ultimate losses from being unduly distorted by shifts in the proportions of medical and indemnity losses over time. Moreover, separate tail factors are estimated for paid and paid-plus-case reported losses.

As in previous filings, the selected tail factor is based on the average of five observations in order to reduce volatility. In this filing, we use the link factor method (i.e., stating each factor as of the same month (age) of development) to bring each of the five valuations to a common report level, 252 months, so that the calculated tail factor is consistent with the losses to which it is applied. We then calculate a tail factor to project losses from 252 months to ultimate values. The tail factor calculation is detailed on Exhibit 1, Page 1 and Exhibit 2, Page 1 of Section II-C.

## II 000008

Section II - Loss Development  
 Subsection A - Summary  
 9/1/2011

Section II - A  
 Exhibit 1

### Summary of Estimated Ultimate Losses

#### Paid Loss Development Method

Policy Year (1)	Benefit Type (2)	Paid Losses at 12/31/09 (3)	Cumulative Factors from Latest Month to 252 Months (4)	Tail Factor from 252 Months to Ultimate (5)	Factor to Adjust for Escalated Benefits (6)	Estimated Ultimate Losses (7)
2007	Indemnity	188,922,123	1.640	1.041	1.031	332,464,835
2007	Medical	141,918,867	1.291	1.102	1.000	201,922,720
2007	Total	330,840,990				534,387,555
2008	Indemnity	104,203,046	2.903	1.041	1.031	324,633,500
2008	Medical	103,594,986	1.632	1.102	1.000	186,393,500
2008	Total	207,798,032				511,027,001

#### Paid Plus Case Loss Development Method

Policy Year (8)	Benefit Type (9)	Paid Plus Case Losses at 12/31/09 (10)	Cumulative Factors from Latest Month to 252 Months (11)	Tail Factor from 252 Months to Ultimate (12)	Factor to Adjust for Escalated Benefits (13)	Estimated Ultimate Losses (14)
2007	Indemnity	268,009,271	1.169	1.012	1.007	319,354,522
2007	Medical	186,125,204	1.085	1.078	1.000	217,738,672
2007	Total	454,134,475				537,093,194
2008	Indemnity	196,889,005	1.488	1.012	1.007	298,632,266
2008	Medical	158,893,269	1.101	1.078	1.000	188,681,249
2008	Total	355,782,274				487,313,515

Notes:

(3), (10): Aggregate Financial Data.

(4),(11): Section II - B, Exhibit 1.

(5): Section II - C, Exhibit 1, Page 1.

(6): Section II - D, Exhibit 1, Page 1.

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

(12): Section II - C, Exhibit 2, Page 1.

(13): Section II - D, Exhibit 2, Page 1.

(14) = (10) x (11) x (12) x (13)

Policy Year Financial Aggregate Data  
 Summary of Loss Development Factors  
 Industrywide

Loss Development Factors From																			
Months of Development	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
<b>(1) Indemnity Paid Losses</b>																			
2 Year Average	1.770	1.273	1.114	1.053	1.029	1.016	1.008	1.009	1.008	1.004	1.002	1.003	1.003	1.004	1.002	1.001	1.001	1.002	1.002
Cumulative Factor to 252	2.903	1.640	1.289	1.157	1.099	1.068	1.051	1.042	1.033	1.025	1.020	1.018	1.015	1.012	1.008	1.006	1.004	1.004	1.002
<b>(2) Medical Paid Losses</b>																			
2 Year Average	1.265	1.071	1.035	1.020	1.011	1.017	1.014	1.011	1.014	1.010	1.008	1.009	1.013	1.007	1.005	1.006	1.002	1.004	1.003
Cumulative Factor to 252	1.632	1.291	1.206	1.165	1.142	1.129	1.111	1.095	1.083	1.068	1.058	1.050	1.041	1.028	1.021	1.016	1.010	1.008	1.003
<b>(3) Indemnity Paid Plus Case Losses</b>																			
2 Year Average	1.273	1.090	1.030	1.021	1.000	0.999	1.003	1.004	1.002	1.006	0.996	1.001	1.002	0.999	1.002	1.002	0.999	0.999	1.005
Cumulative Factor to 252	1.488	1.169	1.073	1.041	1.019	1.020	1.020	1.018	1.014	1.012	1.006	1.010	1.009	1.007	1.008	1.006	1.003	1.005	1.005
<b>(4) Medical Paid Plus Case Losses</b>																			
2 Year Average	1.015	1.006	1.013	1.016	1.008	1.014	0.998	1.007	1.009	1.001	1.012	1.011	0.991	1.005	0.999	0.997	1.000	0.998	0.997
Cumulative Factor to 252	1.101	1.085	1.078	1.065	1.048	1.040	1.025	1.027	1.020	1.011	1.010	0.998	0.987	0.996	0.991	0.992	0.995	0.995	0.997

Notes:

- (1): Exhibit 2, Page 1.
- (2): Exhibit 2, Page 2.
- (3): Exhibit 3, Page 1.
- (4): Exhibit 3, Page 2.

600000 II

# II 000010

Section II - Loss Development  
 Subsection B - Policy Year Data  
 9/1/2011

Section II - B  
 Exhibit 2  
 Page 1

## Policy Year Financial Aggregate Data Calculation of Indemnity Paid Loss Development Factors Industrywide

Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor	Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor
	24	36			144	156	
2006	56,182	100,674	1.792	1996	135,687	135,868	1.001
2007	61,442	107,443	1.749	1997	133,187	133,526	1.003
Average			1.770	Average			1.002
	36	48			156	168	
2005	112,293	140,027	1.247	1995	143,165	143,559	1.003
2006	100,674	130,701	1.298	1996	135,868	136,239	1.003
Average			1.273	Average			1.003
	48	60			168	180	
2004	150,170	168,559	1.122	1994	138,811	139,479	1.005
2005	140,027	154,685	1.105	1995	143,559	143,845	1.002
Average			1.114	Average			1.003
	60	72			180	192	
2003	162,899	171,792	1.055	1993	170,461	171,277	1.005
2004	168,559	177,312	1.052	1994	139,479	139,944	1.003
Average			1.053	Average			1.004
	72	84			192	204	
2002	184,100	188,653	1.025	1992	214,197	214,809	1.003
2003	171,792	177,489	1.033	1993	171,277	171,467	1.001
Average			1.029	Average			1.002
	84	96			204	216	
2001	186,448	188,790	1.013	1991	334,341	334,884	1.002
2002	188,653	192,398	1.020	1992	214,809	215,068	1.001
Average			1.016	Average			1.001
	96	108			216	228	
2000	200,913	202,422	1.008	1990	483,126	483,886	1.002
2001	188,790	190,400	1.009	1991	334,884	334,904	1.000
Average			1.008	Average			1.001
	108	120			228	240	
1999	189,485	191,257	1.009	1989	525,889	526,857	1.002
2000	202,422	204,327	1.009	1990	483,886	484,660	1.002
Average			1.009	Average			1.002
	120	132			240	252	
1998	165,060	166,922	1.011	1989	526,857	527,861	1.002
1999	191,257	192,164	1.005	Average			1.002
Average			1.008				
	132	144					
1997	132,791	133,187	1.003				
1998	166,922	167,847	1.006				
Average			1.004				

Notes:  
 Losses from Aggregate Financial Data.

# II 000011

Section II - Loss Development  
 Subsection B - Policy Year Data  
 9/1/2011

Section II - B  
 Exhibit 2  
 Page 2

## Policy Year Financial Aggregate Data Calculation of Medical Paid Loss Development Factors Industrywide

Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor	Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor
	24	36			144	156	
2006	61,990	79,462	1.282	1996	66,325	66,947	1.009
2007	71,012	88,574	1.247	1997	66,807	67,217	1.006
Average			1.265	Average			1.008
	36	48			156	168	
2005	82,581	88,117	1.067	1995	62,677	63,103	1.007
2006	79,462	85,354	1.074	1996	66,947	67,641	1.010
Average			1.071	Average			1.009
	48	60			168	180	
2004	94,048	97,009	1.031	1994	71,229	72,612	1.019
2005	88,117	91,542	1.039	1995	63,103	63,488	1.006
Average			1.035	Average			1.013
	60	72			180	192	
2003	96,605	99,008	1.025	1993	78,021	78,404	1.005
2004	97,009	98,460	1.015	1994	72,612	73,212	1.008
Average			1.020	Average			1.007
	72	84			192	204	
2002	101,428	102,603	1.012	1992	98,190	98,794	1.006
2003	99,008	100,060	1.011	1993	78,404	78,722	1.004
Average			1.011	Average			1.005
	84	96			204	216	
2001	96,504	98,066	1.016	1991	121,806	122,690	1.007
2002	102,603	104,389	1.017	1992	98,794	99,196	1.004
Average			1.017	Average			1.006
	96	108			216	228	
2000	98,196	99,562	1.014	1990	141,908	142,624	1.005
2001	98,066	99,472	1.014	1991	122,690	122,629	1.000
Average			1.014	Average			1.002
	108	120			228	240	
1999	98,811	99,944	1.011	1989	146,745	147,204	1.003
2000	99,562	100,670	1.011	1990	142,624	143,417	1.006
Average			1.011	Average			1.004
	120	132			240	252	
1998	84,159	85,282	1.013	1989	147,204	147,697	1.003
1999	99,944	101,429	1.015	Average			1.003
Average			1.014				
	132	144					
1997	66,376	66,807	1.006				
1998	85,282	86,352	1.013				
Average			1.010				

Notes:  
 Losses from Aggregate Financial Data.

## II 000012

Section II - Loss Development  
 Subsection B - Policy Year Data  
 9/1/2011

Section II - B  
 Exhibit 3  
 Page 1

### Policy Year Financial Aggregate Data Calculation of Indemnity Paid Plus Case Loss Development Factors Industrywide

Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor	Policy Year	Losses (in 000's) Evaluated at Month		Loss Development Factor
	24	36			144	156	
2006	114,371	145,137	1.269	1996	140,194	138,814	0.990
2007	119,676	152,800	1.277	1997	135,693	135,997	1.002
Average			1.273	Average			0.996
	36	48			156	168	
2005	154,643	167,417	1.083	1995	146,810	146,907	1.001
2006	145,137	159,336	1.098	1996	138,814	139,134	1.002
Average			1.090	Average			1.001
	48	60			168	180	
2004	182,759	188,830	1.033	1994	142,414	142,746	1.002
2005	167,417	172,014	1.027	1995	146,907	147,130	1.002
Average			1.030	Average			1.002
	60	72			180	192	
2003	185,251	190,300	1.027	1993	174,404	174,358	1.000
2004	188,830	191,682	1.015	1994	142,746	142,530	0.998
Average			1.021	Average			0.999
	72	84			192	204	
2002	199,062	200,719	1.008	1992	216,142	216,833	1.003
2003	190,300	188,613	0.991	1993	174,358	174,467	1.001
Average			1.000	Average			1.002
	84	96			204	216	
2001	199,592	199,606	1.000	1991	339,147	339,946	1.002
2002	200,719	200,364	0.998	1992	216,833	217,309	1.002
Average			0.999	Average			1.002
	96	108			216	228	
2000	209,629	210,548	1.004	1990	491,127	490,328	0.998
2001	199,606	199,804	1.001	1991	339,946	339,697	0.999
Average			1.003	Average			0.999
	108	120			228	240	
1999	197,222	198,697	1.007	1989	537,960	536,926	0.998
2000	210,548	210,458	1.000	1990	490,328	490,615	1.001
Average			1.004	Average			0.999
	120	132			240	252	
1998	170,337	170,684	1.002	1989	536,926	539,765	1.005
1999	198,697	199,113	1.002	Average			1.005
Average			1.002				
	132	144					
1997	135,254	135,693	1.003				
1998	170,684	172,078	1.008				
Average			1.006				

Notes:  
 Losses from Aggregate Financial Data.



# II 000014

## Paid Loss Tail Factors

### Indemnity 252nd Month to Ultimate Loss Tail Development Factor

(1)	Valuation Date [Y]	<u>12/31/2005</u>	<u>12/31/2006</u>	<u>12/31/2007</u>	<u>12/31/2008</u>	<u>12/31/2009</u>
(2)	Prior to Policy Year 1989 at [Y]	3,962,647,805	3,968,733,253	3,977,668,771	3,988,905,069	3,996,622,406
(3)	Prior to Policy Year 1989 at [Y] - 1 yr	3,953,543,260	3,962,647,805	3,968,733,253	3,977,668,771	3,988,905,069
(4)	Difference = (2) - (3)	9,104,545	6,085,448	8,935,518	11,236,298	7,717,337
(5)	Policy Year 1989 at [Y]	524,009,919	525,020,075	525,889,353	526,856,952	527,861,345
(6)	Ratio = (4) / (5)	0.017	0.012	0.017	0.021	0.015
(7)	Growth Factor	2.700	2.700	2.700	2.700	2.700
(8)	Product = (6) x (7)	0.047	0.031	0.046	0.058	0.039
(9)	Factor to Ultimate = 1.000 + (8)	1.047	1.031	1.046	1.058	1.039
(10)	Month [M]	204	216	228	240	252
(11)	Factor to Ultimate = (9)	1.047	1.031	1.046	1.058	1.039
(12)	Factor from [252] to [M]	0.994	0.996	0.996	0.998	1.000
(13)	Indicated [252] to Ultimate Tail Factor = (11) x (12)	1.041	1.027	1.042	1.056	1.039
(14)	Five Year Average					1.041

### Medical 252nd Month to Ultimate Loss Tail Development Factor

(15)	Valuation Date [Y]	<u>12/31/2005</u>	<u>12/31/2006</u>	<u>12/31/2007</u>	<u>12/31/2008</u>	<u>12/31/2009</u>
(16)	Prior to Policy Year 1989 at [Y]	1,172,799,169	1,178,290,944	1,183,213,276	1,188,534,264	1,197,262,473
(17)	Prior to Policy Year 1989 at [Y] - 1 yr	1,167,246,867	1,172,799,169	1,178,290,944	1,183,213,276	1,188,534,264
(18)	Difference = (16) - (17)	5,552,302	5,491,775	4,922,332	5,320,988	8,728,209
(19)	Policy Year 1989 at [Y]	145,742,243	146,342,746	146,744,705	147,203,750	147,697,455
(20)	Ratio = (18) / (19)	0.038	0.038	0.034	0.036	0.059
(21)	Growth Factor	2.700	2.700	2.700	2.700	2.700
(22)	Product = (20) x (21)	0.103	0.101	0.091	0.098	0.160
(23)	Factor to Ultimate = 1.000 + (22)	1.103	1.101	1.091	1.098	1.160
(24)	Month [M]	204	216	228	240	252
(25)	Factor to Ultimate = (23)	1.103	1.101	1.091	1.098	1.160
(26)	Factor from [252] to [M]	0.985	0.990	0.992	0.997	1.000
(27)	Indicated [252] to Ultimate Tail Factor = (25) x (26)	1.086	1.090	1.082	1.094	1.160
(28)	Five Year Average					1.102

**Notes:**

- (2), (3), (5): Indemnity Paid Losses from Aggregate Financial Data.  
 (16), (17), (19): Medical Paid Losses from Aggregate Financial Data.  
 (7), (21): Exhibit 1, Page 2.  
 (12), (26): 1.0 / Cumulative LDF from Section II - B, Exhibit 1.

## II 000015

Section II - Loss Development  
 Subsection C - Tail Factor Calculation  
 9/1/2011

Section II - C  
 Exhibit 1  
 Page 2

### Growth Factor Adjustment Paid Losses

Policy Year (1)	On-Level Annual Growth Factor (2)	On-Level Cumulative Growth Factor (3)	Relative Volume of Losses (4)	Quarters in Report Interval (5)	Percent Development for Report Interval (6)	Prior to 1989 Dollar Development (7)	On-Level Prior to 1989 Dollar Development (8)
<b>1989</b>			<b>1,000,000</b>				
1988	1.045	1.045	956,621	85 - 88	0.359%	3,437	3,593
1987	1.244	1.300	768,954	89 - 92	0.345%	2,652	3,449
1986	1.218	1.584	631,280	93 - 96	0.331%	2,087	3,305
1985	1.287	2.039	490,525	97 - 100	0.316%	1,551	3,162
1984	1.162	2.369	422,172	101 - 104	0.302%	1,274	3,018
1983	1.218	2.885	346,584	105 - 108	0.287%	996	2,874
1982	1.110	3.202	312,309	109 - 112	0.273%	853	2,731
1981	0.989	3.168	315,693	113 - 116	0.259%	817	2,587
1980	1.090	3.451	289,731	117 - 120	0.244%	708	2,443
1979	1.208	4.171	239,755	121 - 124	0.230%	551	2,299
1978	1.134	4.731	211,361	125 - 128	0.216%	456	2,156
1977	1.248	5.907	169,292	129 - 132	0.201%	341	2,012
1976	1.259	7.439	134,434	133 - 136	0.187%	251	1,868
1975	1.137	8.455	118,274	137 - 140	0.172%	204	1,725
1974	1.055	8.924	112,056	141 - 144	0.158%	177	1,581
1973	1.133	10.110	98,913	145 - 148	0.144%	142	1,437
1972	1.037	10.483	95,394	149 - 152	0.129%	123	1,293
1971	1.054	11.045	90,538	153 - 156	0.115%	104	1,150
1970	1.152	12.726	78,579	157 - 160	0.101%	79	1,006
1969	1.082	13.765	72,647	161 - 164	0.086%	63	862
1968	1.052	14.477	69,076	165 - 168	0.072%	50	719
1967	1.049	15.193	65,818	169 - 172	0.057%	38	575
1966	1.124	17.085	58,532	173 - 176	0.043%	25	431
1965	1.139	19.453	51,407	177 - 180	0.029%	15	287
1964	1.052	20.459	48,877	181 - 184	0.014%	7	144
						17,000	46,707
<b>(9) Indicated Growth Factor:</b>							<b>2.747</b>
<b>(10) Selected Growth Factor:</b>							<b>2.700</b>

**Notes:**

Assume 1989 losses of \$1,000,000. This produces a tail of 1.70% = \$17,000 / \$1,000,000 (with no growth). However, putting Prior to 1989 Losses on-level produces a tail of 4.67% = 2.747 x 1.70%. A growth factor of 2.700 has been selected.

(2): Based on year to year changes of incurred losses from Annual Statement.

(3): Cumulative product of (2), beginning at top of column.

(4) = \$1,000,000 / (3).

The equivalent of what \$1,000,000 of paid losses in 1989 would be in each prior policy year (1964-1988) given the on-level cumulative growth factors in (3).

(5): Quarters that correspond to the policy years.

(6): Change in paid losses during the quarters displayed in (5).

(7) = (4) x (6)

(8) = (3) x (7)

(9) = [ Sum of (8) ] / [ Sum of (7) ]

# II 000016

## Paid Plus Case Loss Tail Factors

### Indemnity 252nd Month to Ultimate Loss Tail Development Factor

(1) Valuation Date [Y]	<u>12/31/2005</u>	<u>12/31/2006</u>	<u>12/31/2007</u>	<u>12/31/2008</u>	<u>12/31/2009</u>
(2) Prior to Policy Year 1989 at [Y]	4,029,006,722	4,028,614,395	4,033,055,794	4,038,856,882	4,044,761,090
(3) Prior to Policy Year 1989 at [Y] - 1 yr	4,027,487,547	4,029,006,722	4,028,614,395	4,033,055,794	4,038,856,882
(4) Difference = (2) - (3)	1,519,175	(392,327)	4,441,399	5,801,088	5,904,208
(5) Policy Year 1989 at [Y]	537,712,059	537,647,044	537,960,193	536,926,285	539,764,589
(6) Ratio = (4) / (5)	0.003	(0.001)	0.008	0.011	0.011
(7) Growth Factor	2.400	2.400	2.400	2.400	2.400
(8) Product = (6) x (7)	0.007	(0.002)	0.020	0.026	0.026
(9) Factor to Ultimate = 1.000 + (8)	1.007	0.998	1.020	1.026	1.026
(10) Month [M]	204	216	228	240	252
(11) Factor to Ultimate = (9)	1.007	0.998	1.020	1.026	1.026
(12) Factor from [252] to [M]	0.994	0.997	0.995	0.995	1.000
(13) Indicated [252] to Ultimate Tail Factor = (11) x (12)	1.001	0.995	1.015	1.021	1.026
(14) Five Year Average					1.012

### Medical 252nd Month to Ultimate Loss Tail Development Factor

(15) Valuation Date [Y]	<u>12/31/2005</u>	<u>12/31/2006</u>	<u>12/31/2007</u>	<u>12/31/2008</u>	<u>12/31/2009</u>
(16) Prior to Policy Year 1989 at [Y]	1,236,791,107	1,247,305,812	1,251,269,588	1,254,977,924	1,257,628,468
(17) Prior to Policy Year 1989 at [Y] - 1 yr	1,233,360,286	1,236,791,107	1,247,305,812	1,251,269,588	1,254,977,924
(18) Difference = (16) - (17)	3,430,821	10,514,705	3,963,776	3,708,336	2,650,544
(19) Policy Year 1989 at [Y]	157,992,705	158,213,323	158,990,614	158,120,068	157,683,348
(20) Ratio = (18) / (19)	0.022	0.066	0.025	0.023	0.017
(21) Growth Factor	2.400	2.400	2.400	2.400	2.400
(22) Product = (20) x (21)	0.052	0.160	0.060	0.056	0.040
(23) Factor to Ultimate = 1.000 + (22)	1.052	1.160	1.060	1.056	1.040
(24) Month [M]	204	216	228	240	252
(25) Factor to Ultimate = (23)	1.052	1.160	1.060	1.056	1.040
(26) Factor from [252] to [M]	1.008	1.005	1.005	1.003	1.000
(27) Indicated [252] to Ultimate Tail Factor = (25) x (26)	1.061	1.165	1.065	1.059	1.040
(28) Five Year Average					1.078

**Notes:**

- (2), (3), (5): Indemnity Paid Plus Case Losses from Aggregate Financial Data.  
 (16), (17), (19): Medical Paid Plus Case Losses from Aggregate Financial Data.  
 (7), (21): Exhibit 2, Page 2.  
 (12), (26): 1.0 / Cumulative LDF from Section II - B, Exhibit 1.

## II 000017

### Growth Factor Adjustment Paid Plus Case Losses

Policy Year (1)	On-Level Annual Growth Factor (2)	On-Level Cumulative Growth Factor (3)	Relative Volume of Losses (4)	Quarters in Report Interval (5)	Percent Development for Report Interval (6)	Prior to 1989 Dollar Development (7)	On-Level Prior to 1989 Dollar Development (8)
<b>1989</b>			<b>1,000,000</b>				
1988	1.045	1.045	956,621	85 - 88	0.228%	2,185	2,284
1987	1.244	1.300	768,954	89 - 92	0.217%	1,668	2,169
1986	1.218	1.584	631,280	93 - 96	0.206%	1,297	2,055
1985	1.287	2.039	490,525	97 - 100	0.194%	952	1,941
1984	1.162	2.369	422,172	101 - 104	0.183%	771	1,827
1983	1.218	2.885	346,584	105 - 108	0.171%	594	1,713
1982	1.110	3.202	312,309	109 - 112	0.160%	499	1,599
1981	0.989	3.168	315,693	113 - 116	0.148%	469	1,484
1980	1.090	3.451	289,731	117 - 120	0.137%	397	1,370
1979	1.208	4.171	239,755	121 - 124	0.126%	301	1,256
1978	1.134	4.731	211,361	125 - 128	0.114%	241	1,142
1977	1.248	5.907	169,292	129 - 132	0.103%	174	1,028
1976	1.259	7.439	134,434	133 - 136	0.091%	123	913
1975	1.137	8.455	118,274	137 - 140	0.080%	95	799
1974	1.055	8.924	112,056	141 - 144	0.069%	77	685
1973	1.133	10.110	98,913	145 - 148	0.057%	56	571
1972	1.037	10.483	95,394	149 - 152	0.046%	44	457
1971	1.054	11.045	90,538	153 - 156	0.034%	31	343
1970	1.152	12.726	78,579	157 - 160	0.023%	18	228
1969	1.082	13.765	72,647	161 - 164	0.011%	8	114
						10,000	23,978
<b>(9) Indicated Growth Factor:</b>							<b>2.398</b>
<b>(10) Selected Growth Factor:</b>							<b>2.400</b>

**Notes:**

Assume 1989 losses of \$1,000,000. This produces a tail of 1.00% = \$10,000 / \$1,000,000 (with no growth). However, putting Prior to 1989 Losses on-level produces a tail of 2.40% = 2.398 x 1.00%. A growth factor of 2.400 has been selected.

- (2): Based on year to year changes of incurred losses from Annual Statement.
- (3): Cumulative product of (2), beginning at top of column.
- (4) = \$1,000,000 / (3).  
 The equivalent of what \$1,000,000 of paid plus case losses in 1989 would be in each prior policy year (1969-1988) given the on-level cumulative growth factors in (3).
- (5): Quarters that correspond to the policy years.
- (6): Change in paid plus case losses during the quarters displayed in (5).
- (7) = (4) x (6)
- (8) = (3) x (7)
- (9) = Sum of (8) / Sum of (7)

**LOSS DEVELOPMENT****ADJUSTMENT FOR ESCALATED BENEFITS**

This section calculates factors that reflect the impact of the introduction of escalation (inflation-indexed wage loss benefit increases) on loss development. This adjustment for differences in development patterns is necessary because some of our loss data predates the law change introducing escalation of indemnity benefits. These older, unescalated losses exhibit a development pattern that will differ from the expected development of indemnity losses subject to escalation.

Policy years 1987 and subsequent reflect the impact of escalation of indemnity benefits which became law on 10/1/86, following the passage of Chapter 572 of the Acts of 1986. Age-to-age link ratios are derived from experience for policy years 1989 and subsequent to develop losses to 252 months. Beyond 252 months of development, loss development factors, including age-to-age link ratios and tail factors, are derived from experience for policy years 1988 and prior. Reported losses for policy years prior to 1987 do not reflect the impact of escalation and therefore must be adjusted.

We have used the same simulation model to quantify the adjustment for escalated benefits the WCRIBMA used in its 2003, 2005, 2007, 2008, and 2010 rate filings. The simulation model assumes that permanent total claimants experience impaired mortality.

Exhibits 1 and 2 estimate the differentials between the escalated and non-escalated benefit levels for both the paid and paid-plus-case loss development methods, respectively. The resulting factors are the basis for the selected escalation factor used in the estimation of ultimate losses.

**II 000019**

Section II - Loss Development  
 Subsection D - Adjustment for Escalation of Benefits  
 9/1/2011

Section II - D  
 Exhibit 1  
 Page 1

Differential in Indemnity Loss Development

Paid Loss Development Method  
 Calculation of Adjustment for Differential in Loss Development

Escalated or Unescalated (1)	Injury Type (2)	Implicit LDF to Ultimate From Month				
		168	180	192 (3)	204	216
Escalated	Fatal	3.036	2.859	2.703	2.562	2.433
Escalated	Permanent Total	4.073	3.719	3.417	3.157	2.929
Escalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Escalated	Total Indemnity	1.067	1.065	1.062	1.060	1.058
Unescalated	Fatal	1.942	1.861	1.789	1.725	1.668
Unescalated	Permanent Total	2.452	2.295	2.160	2.043	1.941
Unescalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Unescalated	Total Indemnity	1.026	1.025	1.023	1.022	1.021

Escalated or Unescalated (4)	Injury Type (5)	Differential in Loss Development at Month				
		168	180	192 (6)	204	216
Escalated	Fatal	1.563	1.536	1.511	1.485	1.459
Escalated	Permanent Total	1.661	1.620	1.582	1.545	1.509
Escalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Escalated	Total Indemnity	<b>1.040</b>	<b>1.039</b>	<b>1.038</b>	<b>1.037</b>	<b>1.036</b>

Selected Differential in Indemnity Loss Development at Month 276 **1.031**

Notes:

(3) = [ (8) Exhibit 1, Page 2 ] / [ (9) Exhibit 1, Page 2 ]

(6) = [ (3) for Escalated ] / [ (3) for Unescalated ]

## II 000020

Section II - Loss Development  
 Subsection D - Adjustment for Escalation of Benefits  
 9/1/2011

Section II - D  
 Exhibit 1  
 Page 2

### Differential in Indemnity Loss Development

#### Paid Loss Development Method Calculation of Adjustment for Differential in Loss Development

Escalated or Unescalated (1)	Injury Type (2)	Losses at Month						Injury Type Weights @ Ultimate (5)
		Ultimate (3)	168	180	192 (4)	204	216	
Escalated	Fatal	874,958	288,217	306,023	323,680	341,550	359,626	1.45%
Escalated	Permanent Total	1,668,738	409,709	448,697	488,350	528,641	569,759	3.77%
Escalated	Other Indemnity							55.84%
Escalated	Total Indemnity							61.06%
Unescalated	Fatal	465,615	239,708	250,218	260,195	269,862	279,221	0.77%
Unescalated	Permanent Total	824,906	336,400	359,427	381,858	403,713	424,987	1.86%
Unescalated	Other Indemnity							55.84%
Unescalated	Total Indemnity							58.48%

Escalated or Unescalated (6)	Injury Type (7)	Estimated Losses at Month					
		Ultimate (8)	168	180	192 (9)	204	216
Escalated	Fatal	1,455	479	509	538	568	598
Escalated	Permanent Total	3,768	925	1,013	1,103	1,194	1,286
Escalated	Other Indemnity	55,839	55,839	55,839	55,839	55,839	55,839
Escalated	Total Indemnity	61,062	57,244	57,361	57,480	57,601	57,724
Unescalated	Fatal	774	399	416	433	449	464
Unescalated	Permanent Total	1,863	760	812	862	912	960
Unescalated	Other Indemnity	55,839	55,839	55,839	55,839	55,839	55,839
Unescalated	Total Indemnity	58,476	56,997	57,067	57,134	57,199	57,263

**Notes:**

Escalation calculation applied only to Fatal and Permanent Total Injury Types.

(3),(4): Average discounted losses are calculated from Simulation Model loss flows using a 3.5% discount rate.

(5): Escalated: From Section IV-E, Exhibit 1. As a % of total losses, Indemnity and Medical.

Unescalated: [ (5) for Escalated ] x { [ (3) for Unescalated ] / [ (3) for Escalated ] }.

(8) = (5) x 100,000

(9) = (8) x [ (4) / (3) ]

## II 000021

Section II - Loss Development  
 Subsection D - Adjustment for Escalation of Benefits  
 9/1/2011

Section II - D  
 Exhibit 2  
 Page 1

### Differential in Indemnity Loss Development

#### Paid Plus Case Loss Development Method Calculation of Adjustment for Differential in Loss Development

Escalated or Unescalated (1)	Injury Type (2)	Implicit LDF to Ultimate From Month				
		168	180	192 (3)	204	216
Escalated	Fatal	1.364	1.340	1.317	1.295	1.274
Escalated	Permanent Total	1.398	1.368	1.340	1.313	1.288
Escalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Escalated	Total Indemnity	1.025	1.023	1.022	1.021	1.019
Unescalated	Fatal	1.212	1.198	1.184	1.171	1.159
Unescalated	Permanent Total	1.253	1.234	1.215	1.198	1.183
Unescalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Unescalated	Total Indemnity	1.009	1.008	1.008	1.007	1.007

Escalated or Unescalated (4)	Injury Type (5)	Differential in Loss Development at Month				
		168	180	192 (6)	204	216
Escalated	Fatal	1.125	1.119	1.112	1.105	1.099
Escalated	Permanent Total	1.115	1.109	1.102	1.096	1.089
Escalated	Other Indemnity	1.000	1.000	1.000	1.000	1.000
Escalated	Total Indemnity	<b>1.016</b>	<b>1.015</b>	<b>1.014</b>	<b>1.013</b>	<b>1.012</b>

Selected Differential in Indemnity Loss Development at Month 276 **1.007**

Notes:

(3) = [ (8) Exhibit 2, Page 2 ] / [ (9) Exhibit 2, Page 2 ]

(6) = [ (3) for Escalated ] / [ (3) for Unescalated ]

## II 000022

Section II - Loss Development  
 Subsection D - Adjustment for Escalation of Benefits  
 9/1/2011

Section II - D  
 Exhibit 2  
 Page 2

### Differential in Indemnity Loss Development

#### Paid Plus Case Loss Development Method Calculation of Adjustment for Differential in Loss Development

Escalated or Unescalated (1)	Injury Type (2)	Losses at Month						Injury Type Weights @ Ultimate (5)
		Ultimate (3)	168	180	192 (4)	204	216	
Escalated	Fatal	874,958	641,246	652,979	664,504	675,808	686,874	1.45%
Escalated	Permanent Total	1,668,738	1,193,905	1,219,988	1,245,595	1,270,688	1,295,221	3.77%
Escalated	Other Indemnity							55.84%
Escalated	Total Indemnity							61.06%
Unescalated	Fatal	465,615	384,035	388,719	393,217	397,535	401,676	0.77%
Unescalated	Permanent Total	824,906	658,201	668,658	678,696	688,321	697,538	1.86%
Unescalated	Other Indemnity							55.84%
Unescalated	Total Indemnity							58.48%

Escalated or Unescalated (6)	Injury Type (7)	Estimated Losses at Month					
		Ultimate (8)	168	180	192 (9)	204	216
Escalated	Fatal	1,455	1,066	1,086	1,105	1,124	1,142
Escalated	Permanent Total	3,768	2,696	2,755	2,812	2,869	2,924
Escalated	Other Indemnity	55,839	55,839	55,839	55,839	55,839	55,839
Escalated	Total Indemnity	61,062	59,601	59,679	59,756	59,832	59,906
Unescalated	Fatal	774	638	646	654	661	668
Unescalated	Permanent Total	1,863	1,486	1,510	1,532	1,554	1,575
Unescalated	Other Indemnity	55,839	55,839	55,839	55,839	55,839	55,839
Unescalated	Total Indemnity	58,476	57,964	57,995	58,025	58,054	58,082

**Notes:**

Escalation calculation applied only to Fatal and Permanent Total Injury Types.

(3),(4): Average discounted losses are calculated from Simulation Model loss flows using a 3.5% discount rate.

(5): Escalated: From Section IV-E, Exhibit 1. As a % of total losses, Indemnity and Medical.

Unescalated: [ (5) for Escalated ] x [ (3) for Unescalated ] / [ (3) for Escalated ] .

(8) = (5) x 100,000

(9) = (8) x [ (4) / (3) ]

**PREMIUMS****Background**

To derive a rate indication, this filing evaluates the adequacy of the current rate level by comparing a historical loss, LAE, and fixed expense ratio to a permissible loss, LAE, and fixed expense ratio. The historical loss ratio is the ratio of losses and loss adjustment expenses to earned premium. In the current ratemaking methodology, “earned premium” includes policy year earned standard premium and All Risk Adjustment Program (“ARAP”) premium. Policy year premiums are defined as the premiums associated with all policies taking effect in a given year. Policy Year earned premiums are the premiums related to the portion of the policy year that has already expired. Standard premium is defined as the accumulated premium resulting from standard rating procedures after the application of experience rating adjustments, Merit Rating Plan adjustments, Construction Classification Premium Adjustment Program (“CCPAP”) Credits, expense constants, and loss constants.

Policy years 2007 and 2008 earned standard and ARAP premiums are used in the indication and are brought to the current rate level in Section III.

**Summary**

Initial workers’ compensation insurance premiums are by necessity estimates. They are typically a function of the employer’s payroll during the time the policy is in effect and consequently are not known definitively at policy inception. In addition to payroll audit adjustments, other adjustments may occur to the premium as a result of

## III 000002

changes to the policy. For example, experience modification factors may change during the term of a policy or CCPAP credit applications may be filed up to six months after the termination date of a policy.

Insurance carriers typically try to estimate the impact of premium adjustments. However, industry-wide policy year earned standard and ARAP premium historically develops upward until such time as all audits have been finalized and no further premium modifications can be made. Therefore, premiums must be developed to ultimate so that the premiums used in the indication properly reflect the actual exposure level which gave rise to the ultimate losses.

The currently-effective rates were derived using “estimated values” for the average experience modification, the average merit rating credit, the average ARAP surcharge, and the average CCPAP credit. However, the “actual values” for the policy years under review differ from the “estimated values” loaded into the current rates. The WCRIBMA applies factors to premiums to adjust the “actual values” of the experience modification, merit rating credit, ARAP surcharge, and Construction Classification Premium Adjustment Program credit to the “estimated values” loaded in the current rates. These offsets are necessary to ensure that the change in the current manual rates (which contain the same “estimated values”) is consistent with the overall average indicated rate level change. Additionally, the loading for prior Insolvency Fund assessments is removed.

**Premium Development**

Premium development factors are estimated in this filing using the same methodology as was employed in the 2005, 2007, 2008, and 2010 rate filings. The WCRIBMA utilized premium development factors based on the average of the latest two age-to-age development factors, also known as link ratios. For a given policy year, a premium development link ratio is the ratio of the premium valued as of time (T+1) to the premium valued as of time T. As in recent filings, annual age-to-age link ratios are calculated using the sum of earned standard premium and earned ARAP premium.

**Impact of Experience and Merit Rating, ARAP and Construction Credit**

The currently-effective rates contain an assumed load to reflect an estimated average experience modification and merit rating impact, ARAP impact, and Construction Credit impact. The actual experience modifications, merit rating debits or credits, ARAP surcharges, and Construction Credits for the policy years under review differ from the estimated values used in deriving the current rates. A factor is applied to premiums to adjust the impact of these programs to the level anticipated in the current rates. Adjustment factors applicable to policy year 2007 and policy year 2008 are calculated in Section III-B.

As in the 2005, 2007, 2008, and 2010 rate filings, the WCRIBMA uses the historical experience modification anticipated in the rates in the derivation of the adjustment factor. This is appropriate as the intention of the adjustment factor is to bring premium to the

current rate level. The experience modification reflected in the rates for non-merit-rated risks is 1.00 and the average merit rating for merit-rated risks is -2.0%.

ARAP was introduced in Massachusetts for policies effective 1/1/1990 and after. The premium used to develop the rate indication is standard premium plus premium collected under ARAP. An adjustment for the ARAP offset is included to reflect the fact that the ARAP surcharges during policy year 2007 and policy year 2008 were not precisely in balance with the ARAP surcharge anticipated by the offset in the rates.

An adjustment for the Construction Credit offset is included because the extent to which Construction Credits were actually applied to policy year 2007 and policy year 2008 differed from that anticipated in the rates.

### **Loading for Recoupment of Insolvency Fund Assessments**

In Section III-C, factors are calculated to adjust the policy year 2007 and policy year 2008 premiums so that the one-time loading for recoupment of Insolvency Fund assessments are excluded.

### **On-Level Adjustment**

The reported premium should be brought to the current rate level. Since the beginning of the historical period, there has been a 16.9% rate decrease (effective 9/1/2007), a 1.0% rate decrease (effective 9/1/2008) and a 2.4% rate decrease (effective 9/1/2010). Workers' compensation premium is not written evenly throughout the year, and a disproportionate number of policies are effective on January 1 or July 1.

To take this into account, the on-level factors in this filing use rate level weights based on USR data for the historical period. Premium on-level factors are calculated in Section III-D.

**Premium Adjustment Factor**

Premium adjustment factors are intended to bring historical standard premium data to the level applicable for a different policy period. They are used to determine the percentage of premium eligible for experience rating, adjust the layers of standard premium for premium discount and expense constant calculations, and determine weights used in calculating the weighted average premium collection pattern used to estimate the profit provision. Premium adjustment factors are composite factors that meld adjustments related to exposure growth and trend, premium on-leveling, changes in rating programs and the proposed rate change. These adjustments are calculated in Section III-E.

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Section III - Premiums  
 Subsection A - Summary  
 9/1/2011

Section III-A  
 Exhibit 1

## Policy Year Aggregate Financial Data Calculation of Standard Premium plus ARAP Premium Development Factors Industrywide

Policy Year	Premiums Evaluated at Month (in 000's):		Premium Development Factors
	24	36	
2006	640,694	639,019	0.997
2007	630,961	633,471	1.004
Average			1.001
	36	48	
2005	594,684	594,056	0.999
2006	639,019	640,750	1.003
Average			1.001
	48	60	
2004	576,988	576,524	0.999
2005	594,056	594,710	1.001
Average			1.000

### Summary of Premium Development Factors Premium Development Factors From:

	24-36	36-48	48-60
2 Yr average	1.001	1.001	1.000
Cumulative	1.002	1.001	1.000

### Summary Exhibit

	Policy Year as of 12/31/2009	
	2007	2008
(1) Standard Earned Premium plus ARAP Premium	1,000,342,409	828,804,165
(2) Adjustment for Experience and Merit Rating, ARAP, and Construction Credit Off-balance (Section III-B, Exhibit 1)	1.007	1.011
(3) Adjustment for Insolvency Fund Recoupment Loading (Section III-C, Exhibit 1)	0.991	1.022
(4) Composite Adjustment Factor = (2) x (3)	0.998	1.033
(5) Adjusted Standard Earned Premium plus ARAP = (1) x (4)	998,159,883	856,380,022
(6) Development Factor to Ultimate (Development Factors above)	1.001	1.002
(7) Premium On-Level Factor (Section III-D, Exhibit 1)	0.812	0.920
(8) Adjusted On-Level Earned Premium at Ultimate = (5) x (6) x (7)	811,261,122	789,394,911

Notes:

(1): 2009 Aggregate Financial Policy Year Call.

Adjustment for Experience and Merit Rating, ARAP and Construction Credit Off-Balance

Rate Level Effective Date (1)	Experience Mod for Non-Merit Rated Risks		Merit Rating Impact		Average Experience Mod and Merit Rating Factor (6)	ARAP Charge in Rates (7)	Construction Credit in Rates (8)	Policy Year Written Weights		Calendar Year Earned Weights			CY Written Weights (14)	
	Anticipated in Rates (2)	Percentage of Premium (3)	Anticipated in Rates (4)	Percentage of Premium (5)				2007 (9)	2008 (10)	2007 (11)	2008 (12)	2009 (13)		
9/1/2005	1.000	0.880	-0.027	0.120	0.997	0.061	-0.025	74.0%	26.0%	95.6%	22.1%	4.4%	18.8%	100.0%
9/1/2007	1.000	0.880	-0.027	0.120	0.997	0.046	-0.034	26.0%	71.3%	4.4%	73.0%	18.8%		
9/1/2008	1.000	0.880	-0.027	0.120	0.997	0.045	-0.036	28.7%	28.7%	5.0%	5.0%	81.2%		
9/1/2010	1.000	0.860	-0.020	0.140	0.997	0.049	-0.053							

	Policy Year		Calendar Year Earned			CY Written
	2007	2008	2007	2008	2009	2009
(15) Weighted Average Experience and Merit Rating factor anticipated in rates	0.997	0.997	0.997	0.997	0.997	0.997
(16) Weighted ARAP Charge anticipated in rates	0.057	0.046	0.060	0.049	0.045	0.045
(17) Percentage of Premium for CCPAP Eligible Classes	0.363	0.341	0.365	0.353	0.353	0.341
(18) Weighted Average Construction Credit anticipated in rates	-0.010	-0.012	-0.009	-0.011	-0.013	-0.012
(19) Combined Weighted Average impact anticipated in rates = (15) x [ 1.0 + (16) ] x [ 1.0 + (18) ]	1.043	1.030	1.047	1.034	1.029	1.029
(20) Manual Premium	933,224,176	774,228,765	949,815,358	853,726,471	853,726,471	774,228,765
(21) Standard Premium	908,871,849	751,796,716	928,963,584	830,334,283	830,334,283	751,796,716
(22) ARAP Premium	57,863,684	37,247,044	62,423,365	47,555,364	47,555,364	37,247,044
(23) Combined Actual impact = [ (21) + (22) ] / (20)	1.036	1.019	1.044	1.028	1.028	1.019
(24) Adjustment Factor = (19) / (23)	<b>1.007</b>	<b>1.011</b>	<b>1.003</b>	<b>1.006</b>	<b>1.000</b>	<b>1.010</b>

Notes:  
 (3) = 1.0 - (5)  
 (4), (5), (7), (8): Previous filings.  
 (6) = [ (2) x (3) ] + [ 1.0 + (4) ] x (5)  
 (9),(10),(14): Section III-D, Exhibit 2. PY2009 Written weights used for CY 2009 Written.  
 (11),(12): Section III-D, Exhibit 3.  
 (13): Section III-D, Exhibit 4.  
 (15) = Sum [ (6) x (9) through (14) ]  
 (16) = Sum [ (7) x (9) through (14) ]  
 (18) = Sum [ (8) x (9) through (14) ] x (17)  
 (17), (20), (21), (22): Unit Statistical Plan Data, Excluding Large Deductible Policies. CY 2009 uses PY 2008 values.

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Factor to Remove the Impact of Loading for Recoupment of Insolvency Fund Assessments

Rate Level Effective Date (1)	Loading for Recoupment of Insolvency Fund Assessments (2)	Policy Year Written Weights		Calendar Year Earned Weights			Calendar Year Written Weights
		2007 (3)	2008 (4)	2007 (5)	2008 (6)	2009 (7)	2009 (8)
9/1/2005	2.33%	74.0%		95.6%	22.1%		
9/1/2007	-3.11%	26.0%	71.3%	4.4%	73.0%	18.8%	
9/1/2008	-0.06%		28.7%		5.0%	81.2%	
9/1/2010	0.02%						100.0%

	Policy Year Written		Calendar Year Earned			Calendar Year Written
	2007	2008	2007	2008	2009	2009
(9) Weighted Average Loading for Recoupment of Insolvency Fund in the Rates	0.009	-0.022	0.021	-0.018	-0.006	-0.001
(10) Adjustment Factor to be Applied to Premiums = [ 1.0 - (9) ]	<b>0.991</b>	<b>1.022</b>	<b>0.979</b>	<b>1.018</b>	<b>1.006</b>	<b>1.001</b>

- Notes:  
 (2): Previous filings.  
 (3),(4),(8): Section III-D, Exhibit 2. PY2009 Written weights used for CY 2009 Written.  
 (5),(6): Section III-D, Exhibit 3.  
 (7): Section III-D, Exhibit 4.  
 (9) = Sum [ (2) x (3) through (8) ]

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Section III - Premiums  
 Subsection D - Premium On-Level Factors  
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Section III-D  
 Exhibit 1

## Premium On-Level Factors

Rate Level Effective Date (1)	Rate Change (2)	Cumulative Rate Level Change (3)	Factor to Current Rate Level (4)	Policy Year Weights	
				2007 (5)	2008 (6)
9/1/2005		1.000	0.803	74.0%	
9/1/2007	0.831	0.831	0.966	26.0%	71.3%
9/1/2008	0.990	0.823	0.976		28.7%
9/1/2010	0.976	0.803	1.000		

		Policy Year	
		2007	2008
(7)	Weighted Average Factor	0.845	0.969
(8)	Factor to Remove Expense Constant	0.960	0.950
(9)	Premium On-Level Factors = (7) x (8)	<b>0.812</b>	<b>0.920</b>

Note:

(5),(6): From Exhibit 2.

(8): Section VI-I, Exhibit 1.

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Section III - Premiums  
 Subsection D - Premium On-Level Factors  
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Section III-D  
 Exhibit 2

## Policy Year Weights for On-Leveling Earned Premium

Policy Year (1)	Policy Month (2)	Written Premiums (3)	Written Premium at Rate Level Effective		
			9/1/2005 (4)	9/1/2007 (5)	9/1/2008 (6)
2007	1	163,906,449	163,906,449		
2007	2	70,604,076	70,604,076		
2007	3	72,349,633	72,349,633		
2007	4	92,196,628	92,196,628		
2007	5	72,274,927	72,274,927		
2007	6	79,153,928	79,153,928		
2007	7	89,845,649	89,845,649		
2007	8	60,739,148	60,739,148		
2007	9	61,397,451		61,397,451	
2007	10	63,974,220		63,974,220	
2007	11	49,150,261		49,150,261	
2007	12	71,974,084		71,974,084	
2007	Total	947,566,454	701,070,438	246,496,016	
2008	1	138,513,452		138,513,452	
2008	2	57,785,457		57,785,457	
2008	3	56,599,297		56,599,297	
2008	4	71,287,487		71,287,487	
2008	5	55,617,062		55,617,062	
2008	6	59,508,298		59,508,298	
2008	7	75,143,648		75,143,648	
2008	8	47,736,145		47,736,145	
2008	9	58,864,789			58,864,789
2008	10	60,641,603			60,641,603
2008	11	46,452,854			46,452,854
2008	12	60,752,080			60,752,080
2008	Total	788,902,172		562,190,846	226,711,326
2009	1	137,128,239			137,128,239
2009	2	57,207,843			57,207,843
2009	3	56,033,139			56,033,139
2009	4	70,574,568			70,574,568
2009	5	55,060,729			55,060,729
2009	6	58,913,101			58,913,101
2009	7	74,392,112			74,392,112
2009	8	47,258,700			47,258,700
2009	9	58,864,789			58,864,789
2009	10	60,641,603			60,641,603
2009	11	46,452,854			46,452,854
2009	12	60,752,080			60,752,080
2009	Total	783,279,757			783,279,757

Rate Level Effective Date (7)	Policy Year Weights		
	2007 (8)	2008 (9)	2009 (10)
9/1/2005	74.0%		
9/1/2007	26.0%	71.3%	
9/1/2008		28.7%	100.0%

Note:

(3) = (4) + (5) + (6)

(4) - (6): From Unit Statistical Plan Data. PY 2009 estimated from PY 2008 data.

(8),(9),(10) = [ PY Total of (4), (5) or (6) ] / [ PY Total of (3) ]

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Section III - Premiums  
 Subsection D - Premium On-Level Factors  
 9/1/2011

Section III-D  
 Exhibit 3

Calendar Year Weights for On-Leveling Earned Premium

Policy Year (1)	Policy Month (2)	Earned Premiums (3)	Earned Premium at Rate Level Effective		
			9/1/2005 (4)	9/1/2007 (5)	9/1/2008 (6)
2005	12	0			
2006	1	1,745,888	1,745,888		
2006	2	6,898,219	6,898,219		
2006	3	12,594,981	12,594,981		
2006	4	23,859,116	23,859,116		
2006	5	24,337,100	24,337,100		
2006	6	35,853,759	35,853,759		
2006	7	43,021,190	43,021,190		
2006	8	38,903,883	38,903,883		
2006	9	46,997,383	46,997,383		
2006	10	58,967,301	58,967,301		
2006	11	50,148,110	50,148,110		
2006	12	83,312,658	83,312,658		
2007	1	162,161,865	162,161,865		
2007	2	63,704,142	63,704,142		
2007	3	58,683,579	58,683,579		
2007	4	68,690,392	68,690,392		
2007	5	47,246,726	47,246,726		
2007	6	44,647,796	44,647,796		
2007	7	44,605,125	44,605,125		
2007	8	24,546,099	24,546,099		
2007	9	19,153,460		19,153,460	
2007	10	14,951,030		14,951,030	
2007	11	7,058,894		7,058,894	
2007	12	2,622,314		2,622,314	
<b>CY2007</b>	<b>Total</b>	<b>984,711,012</b>	<b>940,925,313</b>	<b>43,785,699</b>	
2006	12	1,160	1,160		
2007	1	1,744,584	1,744,584		
2007	2	6,899,934	6,899,934		
2007	3	13,666,054	13,666,054		
2007	4	23,506,236	23,506,236		
2007	5	25,028,201	25,028,201		
2007	6	34,506,132	34,506,132		
2007	7	45,240,524	45,240,524		
2007	8	36,193,049	36,193,049		
2007	9	42,243,991		42,243,991	
2007	10	49,023,190		49,023,190	
2007	11	42,091,367		42,091,367	
2007	12	69,351,770		69,351,770	
2008	1	137,122,003		137,122,003	
2008	2	52,044,536		52,044,536	
2008	3	46,235,824		46,235,824	
2008	4	52,866,737		52,866,737	
2008	5	36,529,808		36,529,808	
2008	6	33,747,980		33,747,980	
2008	7	37,216,958		37,216,958	
2008	8	19,249,566		19,249,566	
2008	9	18,340,035			18,340,035
2008	10	14,371,958			14,371,958
2008	11	6,814,306			6,814,306
2008	12	2,406,684			2,406,684
<b>CY2008</b>	<b>Total</b>	<b>846,442,584</b>	<b>186,785,872</b>	<b>617,723,729</b>	<b>41,932,983</b>

Rate Level Effective Date (7)	Calendar Year Weights	
	2007 (8)	2008 (9)
9/1/2005	95.6%	22.1%
9/1/2007	4.4%	73.0%
9/1/2008		5.0%

Note:

(3) = (4) + (5) + (6)

(4) - (6): From Unit Statistical Plan Data.

(8),(9) = [ CY Total of (4), (5) or (6) ] / [ CY Total of (3) ]

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Section III - Premiums  
 Subsection D - Premium On-Level Factors  
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Section III-D  
 Exhibit 4

#### Calendar Year Weights for On-Leveling Earned Premium

Policy Year (1)	Policy Month (2)	Earned Premiums (3)	Earned Premium at Rate Level Effective		
			9/1/2005 (4)	9/1/2007 (5)	9/1/2008 (6)
2007	12	0			
2008	1	1,391,449		1,391,449	
2008	2	5,740,921		5,740,921	
2008	3	10,363,473		10,363,473	
2008	4	18,420,750		18,420,750	
2008	5	19,087,254		19,087,254	
2008	6	25,760,318		25,760,318	
2008	7	37,926,690		37,926,690	
2008	8	28,486,579		28,486,579	
2008	9	40,524,754			40,524,754
2008	10	46,269,645			46,269,645
2008	11	39,638,548			39,638,548
2008	12	58,345,395			58,345,395
2009	1	135,746,938			135,746,938
2009	2	51,508,749			51,508,749
2009	3	45,773,338			45,773,338
2009	4	52,338,052			52,338,052
2009	5	36,164,413			36,164,413
2009	6	33,410,454			33,410,454
2009	7	36,844,757			36,844,757
2009	8	19,057,047			19,057,047
2009	9	18,340,035			18,340,035
2009	10	14,371,958			14,371,958
2009	11	6,814,306			6,814,306
2009	12	2,406,684			2,406,684
<b>CY2009</b>	Total	784,732,507		147,177,434	637,555,073

Rate Level Effective Date (7)	Calendar Year Weights
	2009 (8)
9/1/2005	
9/1/2007	18.8%
9/1/2008	81.2%

Note:

(3) = (4) + (5) + (6)

(4) - (6): From Unit Statistical Plan Data. PY 2009 estimated from PY 2008 data.

(8) = [CY Total of (4), (5) or (6)] / [CY Total of (3)]

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Section III - Premiums  
Subsection E - Premium Adjustment Factors  
9/1/2011

Section III-E  
Exhibit 1

## Calculation of Premium Adjustment Factor PY 2008 to Policy Effective Period 9/1/2011 - 8/31/2012

(1)	Average Wage Trend from PY 2008 to Policy Effective Period 9/1/2011 - 8/31/2012	1.080
(2)	Exposure Growth	1.065
(3)	Impact of Rate Level Changes	0.969
(4)	Impact of Estimated Rate Change for policies effective 9/1/2011	1.066
(5)	Balance Experience Rating, ARAP, and Construction Credit	1.011
(6)	Impact of Change in factor to load for Recoupment of Insolvency Fund Assessments	1.023
(7)	Adjustment Factor = (1) x (2) x (3) x (4) x (5) x (6)	1.229
(8)	<b>Selected Factor</b>	<b>1.23</b>

### Notes:

(1):	Statewide Average Weekly Wage for PY 2008 (Section V-G, Exhibit 2)	1,092.79
	Statewide Average Weekly Wage for 10/1/2010 (Section V-G, Exhibit 2)	1,088.06
	Statewide Average Weekly Wage at 9/1/2012 (using wage trend of 2.8%, Section V-A, Exhibit 3)	1,180.45
(2):	Exposure growth from PY 2008 to Policy Effective Period (Section VI-G, exhibit 1)	1.065
(3):	Section III-D Exhibit 1.	
(5):	Exhibit 3.	
(6):	PY 2008 factor to load for Recoupment of Insolvency Fund (Section III-C, Exhibit 1).	0.978
	Policy Effective factor to load for Recoupment of Insolvency Fund Assessments (Section I-E, Exhibit 1, Page 1).	1.000

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Section III - Premiums  
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Section III-E  
Exhibit 2

Factor to Balance Experience Rating, ARAP, and Construction Credit

	<u>PY 2008 to Policy Effective Period 9/1/2011 - 8/31/2012</u>
Beginning of Period	
(1) Expected Offset Loaded into the Rates	1.030
(2) Actual	1.019
(3) Ratio of Expected to Actual = (1) / (2)	1.011
Ending of Period	
(4) Expected Offset Loaded into the Rates	1.026
(5) Actual	1.026
(6) Ratio of Expected to Actual = (4) / (5)	1.000
(7) Adjustment Factor = (3) / (6)	1.011

Notes:

(1),(2),(4),(5): PY 2007, PY 2008, Section III-B, Exhibit 1.

(4),(5): Policy Effective Period, Section IX-K, Exhibit 1.

**BENEFIT CHANGE ADJUSTMENTS**

In Section IV we calculate benefit change adjustment factors that are used in Sections I, II, V, VIII, IX, X, XI, and XII of the rate filing. Benefit change adjustment factors are used to adjust loss experience to the benefit level as of a given period or point in time.

**Benefit Change Adjustments**

The benefit change adjustments are summarized in Section IV-A, Exhibit 1. We calculate separate adjustments to bring indemnity and medical losses for policy years 2007 and 2008 to the 1/1/2011 benefit level, and additional adjustments to bring losses from the 1/1/2011 benefit level to the projected benefit level for the period the rates will be in effect. These benefit change adjustments are used in Section I of the filing. In the same exhibit we also present additional benefit level adjustments used in other sections of the filing.

Benefit changes considered in this section are the result of the reevaluations of the Statewide Average Weekly Wage (“SAWW”) made every October 1<sup>st</sup> by the Commonwealth’s Division of Unemployment Assistance.

In Section IV-B, we display in detail the derivation of our estimates of the effects of the changes in the SAWW announced in 2010 and projected for 2011 and 2012. Section IV-C summarizes the provisions of Chapter 398, showing benefits that are tied to the SAWW. Section IV-D contains backup data used in the evaluations. The model underlying the estimates is described below. Section IV-E includes injury type weights, and Section IV-F details the USL&HW benefit level changes.

**Section IV-B - Determination of the Effect of Announced SAWW Changes****Introduction**

We use a version of the NCCI's "Automatics Model" to evaluate the effects of changes in the SAWW. The Automatics Model, a traditional approach, looks at benefits paid to average claimants.

**Description of the Model**

NCCI's "Automatics Model" is used to evaluate benefit changes that are dependent on changes in the SAWW. In Massachusetts, SAWW changes are announced every October. Most indemnity benefits are determined as a percentage of the SAWW, subject to maximum and minimum amounts.

For each injury type, the indemnity benefits payable to an average claimant are determined before and after each announced SAWW change. The estimated impact of the change in the SAWW is calculated by comparing the "before" and "after" costs.

Section IV-B details the estimation of changes in the costs of benefits arising from changes in the SAWW effective October 1, 2010, and the projected SAWW changes of October 1, 2011 and October 1, 2012. Exhibit 1, pages 1 and 2, estimate the effect on fatal benefits. Exhibit 2 evaluates the effect on permanent total benefits. Exhibit 3 evaluates the effect on permanent partial benefits. Exhibit 4 looks at temporary total benefits.

**Section IV-B, Exhibit 1 – Benefits for Fatal Claims**

Fatal benefits are the sum of dependent survivor benefits, which are a function of the SAWW, and burial payments, which are not a function of the SAWW. Expected dependent survivor payments are valued on page 1. The NCCI provided the distribution of dependents by category - none, widow alone, widow with children, etc. For each category of dependents, the cost is estimated as the product of a contingent annuity value and an average weekly benefit.

The contingent annuity values represent the present value of a stream of payments of \$1 discounted to reflect not only the time value of money, but also the possible occurrence of a contingent event that would cause the payment stream to cease. Examples of contingent events that would affect dependent survivor benefits for workers' compensation include death or remarriage of the dependent survivor. For simplicity, we have used values from the approved pension tables in the Massachusetts' Workers' Compensation Statistical Plan which assume an interest rate of 3.5% and COLA adjustments of 2.9%. The annuities reflect the appropriate U.S. life tables in all cases except for the category of "three orphans" and "widow with child(ren)," where an annuity certain was used to approximate joint survivorship.

Average weekly benefits before and after the SAWW revision are evaluated on page 2. The estimated average weekly benefit depends on the proportions of workers whose wages result in either the application of the statutory minimum benefit, the application of the statutory maximum benefit, or a benefit that falls somewhere between the minimum and the maximum. As in the last filing these proportions come from the Massachusetts Wage Table ("Wage Table"). As shown in Section IV-D Exhibit 1, the

Wage Table is based on Massachusetts workers' compensation data from accident years 1987 to 1994.

**Section IV-B, Exhibit 2 – Benefits for Permanent Total Cases**

To evaluate the effect of announced SAWW changes on permanent total losses, we consider weekly wage loss benefits and specific injury payments separately, and then we weight them together. Most permanent total payments are associated with weekly wage loss benefits. The statutory weekly wage loss benefit is two thirds of the pre-injury wage subject to a minimum and maximum. The minimum and maximum are a function of the promulgated SAWW. Therefore changes to the SAWW affect the average benefit paid. The second component we consider is specific injury payments. These benefits vary directly with the SAWW. Specific injury payments are made for the loss of use of body parts and determined as various multiples of the SAWW as listed in Section 36 of M.G.L. Chapter 152.

**Section IV-B, Exhibit 3 – Benefits for Permanent Partial Cases**

Permanent partial disability cases typically include a temporary period of total disability, referred to as the "healing period," followed by a period of partial disability during which the worker has a wage earning capacity at a level below his pre-injury wage. Different benefit structures apply to the two periods. In addition, under Section 36 specific injury payments are made for the loss of use of various body parts. In this exhibit, we weight together the effect of the SAWW on wage loss, specific injury payments, and healing period payments, using weights provided by the NCCI.

**Section IV-B, Exhibit 4 – Benefits for Temporary Total Cases**

We evaluate the effect on temporary total benefits in Exhibit 4. Temporary total wage loss benefits under Section 34 of M.G.L. Chapter 152 provide an injured worker sixty percent of their pre-injury average weekly wage subject to a cap, the statutory maximum compensation rate, and a floor, the statutory minimum compensation rate. However, if the average weekly wage of the employee is less than the minimum compensation rate, his wage compensation rate is set equal to his average weekly wage.

**Section IV-C – Provisions of the Law**

Section IV-C summarizes the benefit changes due to the increase in the maximum and minimum weekly benefits. It includes both historical changes and projected changes.

**Section IV-D – Massachusetts Data**

All historical data used in the Massachusetts rate filing is shown in Section IV-D, along with the derivation of the SAWW. The WCRIBMA utilizes both historical DCI data and NCCI data.

**Section IV-E – Injury Type Weights**

The Unit Statistical Plan Data are used in Section IV-E to calculate the relative weights for indemnity and medical benefits for the various injury types. Injury type weights are estimated at two valuation points, ultimate and at fifth-report.

**Section IV-F – Effects of USL&HW Benefit Changes**

Section IV-F contains the derivation of benefit change adjustments related to claims paid or payable under the USL&HW Act. The calculations are analogous to those for state workers' compensation benefits in Section IV-A. The assumed changes in benefit levels used in Section IV-F are from NCCI's Annual Statistical Bulletin.

# IV 000007

Section IV - Benefit Change Adjustments  
 Subsection A - Summary  
 9/1/2011

Section IV - A  
 Exhibit 1

## Benefit Level Adjustment Factors

### All Injury Types

Time Period		Indemnity						Medical	Total
Beginning Period	Ending Period	Injury Type 1	Injury Type 2	Injury Type 3	Injury Type 4	Injury Type 5	All Injury Types	All Injury Types	All Injury Types
1/1/2011	Prosp. Eff. Period						1.010	1.000	
PY 2007	1/1/2011						1.014	1.032	
PY 2008	1/1/2011						1.003	1.024	
PY 2000	10/1/2010	1.048	1.059	1.103	1.112	1.032		1.110	
PY 2001	10/1/2010	1.029	1.042	1.077	1.077	1.023		1.101	
PY 2002	10/1/2010	1.027	1.039	1.071	1.071	1.022		1.072	
PY 2003	10/1/2010	1.027	1.038	1.071	1.071	1.022		1.046	
PY 2004	10/1/2010	1.024	1.033	1.062	1.062	1.019	1.047	1.036	
PY 2005	10/1/2010						1.036	1.032	
PY 2006	10/1/2010						1.025	1.032	
PY 2007	10/1/2010						1.014	1.032	
PY 2008	10/1/2010						1.003	1.024	
PY 2000	Prosp. Eff. Period	1.054	1.066	1.117	1.126	1.036		1.110	
PY 2001	Prosp. Eff. Period	1.035	1.050	1.090	1.090	1.027		1.101	
PY 2002	Prosp. Eff. Period	1.032	1.046	1.084	1.084	1.026		1.072	
PY 2003	Prosp. Eff. Period	1.033	1.046	1.084	1.084	1.026		1.046	
PY 2004	Prosp. Eff. Period	1.029	1.041	1.075	1.075	1.023		1.036	
PY 2005	Prosp. Eff. Period	1.023	1.033	1.060	1.060	1.019		1.032	
PY 2006	Prosp. Eff. Period	1.018	1.026	1.045	1.045	1.015		1.032	
PY 2007	Prosp. Eff. Period	1.012	1.017	1.030	1.030	1.010		1.032	
PY 2008	Prosp. Eff. Period	1.007	1.009	1.016	1.016	1.005		1.024	
PY 2006	9/1/2007	1.010	1.014	1.025	1.025	1.008		1.002	
PY 2007	9/1/2008	1.008	1.011	1.019	1.019	1.007		1.026	
PY 2008	9/1/2009	1.002	1.002	1.004	1.004	1.002		1.024	
9/1/2007	Prosp. Eff. Period								1.022
9/1/2008	Prosp. Eff. Period								1.008
9/1/2009	Prosp. Eff. Period								1.006
10/1/2009	Prosp. Eff. Period								1.005
Prior Eff. Period	Prosp. Eff. Period						1.007	1.000	
Prior Eff. Period (using benefit level projections from prior filing)	Prosp. Eff. Period								0.998

Note:  
 10/1/2009, 10/1/2010 and 1/1/2011 refer to points in time. All other time periods refer to Policy Years.  
 Example: PY 2000 to Prosp. Eff. Period for Indemnity Injury Type 4 =  $1.126 = 1.251 / 1.111$

Benefit Level Changes and Weights

Injury Type 1																				Weighted Average Benefit Level
Date of Change	10/1/1997	10/1/1998	10/1/1999	9/1/2000	10/1/2000	10/1/2001	10/1/2002	12/1/2002	10/1/2003	9/1/2004	10/1/2004	10/1/2005	10/1/2006	10/1/2007	10/1/2008	4/1/2009	10/1/2009	10/1/2010	10/1/2011	
Benefit Level Change	1.000	1.019	1.027	1.000	1.042	1.008	0.999	1.000	1.000	1.000	1.005	1.005	1.005	1.006	1.006	1.000	1.000	0.999	1.004	1.004
Cumulative Benefit Level Change	1.000	1.019	1.047	1.047	1.090	1.099	1.098	1.098	1.098	1.098	1.104	1.110	1.116	1.122	1.129	1.129	1.129	1.128	1.133	1.137
Time Period																				
PY 2000			0.269	0.060	0.643	0.029														
PY 2001					0.335	0.639	0.023	0.004												
PY 2002						0.339	0.145	0.490	0.027											
PY 2003								0.347	0.607	0.020	0.026									
PY 2004									0.281	0.062	0.630	0.028								
PY 2005											0.336	0.635	0.029							
PY 2006												0.341	0.631	0.027						
PY 2007													0.343	0.630	0.027					
PY 2008														0.350	0.417	0.208	0.024			
9/1/2007														0.004	0.611	0.316	0.069			
9/1/2008															0.004	0.179	0.428	0.390		
9/1/2009																0.004	0.606	0.390		
Prior Eff. Period																	0.004	0.606	0.391	
Prosp. Eff. Period																		0.004	0.607	0.390
10/1/2009																	1.000			
10/1/2010																		1.000		
1/1/2011																		1.000		

All Injury Types - Average Benefit Level for Current Policy Period, Estimated at 9/1/2010 (using benefit level projections from prior filing).

Date of Change	10/1/1997	10/1/1998	10/1/1999	9/1/2000	10/1/2000	10/1/2001	10/1/2002	12/1/2002	10/1/2003	9/1/2004	10/1/2004	10/1/2005	10/1/2006	10/1/2007	10/1/2008	4/1/2009	10/1/2009	10/1/2010	10/1/2011	Weighted Average Benefit Level
Benefit Level Change	1.000	1.009	1.012	1.010	1.021	1.009	0.999	1.020	1.000	1.005	1.006	1.007	1.007	1.007	1.007	1.013	1.000	1.005	1.005	
Cumulative Benefit Level Change	1.000	1.009	1.021	1.031	1.053	1.062	1.061	1.083	1.083	1.089	1.095	1.103	1.111	1.118	1.126	1.141	1.141	1.147	1.152	1.149

Index Factors for All Injury Types

Time Period	Indemnity						Medical	Total
	Injury Type 1	Injury Type 2	Injury Type 3	Injury Type 4	Injury Type 5	All Injury Types	All Injury Types	
PY 2000	1.076	<b>1.076</b>	1.044	1.063	1.111	1.024	1.052	1.043
PY 2001	1.096	<b>1.096</b>	1.060	1.089	1.148	1.033	1.073	1.059
PY 2002	1.099	<b>1.099</b>	1.064	1.095	1.154	1.035	1.077	1.073
PY 2003	1.098	<b>1.098</b>	1.064	1.095	1.153	1.035	1.076	1.083
PY 2004	1.102	<b>1.102</b>	1.069	1.104	1.163	1.038	1.083	1.092
PY 2005	1.108	<b>1.108</b>	1.077	1.120	1.180	1.042	1.095	1.101
PY 2006	1.114	<b>1.114</b>	1.085	1.136	1.197	1.046	1.107	1.108
PY 2007	1.120	<b>1.120</b>	1.094	1.153	1.214	1.051	1.119	1.116
PY 2008	1.127	<b>1.127</b>	1.103	1.169	1.231	1.056	1.131	1.127
9/1/2007	1.125	<b>1.125</b>	1.101	1.164	1.227	1.055	1.128	1.122
9/1/2008	1.129	<b>1.129</b>	1.106	1.175	1.238	1.058	1.136	1.138
9/1/2009	1.129	<b>1.129</b>	1.106	1.174	1.237	1.058	1.135	1.140
Prior Eff. Period	1.130	<b>1.130</b>	1.107	1.177	1.240	1.059	1.138	1.142
Prosp. Eff. Period	1.134	<b>1.134</b>	1.113	1.187	1.251	1.062	1.146	1.147
10/1/2009	1.129	<b>1.129</b>	1.106	1.175	1.238	1.058	1.136	1.141
10/1/2010	1.128	<b>1.128</b>	1.105	1.173	1.235	1.057	1.134	1.140
1/1/2011	1.128	<b>1.128</b>	1.105	1.173	1.235	1.057	1.134	1.140

Notes:  
 10/1/2009, 10/1/2010 and 1/1/2011 refer to points in time. All other time periods refer to Policy Years.  
 Index Factors for All Injury Types Table is a Data Table that repeats the calculation of the Weighted Average Benefit Level for all Injury Types.

# IV 000009

Section IV - Benefit Change Adjustments  
 Subsection A - Summary  
 9/1/2011

Section IV - A  
 Exhibit 3

## Historical and Estimated Benefit Level Changes

Effective Date (1)	Indemnity						Medical	Total
	Injury Type 1 (2)	Injury Type 2 (3)	Injury Type 3 (4)	Injury Type 4 (5)	Injury Type 5 (7)	All Injury Types (8)	All Injury Types (9)	All Injury Types (10)
10/1/1997	1.9%	1.1%	1.8%	3.0%	0.7%	1.4%	0.0%	1.0%
10/1/1998	1.9%	1.1%	1.6%	2.8%	0.6%	1.3%	0.0%	0.9%
10/1/1999	2.7%	1.5%	2.2%	3.9%	0.8%	1.8%	0.0%	1.2%
9/1/2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	1.0%
10/1/2000	4.2%	2.5%	3.4%	5.9%	1.5%	3.0%	0.0%	2.1%
10/1/2001	0.8%	1.2%	2.2%	2.2%	0.6%	1.5%	0.0%	0.9%
10/1/2002	-0.1%	-0.1%	-0.3%	-0.3%	-0.1%	-0.2%	0.0%	-0.1%
12/1/2002	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	2.0%
10/1/2003	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
9/1/2004	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.5%
10/1/2004	0.5%	0.7%	1.2%	1.2%	0.4%	0.9%	0.0%	0.6%
10/1/2005	0.5%	0.8%	1.5%	1.5%	0.4%	1.1%	0.0%	0.7%
10/1/2006	0.5%	0.7%	1.5%	1.5%	0.4%	1.1%	0.0%	0.7%
10/1/2007	0.6%	0.9%	1.4%	1.4%	0.5%	1.1%	0.0%	0.7%
10/1/2008	0.6%	0.8%	1.5%	1.5%	0.5%	1.2%	0.0%	0.7%
4/1/2009	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	1.3%
10/1/2009	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10/1/2010	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.2%	0.0%	-0.1%
10/1/2011	0.4%	0.5%	0.9%	0.9%	0.3%	0.7%	0.0%	0.4%
10/1/2012	0.4%	0.5%	0.9%	0.9%	0.3%	0.7%	0.0%	0.4%

**Notes:**

Historical changes are from Section IV-A, Exhibit 3 of the 9/1/2010 filing.

Estimated changes for 10/1/2011 and 10/1/2012 use projected SAWW values for 10/1/2011 and 10/1/2012 .

Determination of the Monetary Cost and Effect of Amendments on Fatal Benefits

Number of Cases (1)	Person(s) Receiving Benefits (2)	Average Number of Dependents (3)	Average Arithmetic Age (4)	Annuity Symbol (5)	Annuity Value (6)	Effects of SAWW Change of 10/1/2010		Effects of SAWW Change of 10/1/2011		Effects of SAWW Change of 10/1/2012	
						10/1/2009 cost (9)	10/1/2010 cost (10)	10/1/2010 cost (11)	10/1/2011 cost (12)	10/1/2011 cost (13)	10/1/2012 cost (14)
204	None	0	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
212	Widow Alone	1	40	$\overline{a}_{40} : \text{Life}$	30.53	205,175,017	205,015,492	209,997,562	210,824,904	215,943,757	216,794,542
407	Widow with Child(ren)	1 2	38 10	$\overline{a}_{38} : \text{Life}$ $a_{416}$	30.55 6.87	394,155,359	393,848,900	403,419,802	405,009,182	414,842,852	416,477,270
21	Orphan	1	13	$\overline{a}_{13} : 5$	4.82	3,208,693	3,206,198	3,284,112	3,297,050	3,377,103	3,390,408
15	Orphans	3	12	$a_{312}$	5.79	2,753,161	2,751,021	2,817,873	2,828,975	2,897,663	2,909,079
141	Other Dependents	1.7	58	$\overline{a}_{58} : \text{Life}$	22.08	21,471,916	21,471,916	21,470,290	21,470,290	21,470,706	21,470,706
(15) Total	1,000					626,764,145	626,293,526	640,989,639	643,430,401	658,532,081	661,042,005
(16)	Cost of Burial (1,000 cases)					4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
(17)	Total Monetary Cost [= (15) + (16)]					630,764,145	630,293,526	644,989,639	647,430,401	662,532,081	665,042,005
(18)	Fatal Benefit Change Factors						0.999		1.004		1.004

Notes:

- (1), (3), (4): Section IV-D, Exhibit 2.
- (5): For two or more dependents, benefits are last-survivor contingent. An annuity certain is used to approximate the joint-survivor annuity in the "three orphans" and "child(ren)" categories.
- (6): Calculated using the Pension Tables (see text).
- (7), (9), (11), (13) = (1) x (6) x 52 x [ Page 2, (14) ] for Widows and Orphans and = (1) x (3) x (6) x 52 x [ Page 2, (30) ] for All Others Dependents
- (8), (10), (12), (14) = (1) x (6) x 52 x [ Page 2, (15) ] for Widows and Orphans and = (1) x (3) x (6) x 52 x [ Page 2, (31) ] for All Others Dependents
- (16): Assume no funeral costs less than \$4,000.
- (18): Ratio of (17) for later date to (17) for earlier date.

IV 000010

# IV 000011

## Determination of the Average Weekly Benefit for Fatalities

### Fatal: Widows and Orphans - Effective 10/1/2009

(1)	Nominal Rate of Compensation Based on Gross Wages ("Comp. Rate")	66.67%
(2)	Min Weekly Compensation	110.00
(3)	Max Weekly Compensation	1,094.70
(4)	Average Injured Worker WeeklyWage for 12 months starting 10/1/2010	938.43

Wage Intervals (5)		Benefit (6)	= (5) / (4) (7)		Percentage in Interval		Average Wage in Interval = (9) / (8) x (4) (10)	Average Benefit in Interval (11)
					Workers (8)	Wages (9)		
0.00	165.00	Statutory Minimum	0.00	0.20	0.9257	0.1319	133.71	110.00
165.00	1,642.05	Wage times Comp. Rate	0.20	1.75	91.9360	84.7888	865.48	576.99
1,642.05	over	Statutory Maximum	1.75	over	7.1383	15.0793	1,982.39	1,094.70

(12) Average Weekly Benefit **609.62**

	Effects of SAWW Change		
	10/1/2010	10/1/2011	10/1/2012
(13) Starting date of 12 month period for AIWW	10/1/2010	10/1/2011	10/1/2012
(14) Benefits Effective	10/1/2009	10/1/2010	10/1/2011
Average Weekly Benefits	<b>609.62</b>	623.95	641.62
(15) Benefits Effective	10/1/2010	10/1/2011	10/1/2012
Average Weekly Benefits	609.14	626.41	644.14
(16) Fatal: Widows and Orphans Benefit Change Factors	0.999	1.004	1.004

### Fatal: All Others - Effective 10/1/2009

(17)	Nominal Rate of Compensation Based on Gross Wages	66.67%
(18)	Min Weekly Compensation	0.00
(19)	Max Weekly Compensation	80.00
(20)	Average Injured Worker WeeklyWage for 12 months starting 10/1/2010	938.43

Wage Intervals (21)		Benefit (22)	= (21) / (20) (23)		Percentage in Interval		Average Wage in Interval = (25)/(24)x(20) (26)	Average Benefit in Interval (27)
					Workers (24)	Wages (25)		
0.00	0.00	Statutory Minimum	0.00	0.00	0.0000	0.0000	0.00	0.00
0.00	120.00	Wage times Comp. Rate	0.00	0.15	0.4174	0.0405	91.06	60.70
120.00	over	Statutory Maximum	0.15	over	99.5826	99.9595	941.99	80.00

(28) Average Weekly Benefit **79.92**

	Effects of SAWW Change		
	10/1/2010	10/1/2011	10/1/2012
(29) Starting date of 12 month period for AIWW	10/1/2010	10/1/2011	10/1/2012
(30) Benefits Effective	10/1/2009	10/1/2010	10/1/2011
Average Weekly Benefits	<b>79.92</b>	79.91	79.91
(31) Benefits Effective	10/1/2010	10/1/2011	10/1/2012
Average Weekly Benefits	79.92	79.91	79.91
(32) Fatal: All Others Benefit Change Factors	1.000	1.000	1.000

**Notes:**

- (1)-(3), (17)-(19): Section IV-C, Exhibit 1.
- (4), (20): Section IV-D, Exhibit 3.
- (5), (21): Pre-injury worker wages. Wage / Comp Rate
- (7), (23): Rounded to nearest 0.05.
- (8), (24): Section IV-D, Exhibit 1, column (2).
- (9), (25): Section IV-D, Exhibit 1, column (3).
- (11), (27): Comp Rate x Average Wage in Interval, subject to a statutory max and min.
- (12) = Sum [ (8) x (11) ]
- (28) = Sum [ (24) x (27) ]
- (14), (15): Average Weekly Benefits results from a data table that repeats the calculation of (12) for different dates.
- (16) = (15) / (14)
- (30), (31): Average Weekly Benefits results from a data table that repeats the calculation of (28) for different dates.
- (32) = (31) / (30)

# IV 000012

Section IV - Benefit Change Adjustments  
 Subsection B - Effects of SAWW Change  
 9/1/2011

Section IV-B  
 Exhibit 2

## Determination of the Average Weekly Benefit for Permanent Totals

Permanent Total - Effective 10/1/2009

(1)	Nominal Rate of Compensation Based on Gross Wages ("Comp. Rate")	66.67%
(2)	Min Weekly Compensation	218.94
(3)	Max Weekly Compensation	1,094.70
(4)	Average Injured Worker WeeklyWage for 12 months starting 10/1/2010	938.43

Wage Intervals (5)	Benefit (6)	= (5) / (4) (7)	Percentage in Interval		Average Wage in Interval = (9) / (8) x (4) (10)	Average Benefit in Interval (11)
			Workers (8)	Wages (9)		
0.00 - 328.41	Statutory Minimum	0.00 - 0.35	5.0674	1.2884	238.60	218.94
328.41 - 1,642.05	Wage times Comp. Rate	0.35 - 1.75	87.7943	83.6323	893.95	595.96
1,642.05 over	Statutory Maximum	1.75 over	7.1383	15.0793	1,982.39	1,094.70
(12) Average Weekly Benefit						<b>612.46</b>

	Effects of SAWW Change		
	10/1/2010	10/1/2011	10/1/2012
(13) Starting date of 12 month period for AIWW	10/1/2010	10/1/2011	10/1/2012
(14) Benefits Effective Average Weekly Benefits	10/1/2009 <b>612.46</b>	10/1/2010 626.49	10/1/2011 644.24
(15) Benefits Effective Average Weekly Benefits	10/1/2010 611.92	10/1/2011 629.26	10/1/2012 647.09
(16) Permanent Total Benefit Change Factors	0.999	1.004	1.004
(17) Specific Injury Payments SAWW Effect on Specific Injuries	0.994	1.028	1.028
(18) Total Effect			
(a) Wage Loss Benefits as a Proportion of P.T. Cost	96.50%	96.50%	96.50%
(b) Specific Injury Payment as a Proportion of P.T. Cost	3.50%	3.50%	3.50%
(19) Permanent Total Benefit Change Factors = [(16) x (18a)] + [(17) x (18b)]	0.999	1.005	1.005

**Notes:**

- (1), (2), (3): Section IV-C, Exhibit 1.
- (4): Section IV-D, Exhibit 3.
- (5): Pre-injury worker wages. Wage / Comp Rate
- (7): Rounded to nearest 0.05.
- (8): Section IV-D, Exhibit 1, column (2).
- (9): Section IV-D, Exhibit 1, column (3).
- (11): Comp Rate x Average Wage in Interval, subject to a statutory max and min.
- (12) = Sum [ (8) x (11) ]
- (14), (15): Average Weekly Benefits results from a data table that repeats the calculation of (12) for different dates.
- (16) = (15) / (14)
- (17): Ratio of SAWW from Section IV-D, Exhibit 3.  
 Example: Effect of SAWW Change of 10/1/2010 = SAWW 10/1/2010 / SAWW 10/1/2009 = 0.994 = 1,088.06 / 1,094.7
- (18): Estimated Average Schedule Benefit compared to Average Indemnity Cost per Claim.  
 From the Filing for 9/1/2010 Rates, Section IV-B, Exhibit 2.

# IV 000013

Section IV - Benefit Change Adjustments  
 Subsection B - Effects of SAWW Change  
 9/1/2011

Section IV-B  
 Exhibit 3

## Determination of the Average Weekly Benefit for Permanent Partials

### Permanent Partial - Effective 10/1/2009

(1)	Nominal Rate of Compensation Based on Gross Wages ("Comp. Rate")	37.20%
(2)	Min Weekly Compensation	0.00
(3)	Max Weekly Compensation	821.03
(4)	Average Injured Worker Weekly Wage for 12 months starting 10/1/2010	938.43
(5)	SAWW effective 10/1/2009	1,094.70

Wage Intervals (6)		Benefit (7)	= (6) / (4) (8)		Percentage in Interval		Average Wage in Interval =(10)/(9)x(4) (11)	Average Benefit in Interval (12)
					Workers (9)	Wages (10)		
0.00	2,207.06	Wage times Comp. Rate	0.00	2.35	99.0155	96.9546	918.90	341.83
2,207.06	3,600.99	Statutory Maximum	2.35	3.85	0.8401	2.3192	2,590.70	821.03
3,600.99	5,761.58	Statutorily Reduced	3.85	6.15	0.1078	0.5002	4,354.44	534.71
5,761.58	over	Exceeds Statutory Limit	6.15	over	0.0366	0.2259	5,792.91	0.00
(13) Average Weekly Benefit								<b>345.94</b>

	Effects of SAWW Change		
	10/1/2010	10/1/2011	10/1/2012
(14) Starting date of 12 month period for AIWW			
(15) Benefits Effective	10/1/2009	10/1/2010	10/1/2011
Average Weekly Benefits	<b>345.94</b>	355.39	365.46
(16) Benefits Effective	10/1/2010	10/1/2011	10/1/2012
Average Weekly Benefits	345.88	355.68	365.76
(17) Permanent Partial Total Benefit Change Factors	1.000	1.001	1.001
(18) Specific Injury Payments			
SAWW Effect on Specific Injuries	0.994	1.028	1.028
(19) Permanent Partial Healing Period			
Effect on Healing Period	0.999	1.003	1.003
(20) Total Effect			
(a) Wage Loss Benefits as a Proportion of P.P. Cost	27%	27%	27%
(b) Specific Injury Payment as a Proportion of P.P. Cost	26%	26%	26%
(c) Healing Period Cost as a Proportion of P.P. Cost	47%	47%	47%
(21) Permanent Partial Benefit Change Factors	0.998	1.009	1.009
= [(17) x (20a)] + [(18) x (20b)] + [(19) x (20c)]			

**Notes:**

- (1), (2), (3): Section IV-C, Exhibit 1.
- (4), (5): Section IV-D, Exhibit 3.
- (6): Wage Intervals follow MA General Law.
- (7): Statutory Maximum: Insurer may reduce benefit to level at which benefits + earnings = 2 x SAWW.
- (8): Rounded to nearest 0.05.
- (9): Section IV-D, Exhibit 1, column (2).
- (10): Section IV-D, Exhibit 1, column (3).
- (12): Comp Rate x Average Wage in Interval, subject to a max and a limitation.
- (13) = Sum [ (9) x (12) ]
- (15), (16): Average Weekly Benefits results from a data table that repeats the calculation of (13) for different dates.
- (17) = (16) / (15)
- (18): Ratio of SAWW from Section IV-D, Exhibit 3.  
 Example: Effect of SAWW Change of 10/1/2010 = 0.994 = 1,088.06 / 1,094.7
- (19): Temporary Total Benefit Change Factors, Exhibit 4.
- (20): DCI for Permanent Partial Claims in Massachusetts.

# IV 000014

Section IV - Benefit Change Adjustments  
 Subsection B - Effects of SAWW Change  
 9/1/2011

Section IV-B  
 Exhibit 4

## Determination of the Average Weekly Benefit for Temporary Totals

Temporary Total - Effective 10/1/2009

(1)	Nominal Rate of Compensation Based on Gross Wages ("Comp. Rate")	60.00%
(2)	Min Weekly Compensation	218.94
(3)	Max Weekly Compensation	1,094.70
(4)	Average Injured Worker Weekly Wage for 12 months starting 10/1/2010	938.43

Wage Intervals (5)		Benefit (6)	= (5) / (4) (7)		Percentage in Interval		Average Wage in Interval = (9)/(8)x(4) (10)	Average Benefit in Interval (11)
					Workers (8)	Wages (9)		
0.00	218.94	Actual Wage	0.00	0.25	2.2314	0.4323	181.81	181.81
218.94	364.90	Statutory Minimum	0.25	0.40	4.6179	1.5260	310.11	218.94
364.90	1,824.50	Wage times Comp. Rate	0.40	1.95	89.3889	89.1884	936.33	561.80
1,824.50	over	Statutory Maximum	1.95	over	3.7618	8.8533	2,208.58	1,094.70
(12) Average Weekly Benefit								<b>557.53</b>

(13) Starting date of 12 month period for AIWW

(14) Benefits Effective  
 Average Weekly Benefits

(15) Benefits Effective  
 Average Weekly Benefits

(16) Temporary Total Benefit Change Factors

	Effects of SAWW Change		
	10/1/2010	10/1/2011	10/1/2012
(13) Starting date of 12 month period for AIWW	10/1/2010	10/1/2011	10/1/2012
(14) Benefits Effective Average Weekly Benefits	10/1/2009 <b>557.53</b>	10/1/2010 571.36	10/1/2011 587.55
(15) Benefits Effective Average Weekly Benefits	10/1/2010 557.22	10/1/2011 573.01	10/1/2012 589.25
(16) Temporary Total Benefit Change Factors	0.999	1.003	1.003

**Notes:**

- (1), (2), (3): Section IV-C, Exhibit 1.
- (4): Section IV-D, Exhibit 3.
- (5): Wage Intervals follow MA General Law.
- (7): Rounded to nearest 0.05.
- (8): Section IV-D, Exhibit 1, column (2).
- (9): Section IV-D, Exhibit 1, column (3).
- (11): Comp Rate x Average Wage in Interval, subject to a min and max, unless the actual wage is less than the min.
- (12) = Sum [ (8) x (11) ]
- (14), (15): Average Weekly Benefits results from a data table that repeats the calculation of (12) for different dates.
- (16) = (15) / (14)

Summary of Principal Benefit Changes Due to the Increase in the Maximum and Minimum Weekly Benefits

	10/1/2009	10/1/2010	10/1/2011	10/1/2012
<b>(1) Fatal</b>				
% Rate of Compensation	66.67%	66.67%	66.67%	66.67%
Minimum Weekly Benefit				
Widow/Orphan	\$110.00	\$110.00	\$110.00	\$110.00
Others	\$0.00	\$0.00	\$0.00	\$0.00
Maximum Weekly Benefit				
Widow/Orphan	\$1,094.70	\$1,088.06	<b>\$1,118.89</b>	<b>\$1,150.60</b>
Others	\$80.00	\$80.00	\$80.00	\$80.00
Each Additional Child	\$6.00, if benefit under \$150.00	\$6.00, if benefit under \$150.00	\$6.00, if benefit under \$150.00	\$6.00, if benefit under \$150.00
Maximum Aggregate Payable	250 x SAWW	250 x SAWW	250 x SAWW	250 x SAWW
Burial Allowance	\$4,000	\$4,000	\$4,000	\$4,000
Cost of Living Adjustment - benefits increase annually by:	Each October 1 after 2 years after injury. Based on the lesser of 5%, N.E. region urban area CPI, and the % change in the SAWW	Same as 10/1/2009	Same as 10/1/2009	Same as 10/1/2009
<b>(2) Total Disability</b>				
<b>Permanent Total</b>				
% Rate of Compensation	66.67%	66.67%	66.67%	66.67%
Minimum Weekly Benefit	\$218.94	\$217.61	<b>\$223.78</b>	<b>\$230.12</b>
Maximum Weekly Benefit	\$1,094.70	\$1,088.06	<b>\$1,118.89</b>	<b>\$1,150.60</b>
Duration	Lifetime	Lifetime	Lifetime	Lifetime
Cost of Living Adjustment - benefits increase annually by:	Same as Fatal	Same as Fatal	Same as Fatal	Same as Fatal
<b>Temporary Total</b>				
% Rate of Compensation	60.00%	60.00%	60.00%	60.00%
Minimum Weekly Benefit	\$218.94	\$217.61	\$223.78	\$230.12
Maximum Weekly Benefit	\$1,094.70	\$1,088.06	\$1,118.89	\$1,150.60
Waiting Period/Retroactive After	5 days/21 days	5 days/21 days	5 days/21 days	5 days/21 days
<b>(3) Permanent Partial Disability</b>				
% Rate of Compensation	37.20%	37.20%	37.20%	37.20%
Minimum Weekly Benefit	\$0.00	\$0.00	\$0.00	\$0.00
Maximum Weekly Benefit	\$821.03	\$816.05	\$839.17	\$862.95
<b>(4) Specific Injury Payments</b>				
<b>Scheduled Injuries</b>				
	According to the injury, a scheduled number multiplied by the SAWW	Same as 10/1/2009	Same as 10/1/2009	Same as 10/1/2009
<b>Non-Scheduled Injuries</b>				
	32 x SAWW	32 x SAWW	32 x SAWW	32 x SAWW
<b>Disfigurement</b>				
Maximum Benefit	\$15,000	\$15,000	\$15,000	\$15,000
Benefit	As determined by the reviewing board	Same as 10/1/2009	Same as 10/1/2009	Same as 10/1/2009

Notes:

Source: The General Laws of Massachusetts, Chapter 152, Sections 31-36.

(1), (2): Maximum Weekly Benefit for Fatalities and Total Disabilities is 100% of the SAWW.

(2): Minimum Weekly Benefit for Total Disability is 20% of the SAWW.

(3): Maximum Weekly Benefit for Permanent Partial is 75% of the SAWW. There is no Minimum Weekly Benefit for Permanent Partial Disability.

(3): Percent Rate of Compensation is 60% of 62%, the lost wage-earning capacity, Section IV-D, Exhibit 4.

Projected

# IV 000016

Section IV - Benefit Change Adjustments  
 Subsection D - Massachusetts Data  
 9/1/2011

Section IV-D  
 Exhibit 1

Massachusetts Standard Wage Distribution Table

R = Ratio to Average Wage

A = Percentage of workers receiving not more than the percentage of the average wage indicated by column R

B = Percentage of wages received by the % of workers in column A

R (1)	A (2)	B (3)	R (1)	A (2)	B (3)	R (1)	A (2)	B (3)
0.05	0.0856	0.0013	2.40	99.1195	97.2019	4.75	99.9236	99.5618
0.10	0.1766	0.0085	2.45	99.2068	97.4138	4.80	99.9259	99.5728
0.15	0.4174	0.0405	2.50	99.2808	97.5971	4.85	99.9281	99.5834
0.20	0.9257	0.1319	2.55	99.3443	97.7576	4.90	99.9302	99.5937
0.25	2.2314	0.4323	2.60	99.3993	97.8994	4.95	99.9322	99.6035
0.30	3.5317	0.7887	2.65	99.4474	98.0258	5.00	99.9342	99.6135
0.35	5.0674	1.2884	2.70	99.4897	98.1390	5.05	99.9360	99.6226
0.40	6.8493	1.9583	2.75	99.5271	98.2411	5.10	99.9378	99.6317
0.45	8.8185	2.8024	2.80	99.5604	98.3335	5.15	99.9395	99.6404
0.50	11.3281	4.0021	2.85	99.5902	98.4178	5.20	99.9412	99.6492
0.55	14.4745	5.6622	2.90	99.6170	98.4949	5.25	99.9428	99.6576
0.60	18.4932	7.9785	2.95	99.6412	98.5658	5.30	99.9443	99.6655
0.65	23.0308	10.8200	3.00	99.6631	98.6310	5.35	99.9458	99.6735
0.70	28.5691	14.5564	3.05	99.6831	98.6915	5.40	99.9472	99.6810
0.75	35.0225	19.2288	3.10	99.7013	98.7475	5.45	99.9486	99.6886
0.80	40.0471	23.1320	3.15	99.7180	98.7998	5.50	99.9499	99.6957
0.85	44.3868	26.7137	3.20	99.7333	98.8484	5.55	99.9512	99.7029
0.90	48.9940	30.7458	3.25	99.7474	98.8939	5.60	99.9524	99.7096
0.95	53.5531	34.9727	3.30	99.7604	98.9365	5.65	99.9536	99.7164
1.00	57.4700	38.7995	3.35	99.7724	98.9764	5.70	99.9547	99.7226
1.05	61.0338	42.4490	3.40	99.7836	99.0143	5.75	99.9558	99.7289
1.10	64.9829	46.6881	3.45	99.7939	99.0496	5.80	99.9569	99.7353
1.15	68.2577	50.3695	3.50	99.8035	99.0829	5.85	99.9579	99.7411
1.20	71.1419	53.7606	3.55	99.8125	99.1147	5.90	99.9589	99.7470
1.25	73.9565	57.2095	3.60	99.8209	99.1447	5.95	99.9599	99.7529
1.30	76.3431	60.2534	3.65	99.8288	99.1734	6.00	99.9608	99.7583
1.35	78.8313	63.5465	3.70	99.8361	99.2002	6.05	99.9617	99.7637
1.40	80.9932	66.5149	3.75	99.8430	99.2260	6.10	99.9626	99.7692
1.45	83.1764	69.6230	3.80	99.8495	99.2505	6.15	99.9634	99.7741
1.50	85.3328	72.8012	3.85	99.8556	99.2739	6.20	99.9643	99.7796
1.55	87.3234	75.8346	3.90	99.8613	99.2960	6.25	99.9650	99.7840
1.60	89.0732	78.5889	3.95	99.8667	99.3172	6.30	99.9658	99.7890
1.65	90.4645	80.8478	4.00	99.8718	99.3375	6.35	99.9666	99.7941
1.70	91.5989	82.7450	4.05	99.8767	99.3572	6.40	99.9673	99.7985
1.75	92.8617	84.9207	4.10	99.8812	99.3755	6.45	99.9680	99.8030
1.80	93.8677	86.7057	4.15	99.8856	99.3937	6.50	99.9687	99.8076
1.85	94.6704	88.1702	4.20	99.8897	99.4108	6.55	99.9693	99.8115
1.90	95.4837	89.6937	4.25	99.8935	99.4269	6.60	99.9700	99.8161
1.95	96.2382	91.1467	4.30	99.8972	99.4427	6.65	99.9706	99.8201
2.00	96.9125	92.4774	4.35	99.9008	99.4583	6.70	99.9712	99.8241
2.05	97.4495	93.5662	4.40	99.9041	99.4727	6.75	99.9718	99.8281
2.10	97.9350	94.5748	4.45	99.9073	99.4869	6.80	99.9724	99.8322
2.15	98.2808	95.3105	4.50	99.9103	99.5003	6.85	99.9729	99.8356
2.20	98.5368	95.8679	4.55	99.9132	99.5135	6.90	99.9735	99.8397
2.25	98.7336	96.3063	4.60	99.9160	99.5263	6.95	99.9740	99.8432
2.30	98.8893	96.6609	4.65	99.9186	99.5383	7.00	99.9745	99.8467
2.35	99.0155	96.9546	4.70	99.9211	99.5500			

Notes:

Based on Massachusetts workers' compensation data from accident years 1987 to 1994.

For  $R > 2.00$ ,  $B_i = B_{i-1} + [(0.55 \times R_i) + (0.45 \times R_{i-1})] \times (A_i - A_{i-1})$

# IV 000017

Section IV - Benefit Change Adjustments  
 Subsection D - Massachusetts Data  
 9/1/2011

Section IV-D  
 Exhibit 2

Dependency Table

Dependency Class (1)	Number of Cases (2)	Average Number of Dependents (3)	Average Dependent Age (4)
No Dependents	204	0	N/A
Spouse, No Children	212	1	40
Spouse	153	1	38
1 Child		1	11
Spouse	166	1	38
2 Children		2	10
Spouse	63	1	37
3 Children		3	10
Spouse	18	1	37
4 Children		4	10
Spouse	5	1	37
5 Children		5	10
Spouse	2	1	38
More than 5 Children		7	10
Spouse	407	1	38
with children		2	10
Orphan	21	1	13
2 Children	10	2	12
3 Children	3	3	12
4 Children	1	4	12
More than 4 Children	1	5	12
Orphans	15	3	12
1 Parent	41	1	62
2 Parents	91	2	58
Sibling	7	1	37
Other	2	2	31
Other Dependents	141	1.7	58

**Notes:**

Source: NCCI, CPS data, 1989-1993, reweighted using DCI Data for Fatalities, 1984-1993.

(2): Dependent count includes working adult household members standardized to a total of 1,000 cases.

Derivation of Estimated SAWW (Statewide Average Weekly Wage) and AIWW (Average Injured Worker Wage)

SAWW Promulgated Date (1)	SAWW Based on Data (2)	Midpoint of the SAWW Data (3)	Actual SAWW (4)	Wage Trend (5)	Actual and Projected SAWW (6)	AIWW Period (7)	Effective AIWW (8)
10/1/2009	4/1/08 to 4/1/09	10/1/2008	1,094.70		1,094.70	10/1/09 to 10/1/10	912.57
10/1/2010	4/1/09 to 4/1/10	10/1/2009	1,088.06		1,088.06	10/1/10 to 10/1/11	938.43
10/1/2011	4/1/10 to 4/1/11	10/1/2010		1.028	1,118.89	10/1/11 to 10/1/12	965.03
10/1/2012	4/1/11 to 4/1/12	10/1/2011		1.028	1,150.60	10/1/12 to 10/1/13	992.37

Notes:

(4): Section V-G, Exhibit 2.

(5): 2.8% Payroll Trend, Section V-A, Exhibit 1.

(6) = (4) for SAWW dates 10/1/2009-10/1/2010 and SAWW for 10/1/(i-1) x (5) for SAWW dates 10/1/2011 and 10/1/2012

(8): 10/1/2010 AIWW is based on an average of the SAWW for 10/1/2011 and 10/1/2012 since the AIWW is based on data from 10/1/2010 to 10/1/2011.

Historical Relationship of .827 for the ratio of AIWW to SAWW is selected based on DCI data.

4/1/1996: SAWW = 648, AIWW = 536

4/1/1994: SAWW = 595, AIWW = 492

# IV 000019

Section IV - Benefit Change Adjustments  
 Subsection D - Massachusetts Data  
 9/1/2011

Section IV-D  
 Exhibit 4

## Average Wage Loss for Permanent Partial Claimants

Report	(Pre-Injury - Post-Injury) / Pre-Injury Wage					Average
	1979 (1)	1980 (2)	1981 (3)	1982 (4)	1983 (5)	
<b>Average Wage Loss for Major Permanent Partial Claimants</b>						
1	0.61	0.62	0.60	0.62	0.60	0.61
2	0.62	0.62	0.59	0.63	0.62	0.62
3	0.64	0.60	0.65	0.60		0.62
4	0.60	0.64	0.62			0.62
<b>(6) Selected Average Wage Loss for Major Permanent Partial Claimants</b>						<b>0.62</b>

<b>Average Wage Loss for Minor Permanent Partial Claimants</b>						
1	0.58	0.58	0.58	0.60	0.59	0.59
2	0.62	0.60	0.59	0.58	0.64	0.61
3	0.66	0.64	0.65	0.56		0.63
4	0.62	0.70	0.66			0.66
<b>(7) Selected Average Wage Loss for Minor Permanent Partial Claimants</b>						<b>0.62</b>

**Notes:**

Source: Detail Claim Call, compiled as of 10/1/1985.

(6), (7): These data were compiled prior to Chapter 398. To be consistent with Chapter 398, 62% will be used as the wage loss as a percent of pre-injury wage. The percent of that that is paid is 60% subject to maximums.

Post-Chapter 398 Injury Type Weights

Injury Type (1)	Policy Year (2)	Indemnity - Likely to Develop			Indemnity - Not Likely to Develop			Indemnity On-level Losses at Fifth Report = (5) + (8) (9)	Weights at 5th report (10)
		Losses at Fifth Report (3)	Benefit On-Level Factor to 10/1/2010 (4)	On-level Losses at Fifth Report = (3) x (4) (5)	Losses at Fifth Report (6)	Benefit On-Level Factor to 10/1/2010 (7)	On-level Losses at Fifth Report = (6) x (7) (8)		
1	2000	2,102,318	1.048	2,203,965	5,125,790	1.048	5,373,622	7,577,587	
1	2001	1,238,016	1.029	1,274,234	10,029,715	1.029	10,323,129	11,597,363	
1	2002	2,511,559	1.027	2,579,527	10,981,784	1.027	11,278,974	13,858,501	
1	2003	641,606	1.027	659,043	5,092,924	1.027	5,231,333	5,890,376	
1	2004	828,432	1.024	847,922	4,953,963	1.024	5,070,511	5,918,433	
Total 1		7,321,931		7,564,690	36,184,176		37,277,569	44,842,260	1.53%
2	2000	16,193,059	1.059	17,140,387	0	1.059	0	17,140,387	
2	2001	19,327,401	1.042	20,140,906	0	1.042	0	20,140,906	
2	2002	17,382,475	1.039	18,051,704	0	1.039	0	18,051,704	
2	2003	25,100,282	1.038	26,066,268	0	1.038	0	26,066,268	
2	2004	29,885,584	1.033	30,882,255	0	1.033	0	30,882,255	
Total 2		107,888,801		112,281,519	0		0	112,281,519	3.82%
3	2000	111,949,637	1.103	123,535,173	94,441,073	1.103	104,214,668	227,749,842	
3	2001	104,677,386	1.077	112,694,785	91,568,131	1.077	98,581,472	211,276,258	
3	2002	106,886,698	1.071	114,448,788	91,967,290	1.071	98,473,852	212,922,641	
3	2003	115,679,150	1.071	123,908,674	81,941,960	1.071	87,771,388	211,680,062	
3	2004	122,048,941	1.062	129,635,240	96,153,574	1.062	102,130,273	231,765,513	
Total 3		561,241,812		604,222,661	456,072,028		491,171,655	1,095,394,315	37.27%
4	2000	12,845,351	1.112	14,282,957	26,172,665	1.112	29,101,816	43,384,772	
4	2001	11,726,559	1.077	12,624,714	24,483,604	1.077	26,358,840	38,983,554	
4	2002	11,863,313	1.071	12,702,626	22,615,665	1.071	24,215,693	36,918,319	
4	2003	10,687,624	1.071	11,447,952	22,001,586	1.071	23,566,800	35,014,751	
4	2004	9,918,696	1.062	10,535,221	20,430,473	1.062	21,700,387	32,235,608	
Total 4		57,041,543		61,593,469	115,703,993		124,943,536	186,537,005	6.35%
5	2000	35,405,011	1.032	36,542,821	67,225,438	1.032	69,385,860	105,928,681	
5	2001	24,867,457	1.023	25,445,503	55,190,635	1.023	56,473,546	81,919,049	
5	2002	22,265,236	1.022	22,749,349	54,274,418	1.022	55,454,508	78,203,857	
5	2003	21,918,769	1.022	22,399,561	52,552,455	1.022	53,705,202	76,104,762	
5	2004	22,470,073	1.019	22,898,010	52,252,466	1.019	53,247,600	76,145,610	
Total 5		126,926,546		130,035,244	281,495,412		288,266,716	418,301,960	14.23%
(11) Total Indemnity		860,420,633		915,697,583	889,455,609		941,659,476	1,857,357,059	63.19%

- (12) Aggregate Financial Policy Year Call, Indemnity Fifth to Ultimate Development Factor Paid + Case 1.031
- (13) Tail Development Attributed to Likely to Develop Claims 0.8
- (14) Percentatge Likely to Develop 0.463
- (15) Indemnity Likely to Develop - Loss Development Factor from 5th Report to Ultimate 1.054
- (16) Indemnity Not Likely to Develop - Loss Development Factor from 5th Report to Ultimate 1.012

IV 000020

Post-Chapter 398 Injury Type Weights

Injury Type (1)	Policy Year (2)	Medical - Likely to Develop			Medical - Not Likely to Develop			Medical On-level Losses at Fifth Report = (5) + (8) (9)	Weights at 5th report (10)
		Losses at Fifth Report (3)	Benefit On-Level Factor to 10/1/2010 (4)	On-level Losses at Fifth Report = (3) x (4) (5)	Losses at Fifth Report (6)	Benefit On-Level Factor to 10/1/2010 (7)	On-level Losses at Fifth Report = (6) x (7) (8)		
1	2000	40,949	1.110	45,459	117,858	1.110	130,838	176,296	
1	2001	1,148,591	1.101	1,264,528	282,460	1.101	310,971	1,575,499	
1	2002	1,363,355	1.072	1,461,865	413,158	1.072	443,011	1,904,876	
1	2003	8,370	1.046	8,755	175,673	1.046	183,759	192,514	
1	2004	61,768	1.036	63,997	94,146	1.036	97,543	161,541	
Total 1		2,623,033		2,844,604	1,083,295		1,166,122	4,010,726	0.14%
2	2000	21,299,159	1.110	23,644,821	0	1.110	0	23,644,821	
2	2001	12,529,034	1.101	13,793,696	0	1.101	0	13,793,696	
2	2002	12,199,737	1.072	13,081,236	0	1.072	0	13,081,236	
2	2003	19,222,115	1.046	20,106,851	0	1.046	0	20,106,851	
2	2004	18,137,903	1.036	18,792,450	0	1.036	0	18,792,450	
Total 2		83,387,948		89,419,054	0		0	89,419,054	3.04%
3	2000	59,488,573	1.110	66,040,009	29,513,722	1.110	32,764,048	98,804,057	
3	2001	43,475,062	1.101	47,863,369	30,358,205	1.101	33,422,516	81,285,885	
3	2002	46,902,536	1.072	50,291,506	28,396,876	1.072	30,448,709	80,740,215	
3	2003	49,371,341	1.046	51,643,756	25,302,470	1.046	26,467,067	78,110,822	
3	2004	64,381,087	1.036	66,704,423	31,464,762	1.036	32,600,238	99,304,661	
Total 3		263,618,599		282,543,063	145,036,035		155,702,578	438,245,641	14.91%
4	2000	8,310,542	1.110	9,225,776	14,256,261	1.110	15,826,293	25,052,070	
4	2001	6,380,940	1.101	7,025,022	12,852,409	1.101	14,149,712	21,174,734	
4	2002	7,393,716	1.072	7,927,953	13,618,218	1.072	14,602,210	22,530,164	
4	2003	7,212,277	1.046	7,544,236	13,272,586	1.046	13,883,483	21,427,720	
4	2004	6,726,054	1.036	6,968,779	12,172,137	1.036	12,611,396	19,580,175	
Total 4		36,023,529		38,691,767	66,171,611		71,073,094	109,764,862	3.73%
5	2000	15,925,667	1.110	17,679,550	43,170,955	1.110	47,925,343	65,604,893	
5	2001	11,098,854	1.101	12,219,155	37,965,175	1.101	41,797,322	54,016,478	
5	2002	12,831,115	1.072	13,758,235	43,758,735	1.072	46,920,548	60,678,783	
5	2003	12,771,449	1.046	13,359,280	42,950,699	1.046	44,927,591	58,286,871	
5	2004	11,830,609	1.036	12,257,543	43,333,365	1.036	44,897,147	57,154,690	
Total 5		64,457,694		69,273,764	211,178,929		226,467,951	295,741,714	10.06%
6	2000	0	1.110	0	26,816,182	1.110	29,769,430	29,769,430	
6	2001	0	1.101	0	25,914,072	1.101	28,529,799	28,529,799	
6	2002	0	1.072	0	26,876,260	1.072	28,818,220	28,818,220	
6	2003	0	1.046	0	27,809,554	1.046	29,089,544	29,089,544	
6	2004	0	1.036	0	27,612,149	1.036	28,608,595	28,608,595	
Total 6		0		0	135,028,217		144,815,589	144,815,589	4.93%
(11) Total Medical		450,110,803		482,772,252	558,498,087		599,225,334	1,081,997,586	36.81%

(12) Total Medical & Indemnity	1,310,531,436	1,398,469,835	1,447,953,696	1,540,884,810	2,939,354,644
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(13) Medical Only fraction of Total Medical	13.38%
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(14) Aggregate Financial Policy Year Call, Medical Fifth to Ultimate Development Factor Paid + Case	1.130	Indemnity & Medical Weights at 5th	
(15) Tail Development Attributed to Likely to Develop Claims	0.8	(19) Indemnity Likely	31.15%
(16) Percentatge Likely to Develop	0.446	(20) Indemnity Not Likely	32.04%
(17) Medical Likely to Develop - Loss Development Factor from 5th Report to Ultimate	1.233	(21) Medical Likely	16.42%
(18) Medical Not Likely to Develop - Loss Development Factor from 5th Report to Ultimate	1.047	(22) Medical Not Likely	20.39%

IV 000021

Post-Chapter 398 Injury Type Weights

Injury Type (1)	Policy Year (2)	Indemnity - Likely to Develop			Indemnity - Not Likely to Develop			Indemnity Ult. On-level Losses at Ultimate = (5) + (8) (9)	Weights at Ultimate (10)
		On-level Losses at Fifth Report (3)	Development Factors 5th to Ultimate (4)	Est. Ult On-level Losses = (3) x (4) (5)	On-level Losses at Fifth Report (6)	Development Factors 5th to Ultimate (7)	Est. Ult On-level Losses = (6) x (7) (8)		
1	2000	2,203,965	1.054	2,322,432	5,373,622	1.012	5,435,944	7,758,376	
1	2001	1,274,234	1.054	1,342,726	10,323,129	1.012	10,442,855	11,785,581	
1	2002	2,579,527	1.054	2,718,181	11,278,974	1.012	11,409,785	14,127,966	
1	2003	659,043	1.054	694,467	5,231,333	1.012	5,292,005	5,986,472	
1	2004	847,922	1.054	893,499	5,070,511	1.012	5,129,318	6,022,817	
Total 1		7,564,690		7,971,306	37,277,569		37,709,907	45,681,213	1.45%
2	2000	17,140,387	1.054	18,061,712	0	1.012	0	18,061,712	
2	2001	20,140,906	1.054	21,223,514	0	1.012	0	21,223,514	
2	2002	18,051,704	1.054	19,022,014	0	1.012	0	19,022,014	
2	2003	26,066,268	1.054	27,467,375	0	1.012	0	27,467,375	
2	2004	30,882,255	1.054	32,542,230	0	1.012	0	32,542,230	
Total 2		112,281,519		118,316,846	0		0	118,316,846	3.77%
3	2000	123,535,173	1.054	130,175,404	104,214,668	1.012	105,423,330	235,598,734	
3	2001	112,694,785	1.054	118,752,326	98,581,472	1.012	99,724,801	218,477,127	
3	2002	114,448,788	1.054	120,600,610	98,473,852	1.012	99,615,933	220,216,543	
3	2003	123,908,674	1.054	130,568,981	87,771,388	1.012	88,789,344	219,358,325	
3	2004	129,635,240	1.054	136,603,360	102,130,273	1.012	103,314,760	239,918,121	
Total 3		604,222,661		636,700,681	491,171,655		496,868,169	1,133,568,850	36.10%
4	2000	14,282,957	1.054	15,050,690	29,101,816	1.012	29,439,333	44,490,023	
4	2001	12,624,714	1.054	13,303,314	26,358,840	1.012	26,664,545	39,967,859	
4	2002	12,702,626	1.054	13,385,415	24,215,693	1.012	24,496,542	37,881,957	
4	2003	11,447,952	1.054	12,063,299	23,566,800	1.012	23,840,123	35,903,422	
4	2004	10,535,221	1.054	11,101,507	21,700,387	1.012	21,952,064	33,053,571	
Total 4		61,593,469		64,904,226	124,943,536		126,392,607	191,296,832	6.09%
5	2000	36,542,821	1.054	38,507,061	69,385,860	1.012	70,190,584	108,697,646	
5	2001	25,445,503	1.054	26,813,243	56,473,546	1.012	57,128,515	83,941,759	
5	2002	22,749,349	1.054	23,972,167	55,454,508	1.012	56,097,658	80,069,825	
5	2003	22,399,561	1.054	23,603,576	53,705,202	1.012	54,328,064	77,931,640	
5	2004	22,898,010	1.054	24,128,818	53,247,600	1.012	53,865,156	77,993,973	
Total 5		130,035,244		137,024,865	288,266,716		291,609,978	428,634,843	13.65%
(11) Total Indemnity		915,697,583		964,917,923	941,659,476		952,580,661	1,917,498,584	61.06%

IV 000022

Post-Chapter 398 Injury Type Weights

Injury Type (1)	Policy Year (2)	Medical - Likely to Develop			Medical - Not Likely to Develop			Medical Ult. On-level Losses at Ultimate = (5) + (8) (9)	Weights at Ultimate (10)
		On-level Losses at Fifth Report (3)	Development Factors 5th to Ultimate (4)	Est. Ult On-level Losses = (3) x (4) (5)	On-level Losses at Fifth Report (6)	Development Factors 5th to Ultimate (7)	Est. Ult On-level Losses = (6) x (7) (8)		
1	2000	45,459	1.233	56,066	130,838	1.047	136,978	193,044	
1	2001	1,264,528	1.233	1,559,579	310,971	1.047	325,566	1,885,145	
1	2002	1,461,865	1.233	1,802,960	443,011	1.047	463,803	2,266,763	
1	2003	8,755	1.233	10,798	183,759	1.047	192,383	203,181	
1	2004	63,997	1.233	78,929	97,543	1.047	102,122	181,051	
Total 1		2,844,604		3,508,332	1,166,122		1,220,852	4,729,184	0.15%
2	2000	23,644,821	1.233	29,161,839	0	1.047	0	29,161,839	
2	2001	13,793,696	1.233	17,012,162	0	1.047	0	17,012,162	
2	2002	13,081,236	1.233	16,133,466	0	1.047	0	16,133,466	
2	2003	20,106,851	1.233	24,798,359	0	1.047	0	24,798,359	
2	2004	18,792,450	1.233	23,177,270	0	1.047	0	23,177,270	
Total 2		89,419,054		110,283,096	0		0	110,283,096	3.51%
3	2000	66,040,009	1.233	81,449,047	32,764,048	1.047	34,301,776	115,750,823	
3	2001	47,863,369	1.233	59,031,272	33,422,516	1.047	34,991,148	94,022,420	
3	2002	50,291,506	1.233	62,025,964	30,448,709	1.047	31,877,770	93,903,734	
3	2003	51,643,756	1.233	63,693,732	26,467,067	1.047	27,709,256	91,402,988	
3	2004	66,704,423	1.233	82,268,487	32,600,238	1.047	34,130,278	116,398,765	
Total 3		282,543,063		348,468,502	155,702,578		163,010,228	511,478,730	16.29%
4	2000	9,225,776	1.233	11,378,416	15,826,293	1.047	16,569,075	27,947,491	
4	2001	7,025,022	1.233	8,664,163	14,149,712	1.047	14,813,806	23,477,968	
4	2002	7,927,953	1.233	9,777,773	14,602,210	1.047	15,287,542	25,065,315	
4	2003	7,544,236	1.233	9,304,524	13,883,483	1.047	14,535,082	23,839,606	
4	2004	6,968,779	1.233	8,594,796	12,611,396	1.047	13,203,291	21,798,087	
Total 4		38,691,767		47,719,672	71,073,094		74,408,795	122,128,467	3.89%
5	2000	17,679,550	1.233	21,804,698	47,925,343	1.047	50,174,642	71,979,340	
5	2001	12,219,155	1.233	15,070,237	41,797,322	1.047	43,759,012	58,829,249	
5	2002	13,758,235	1.233	16,968,427	46,920,548	1.047	49,122,688	66,091,116	
5	2003	13,359,280	1.233	16,476,386	44,927,591	1.047	47,036,195	63,512,580	
5	2004	12,257,543	1.233	15,117,581	44,897,147	1.047	47,004,322	62,121,903	
Total 5		69,273,764		85,437,329	226,467,951		237,096,858	322,534,188	10.27%
6	2000	0	1.233	0	29,769,430	1.047	31,166,610	31,166,610	
6	2001	0	1.233	0	28,529,799	1.047	29,868,799	29,868,799	
6	2002	0	1.233	0	28,818,220	1.047	30,170,757	30,170,757	
6	2003	0	1.233	0	29,089,544	1.047	30,454,815	30,454,815	
6	2004	0	1.233	0	28,608,595	1.047	29,951,294	29,951,294	
Total 6		0		0	144,815,589		151,612,274	151,612,274	4.83%
(11) Total Medical		482,772,252		595,416,931	599,225,334		627,349,008	1,222,765,939	38.94%

(12) Total Medical & Indemnity	1,398,469,835	1,560,334,855	1,540,884,810	1,579,929,669	3,140,264,524
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(13) Medical Only fraction of Total Medical	12.40%
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Ind & Med N/L Weights at Ult	
Indemnity Likely	30.73%
Indemnity Not Likely	30.33%
Medical Likely	18.96%
Medical Not Likely	19.98%

IV 000023

USL&HW Benefit Level Factors

All Injury Types

Time Period		Indemnity					Medical	Total
Beginning Period	Ending Period	Injury Type 1	Injury Type 2	Injury Type 3	Injury Type 4	Injury Type 5	All Injury Types	All Injury Types
PY 2004	Prosp. Eff. Period	1.048	1.027	1.005	1.005	1.027	1.000	
PY 2005	Prosp. Eff. Period	1.042	1.025	1.004	1.004	1.025	1.000	
PY 2006	Prosp. Eff. Period	1.036	1.022	1.003	1.003	1.022	1.000	
PY 2007	Prosp. Eff. Period	1.029	1.018	1.003	1.003	1.018	1.000	
PY 2008	Prosp. Eff. Period	1.017	1.012	1.001	1.001	1.012	1.000	
9/1/2007	Prosp. Eff. Period							1.003
9/1/2008	Prosp. Eff. Period							1.001
9/1/2009	Prosp. Eff. Period							1.001
10/1/2009	Prosp. Eff. Period							1.001
Prior Eff. Period	Prosp. Eff. Period						1.001	1.000
Prior Eff. Period (using benefit level projections from prior filing)	Prosp. Eff. Period							1.000

IV 000024

Note:

10/1/2009, 10/1/2010 and 1/1/2011 refer to points in time. All other time periods refer to Policy Years.

Example: PY 2008 to Prosp. Eff. Period for Indemnity Injury Type 4 = 1.001 = 1.006 / 1.005

where 1.006 is the Index Factor of Prosp. Eff. Period and 1.005 is the Index Factor of PY 2008 for Indemnity Injury Type 4, from Exhibit 2.

USL&HW Benefit Level Changes and Weights

Injury Type 1											
	10/1/2003	10/1/2004	10/1/2005	10/1/2006	10/1/2007	10/1/2008	10/1/2009	10/1/2010	10/1/2011	10/1/2012	Weighted
Benefit Level Change	1.008	1.009	1.003	1.006	1.009	1.011	1.009	1.002	1.002	1.002	Average
Cumulative Benefit Level Change	1.008	1.017	1.020	1.026	1.035	1.047	1.056	1.058	1.061	1.063	Benefit Level
Time Period											
2004	0.400	0.596	0.004								<b>1.013</b>
2005		0.364	0.632	0.005							<b>1.019</b>
2006			0.219	0.767	0.014						<b>1.025</b>
2007				0.358	0.634	0.008					<b>1.032</b>
2008					0.254	0.735	0.011				<b>1.044</b>
9/1/2007				0.008	0.559	0.433					<b>1.040</b>
9/1/2008					0.001	0.454	0.545				<b>1.052</b>
9/1/2009						0.001	0.454	0.545			<b>1.057</b>
Prior Eff. Period							0.001	0.454	0.546		<b>1.060</b>
Prosp. Eff. Period								0.001	0.454	0.545	<b>1.062</b>
10/1/2009							1.000				<b>1.056</b>
10/1/2010								1.000			<b>1.058</b>
1/1/2011									1.000		<b>1.058</b>

All Injury Types - Average Benefit Level for Current Policy Period, Estimated at 9/1/2010 (using benefit level projections from prior filing).

Date of Change	10/1/2003	10/1/2004	10/1/2005	10/1/2006	10/1/2007	10/1/2008	10/1/2009	10/1/2010	10/1/2011	Weighted Average Benefit Level
Benefit Level Change	1.001	1.001	1.000	1.001	1.002	1.001	1.001	1.001	1.001	
Cumulative Level Change	1.000	1.001	1.001	1.002	1.004	1.005	1.006	1.007	1.008	<b>1.008</b>

Index Factors for All Injury Types

Time Period	Indemnity						Medical	Total
	Injury Type 1	Injury Type 2	Injury Type 3	Injury Type 4	Injury Type 5	All Injury Types	All Injury Types	
PY 2004	1.013	<b>1.013</b>	1.007	1.002	1.002	1.007	1.003	1.002
PY 2005	1.019	<b>1.019</b>	1.010	1.002	1.002	1.010	1.004	1.002
PY 2006	1.025	<b>1.025</b>	1.012	1.003	1.003	1.012	1.006	1.003
PY 2007	1.032	<b>1.032</b>	1.016	1.004	1.004	1.016	1.008	1.004
PY 2008	1.044	<b>1.044</b>	1.023	1.005	1.005	1.023	1.011	1.006
9/1/2007	1.040	<b>1.040</b>	1.021	1.004	1.004	1.021	1.010	1.005
9/1/2008	1.052	<b>1.052</b>	1.027	1.006	1.006	1.027	1.013	1.007
9/1/2009	1.057	<b>1.057</b>	1.030	1.006	1.006	1.030	1.015	1.007
Prior Eff. Period	1.060	<b>1.060</b>	1.033	1.006	1.006	1.033	1.016	1.007
Prosp. Eff. Period	1.062	<b>1.062</b>	1.035	1.006	1.006	1.035	1.017	1.008
10/1/2009	1.056	<b>1.056</b>	1.029	1.006	1.006	1.029	1.014	1.007
10/1/2010	1.058	<b>1.058</b>	1.031	1.006	1.006	1.031	1.015	1.007
1/1/2011	1.058	<b>1.058</b>	1.031	1.006	1.006	1.031	1.015	1.007

Note:

10/1/2009, 10/1/2010 and 1/1/2011 refer to points in time. All other time periods refer to Policy Years.

Index Factors for All Injury Types is an Excel Data Table that repeats the calculation of the Weighted Average Benefit Level for all Injury Types.

# IV 000026

Section IV - Benefit Change Adjustments  
 Subsection F - Effects of USL&HW Benefit Changes  
 9/1/2011

Section IV - F  
 Exhibit 3

## USL&HW Historical and Estimated Benefit Level Changes

Effective Date (1)	Indemnity						Medical	Total
	Injury Type 1 (2)	Injury Type 2 (3)	Injury Type 3 (4)	Injury Type 4 (5)	Injury Type 5 (7)	All Injury Types (8)	All Injury Types (9)	All Injury Types (10)
10/1/1995	0.6%	0.3%	0.1%	0.1%	0.3%	0.2%	0.0%	0.1%
10/1/1996	0.8%	0.4%	0.1%	0.1%	0.4%	0.2%	0.0%	0.1%
10/1/1997	0.6%	0.3%	0.1%	0.1%	0.3%	0.2%	0.0%	0.1%
10/1/1998	0.7%	0.4%	0.1%	0.1%	0.4%	0.2%	0.0%	0.1%
10/1/1999	0.9%	0.5%	0.1%	0.1%	0.5%	0.2%	0.0%	0.1%
10/1/2000	0.9%	0.5%	0.1%	0.1%	0.5%	0.3%	0.0%	0.2%
10/1/2001	1.1%	0.6%	0.1%	0.1%	0.6%	0.3%	0.0%	0.2%
10/1/2002	1.1%	0.6%	0.1%	0.1%	0.6%	0.3%	0.0%	0.2%
10/1/2003	0.8%	0.4%	0.1%	0.1%	0.4%	0.2%	0.0%	0.1%
10/1/2004	0.9%	0.5%	0.1%	0.1%	0.5%	0.2%	0.0%	0.1%
10/1/2005	0.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
10/1/2006	0.6%	0.3%	0.1%	0.1%	0.3%	0.2%	0.0%	0.1%
10/1/2007	0.9%	0.5%	0.1%	0.1%	0.5%	0.3%	0.0%	0.2%
10/1/2008	1.1%	0.6%	0.1%	0.1%	0.6%	0.2%	0.0%	0.1%
10/1/2009	0.9%	0.5%	0.1%	0.1%	0.5%	0.3%	0.0%	0.1%
10/1/2010	0.2%	0.2%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%
10/1/2011	0.2%	0.2%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%
10/1/2012	0.2%	0.2%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%

Notes:  
 Historical changes are from NCCI's Annual Statistical Bulletin, 2010 Edition.  
 Changes for 10/1/2011 & 10/1/2012 are estimated to be the same as 10/1/2010.  
 Values for 10/1/2010 are from NCCI.

**NET TREND****The Role of Trend**

The rate level indication in this filing is based on recent historical Massachusetts premium and loss data. Since the filing develops rates for a future period, beginning with policies issued 9/1/11, basic principles of ratemaking require that historical losses and premiums be adjusted to the levels expected during the prospective rate period. The trend factors we use represent the expected change from the experience period (in this filing, policy years 2007 and 2008) to September 1, 2012, the midpoint of the policy period for which we are setting rates. The trend factors reflect expected movements in the frequency of claims, the average cost of claims (also called “severity”) and payroll levels (which drive the amount of premium collected). Trend factors exclude certain otherwise-quantifiable changes over time such as statutorily-mandated changes in benefits and on-level factors for historical rate changes, which are considered elsewhere in the filing.

**WCRIBMA Recommendation**

The composite trend factor developed in this section is expressed as a “net” trend, meaning that it incorporates the combined effects on loss ratios of claim frequency movements, claim cost movements, and wage inflation – which may offset one another. Net trends are developed in this section separately for indemnity losses and medical losses (including medical only claims and medical

on lost time claims). Based on the methodology documented in this section, the WCRIBMA has used net trend factors of -1.5% per year for indemnity losses, and -0.3% per year for medical losses. The indicated trend factors and their key components are summarized in Section V-A Exhibit 1.

Indemnity Net Trend	-1.5%
Medical Net Trend	-0.3%

We are projecting that average claim costs for workers' compensation will continue to rise, as they have in recent years in both Massachusetts and elsewhere, at annual rates ranging from 4.3% to 5.7% for indemnity and medical benefits, respectively. We are projecting downward movement in claim frequency per worker week, at a pace of 2.9% annually for lost time claims and 3.0% for medical only claims. Finally, we are projecting an increase of 2.8% annually in average wages.

<u>Trend</u>	<u>Indemnity</u>	<u>Medical</u>
Severity	4.3%	5.7%
Frequency	-2.9%	-3.0%
SAWW	2.8%	
Net	-1.5%	-0.3%

The annual net trends we use in this filing reflect our expectations about the extent to which growth in the cost of claims will be offset by declining claim frequencies and by the natural growth of premium due to wage inflation.

**General Methodology**

The WCRIBMA has separately calculated claim cost trends (for indemnity benefits, for medical on lost time claims, and for medical only claims); claim frequency trends (for lost time claims and for medical only claims); and average weekly wage trends.

We have used the same method that we introduced in the 2005 filing and subsequently used in the 2007, 2008, and 2010 filings. This method was developed in response to the criticisms of the econometric trend method used in the WCRIBMA's 2003 filing. The WCRIBMA has not used econometric models to calculate the net trend this year because no econometric model has been validated or found to be superior for ratemaking purposes. We do, however, intend to continue our research in this area. In the meantime, we have continued to rely on a model that although not capable of projecting turning points in claim frequency, claim severity or wage trends, will be well-behaved, unbiased and effective in estimating overall trends, from one year to the next and over time, if applied consistently. We believe that our methodology both produces a result that should be accepted for rate-setting this year and provides a precedent that should be accepted by the Commissioner for use in the future.

For each component (claim severity, frequency and wage trend), our primary method of measuring historical trends is an exponential least squares regression fit to the most recent five years of Massachusetts Unit Statistical Plan data. The results of these regressions indicate an annual rate of change for each

component. Second, we tested the credibility of these indicated trends on the basis of the consistency between the historical data and the fitted exponential curve. Using a methodology from the actuarial literature,<sup>1</sup> we assigned higher credibility to the indicated trend if the trend line more closely fit the data, and a lower credibility if the data displayed wide departures from the fitted trend line. Third, to the extent that this credibility test suggested that the indicated trend from the five year data should be given less than 100% weight, we complemented the five year indication with an indicated trend from a larger database. In the case of claim cost trends, we looked to national trends in workers' compensation claim costs to provide the complementary trend indication. In the case of claim frequency trends and average weekly wage trends, we looked to longer term (15 year) Massachusetts trends to provide the complementary trend indication. The five year trend indications, the credibilities they have been assigned, and the complementary trend indications are summarized in Exhibits 1 through 3 of Section V-A for claim cost, claim frequency, and average weekly wage, respectively.

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<sup>1</sup> Venter, Gary, "Classical Partial Credibility with Application to Trend," *PCAS LXXIII*, 1986, pp. 27-51.

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	<u>Empirical Trend</u>	<u>Credibility</u>	<u>Complement of Credibility</u>	<u>Selected Trend</u>
<b>Severity</b>				
Indemnity	4.4%	91%	2.5%	4.3%
Medical on Lost Time	4.9%	42%	6.4%	5.7%
Medical Only	5.1%	74%	5.4%	5.2%
<b>Frequency</b>				
Lost Time Claims	-2.7%	86%	-4.0%	-2.9%
Medical	-3.5%	91%	-4.2%	-3.5%
<b>Average Weekly Wage</b>				
	2.2%	65%	4.0%	2.8%

The WCRIBMA recommends that the calculation of trend factors be based upon movements in the underlying factors of claim severity, claim frequency, and wages – rather than fitting time trends to loss ratios themselves. Given the differences in the behavior of claim severity, claim frequency and wage trends, we are confident that analyzing them separately provides better insights into the drivers of net trend.

Any trending method that relies on fitting linear or exponential curves to the historical data as the basis for projecting trend rates – whether that method is applied to cost components or to final loss ratios – will, by its nature, not only fail to predict turning points, but also will respond slowly when turning points first emerge in the experience. Discussions in prior hearings, and in other venues, reveal the difficulty of forecasting the timing and degree of turning points for any economic or social phenomenon. By blending indications from short term and long term movements, as in the case of frequency and wages, or state-specific and nationwide trends, as in severity, the WCRIBMA has introduced a method

that we believe provides a reasonable balance between stability and responsiveness. Further, if used consistently over time, this methodology should mitigate the trend volatility that could result from the application of significantly different judgments (about turning points, for example) from one year to the next. “The use of a predictable, consistent methodology promotes stability in ratemaking; adoption of an ad hoc approach to loss development would needlessly introduce an element of uncertainty into the rate approval process.” In short, the trend methodology presented in this filing not only provides an appropriate and reasonable basis for selecting trend factors for present rate-setting purposes, but it is also a methodology that we believe will produce reasonable and unbiased results in future years if applied on a consistent basis.

We recommend that the Commissioner accept the WCRIBMA’s net trend factors and that the Commissioner explicitly endorse the WCRIBMA’s methodology so that the parties can narrow the scope of disputed issues in future years.

### **Section V-A – Net Trend Calculation**

Section V-A documents the calculation of the separate trends for claim severity, claim frequency, and average weekly wage.

Exhibit 1 in this section summarizes and combines all of the trend components, beginning with the indicated trend based on five years of Massachusetts data (Row (1)), applying the credibility parameter that is based on how well the indicated trend fits the underlying data (Row (2)), and applying the

complement of the credibility to the trend indications that are based on broader or longer data series (Row (3)). The claim severity trend and the claim frequency trend are then combined to produce total loss trends (Row (8)). The medical trends for lost time claims and medical only claims are weighted together, based on the relative volume of claim dollars by type of claim, to produce an overall medical loss trend. Finally, the loss trends for indemnity and medical losses are offset by the credibility-weighted average weekly wage trend to produce the total net annual trend.

Exhibits 2 and 3 of Section V-A document the calculation of the severity trends, frequency trends, and average weekly wage trends. In each of these exhibits, the first step is to calculate an exponential fit to the most recent five years of Massachusetts data. This exponential method yields fitted values for each year and also an indicated annual rate of change in the data series. The exponential fits here and elsewhere in this section were calculated using a standard function within Microsoft Excel™.

Next, using a procedure documented in the Venter paper, these exhibits document the calculation of the credibility associated with the fitted annual trends. This procedure requires defining the parameters of a confidence interval. The WCRIBMA seeks to achieve at least a 90% probability that the trend observed in the future will be within 6% of the projected trend in this filing. Selecting a higher required degree of confidence (probability) or a lower tolerance for error would reduce the amount of credibility assigned to the trend estimates derived from the latest five years of data, while a lower required

degree of confidence (probability) or higher tolerance for error would increase the credibility assigned to indications derived from the latest five years of data. Based on Venter's paper, actuarial judgment, and sensitivity testing, we selected 90% and 6% as reasonable parameters to use in the credibility calculation.

The specific steps and calculations that implement Venter's procedure to calculate the credibility assigned to the five year Massachusetts trend (Row (1)) are detailed in Exhibits 2 and 3 of Section V-A, in Rows numbered (3) through (11). Row (3), denoted "s," quantifies the goodness of fit of the exponential curve to the five years of Massachusetts data.  $S = \text{SQRT} ( \text{SSR} / (n-2) )$ , where SSR is the sum of the squared differences between the observed and fitted points over the five years ( $n=5$ ) of Massachusetts data, and  $n-2$  is an adjustment for degrees of freedom. Row (4), denoted "t," is the 95<sup>th</sup> percentile of the t-distribution with  $n-2=3$  degrees of freedom. We use the 95<sup>th</sup> percentile one-sided distribution to correspond to the selected 90% probability of being within a specified tolerance in either direction. Row (6) implements the formula that Venter provides for a component element of the standard deviation of the projected point, given the distance into the future that we are projecting, and Row (7) then calculates the confidence interval for the projection. The confidence interval incorporates both the uncertainty about the parameters of the trend line and the potential variability of the actual future point from its expected value on the line. Row (9) expresses this confidence interval as a percentage of the projected value of frequency, severity, or average weekly wage, which is calculated in Row (8). If Row (9) is less than the selected error tolerance (i.e., 6% in this filing), then there is at least

90% probability that the actual value is within 6% of the five-year fitted value; therefore, the credibility procedure assigns 100% to the indicated five-year trend. If the ratio in Row (9) is greater than the selected error tolerance, then the credibility assigned to the five-year trend must be less than 100%. Specifically, it is calculated in Row (10) as the ratio of the selected error tolerance, divided by the calculated confidence interval.

To the extent that the credibility assigned to the fitted trend based on five years of Massachusetts data is less than 100%, the balance of the credibility is assigned to a longer-term Massachusetts trend (for frequency and average weekly wage) or countrywide trend (for claim severity). The calculations of the annual trend rates from these complementary data series are documented at the foot of Section V-A, Exhibit 2 (severity), Section V-B (frequency) and Section V-G, Exhibit 2 (average weekly wage), and use the same exponential fit function within Microsoft Excel™.

The complementary data set to be given weight when the five-year Massachusetts indications are not fully credible provides a trend indication for a particular component (severity, frequency, average weekly wage) that would be reasonable to use if we had no recent local data. For severity, the WCRIBMA expects that trends will tend to vary more over time than across state lines. Thus, it is our expectation that severity trends recently observed in other states will provide useful information about severity trends to be expected in Massachusetts. The actual level of claim costs is likely to vary by state (depending on benefit levels, demographics, industry mix, and social factors), but

we would expect that the average trend across a broad mix of states creates a reasonable basis for a baseline expectation of Massachusetts severity trends. Consequently, we have selected a multi-state severity trend as the complement of credibility for Massachusetts severity trends. The multi-state severities are shown at the foot of Section V-A Exhibit 2 and supporting information is provided in Section V-G.

For claim frequency and average weekly wages, it is our expectation that Massachusetts trends observed in the short term will tend to revert to long term Massachusetts averages, and that these long-term Massachusetts averages would thus represent a reasonable expectation of future trends in the absence of recent observations. Consequently, we have selected a long-term Massachusetts trend as the complement of credibility for Massachusetts five-year frequency and average weekly wage trends. We judgmentally selected fifteen years of data to calculate the long-term Massachusetts trends because we were concerned that data older than fifteen years could not easily be placed on a consistent level with the more recent data.

Finally, Section V-A Exhibits 2 and 3 Row (12) calculate the credibility-weighted annual trend, which is:

Credibility-weighted annual trend =

$$[Z] \times [\text{indicated annual trend based on 5-year Mass data}] \\ + [1.0 \text{ minus } Z] \times [\text{indicated annual trend based on complementary data}],$$

Where Z = credibility

These various components of the final net trend calculation are shown graphically on Exhibits 4 through 5 of Section V-A and are brought forward to Exhibit 1.

### **Data Used in the WCRIBMA Trend Analysis**

For the trend analysis in this year's filing, the WCRIBMA has used Unit Statistical data, as we did in the last four filings. The WCRIBMA selected this data source because it provides detailed, matching payroll, claim count, and claim dollar data that can be used to calculate historical claim frequencies and claim severities. Unit Statistical data are reported on a policy-by-policy basis and in individual claim detail (except for the smallest claims, which may be reported in a batch for an individual employer and policy period).

In previous years, the WCRIBMA compiled the data used in the trend analysis on a composite policy year basis, which aggregates policies with inception dates from July 1 of one year through June 30 of the next year. System improvements now allow us to utilize an additional six months of Unit Statistical data. Consequently, we have Unit Statistical data for policies written through December 2008. As in the 2010 Filing, the Unit Statistical data used in this trend analysis has been compiled on a "policy year" basis. Policy year 2004, for example, includes all policies with inception dates between January 1, 2004 and December 31, 2004. For policy year 2004, the average policy inception date is assumed to be July 1, 2004 and the average accident date is assumed to be January 1, 2005.

Unit Statistical data include coding that designates the “injury type” of a claim (i.e., fatal, permanent total, permanent partial, temporary total, medical only). We have used separate data for lost time claims and medical only claims as the starting point for our analysis because the medical only claims are very numerous but small in average severity, and thus could mask important trends if combined with the lost time claims. The Unit Statistical data also report medical loss dollars separately from indemnity loss dollars, and we have preserved this separation in the data that we used in our analysis.

The Unit Statistical data for a particular policy are first reported to the WCRIBMA eighteen months after policy inception (i.e., six months after a twelve month policy expires), and then experience on each policy is reported again at successive twelve month intervals, 30, 42, 54, and 66 months after policy inception. (The Unit Statistical data reporting timeline thus differs from some other policy year data in which all policies are reported at a common calendar date, such as December 31). These successive reports are compiled in order to evaluate the policy years at various maturities, which in turn enables us to aggregate loss development histories that allow us to select and apply development patterns to develop the most recent, least mature policy years to the same fifth-report maturity as the older, more mature policy years.

Unit Statistical data have historically been collected and compiled systematically out to fifth-report. For purposes of the trend analysis, we have used each of the policy years developed to fifth-report. While we could have

used other data sources to derive development factors from fifth-report to ultimate, we expect that we would have applied the same fifth-to-ultimate development factor to all policy years, and thus not have produced a different trend indication. In the interest of not adding unnecessary complexity to the filing, we opted to use the data for all policy years at fifth-report.

**Overview of:****Section V-B – Claim Count Development****Section V-C – Indemnity Loss Development****Section V-D – Medical Loss Development**

Section V-B documents the calculation of historical claim counts developed to fifth-report, which are used in the calculation of claim frequencies and average claim costs. Section V-C and Section V-D document the calculation of historical loss dollars for indemnity and medical, respectively, developed to fifth-report and adjusted to current benefit levels; the resulting on-level developed losses are used in the calculation of average claim costs.

These sections use standard loss development techniques to develop the claim counts and losses to a fifth-report basis. We have developed indemnity losses separately from medical, and medical only losses separately from lost time medical - in all cases we have used the two most recent years of data to calculate the development factors.

For purposes of the trend calculations, we have only developed the claim counts and loss dollars to fifth-report, not to ultimate, because the unit statistical

plan data for some of the years included in our analysis do not provide information to estimate tail factors beyond fifth-report. If we were to estimate a loss development factor from fifth-report to ultimate, it would be the same (or similar) for all policy years, and would not affect the calculated annual trends in claim frequency or claim severity.

After the losses and claim counts are developed to fifth-report, as described above, Sections V-B, C and D of the filing calculate the historical year-by-year average claim costs and claim frequencies that are used in the calculation of the indicated Massachusetts loss trends in Section V-A.

### **Section V-B – Massachusetts Claim Frequency**

The historical claim frequencies derived in Section V-B for each year are the ratio of:

- (a) the reported claim counts as of the most recent unit statistical plan compilation, developed to fifth-report, and adjusted to the current mix of Massachusetts payrolls by employment classification, divided by
- (b) Estimated worker weeks underlying the unit statistical plan data (described below in Section V-E).

For purposes of the trend calculations, we calculate claim frequencies separately for lost time claims and for medical only claims.

The adjustment to the current mix of Massachusetts payrolls by employment classification is intended to remove any trend in claim frequency that is attributable to historical shifts in the mix of employment in Massachusetts. We

make this adjustment because our objective is to estimate the level of premiums that would be adequate for the current mix of classes. Any future shifts in the mix of employment would be adjusted for automatically in the premium base because these shifts would move payroll to differently-rated classifications). Details of the class mix adjustment calculations are provided in Section V-F.

Section V-B also displays the indicated claim frequency trend based on the exponential fit to fifteen years of Massachusetts data, calculated using the claim frequencies as shown, and the standard function in Microsoft Excel™. This long term claim frequency trend is used as the complement of credibility in Section V-A.

### **Sections V-C and V-D – Massachusetts Average Claim Costs**

The historical average claim costs derived in Section V-C and Section V-D for each year are simply the ratio of:

- (a) reported losses as of the most recent unit statistical plan compilation, developed to fifth-report, and adjusted to current benefit levels, divided by
- (b) reported claim counts as of the most recent unit statistical plan compilation, developed to fifth-report.

The reported Unit Statistical data reflect the statutory benefit provisions that applied to each individual claim. Thus, claims from the 2004 policy year were handled and reported based on the benefits in effect at that time. Similarly, claims from the 2008 policy year were handled and reported based on the benefits in effect at that time. The changes in benefit statutes over time would

contribute to a trend in the average claim cost data. But we do not want this trend to affect the data, because the statutory benefit changes are specifically addressed in another section of the filing. Therefore, before the Unit Statistical data are used in our trend analysis, the losses are all adjusted to a common benefit level. In Sections V-C and V-D the developed loss dollars are placed “on-level” to the current Massachusetts benefit levels. By placing all of the loss data on current benefit level, we avoid a distortion in the trend analysis.

The resulting Massachusetts historical average claim costs in the final columns of Sections V-C and V-D are carried forward to Section V-A for use in calculating the five year fitted Massachusetts trends.

### **Section V-E – Payroll Development and Worker-Weeks**

Section V-E documents the estimation of worker weeks that underlie the Unit Statistical Plan data for each year. The resulting estimate of worker weeks is used as the denominator of the claim frequency calculation in Section V-B, as described above.

In summary, worker weeks for a particular time period are estimated by dividing total covered payroll for that period by the state average weekly wage corresponding to that same period. More specifically, the historical worker weeks estimated in Section V-E for each policy year are derived as the ratio of:

- (a) the reported payroll as of the most recent unit statistical plan compilation, developed to fifth-report, divided by
- (b) the state average weekly wage corresponding to the same period.

As with claim counts and frequency, we have only developed the payrolls to fifth-report, not to ultimate, because the unit statistical plan data for all the years included in our analysis does not provide information to estimate tail factors beyond fifth-report. If we were to estimate a payroll development factor from fifth-report to ultimate, it would be similar for all policy years, and would not significantly affect the calculated annual trends in claim frequency.

The state average weekly wage is based on Massachusetts wage data compiled by the Division of Unemployment Assistance (DUA). Although it is not compiled for workers' compensation purposes and is not defined in exactly the same way as payrolls used in workers' compensation calculations, we believe that the overall movement over time in this series is reasonably representative of the overall movement to be expected in the average wages used to calculate workers' compensation premiums. The time periods for which the Massachusetts wage data are compiled do not correspond to the policy periods we are analyzing; we use a weighted average of several wage data periods to correspond to the policy periods, as detailed in the footnotes in Section V-E. The underlying Massachusetts average wage series is documented in Section V-G.

#### **Section V-F – Adjustment Factor for Class Mix; On-Level Factors**

Section V-F documents the quantification of the estimated effect of a shifting mix of payrolls by classification over time. This effect is estimated by examining the proportion of payrolls that are in high-rated classifications versus low-rated classifications; specifically by calculating a weighted average of the

*current* manual rates, weighted by each year's payrolls by classification. For example, using the 2008 distribution of payrolls by classification, the weighted average of the current rates is \$0.917, while using the 1994 distribution of payrolls by classification against the same current rates produces an average rate of \$1.084. Since the manual rate in each classification is based on the workers' compensation claims experience within that classification, this movement in average rates indicates that the insured employment mix in Massachusetts has shifted towards less hazardous occupations. The claim trends caused by this shift should not be included in the trend factors because other sections of the filing (specifically the classification rate section) incorporate an explicit distribution of payrolls, and any further movement in the insured employment mix towards less hazardous occupations will automatically produce premium reductions by means of the lower rates that apply to those less hazardous occupations.

While the class mix change may affect the average cost of claims as well as the frequency of claims, we have made the simplifying assumption that all of the effect is related to claim frequency, and we have applied the class mix adjustment to the claim frequency series that is developed in Section V-B.

### **Section V-G – External Data**

Section V-G Exhibit 1 displays some details underlying the countrywide severity data used to develop the complementary average claim cost trends.

Section V-G Exhibit 2 displays the Massachusetts average weekly wage data used in our analysis.

**Trend Summary**

	Indemnity		Medical				SAWW
	Severity	Frequency	Lost Time Medical		Medical Only		
			Severity	Frequency	Severity	Frequency	
(1) Trend	4.4%	-2.7%	4.9%	-2.7%	5.1%	-3.5%	2.2%
(2) Credibility	91%	86%	42%	86%	74%	91%	65%
(3) Complement of Credibility	2.5%	-4.0%	6.4%	-4.0%	5.4%	-4.2%	4.0%
(4) Credibility Weighted Trend	4.3%	-2.9%	5.7%	-2.9%	5.2%	-3.5%	2.8%
			Lost Time Medical		Medical Only		
(5) Medical Loss Trend			2.7%		1.5%		
(6) Fraction of Total Medical			87.6%		12.4%		
(7) Total Medical Loss Trend			2.5%				
	Indemnity		Medical				
(8) Total Loss Trend	1.3%		2.5%				
(9) SAWW Trend	2.8%		2.8%				
(10) Total Net Trend	<b>-1.5%</b>		<b>-0.3%</b>				

Notes:

- (1),(2),(3): Exhibits 2,3.
- (4) = [ (1) x (2) ] + (3) x [ 1.0 - (2) ]
- (5) = (1.0 + Credibility Weighted Severity Trend) x (1.0 + Credibility Weighted Frequency Trend) - 1.0
- (6) Medical Only = Medical Only Fraction of Total Medical from Section IV-E, Exhibit 1; Lost Time Medical = 1.0 - Medical Only.
- (7) = Weighted Average of (5) using (6) as weights
- (8): Indemnity = (1.0 + Credibility Weighted Severity Trend) x (1.0 + Credibility Weighted Frequency Trend) - 1.0; Medical = Row (7)
- (9): Exhibit 3.
- (10) = [ 1.0 + (8) ] / [ 1.0 + (9) ] - 1.0

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Severity Trend Calculation

Policy Year	Indemnity			Lost Time Medical			Medical Only		
	Massachusetts Severity	5 Year Exponential Fit	Difference Squared	Massachusetts Severity	5 Year Exponential Fit	Difference Squared	Massachusetts Severity	5 Year Exponential Fit	Difference Squared
2004	21,047	20,834	45,533	10,916	10,630	82,064	666	682	254
2005	21,630	21,758	16,589	10,588	11,150	316,400	726	716	104
2006	22,712	22,724	138	11,753	11,696	3,254	769	753	271
2007	23,218	23,733	264,692	12,758	12,268	240,450	798	791	50
2008	25,240	24,786	206,776	12,627	12,868	57,961	814	831	299
(1)	<b>MA Trend based on Five Year Exponential Fit</b>			<b>Lost Time Medical</b>			<b>Medical Only</b>		
(2)	n		5			5			5
(3)	s		421.79			483.09			18.05
(4)	t		2.35			2.35			2.35
(5)	m		5.67			5.67			5.67
(6)	[1 + 1/n + 12 x m^2/(n^3-n)]^0.5		2.10			2.10			2.10
(7)	Confidence Interval		2,087			2,390			89.32
(8)	Projected Severity		31,710			16,874			1,102
(9)	CI/Projected Severity		0.07			0.14			0.08
(10)	<b>Credibility assigned to MA (Z)</b>		<b>91%</b>			<b>42%</b>			<b>74%</b>
NCCI Annual Statistical Bulletin	Indemnity Severity	CW Indemnity On-Level Factors	On-Level Indemnity Severity	LT Medical Severity	CW Medical On-Level Factors	On-Level LT Medical Severity	Medical Only Severity	CW Medical On-Level Factors	On-Level Medical Only Severity
2006	17,886	1.083	19,366	18,773	1.056	19,816	761	1.056	803
2007	18,049	1.083	19,545	19,757	1.049	20,729	831	1.049	872
2008	18,525	1.074	19,899	21,469	1.046	22,448	878	1.046	918
2009	19,674	1.055	20,760	22,802	1.040	23,712	916	1.040	953
2010	20,509	1.037	21,261	24,466	1.031	25,218	971	1.031	1001
(11)	<b>Complement of Credibility (Annual Countrywide Severity Trend)</b>		<b>2.5%</b>			<b>6.4%</b>			<b>5.4%</b>
(12)	<b>Credibility Weighted Severity Trend</b>		<b>4.3%</b>			<b>5.7%</b>			<b>5.2%</b>

Notes:

Massachusetts Severity data from Sections V-C and V-D; Countrywide severity data from NCCI.

(1): Trend from five-year exponential fit to Massachusetts severities.

(2): Number of years of experience used.

(3):  $\sqrt{SSR / [(2) - 2]}$  where SSR is the sum of squared residuals and n is the number of years in the regression.

(4): Value from two-tailed t distribution p of 90% (confidence interval) and 3 degrees of freedom.

(5): Number of years between midpoint of data and projected point.

(6): n = number of years of data used (five).

(7) = (3) x (4) x (6)

(8): Severity projected to policy effective period using exponential fit to data.

(9) = (7) / (8)

(10): The credibility is the ratio of the target value k to the confidence interval divided by the projected severity, capped at 100%. Numerically, (10) = the minimum of k / (9) and 100%.

(11): Trend from five-year exponential fit to on-level countrywide severity.

(12) = [(1) x (10)] + (11) x [1.0 - (10)]

V 000021

Calculation of Frequency and SAWW Trend

Policy Year	Lost Time			Medical Only			Statewide Average Weekly Wage			
	Frequency (claims per million worker-weeks)	5 Year Exponential Fit	Difference Squared	Frequency (claims per million worker-weeks)	5 Year Exponential Fit	Difference Squared	Data Period	SAWW	5 Year Exponential Fit	Difference Squared
2004	201.22	200.13	1.19	484.21	483.76	0.21	4/1/05 to 4/1/06	1,000.43	1,018.43	323.95
2005	195.07	194.74	0.11	468.45	466.99	2.11	4/1/06 to 4/1/07	1,043.54	1,040.64	8.38
2006	186.24	189.49	10.56	445.23	450.81	31.22	4/1/07 to 4/1/08	1,093.27	1,063.35	895.50
2007	185.80	184.38	2.03	440.37	435.19	26.84	4/1/08 to 4/1/09	1,094.70	1,086.54	66.57
2008	179.84	179.41	0.19	418.68	420.11	2.05	4/1/09 to 4/1/10	1,088.06	1,110.24	492.07
(1)	<b>MA Trend based on Five Year Exponential Fit</b>		<b>-2.7%</b>	<b>Medical Only</b>		<b>-3.5%</b>	<b>SAWW</b>			
(2)	n		5			5				
(3)	s		2.17			4.56				
(4)	t		2.35			2.35				
(5)	m		5.67			5.67				
(6)	[1 + 1/n + 12 x m^2/(n^3-n)]^0.5		2.10			2.10				
(7)	Confidence Interval		10.72			22.57				
(8)	Projected Frequency		153.63			343.93				
(9)	CI/Projected Frequency		0.07			0.07				
(10)	<b>Credibility assigned to MA (Z)</b>		<b>86%</b>			<b>91%</b>				
(11)	<b>Complement of Credibility</b>		<b>-4.0%</b>			<b>-4.2%</b>				
(12)	<b>Credibility Weighted Frequency Trend</b>		<b>-2.9%</b>			<b>-3.5%</b>				

Notes:

Frequencies are from Section V-B, Exhibits 1 and 2, SAWW from Section V-G, Exhibit 2.

(1): Trend from five-year exponential fit to Massachusetts claim frequencies, SAWW.

(2): Number of years of experience used.

(3):  $\sqrt{SSR / [(2) - 2]}$  where SSR is the sum of squared residuals and n is the number of years in the regression.

(4): Value from two-tailed t distribution p of 90% (confidence interval) and 3 degrees of freedom.

(5): Number of years between midpoint of data and projected point.

(6): n = number of years of data used (five).

(7) = (3) x (4) x (6)

(8): Frequency, SAWW projected to policy effective period using exponential fit to data.

(9) = (7) / (8)

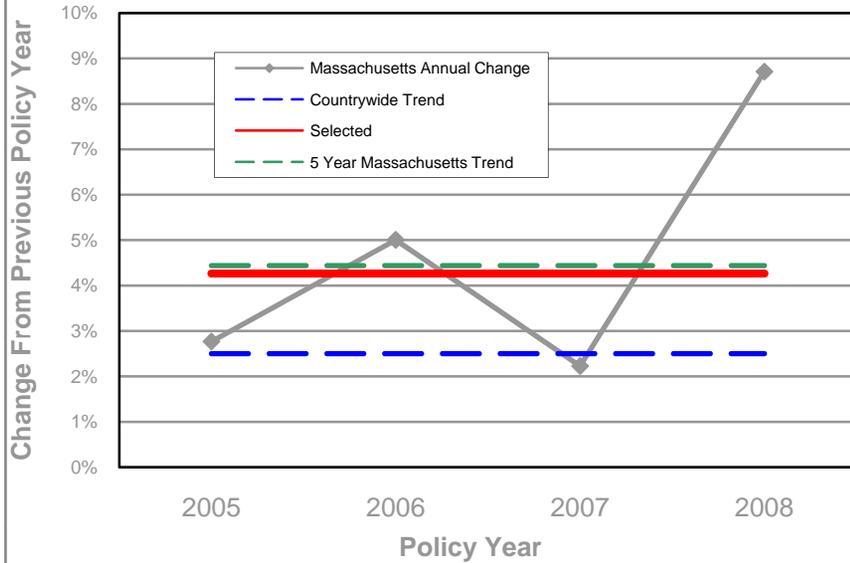
(10): The credibility is the ratio of the target value k to the confidence interval divided by the projected frequency, capped at 100%. Numerically, (10) = the minimum of k / (9) and 100%.

(11): Trend from fifteen-year exponential fit to on-level Massachusetts claim frequency (industrywide) from Section V-B, Exhibits 1 and 2, SAWW from Section V-G, Exhibit 2.

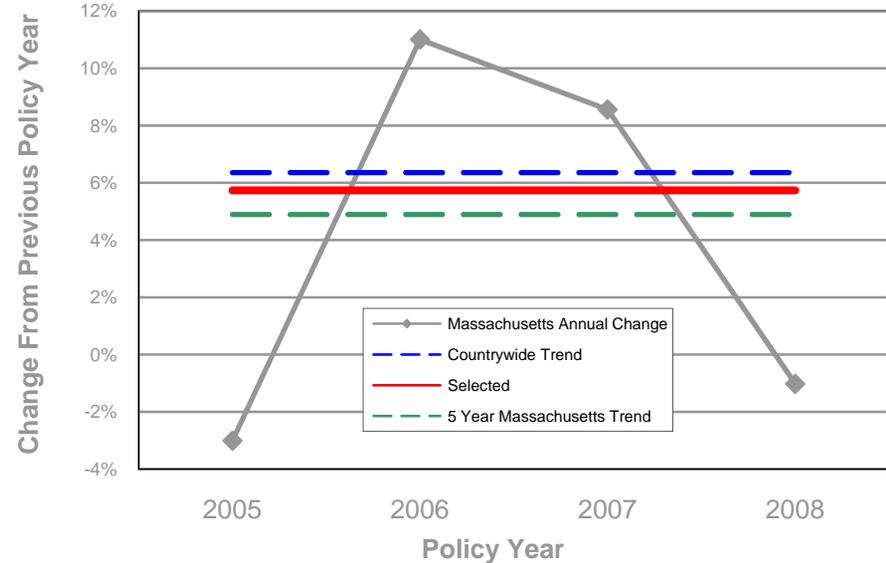
(12) = [(1) x (10)] + (11) x [1.0 - (10)]

V 000022

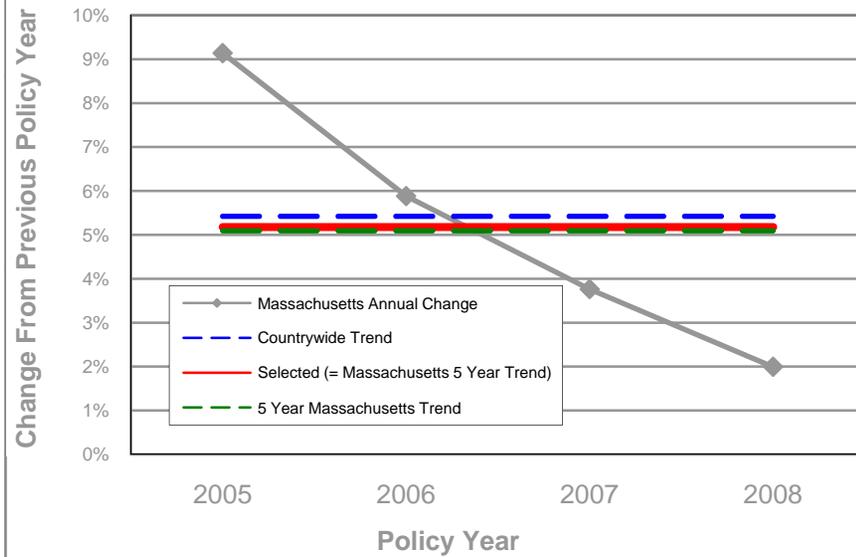
**Indemnity Severity Trend**



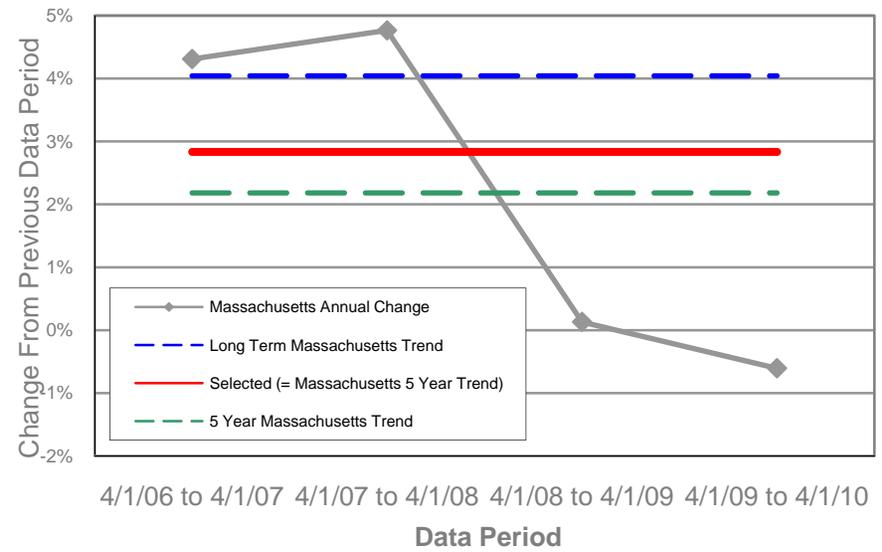
**Lost Time Medical Severity Trend**



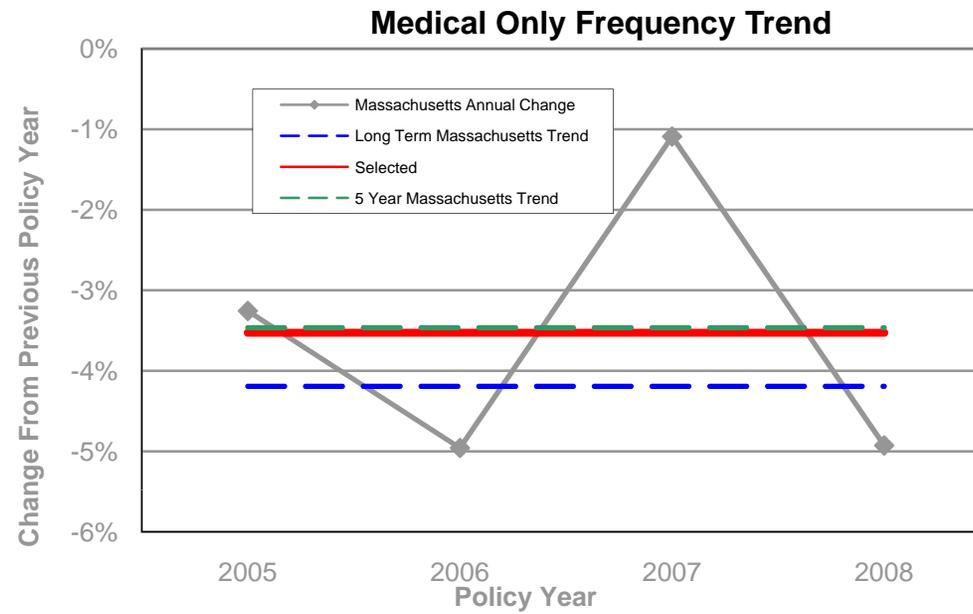
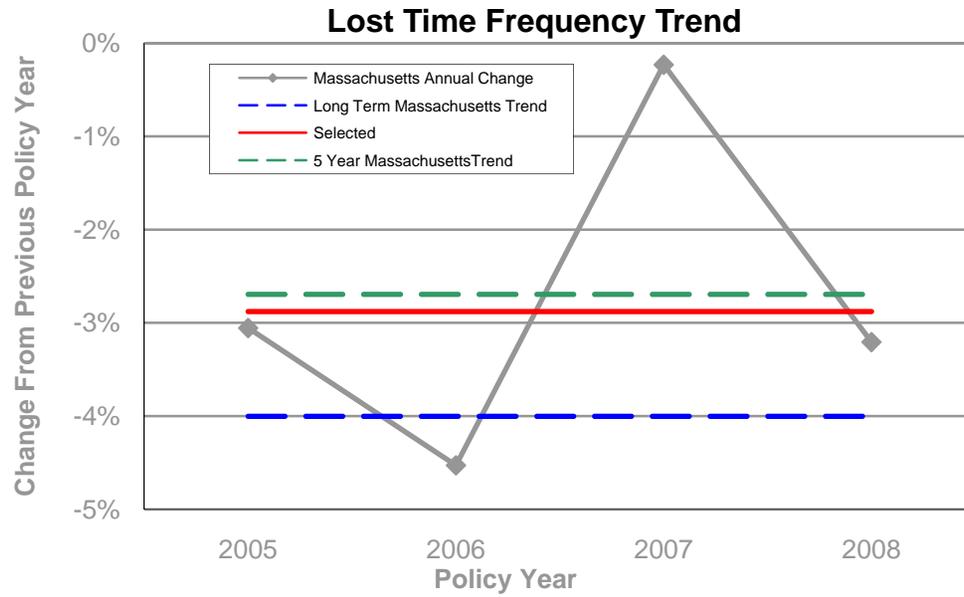
**Medical Only Severity Trend**



**SAWW Trend**



V 000023



**Lost Time Reported Claim Counts**

Policy Year (1)	Age					Developed to Fifth Report (3)	Estimated Million Worker-Weeks (4)	Unadjusted Claim Frequency = (3) / (4) (5)	Class Mix Adjustment (6)	Adjusted Claim Frequency = (5) x (6) (7)
	18	30	42	54	66					
1994					24,707	24,707	68.66	359.85	0.846	304.41
1995					24,792	24,792	71.13	348.53	0.840	292.67
1996					25,320	25,320	76.53	330.86	0.870	287.86
1997					25,125	25,125	78.59	319.72	0.865	276.58
1998					25,563	25,563	78.77	324.52	0.831	269.80
1999					25,096	25,096	79.57	315.39	0.840	264.84
2000	23,746	24,200	24,318	24,343	24,338	24,338	82.59	294.67	0.861	253.72
2001	20,871	21,164	21,319	21,341	21,354	21,354	78.51	271.97	0.865	235.28
2002	20,266	20,618	20,667	20,707	20,720	20,720	77.64	266.87	0.851	227.22
2003	18,966	19,164	19,236	19,276	19,314	19,314	76.57	252.23	0.833	210.08
2004	17,508	17,741	17,791	17,844	17,868	17,868	74.64	239.40	0.841	201.22
2005	16,790	17,076	17,155	17,190	17,219	17,219	76.72	224.43	0.869	195.07
2006	15,518	15,792	15,890		15,957	15,957	78.96	202.08	0.922	186.24
2007	15,206	15,536			15,685	15,685	80.30	195.33	0.951	185.80
2008	13,914				14,324	14,324	79.64	179.84	1.000	179.84

**Development Factors**

15 Year Lost Time Frequency Trend

**-4.0%**

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.020	1.005	1.003	1.002
Selected	1.020	1.005	1.003	1.002
Cumulative	1.029	1.010	1.004	1.002

**Notes:**

Development factors are claim count weighted average from latest two years.

(4): Section V-E, Exhibit 1.

(6): Section V-F, Exhibit 1.

**Medical Only Reported Claim Counts**

Policy Year	Age					Developed to Fifth Report	Estimated Million Worker-Weeks	Unadjusted Claim Frequency = (3) / (4)	Class Mix Adjustment	Adjusted Claim Frequency = (5) x (6)
	18	30	42	54	66					
(1)	(2)					(3)	(4)	(5)	(6)	(7)
1994					59,239	59,239	68.66	862.79	0.846	729.87
1995					59,310	59,310	71.13	833.78	0.840	700.16
1996					61,537	61,537	76.53	804.12	0.870	699.60
1997					61,605	61,605	78.59	783.92	0.865	678.17
1998					62,514	62,514	78.77	793.62	0.831	659.79
1999					61,282	61,282	79.57	770.14	0.840	646.72
2000	56,445	58,921	59,466	59,584	59,725	59,725	82.59	723.12	0.861	622.63
2001	51,427	53,067	53,501	53,617	53,650	53,650	78.51	683.31	0.865	591.13
2002	48,048	49,861	50,115	50,169	50,207	50,207	77.64	646.66	0.851	550.59
2003	44,157	45,339	45,564	45,595	45,612	45,612	76.57	595.67	0.833	496.12
2004	41,876	42,840	42,935	42,988	42,997	42,997	74.64	576.09	0.841	484.21
2005	40,449	41,216	41,325	41,337		41,349	76.72	538.95	0.869	468.45
2006	37,345	38,029	38,106			38,147	78.96	483.10	0.922	445.23
2007	36,528	37,049				37,176	80.30	462.95	0.951	440.37
2008	32,699					33,346	79.64	418.68	1.000	418.68

Development Factors

15 Year Medical Only Frequency Trend **-4.2%**

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.016	1.002	1.001	1.000
Selected	1.016	1.002	1.001	1.000
Cumulative	1.020	1.003	1.001	1.000

Notes:  
 Development factors are claim count weighted average from latest two years.  
 (4): Section V-E, Exhibit 1.  
 (6): Section V-F, Exhibit 1.

Indemnity Paid + Case Losses (in 000's)

Policy Year (1)	Age					Developed to Fifth Report (3)
	18	30	42	54	66	
2003	204,500	273,296	302,633	321,045	336,613	336,613
2004	202,442	280,095	320,113	343,160	359,060	359,060
2005	204,700	276,657	314,309	343,121		359,377
2006	191,292	272,886	312,044			353,544
2007	200,247	278,137				359,173
2008	198,410					360,580

Development Factors

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.407	1.140	1.082	1.047
Selected	1.407	1.140	1.082	1.047
Cumulative	1.817	1.291	1.133	1.047

Policy Year (4)	Indemnity On-Level Factor (5)	On-Level Indemnity Losses (in 000's) Developed to Fifth Report = (3) x (5) (6)	Developed Claim Counts (7)	Severity = 1,000 x (6) / (7) (8)
		2004	1.047	376,072
2005	1.036	372,435	17,219	21,630
2006	1.025	362,412	15,957	22,712
2007	1.014	364,178	15,685	23,218
2008	1.003	361,538	14,324	25,240

Notes:  
 Development factors are loss weighted average from latest two years.  
 (5): Section IV-A, Exhibit 1.  
 (7): Section V-B, Exhibit 1.

V 000027

Lost Time Medical Paid + Case Losses (in 000's)

Policy Year (1)	Age					Developed to Fifth Report (3)
	18	30	42 (2)	54	66	
2003	136,227	144,917	155,723	164,854	170,412	170,412
2004	143,846	158,705	173,482	183,350	188,262	188,262
2005	139,258	150,572	162,290	171,495		176,652
2006	141,150	154,543	166,931			181,718
2007	152,439	165,087				193,910
2008	138,075					176,566

Development Factors

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.089	1.079	1.057	1.030
Selected	1.089	1.079	1.057	1.030
Cumulative	1.279	1.175	1.089	1.030

Policy Year (4)	On-Level Lost Time Medical Losses (in 000's)			
	Medical On-Level Factor (5)	Developed to Fifth Report = (3) x (5) (6)	Developed Claim Counts (7)	Severity = 1,000 x (6) / (7) (8)
2004	1.036	195,056	17,868	10,916
2005	1.032	182,305	17,219	10,588
2006	1.032	187,533	15,957	11,753
2007	1.032	200,115	15,685	12,758
2008	1.024	180,871	14,324	12,627

Notes:

Development factors are loss weighted average from latest two years.

(5): Section IV-A, Exhibit 1.

(7): Section V-B, Exhibit 1.

**Medical Only Paid + Case Losses (in 000's)**

Policy Year (1)	Age					Developed to Fifth Report (3)
	18	30	42	54	66	
2003	25,947	27,192	27,686	27,879	27,794	27,794
2004	26,433	27,764	27,665	27,512	27,622	27,622
2005	28,315	28,915	28,950	29,093		29,106
2006	27,941	28,411	28,424			28,432
2007	28,176	28,720				28,751
2008	26,001					26,499

Development Factors

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.018	1.001	1.000	1.000
Selected	1.018	1.001	1.000	1.000
Cumulative	1.019	1.001	1.000	1.000

On-Level Medical Only  
 Losses (in 000's)

Policy Year (4)	Medical On-Level Factor (5)	Developed to Fifth Report = (3) x (5) (6)	Developed Claim Counts (7)	Severity = 1,000 x (6) / (7) (8)
2004	1.036	28,618	42,997	666
2005	1.032	30,037	41,349	726
2006	1.032	29,341	38,147	769
2007	1.032	29,671	37,176	798
2008	1.024	27,145	33,346	814

Notes:  
 Development factors are loss weighted average from latest two years.  
 (5): Section IV-A, Exhibit 1.  
 (7): Section V-B, Exhibit 2.

**Payroll (in millions of dollars)**

Policy Year (1)	Age				Developed to Fifth Report (3)	Policy Year (4)	Smoothed State Average Weekly Wage (5)	Estimated Million Worker-Weeks = (3) / (5) (6)	
	18	30	42	54					66
1994					40,556	40,556	1994	590.68	68.66
1995					43,656	43,656	1995	613.72	71.13
1996					49,107	49,107	1996	641.69	76.53
1997					53,094	53,094	1997	675.62	78.59
1998					56,661	56,661	1998	719.31	78.77
1999					61,776	61,776	1999	776.35	79.57
2000					68,908	68,908	2000	834.31	82.59
2001					68,447	68,447	2001	871.77	78.51
2002					68,948	68,948	2002	888.04	77.64
2003				69,057	69,077	69,077	2003	902.11	76.57
2004			69,469	69,481	69,462	69,462	2004	930.69	74.64
2005		74,370	74,380	74,401		74,402	2005	969.75	76.72
2006	79,700	79,750	79,905			79,924	2006	1,012.18	78.96
2007	84,188	84,462				84,573	2007	1,053.18	80.30
2008	85,763					86,045	2008	1,080.36	79.64

**Development Factors**

	Age			
	18 - 30	30 - 42	42 - 54	54 - 66
2 Yr Weighted Average	1.002	1.001	1.000	1.000
Selected	1.002	1.001	1.000	1.000
Cumulative	1.003	1.001	1.000	1.000

**Notes:**

Development factors are payroll weighted average from latest two years.

(5): Section V-G, Exhibit 2. The smoothed SAWW is the average of the policy year SAWW with the two preceding policy year SAWWs.

For all policy years the following class codes are excluded from reported Schedule Z payrolls: 0059, 0065, 0066, 0067, 0088, 0770, 0773, 0774, 0775, 0776, 0779, 0799, 0908, 0909, 0912, 0913, 7445, 7453, and 9985.

# V 000031

Section V - Trend  
Subsection F - Calculation of Class Mix Adjustment Factor  
9/1/2011

Section V - F  
Exhibit 1

## Class Mix Adjustment Factors

Policy Year	Average Manual Rates Based on Rates Effective 9/01/10	Class Mix Adjustment Factor = 0.917 / (2)
(1)	(2)	(3)
1994	1.084	0.846
1995	1.092	0.840
1996	1.054	0.870
1997	1.060	0.865
1998	1.103	0.831
1999	1.092	0.840
2000	1.065	0.861
2001	1.060	0.865
2002	1.077	0.851
2003	1.101	0.833
2004	1.091	0.841
2005	1.055	0.869
2006	0.995	0.922
2007	0.964	0.951
2008	0.917	1.000

Notes:

(2): Current rates (Effective 9/01/10) averaged over class payrolls (excluding large deductibles) by Policy Year.

(3): Adjustment to 2008 Policy Year level.

# V 000032

Section V - Trend  
 Subsection G - External Data  
 9/1/2011

Section V - G  
 Exhibit 1

## Periods from which NCCI Data is Taken

State	Weights	Annual Statistical Bulletin				
		2006	2007	2008	2009	2010
Alabama	1.7%	5/1/2002	5/1/2003	5/1/2004	5/1/2005	5/1/2006
Alaska	0.9%	4/1/2002	4/1/2003	4/1/2004	4/1/2005	4/1/2006
Arizona	3.1%	3/1/2002	3/1/2003	3/1/2004	3/1/2005	3/1/2006
Arkansas	0.8%	2/1/2002	2/1/2003	2/1/2004	2/1/2005	2/1/2006
Colorado	3.0%	3/1/2002	3/1/2003	3/1/2004	3/1/2005	3/1/2006
Connecticut	2.8%	8/1/2002	8/1/2003	8/1/2004	8/1/2005	8/1/2006
District Of Columbia	0.4%	2/1/2002	2/1/2003	2/1/2004	2/1/2005	2/1/2006
Florida	9.8%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Georgia	5.2%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Hawaii	0.7%	6/1/2002	6/1/2003	6/1/2004	6/1/2005	6/1/2006
Idaho	1.1%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Illinois	11.7%	4/1/2002	4/1/2003	4/1/2004	4/1/2005	4/1/2006
Indiana	2.8%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Iowa	2.1%	3/1/2002	3/1/2003	3/1/2004	3/1/2005	3/1/2006
Kansas	1.7%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Kentucky	2.2%	5/1/2002	5/1/2003	5/1/2004	5/1/2005	5/1/2006
Louisiana	2.5%	9/1/2002	9/1/2003	9/1/2004	9/1/2005	9/1/2006
Maine	0.8%	6/1/2002	6/1/2003	6/1/2004	6/1/2005	6/1/2006
Maryland	2.9%	4/1/2002	4/1/2003	4/1/2004	4/1/2005	4/1/2006
Mississippi	1.3%	9/1/2002	9/1/2003	9/1/2004	9/1/2005	9/1/2006
Missouri	3.2%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Montana	1.6%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Nebraska	1.2%	8/1/2002	8/1/2003	8/1/2004	8/1/2005	8/1/2006
Nevada	1.6%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
New Hampshire	1.1%	4/1/2002	4/1/2003	4/1/2004	4/1/2005	4/1/2006
New Mexico	0.9%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
North Carolina	5.3%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Oklahoma	3.2%	6/1/2002	6/1/2003	6/1/2004	6/1/2005	6/1/2006
Oregon	2.4%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Rhode Island	0.7%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
South Carolina	2.6%	5/1/2002	5/1/2003	5/1/2004	5/1/2005	5/1/2006
South Dakota	0.6%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Tennessee	3.8%	6/1/2002	6/1/2003	6/1/2004	6/1/2005	6/1/2006
Texas	8.2%	1/1/2002	1/1/2003	1/1/2004	1/1/2005	1/1/2006
Utah	1.6%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Vermont	0.6%	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006
Virginia	3.8%	2/1/2002	2/1/2003	2/1/2004	2/1/2005	2/1/2006
TOTAL	100.0%					
	Policy Period Start Date	4/1/2002	4/1/2003	4/1/2004	4/1/2005	4/1/2006
	Average Earned Date	4/1/2003	4/1/2004	4/1/2005	4/1/2006	4/1/2007
	Years	8.25	9.25	10.25	11.25	12.25

Time = 0 corresponds to 1/1/1995

**Note:**

Weights are derived from data obtained from NCCI that underlies the 2010 NCCI Annual Statistical Bulletin.

V 000033

Section V - Trend  
 Subsection G - External Data  
 9/1/2011

Section V - G  
 Exhibit 2

Summary of Statewide Average Weekly Wage (SAWW) Data

Date Promulgated by DUA (1)	Period of Data Used by DUA (2)	SAWW (3)
10/1/92	4/1/91 to 4/1/92	543.30
10/1/93	4/1/92 to 4/1/93	565.94
10/1/94	4/1/93 to 4/1/94	585.66
10/1/95	4/1/94 to 4/1/95	604.03
10/1/96	4/1/95 to 4/1/96	631.03
10/1/97	4/1/96 to 4/1/97	665.55
10/1/98	4/1/97 to 4/1/98	699.91
10/1/99	4/1/98 to 4/1/99	749.69
10/1/00	4/1/99 to 4/1/00	830.89
10/1/01	4/1/00 to 4/1/01	890.94
10/1/02	4/1/01 to 4/1/02	882.57
10/1/03	4/1/02 to 4/1/03	884.46
10/1/04	4/1/03 to 4/1/04	918.78
10/1/05	4/1/04 to 4/1/05	958.58
10/1/06	4/1/05 to 4/1/06	1,000.43
10/1/07	4/1/06 to 4/1/07	1,043.54
10/1/08	4/1/07 to 4/1/08	1,093.27
10/1/09	4/1/08 to 4/1/09	1,094.70
10/1/10	4/1/09 to 4/1/10	1,088.06
<b>15 Year Exponential Fit, Trend =</b>		<b>4.0%</b>

Policy Year (4)	SAWW (5)
1992	570.78
1993	590.21
1994	611.05
1995	639.90
1996	674.14
1997	712.84
1998	770.97
1999	845.24
2000	886.71
2001	883.36
2002	894.05
2003	928.90
2004	969.11
2005	1,011.25
2006	1,056.18
2007	1,092.12
2008	1,092.79

Notes:

(5):  $SAWW \text{ for Policy Year } i = [ 0.03125 \times SAWW \text{ during period } 4/1/(i-1) \text{ to } 4/1/i ] + [ 0.6875 \times SAWW \text{ during period } 4/1/i \text{ to } 4/1/(i+1) ] + [ 0.28125 \times SAWW \text{ during period } 4/1/(i+1) \text{ to } 4/1/(i+2) ]$   
 The DUA is the Department of Unemployment Assistance; previously this data was compiled by the DET (Division of Employment and Training).

**EXPENSES**

In this filing, the WCRIBMA has generally employed the same methods to calculate expenses as in the WCRIBMA's filing for 9/1/10 rates.

**Fixed Expenses**

The provision for fixed expenses has three components: general expenses, Pool expenses, and other taxes.

The determination of the general expense allowance involves estimating general expenses from the latest three available calendar years of Massachusetts data (Section VI-B, Exhibit 2, Page 2). For each of the three years, a general expense ratio calculated from industry-wide data is applied to Massachusetts standard earned premium plus ARAP, excluding expense constant revenue, to obtain an estimate of Massachusetts general expenses for all companies (Section VI-B, Exhibit 2, Page 1). These estimated general expense dollars are trended and adjusted for exposure growth to be consistent with the data periods on which the rate indication in Section I is based. The three years of estimated general expenses are averaged to obtain an estimate of Massachusetts general expense requirements for all companies. As in past filings, general expenses relating to Boards and Bureaus were estimated using the actual WCRIBMA expenses taken from WCRIBMA Financial Statements and Expense Analysis Report rather than the Incurred Boards and Bureaus expense item from the Expense Call.

The latest three available years of Massachusetts data, taken from the Massachusetts Workers' Compensation Assigned Risk Pool Annual Report and the WCRIBMA Financial Statements and Expense Analysis Report, are used to determine the Pool expense allowance (Section VI-B, Exhibit 1). The estimated Pool expense dollars are trended and adjusted for exposure growth to be consistent with the data periods on which the rate indication in Section I is based. The three years of estimated Pool expenses are averaged to obtain an estimate of Massachusetts Pool expense requirements for all companies.

The WCRIBMA used the “Other Tax” percentage for the “Commercial Casualty” line as compiled in Best's Aggregates and Averages (2010) to estimate the allowance for miscellaneous taxes in Massachusetts. The resulting allowance for other taxes is then trended and adjusted for exposure growth to be consistent with the experience periods on which the rate indication in Section I is based (Section VI-C).

### **Expense Trends**

Fixed expenses are trended over two separate time periods. Fixed expenses are first trended from the historical periods for which they are reported to the periods on which the rate indication is based. Next, fixed expenses are trended forward to the proposed effective period for which the rates are being set. For the first trend period, reported external index values (such as the CPI) are available that span the time period over which the WCRIBMA is trending. Consequently, the first trend factor is taken as a

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ratio of index values for the corresponding time periods (Section VI-F, Exhibit 1). Index values are not available for the proposed effective period of the rates, however, so a projection needs to be made. The WCRIBMA used an exponential least squares regression to project expense trends into the future.

The trends in the individual components of insurance company expenses have been estimated by using government indices that reflect changes in the prices of the goods and services used in operating an insurance company. Specifically, the selected indices are:

Expense	Index
Average Weekly Earnings	Average Weekly Earnings of Massachusetts Private Fire, Marine, and Casualty Insurance Employees. This series is provided on an annual basis.
Food Away From Home	Consumer Price Index for Food Away from Home
Private Transportation	Consumer Price Index for Private Transportation
Telephone Services	Consumer Price Index for Telephone
Postage	Consumer Price Index for Postage
Office and Store Machines and Equipment	Producer Price Index for Office and Store Machines and Equipment
Paper	Producer Price Index for Paper

These indices are first normalized to a value of 100 with Calendar Year 2009 serving as the base. We then combine the indices using the weights shown in Section VI-E, Exhibit 1 for calendar year 2009 and weights from prior filings for all other years to derive the expense trend shown in Section VI-F. The weights attributed to the various components of insurance company expenses for the workers' compensation line are

based on the experience of the “Commercial Casualty” line as compiled in Best’s Aggregates and Averages. Premium taxes, which are not incorporated in the expenses to which the expense trends and projection factors apply, are excluded from the determination of the component weights.

### **Variable Expenses**

As in the past, the variable expense ratio is comprised of the following components: commissions, other acquisition expenses, premium discounts and premium taxes. As in recent filings, the WCRIBMA has also considered two additional variable expenses which are described below: earned but uncollectible premium net of incidental income and the “frictional costs” of reinsurance.

The provision for commission expenses is calculated by taking the ratios of reported commission expenses to reported written premium for each of the latest three calendar years. A three-year average is used to arrive at the commission expense ratio (Section VI-J, Exhibit 3).

The WCRIBMA calculates the other acquisition expense load by taking the ratios of reported other acquisition expenses to reported standard earned premium for each of the latest three calendar years. The WCRIBMA then averages these three years to determine the other acquisition expense ratio (Section VI-J, Exhibit 2).

The average premium discount is calculated from the Premium Discount Schedules using the methodology used in the Commissioner’s Decision on 9/1/1999 Rates and used in each of the WCRIBMA’s subsequent rate filings. However, for

interstate-rated risks, the parameter estimate of Massachusetts premium relative to countywide premium is no longer assumed to be a constant 40% for all policies. As in the 9/1/2010 rate filing, the Massachusetts portion of the interstate-rated premium is based on actual historical rating data.

Carriers in Massachusetts may elect to use either the Type A or the Type B premium discount table. Based on the projected distribution of policy size and the two available premium discount tables, the WCRIBMA estimated an average premium discount for the Type A and Type B tables separately. These two averages are weighted using the percentages of voluntary market premium written by Type A insurers and Type B insurers (Section VI-H, Exhibit 1) as weights. The resulting average premium discount for the voluntary market is used, in turn, to obtain the premium discount used in the overall rate indication in Section I.

The premium tax rate is 2.28% of net premiums. To put this expense on a “standard premium plus ARAP” basis, the WCRIBMA multiplies the premium tax rate by one minus the “average premium discount for the total market” in Section VI-H, Exhibit 1.

### **Incidental Income and Earned but Uncollectible Premium**

During the hearing on 2003 rates, questions were raised about whether the WCRIBMA should take various forms of “incidental income” (such as finance charges) into account and, if the WCRIBMA were to do so, whether it would also be appropriate to make off-setting adjustments for earned but uncollectible premium (“EBUP”). In

response, the WCRIBMA instituted a call for data on both incidental income and EBUP. The WCRIBMA proposes to treat incidental income as a negative expense item and to offset incidental income by EBUP. The calculation used by the WCRIBMA, which accounts for both incidental income and EBUP, is based upon a three-year average of the experience reported for calendar years 2007, 2008, and 2009. This year, the selected net effect of including both incidental income and EBUP is zero (Section VI-J, Exhibit 5).

### **Frictional Costs of Reinsurance**

Fundamental to the business of insurance is the concept of sharing underwriting risk among risk bearers. Examples include the sharing of large property risks across a syndicate of primary insurers; self insureds participating in group self insurance funds; and reinsurers assuming risks from primary carriers. In workers' compensation, primary insurers utilize reinsurance to reduce their overall underwriting risk, and reinsurers (not unlike primary insurers) must commit capital (surplus) to support the underwriting risk they assume from primary insurers. Reinsurance allows primary insurers to underwrite risks that, but for the existence of a risk-sharing business partner, they would not be able to insure.

The business of reinsurance is not a charitable endeavor. Primary carriers must cover their costs of purchasing reinsurance and provide an opportunity for reinsurers to earn a fair rate of return on their invested capital. Prior to the 2005 filing, both the benefits of reinsurance and the costs of obtaining it were overlooked in making rates for

workers' compensation in Massachusetts. In the 2005 filing, the WCRIBMA introduced an expense load intended to recognize only the "frictional costs" of reinsurance. Frictional costs, as that term is used in this filing, are the sum of the acquisition expenses (reduced for recognition of ceding commissions), general expenses and taxes associated with providing reinsurance coverage that must be borne by the primary carriers. The estimation of the WCRIBMA's load for frictional costs associated with the purchase of reinsurance is detailed in Section VI-J, Exhibit 4.

### **Expense Constants**

Beginning with the 9/1/2008 rate filing, a new three tiered system of expense constants replaced the two tier system. The current expense constants are \$159 for risk sizes less than \$200, \$250 for risk sizes greater than or equal to \$200 but less than \$1,000, and \$338 for risk sizes greater than or equal to \$1,000. The WCRIBMA is seeking no change in the existing expense constants. The WCRIBMA is continuing to study expenses by size of risk and expects in future years to make expense constant recommendations that reflect the results of its on-going study.

### **Loss Adjustment Expense**

The loss adjustment expense ("LAE") provision is calculated using a three-year average ratio of LAE to losses (Section VI-K). The Adjusting and Other Expense ("AO") portion of the LAE ratio is adjusted for the effects of losses eliminated by large deductibles. The reported AO for large deductible policies is assumed to be less than it

## VI 000008

Section VI – Expenses  
Subsection A – Summary  
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Section VI – A  
Page 8

would have been had the policies been written on a full coverage basis, but more than it would have been as a percentage of net losses. In other words, AO is assumed to be partially variable and partially fixed with respect to large deductible losses. The selected adjustment factor is an average of that which would result from assuming all AO is fixed and from assuming all AO is variable (Section VI-L, Exhibit 1, Page 1).

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Section VI - Expenses  
Subsection A - Summary  
9/1/2011

Section VI - A  
Exhibit 1

## Loss Ratios Underlying the Proposed Rates

	<u>As a % of Standard Premium plus ARAP</u>
(1) Acquisition Expenses	11.5%
(2) Premium Discount	4.7%
(3) Premium Taxes = 2.28% x [ 1.0 - (2) ]	2.2%
(4) Variable Expense Ratio = (1) + (2) + (3)	18.4%
(5) Profit and Contingencies	6.0%
(6) Permissible Loss, LAE, and Fixed Expense Ratio = 1.0 - [ (4) + (5) ]	75.6%
(7) Fixed Expense Ratio	5.2%
(8) Expected Loss and Loss Adjustment Expense Ratio = (6) - (7)	70.4%
(9) Loss Adjustment Expenses (as a percent of losses)	18.6%
(10) Expected Loss Ratio without Loss Adjustment Expense = (8) / [ 1.0 + (9) ]	59.3%

### Notes:

(1): Section VI-J, Exhibit 1.

(2): Section VI-H, Exhibit 1.

(3): 2.28% from Section VI-B, Exhibit 3.

(5): Section VII-B, Exhibit 1.

(7): Section VI-B, Exhibit 1. The Average Fixed Expense Ratio, 5.6%, is divided by [1.0 + indicated rate change], 6.6%, to give the Fixed Expense Ratio underlying the rates.

(9): Section VI-K, Exhibit 1.

(10): Used in Section XII-B, Exhibit 1.

Calculation of Fixed Expenses

Calendar Year	General Expense Exclusive of		Total General Expense = (2) + (3) (4)	Projected to PY2007			Projected to PY2008		
	Constant Revenue	Pool Expense		General Expense Trend Factor	Exposure Growth Factor	Projected General Expense = (4) x (5) x (6) (7)	General Expense Trend Factor	Exposure Growth Factor	Projected General Expense = (4) x (8) x (9) (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2007	36,563,876	1,817,907	38,381,782	1.031	1.009	39,932,299	1.065	1.026	41,946,258
2008	33,121,424	2,178,101	35,299,525	0.970	0.991	33,960,530	1.002	1.009	35,673,306
2009	39,370,397	1,574,300	40,944,698	0.967	0.975	38,570,553	0.998	0.991	40,515,834
Average			38,208,668			37,487,794			39,378,466

Policy Year	Three Year Average Projected General Expense	Provision for Other Taxes	Provision for Fixed Expenses = (12) + (13) (14)	Expense Trends from PYs to 9/1/2012 (15)	Trended Fixed Expenses = (14) x (15) (16)	Standard Earned Premium plus ARAP Projected to Policy Effective Period (17)	Fixed Expense Ratio to Standard Earned Premium plus ARAP = (16) / (17) (18)
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
2007	37,487,794	2,667,900	40,155,694	1.231	49,438,983	920,387,485	5.4%
2008	39,378,466	2,802,454	42,180,920	1.192	50,297,210	872,811,273	5.8%
Average							5.6%

- Notes:
- (2): Exhibit 2, Page 1.
  - (3): Massachusetts Workers' Compensation Assigned Risk Pool Annual Report and WCRIB Financial Statements and Expense Analysis Report.
  - (5): Section VI-F, Exhibit 1.
  - (6): 1.7% annual growth in worker-weeks, from Section VI-G, Exhibit 1; 0.5 years from CY 2007 to PY 2007, -0.5 years from CY 2008 to PY 2007, -1.5 years from CY 2009 to PY 2007.
  - (8): Section VI-F, Exhibit 1.
  - (9): 1.7% annual growth in worker-weeks, from Section VI-G, Exhibit 1; 1.5 years from CY 2007 to PY 2008, 0.5 years from CY 2008 to PY 2008, -0.5 years from CY 2009 to PY 2008.
  - (13): Section VI-C, Exhibit 1.
  - (15): Section VI-F, Exhibit 1.
  - (17): These premium amounts do not match those displayed in Section I. This is due to the exclusion of data from two company groups included in the Section I data. The premium amounts displayed have been adjusted by the same development, trend, and premium level factors shown in Section I and off-balance factors shown in Section III.

VI 000010

# VI 000011

Section VI - Expenses  
 Subsection B - Fixed Expenses  
 9/1/2011

Section VI - B  
 Exhibit 2  
 Page 1

## General Expense Exclusive of Proposed Expense Constant

	Calendar Year		
	2007	2008	2009
(1) Standard Earned Premium plus ARAP Including Expense Constant Revenue	1,059,943,268	911,882,271	809,176,561
(2) Adjustment for Experience, Merit, ARAP and CCPAP Off-balance	1.003	1.006	1.000
(3) Adjustment for Insolvency Fund Recoupment	0.979	1.018	1.006
(4) Standard Earned Premium plus ARAP = (1) x (2) x (3)	1,041,102,243	933,051,891	814,610,406
(5) Ratio of General Expense to Standard + ARAP Premium	5.0%	5.3%	6.9%
(6) General Expenses = (4) x (5)	51,605,015	49,495,306	55,800,913
(7) Historical Expense Constant Revenue	35,625,608	38,567,460	38,034,432
(8) General Expense Portion of Expense Constant	51.0%	51.0%	51.0%
(9) Average Expense Constant in Effect	242.04	255.85	252.42
(10) Proposed Average Expense Constant	254.59	254.59	254.59
(11) Trend Factor to Adjust Proposed Average Expense Constant to Calendar Year	0.787	0.837	0.840
(12) Adjusted Proposed Average Expense Constant = (10) x (11)	200.47	213.10	213.92
(13) Adjusted General Expenses Generated by the Expense Constant = [ (7) x (8) ] x [ (12) / (9) ]	15,041,139	16,373,881	16,430,515
(14) General Expenses Exclusive of Expense Constant Revenue = (6) - (13)	36,563,876	33,121,424	39,370,397

**Notes:**

- (1): Aggregate Financial Policy Year Call.
- (2): Section III-B, Exhibit 1.
- (3): Section III-C, Exhibit 1.
- (5): Page 2.
- (8): Exhibit 3.
- (9): Calculated average expense constant in effect based on historical Unit Statistical data.
- (10): Section VI-D, Exhibit 1.
- (11): Section VI-F, Exhibit 1 reciprocals.

# VI 000012

Section VI - Expenses  
 Subsection B - Fixed Expenses  
 9/1/2011

Section VI - B  
 Exhibit 2  
 Page 2

## Calculation of General Expense

		Calendar Year		
		2007	2008	2009
(1)	Standard Earned Premium plus ARAP	1,196,495,206	1,067,734,004	938,240,483
(2)	Adjustment for Experience, Merit, ARAP and CCPAP Off-balance	1.003	1.006	1.000
(3)	Adjustment for Insolvency Fund Recoupment	0.979	1.018	1.006
(4)	Adjusted Standard Earned Premium plus ARAP = (1) x (2) x (3)	1,175,226,902	1,092,521,768	944,541,028
(5)	Actual WCRIBMA Expenses	10,966,825	11,424,883	11,414,397
(6)	Audit, Inspection, and Other General Expense (excluding Boards & Bureaus)	47,286,437	46,529,770	53,286,779
(7)	General Expense = (5) + (6)	58,253,262	57,954,653	64,701,176
(8)	Ratio of General Expense to Standard + ARAP Premium = (7) / (4)	5.0%	5.3%	6.9%

**Notes:**

- (1): Aggregate Financial Reconciliation Report Calls, Calendar Years 2007 - 2009. Reported premium, plus ARAP, and including large deductible policies at Standard premium.
- (2): Section III-B, Exhibit 1.
- (3): Section III-C, Exhibit 1.
- (5): WCRIBMA Financial Statements and Expense Analysis Report. Excludes Workers' Compensation Bureau Pool Expenses.
- (6): Aggregate Financial Expense Calls, 2007 - 2009.

# VI 000013

Section VI - Expenses  
Subsection B - Fixed Expenses  
9/1/2011

Section VI-B  
Exhibit 3

## Expense Constant Components

(1)	Portion of Expense Constant for General Expenses loaded for Premium Taxes	52.16%
(2)	Current Premium Tax rate	2.28%
(3)	General Expense Portion of Expense Constant = (1) x [ 1.0 - (2) ]	51.0%
(4)	Other Acquisition Portion of Expense Constant = [ 1.0 - (1) ] x [ 1.0 - (2) ]	46.7%

### Notes:

(1): NCCI 1991 Calendar Year Expense database.

(2): Massachusetts Department of Revenue, 2008 Form 63-23P.

2.28% is Premium Tax as % of Net Premium.

# VI 000014

Section VI - Expenses  
Subsection C - Other Taxes  
9/1/2011

Section VI - C  
Exhibit 1

## Calculation of Other Taxes

(1)	2009 Calendar Year Massachusetts Standard Earned Premium plus ARAP	809,176,561		
(2)	Calendar Year 2009 Other Tax Allowance	0.35%		
(3)	Calendar Year 2009 Other Taxes = (1) x (2)	2,832,118		
		<u>PY2007</u>	<u>PY2008</u>	
(4)	Other Tax Trend Factor from CY 2009 to PY	0.967	0.998	
(5)	Exposure Growth	0.017	0.017	
(6)	Trend Length	-1.5	-0.5	
(7)	Other Taxes for PY = (3) x (4) x { [1.0 + (5)] ^ (6) }	2,667,900	2,802,454	

### Notes:

- (1): Aggregate Financial Policy Year Call.
- (2): 2010 Best's Aggregates and Averages. Page 650.
- (4): Section VI-F, Exhibit 1.
- (5): 1.7% per year (Section VI-G, Exhibit 1).
- (6): -1.5 years from CY 2009 to PY 2007, -0.5 years from CY 2009 to PY 2008.

# VI 000015

Section VI - Expenses  
 Subsection D - Expense Constant  
 9/1/2011

Section VI - D  
 Exhibit 1

## Calculation of Expense Constant

Risk Size Intervals		PY 2008 Adjusted Policy Count (3)	Policy Distribution (4)	Current Expense Constant (5)	Trend Factor from 9/1/11 to 9/1/12 (6)	Selected Trend Factor (6a)	Calculated Expense Constant = (5) x (6a) (7)
Unadjusted (1)	Adjusted (2)						
Less than \$200	Less Than \$162.6	54,040	34%	\$159.00	1.057	1.000	\$159.00
\$200 to \$1,000	\$162.6 to \$813.0	39,152	25%	\$250.00	1.057	1.000	\$250.00
\$1,000 or more	\$813.0 or more	64,088	41%	\$338.00	1.057	1.000	\$338.00
TOTAL		157,280	100%	\$254.59			\$254.59

**Notes:**

Unit Statistical Plan Data PY 2008 (excluding Large Deductible policies).

Risk sizes in terms of Massachusetts Standard Premium.

(2): Intervals have been adjusted by a factor of 1.23. See Section III-E, Exhibit 1.

(4) = (3) / Total for (3)

TOTAL (5) = (5) weighted by (4)

(6): Section VI-F, Exhibit 1.

TOTAL (7) = (7) weighted by (4)

# VI 000016

Section VI - Expenses  
 Subsection E- Expense Trends  
 9/1/2011

Section VI - E  
 Exhibit 1

## Calendar Year 2009 Weights for Expense Trends

Expense Component (1)	Percentage of Net Written Premium (2)	Weight = (2) / Total (2) (3)	Corresponding Index (4)	Weight (5)
Salaries	7.45	63.0%	Average Weekly Earnings Covered Employment and Wages; Private Fire, Marine, Casualty Massachusetts	79.5%
Payroll Taxes	0.48	4.1%		
Employee Relations	1.47	12.4%		
Travel & Travel Items	0.39	3.3%	Food Away From Home-CPI-US Private Transportation-CPI-US	1.6% 1.6%
Postage & Telephone	0.42	3.6%	Postage-CPI-US Telephone-CPI-US	1.8% 1.8%
Equipment	1.46	12.3%	Office & Stores Machines & Equipment-PPI	12.3%
Printing & Stationery	0.16	1.4%	Paper-PPI	1.4%
<b>Total</b>	<b>11.83</b>	<b>100.0%</b>		<b>100.0%</b>

**Notes:**

(2): 2010 Best's Aggregates and Averages, Property-Casualty, Totals for Predominately Commercial Casualty Companies with Written Premium Net of Reinsurance Ceded over \$15 million.

(5) = (3) aggregated based on (4)

# VI 000017

Section VI - Expenses  
 Subsection F - Expense Indices  
 9/1/2011

Section VI - F  
 Exhibit 1

## Calculation of Expense Trend Index

### Economic Indices

Calendar Year (1)	Average Weekly Earnings (2)	Food (3)	Private Transportation (4)	Phone (5)	Postage (6)	Machines & Equipment (7)	Paper (8)
2003	1,265.00	182.00	153.50	98.50	191.70	112.30	146.10
2004	1,406.00	187.40	158.80	96.00	191.70	113.20	149.40
2005	1,609.00	193.30	170.30	95.00	191.70	115.10	159.60
2006	1,559.00	199.10	177.50	95.90	201.90	114.70	167.40
2007	1,752.00	206.41	181.50	98.37	206.88	114.60	169.30
2008	1,865.00	215.61	192.49	100.50	213.86	122.10	184.30
2009	1,873.00	223.38	173.49	102.34	224.22	123.50	179.60

### Economic Indices, Normalized to Calendar Year 2009 Index of 100

Calendar Year (9)	Average Weekly Earnings (10)	Food (11)	Private Transportation (12)	Phone (13)	Postage (14)	Machines & Equipment (15)	Paper (16)
2003	67.54	81.47	88.48	96.25	85.50	90.93	81.35
2004	75.07	83.89	91.53	93.80	85.50	91.66	83.18
2005	85.90	86.53	98.16	92.83	85.50	93.20	88.86
2006	83.24	89.13	102.31	93.71	90.05	92.87	93.21
2007	93.54	92.40	104.61	96.12	92.27	92.79	94.27
2008	99.57	96.52	110.95	98.20	95.38	98.87	102.62
2009	100.00	100.00	100.00	100.00	100.00	100.00	100.00

### Weights

Calendar Year (17)	Average Weekly Earnings (18)	Food (19)	Private Transportation (20)	Phone (21)	Postage (22)	Machines & Equipment (23)	Paper (24)
2003	78.0%	2.3%	2.3%	2.9%	2.0%	10.0%	2.3%
2004	79.9%	2.1%	2.1%	1.8%	1.8%	10.4%	1.8%
2005	80.2%	2.1%	2.1%	2.1%	2.1%	9.4%	1.9%
2006	80.5%	2.2%	2.2%	2.0%	2.0%	9.2%	1.9%
2007	79.8%	2.1%	2.1%	2.0%	2.0%	10.0%	2.0%
2008	78.3%	2.1%	2.1%	1.9%	1.9%	11.9%	1.8%
2009	79.5%	1.6%	1.6%	1.8%	1.8%	12.3%	1.4%

Calendar Year (25)	Expense Trend Index (26)	Using Actual Values			Exponential Fit (30)	Trend to 9/1/2012 (31)
		Trend to Latest Calendar Year (27)	Trend to PY2007 (28)	Trend to PY2008 (29)		
2003	72.22	1.385	1.338	1.382	74.13	1.648
2004	78.01	1.282	1.239	1.279	78.32	1.526
2005	87.06	1.149	1.110	1.146	82.74	1.367
2006	85.21	1.174	1.134	1.171	87.42	1.397
2007	93.71	1.067	1.031	1.065	92.36	1.270
2008	99.62	1.004	0.970	1.002	97.58	1.195
2009	100.00	1.000	0.967	0.998	103.09	1.190
PY2007						1.231
PY2008						1.192
9/1/2011					116.13	1.057
9/1/2012					122.69	1.000

**Notes:**

- (2): Average Weekly Earnings, Covered Employment and Wages, Private Fire, Marine, and Casualty Insurers - Massachusetts  
 Unadjusted for Seasonality  
 Years 2003 - 2009: Bureau of Labor Statistics, Series ID ENU25000405524126 (Direct Property and Casualty Insurers Average Weekly Wage.)
- (3): Food Away From Home, Consumer Price Index, Urban Wage Earners and Clerical Workers - U.S.  
 Unadjusted for Seasonality, Base: 1982 - 1984 = 100. Bureau of Labor Statistics, Series ID CWUR0000SEFV.
- (4): Private Transportation, Consumer Price Index, Urban Wage Earners and Clerical Workers - U.S.  
 Unadjusted for Seasonality, Base: 1982 - 1984 = 100. Bureau of Labor Statistics, Series ID CWUR0000SAT1.
- (5): Telephone Services, Consumer Price Index, Urban Wage Earners and Clerical Workers - U.S.  
 Unadjusted for Seasonality, Base: December 1997= 100. Bureau of Labor Statistics, Series ID CWUR0000SEED.
- (6): Postage, Consumer Price Index, Urban Wage Earners and Clerical Workers - U.S.  
 Unadjusted for Seasonality, Base: 1982 - 1984 = 100. Bureau of Labor Statistics, Series ID CWUR0000SEEC01.
- (7): Office and Store Machines and Equipment, Producer Price Index  
 Unadjusted for Seasonality, Base: 1982 = 100. Bureau of Labor Statistics, Series ID WPU1193.
- (8): Paper, Producer Price Index  
 Unadjusted for Seasonality, Base: 1982 - 1984 = 100. Bureau of Labor Statistics, Series ID WPU0913.
- (18)-(24): Section VI-E, Exhibit 1, for Calendar Year 2009. Prior Filings for all other years.
- (26): Average of (10) through (16) weighted by (18) through (24)
- (27) = [ (26) for CY 2009 ] / (26)
- (28) = [ (26) for PY 2007 ] / (26). Index for PY 2007 is computed as average of indices for CY 2007 - 2008.
- (29) = [ (26) for PY 2008 ] / (26). Index for PY 2008 is computed as average of indices for CY 2008 - 2009.
- (31): For CYs = (27) x { [ (30) for projected date ] / [ (30) for CY 2009 ] }
- For PYs = [ [ (26) for CY 2009 ] / [ Average of (26) for Year and Year+1 ] ] x { [ (30) for projected date ] / [ (30) for CY 2009 ] }

# VI 000018

Section VI - Expenses  
 Subsection G - Exposure Growth  
 9/1/2011

Section VI - G  
 Exhibit 1

## Growth in Estimated Million Worker-Weeks

Policy Year (1)	Estimated Million Worker-Weeks (2)	5 Year Exponential Fit (3)	Difference Squared (4)
1994	68.66		
1995	71.13		
1996	76.53		
1997	78.59		
1998	78.77		
1999	79.57		
2000	82.59		
2001	78.51		
2002	77.64		
2003	76.57		
2004	74.64	75.33	0.49
2005	76.72	76.67	0.00
2006	78.96	78.03	0.88
2007	80.30	79.41	0.80
2008	79.64	80.81	1.36

15 year Million Worker Weeks trend

**0.5%**

(5)	<b>MA Trend based on Five Year Exponential Fit</b>	<b>1.8%</b>
(6)	n	5
(7)	s	1.09
(8)	t	2.35
(9)	m	5.67
(10)	$[1 + 1/n + 12 \times m^2 / (n^3 - n)]^{.5}$	2.10
(11)	Confidence Interval	5.37
(12)	Projected	86.95
(13)	CI / Projected	0.06
(14)	<b>Credibility assigned to MA (Z)</b>	<b>97%</b>
(15)	<b>Complement of Credibility</b>	<b>0.5%</b>
(16)	<b>Credibility-weighted overall exposure growth</b>	<b>1.7%</b>

(2): Section V-E, Exhibit 1.

(5): Trend from five-year exponential fit to estimated million worker-weeks.

(6): n = number of years of data used (five).

(7):  $\sqrt{SSR / [(6) - 2]}$  where SSR is the sum of squared residuals and n is the number of years in the regression.

(8): Value from two-tailed t distribution p of 90% (confidence interval) and 3 degrees of freedom.

(9): Number of years between midpoint of data and projected point.

(11) = (7) x (8) x (10)

(12): Projected to policy effective period using exponential fit to data.

(13) = (11) / (12)

(14): The credibility is the ratio of the target value k to the confidence interval divided by the projected, capped at 100%. Numerically, (14) = the minimum of k / (13) and 100%.

(15): Trend from fifteen-year exponential fit to estimated million worker-weeks trend.

(16) = [ (5) x (14) ] + (15) x [ 1.0 - (14) ]

# VI 000019

Section VI - Expenses  
 Subsection H- Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 1

## Calculation of Average Premium Discount

		<u>Elected Premium Discount Table</u>					
		<u>Type A</u>	<u>Type B</u>				
(1)	Average Premium Discount as a % of Standard Premium	6.7%	3.8%				
(2)	% of Voluntary Premium using Discount Table	59.7%	40.3%				
(3)	Weighted Average Premium Discount in Voluntary Market = (1) weighted by (2)	5.5%					
(4)	Voluntary Market Share	89.8%					
(5)	Average Premium Discount in Total Market = (3) x (4)	5.0%					
(6)	Average ARAP Surcharge for Policy Effective Period as a percentage of Standard Premium	4.9%					
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(7)</td> <td style="width: 55%;">Average Premium Discount as a percent of Standard Premium + ARAP = (5) / [ 1.0 + (6) ]</td> <td style="width: 20%; text-align: center;"><b>4.7%</b></td> <td style="width: 20%;"></td> </tr> </table>				(7)	Average Premium Discount as a percent of Standard Premium + ARAP = (5) / [ 1.0 + (6) ]	<b>4.7%</b>	
(7)	Average Premium Discount as a percent of Standard Premium + ARAP = (5) / [ 1.0 + (6) ]	<b>4.7%</b>					

Notes:

(1): Exhibit 2.

(2): Exhibit 4.

(4): Special Bulletin 12-23-10. Market Share is estimated using Standard Premium plus ARAP.

(6): Section IX-K, Exhibit 3.

# VI 000020

Section VI - Expenses  
Subsection H - Expenses Net of Premium Discount  
9/1/2011

Section VI - H  
Exhibit 2

## Determination of Average Premium Discount Voluntary Market Risks

Layer of Standard Premium (1)	Policy Year Standard Earned Premium (2)	Proportion of Premium in Layer (3)	% Premium Discount	
			Type A Company (4)	Type B Company (5)
First	10,000	258,246,571	0.324	
Next	190,000	364,225,355	0.458	
Next	1,550,000	128,748,832	0.162	
Over	1,750,000	44,866,240	0.056	
Total		796,086,998	1.000	

Notes:

(1), (4), (5): Page RA-5, Miscellaneous Values, from Massachusetts Workers' Compensation & Employers Liability Manual.

(2): Exhibit 3, Page 1.

(3) = (2) / [ (2) for Total ]

Total Average Premium Discount % (4) = (4) weighted by (3)

Total Average Premium Discount % (5) = (5) weighted by (3)

# VI 000021

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 3

## Premium by Layer Within Intervals Voluntary Market Risks

Intrastate Intervals					
Layer of Standard Premium (1)	Standard Premium Ranges - PY 2008				Total = [ Sum of (2) ] (3)
	0 - 10,000	10,000 - 200,000	200,000 - 1,750,000	1,750,000 & Over	
	(2)				
0 - 10,000	139,709,605	97,110,000	1,980,000	10,000	238,809,605
10,000 - 200,000		201,922,089	37,620,000	190,000	239,732,089
200,000 - 1,750,000			28,675,023	1,550,000	30,225,023
1,750,000 - & Over				1,005,996	1,005,996
Total	139,709,605	299,032,089	68,275,023	2,755,996	509,772,713

Interstate Intervals					
Layer of Standard Premium (4)	Standard Premium Ranges - PY 2008				Total Premium in Layer (6)
	0 - 10,000	10,000 - 200,000	200,000 - 1,750,000	1,750,000 & Over	
	(5)				
0 - 10,000	2,088,344	14,283,243	2,914,727	150,652	19,436,966
10,000 - 200,000		66,251,070	55,379,811	2,862,385	124,493,266
200,000 - 1,750,000			75,172,776	23,351,033	98,523,809
1,750,000 - & Over				43,860,244	43,860,244
Total	2,088,344	80,534,313	133,467,314	70,224,314	286,314,285

Total	
Layer of Standard Premium (7)	Total = (3) + (6) (8)
0 - 10,000	258,246,571
10,000 - 200,000	364,225,355
200,000 - 1,750,000	128,748,832
1,750,000 - & Over	44,866,240
Total	796,086,998

**Notes:**

Unit Statistical Plan Data.

Layers correspond to the Premium Discount layers (Exhibit 2).

(5): Estimated from interstate rating data from rating year 2008.

# VI 000022

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 4

## Calendar Year 2009 Premiums

NCCI Company Number	Company Name	Elected Discount Schedule	Written Premium (\$000)	Residual Market Written Premium (\$000)	Adjusted Voluntary Written Premium		
					Total Written Premium (\$000)	Type A Written Premium (\$000)	Type B Written Premium (\$000)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
33758	Associated Industries of MA Mut Ins Co	A	55,124	11,423	43,701	43,701	0
19445	National Union Fire Ins Co Pittsburgh PA	B	53,092	0	53,092	0	53,092
29459	Twin City Fire Insurance Company	B	33,033	0	33,033	0	33,033
12886	Massachusetts Employers Insurance Co	A	29,046	0	29,046	29,046	0
42404	Liberty Insurance Corporation	A	28,869	0	28,869	28,869	0
11104	Associated Employers Insurance Company	B	28,278	0	28,278	0	28,278
23035	Liberty Mutual Fire Insurance Company	A	25,062	14,376	10,686	10,686	0
44326	Atlantic Charter Insurance Company	A	22,298	0	22,298	22,298	0
23043	Liberty Mutual Insurance Company	B	20,404	-21	20,425	0	20,425
40142	American Zurich Insurance Company	A	20,268	0	20,268	20,268	0
25674	Travelers Property Casualty Co of Amer	B	16,405	0	16,405	0	16,405
23809	Granite State Insurance Company	B	15,769	0	15,769	0	15,769
16535	Zurich American Insurance Company	A	15,633	0	15,633	15,633	0
42376	Technology Insurance Company, Inc	A	15,158	0	15,158	15,158	0
25666	Travelers Indemnity Co of America	B	12,596	0	12,596	0	12,596
23841	New Hampshire Insurance Company	B	11,643	0	11,643	0	11,643
37478	Hartford Insurance Company of MidW	B	11,266	0	11,266	0	11,266
19410	Commerce and Industry Insurance Company	B	10,542	0	10,542	0	10,542
29424	Hartford Casualty Insurance Company	B	10,489	0	10,489	0	10,489
30104	Hartford Underwriters Insurance Company	A	10,476	0	10,476	10,476	0
19682	Hartford Fire Insurance Company	B	9,664	0	9,664	0	9,664
31470	NorGUARD Insurance Company	A	9,610	0	9,610	9,610	0
20281	Federal Insurance Company	A	9,042	0	9,042	9,042	0
23817	Illinois National Insurance Company	B	8,979	0	8,979	0	8,979
41360	Arbella Protection Insurance Company	A	8,795	0	8,795	8,795	0
25682	Travelers Indemnity Company of CT	B	8,198	0	8,198	0	8,198
20508	Valley Forge Insurance Company	A	7,963	0	7,963	7,963	0
19038	Travelers Casualty and Surety Company	B	7,614	0	7,614	0	7,614
31325	Acadia Insurance Company	A	7,521	2,203	5,318	5,318	0
20699	ACE Property & Casualty Insurance Co	A	6,483	0	6,483	6,483	0
18023	Star Insurance Company	A	6,014	0	6,014	6,014	0
19801	Argonaut Insurance Company	A	5,897	0	5,897	5,897	0
26042	Wausau Underwriters Insurance Company	A	5,440	0	5,440	5,440	0
21458	Employers Insurance Company of Wausau	A	5,360	0	5,360	5,360	0
25615	Charter Oak Fire Insurance Company	B	5,256	0	5,256	0	5,256
22292	Hanover Insurance Company	A	4,861	0	4,861	4,861	0
13803	Farm Family Casualty Insurance Company	A	4,838	0	4,838	4,838	0
21113	United States Fire Insurance Company	A	4,719	0	4,719	4,719	0
10804	Continental Western Insurance Company	A	4,714	0	4,714	4,714	0
22667	ACE American Insurance Company	A	4,579	0	4,579	4,579	0
26069	Wausau Business Insurance Company	A	4,566	0	4,566	4,566	0
14702	EastGUARD Insurance Company	A	4,549	0	4,549	4,549	0
25623	Phoenix Insurance Company	B	4,316	0	4,316	0	4,316
23965	Norfolk and Dedham Mutual Fire Ins Co	A	4,302	0	4,302	4,302	0
20443	Continental Casualty Company	B	4,129	0	4,129	0	4,129
20648	Employers' Fire Insurance Company	A	4,119	0	4,119	4,119	0
10017	Arbella Indemnity Insurance Company	A	4,105	0	4,105	4,105	0
20494	Transportation Insurance Company	B	3,877	0	3,877	0	3,877
21261	Electric Insurance Company	A	3,812	0	3,812	3,812	0
28258	Continental Indemnity Company	A	3,690	0	3,690	3,690	0
13374	Arrow Mutual Liability Insurance Company	B	3,662	0	3,662	0	3,662
15059	Public Service Mutual Insurance Company	A	3,646	0	3,646	3,646	0
20478	National Fire Insurance Co of Hartford	A	3,600	0	3,600	3,600	0
24171	Netherlands Insurance Company	A	3,527	0	3,527	3,527	0
10664	Endeavour Insurance Company	B	3,509	0	3,509	0	3,509
22357	Hartford Accident and Indemnity Company	A	3,269	0	3,269	3,269	0
24988	Sentry Insurance a Mutual Company	A	3,258	0	3,258	3,258	0
20230	Central Mutual Insurance Company	A	3,212	0	3,212	3,212	0
21784	Firemens Insurance Company of WA, D.C.	A	2,926	0	2,926	2,926	0
20346	Pacific Indemnity Company	A	2,618	0	2,618	2,618	0
16551	Savers P & C Ins Co	A	2,523	0	2,523	2,523	0
12262	Pennsylvania Manufacturers Assoc Ins Co	A	2,437	0	2,437	2,437	0
20222	All America Insurance Company	A	2,371	0	2,371	2,371	0
33588	First Liberty Insurance Corporation	A	2,304	0	2,304	2,304	0
12475	Republic-Franklin Insurance Company	A	2,126	0	2,126	2,126	0

# VI 000023

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 4

## Calendar Year 2009 Premiums

NCCI Company Number	Company Name	Elected Discount Schedule	Written Premium (\$000)	Residual Market Written Premium (\$000)	Adjusted Voluntary Written Premium		
					Total Written Premium (\$000)	Type A Written Premium (\$000)	Type B Written Premium (\$000)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
40177	Paramount Insurance Company	A	2,114	0	2,114	2,114	0
26182	Harleysville Worcester Insurance Company	A	1,996	0	1,996	1,996	0
13706	Dorchester Mutual Insurance Company	A	1,994	0	1,994	1,994	0
25011	Wesco Insurance Company	A	1,954	0	1,954	1,954	0
25984	Graphic Arts Mutual Insurance Company	A	1,909	0	1,909	1,909	0
25844	Union Insurance Company	A	1,833	0	1,833	1,833	0
12777	Chubb Indemnity Insurance Company	A	1,810	0	1,810	1,810	0
31534	Citizens Insurance Company of America	A	1,807	0	1,807	1,807	0
32620	National Interstate Insurance Company	A	1,792	0	1,792	1,792	0
24139	Old Republic General Insurance Corp	A	1,785	0	1,785	1,785	0
13935	Federated Mutual Insurance Company	A	1,773	0	1,773	1,773	0
21105	North River Insurance Company	A	1,715	0	1,715	1,715	0
11150	Arch Insurance Company	A	1,675	0	1,675	1,675	0
20427	American Casualty Company of Reading, PA	A	1,579	0	1,579	1,579	0
19356	Maryland Casualty Company	A	1,570	0	1,570	1,570	0
25976	Utica Mutual Insurance Company	A	1,566	0	1,566	1,566	0
21172	Vanliner Insurance Company	A	1,565	0	1,565	1,565	0
12904	Tokio Marine & Nichido Fire Ins Ltd USB	A	1,527	0	1,527	1,527	0
24147	Old Republic Insurance Company	A	1,502	0	1,502	1,502	0
25224	Great Divide Insurance Company	A	1,451	0	1,451	1,451	0
26247	American Guarantee and Liability Ins Co	A	1,443	0	1,443	1,443	0
20621	OneBeacon America Insurance Company	A	1,336	0	1,336	1,336	0
15563	SeaBright Insurance Company	A	1,306	0	1,306	1,306	0
19259	Selective Insurance Co of SC	A	1,301	0	1,301	1,301	0
19372	Northern Insurance Company of New York	A	1,200	0	1,200	1,200	0
39926	Selective Insurance Company of SE	A	1,199	0	1,199	1,199	0
20397	Vigilant Insurance Company	A	949	0	949	949	0
13083	New Hampshire Employers Insurance Co	A	944	0	944	944	0
13978	Florists' Mutual Insurance Company	A	907	0	907	907	0
20362	Mitsui Sumitomo Insurance Co of America	A	855	0	855	855	0
25887	United States Fidelity and Guaranty Co	A	853	0	853	853	0
33600	LM Insurance Corporation	A	853	-4	857	857	0
36064	Hanover American Insurance Company	A	841	0	841	841	0
19305	Assurance Company of America	A	824	0	824	824	0
23108	Lumbermens Underwriting Alliance	B	741	0	741	0	741
24414	General Casualty Company of Wisconsin	A	726	0	726	726	0
18767	Church Mutual Insurance Company	B	724	0	724	0	724
26425	Wausau General Insurance Company	A	721	0	721	721	0
23329	Merchants Mutual Insurance Company	A	708	0	708	708	0
21180	Sentry Select Insurance Company	A	704	0	704	704	0
19704	American States Insurance Company	A	658	0	658	658	0
13714	Pharmacists Mutual Insurance Company	A	644	0	644	644	0
29939	Main Street America Assurance Company	A	624	0	624	624	0
37885	XL Specialty Insurance Company	A	609	0	609	609	0
28886	TRANSQUARD INSURANCE COMPANY OF AMERICA	A	596	0	596	596	0
15067	Quincy Mutual Fire Insurance Company	A	595	0	595	595	0
21857	American Insurance Company	A	576	0	576	576	0
35696	Harleysville Preferred Insurance Company	A	549	0	549	549	0
10665	Ameritrust Insurance Corporation	A	540	0	540	540	0
12416	Protective Insurance Company	A	508	0	508	508	0
23442	Patriot General Insurance Company	A	505	0	505	505	0
13943	Fitchburg Mutual Insurance Company	A	475	0	475	475	0
23434	Middlesex Insurance Company	A	470	0	470	470	0
14982	Penn Millers Insurance Company	A	400	0	400	400	0
11126	Sompo Japan Insurance Company of America	A	372	0	372	372	0
21865	Associated Indemnity Corporation	B	355	0	355	0	355
22306	Massachusetts Bay Insurance Company	A	351	0	351	351	0
21873	Fireman's Fund Insurance Company	A	350	0	350	350	0
26832	Great American Alliance Insurance Co	A	340	0	340	340	0
22322	Greenwich Insurance Company	A	328	0	328	328	0
19402	Chartis Property Casualty Company	B	327	0	327	0	327
23582	Harleysville Insurance Company	A	322	0	322	322	0
11149	Maine Employers' Mutual Insurance Co	B	295	0	295	0	295
10687	Utica National Assurance Company	A	279	0	279	279	0
15105	Safety National Casualty Corporation	A	278	0	278	278	0

# VI 000024

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 4

## Calendar Year 2009 Premiums

NCCI Company Number	Company Name	Elected Discount Schedule	Written Premium (\$000)	Residual Market Written Premium (\$000)	Adjusted Voluntary Written Premium		
					Total Written Premium (\$000)	Type A Written Premium (\$000)	Type B Written Premium (\$000)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
24074	Ohio Casualty Insurance Company	A	278	0	278	278	0
19690	American Economy Insurance Company	A	264	0	264	264	0
19399	AIU Insurance Company	B	246	0	246	0	246
22136	Great American Insurance Company of NY	A	244	0	244	244	0
10120	Everest National Insurance Company	A	241	0	241	241	0
21881	National Surety Corporation	A	224	0	224	224	0
10677	Cincinnati Insurance Company	A	201	0	201	201	0
21415	Employers Mutual Casualty Company	A	191	0	191	191	0
22977	Lumbermens Mutual Casualty Company	B	160	0	160	0	160
18333	Peerless Indemnity Insurance Company	A	155	0	155	155	0
29874	North American Specialty Insurance Co	A	149	0	149	149	0
37893	ULLICO Casualty Company	A	137	0	137	137	0
24554	XL Insurance America, Inc.	A	134	0	134	134	0
44300	Tower Insurance Company of New York	A	118	0	118	118	0
12866	T.H.E. Insurance Company	B	108	0	108	0	108
24449	Regent Insurance Company	A	100	0	100	100	0
21970	OneBeacon Insurance Company	A	98	0	98	98	0
23612	Midwest Employers Casualty Company	A	95	0	95	95	0
10166	Accident Fund Ins Co of America	A	89	0	89	89	0
36234	Preferred Professional Insurance Company	A	86	0	86	86	0
25879	Fidelity and Guaranty Ins Undrwr, Inc	A	59	0	59	59	0
15032	GuideOne Mutual Insurance Company	A	43	0	43	43	0
25143	State Farm Fire and Casualty Company	A	41	0	41	41	0
24678	Arrowood Indemnity Company	A	34	0	34	34	0
11123	Safety First Insurance Company	A	30	0	30	30	0
11371	Great West Casualty Company	A	29	0	29	29	0
21709	Truck Insurance Exchange	A	29	0	29	29	0
12297	Petroleum Casualty Company	A	28	0	28	28	0
22187	Greater New York Mutual Insurance Co	B	27	0	27	0	27
13269	Zenith Insurance Company	A	23	0	23	23	0
23337	American European Insurance Company	A	20	0	20	20	0
23396	Amerisure Mutual Insurance Company	B	19	0	19	0	19
39845	Westport Insurance Corporation	A	17	0	17	17	0
27073	NIPPONKOA Insurance Company Limited USB	B	17	0	17	0	17
14168	Harleysville Mutual Insurance Company	A	16	0	16	16	0
35289	Continental Insurance Company	A	16	0	16	16	0
44393	West American Insurance Company	A	16	0	16	16	0
21849	American Automobile Insurance Company	A	16	0	16	16	0
16691	Great American Insurance Company	A	15	0	15	15	0
41181	Universal Underwriters Insurance Company	A	15	0	15	15	0
24066	American Fire and Casualty Company	A	13	0	13	13	0
31895	American Interstate Insurance Company	A	9	0	9	9	0
27154	Atlantic Specialty Insurance Company	A	8	0	8	8	0
10205	Mountain Valley Indemnity Company	A	5	0	5	5	0
24732	General Insurance Company of America	A	5	0	5	5	0
19488	Amerisure Insurance Company	B	4	0	4	0	4
18538	Banclnsure Inc	A	2	0	2	2	0
22918	American Motorists Insurance Company	A	2	0	2	2	0
24082	Ohio Security Insurance Company	A	2	0	2	2	0
20095	Bituminous Casualty Corporation	A	1	0	1	1	0
13331	American Hardware Mutual Insurance Co	A	1	0	1	1	0
12305	Accident Fund National Insurance Co	A	1	0	1	1	0
11000	Sentinel Insurance Company Ltd	A	0	0	0	0	0
24325	York Insurance Company	A	0	0	0	0	0
36684	Riverport Insurance Company	A	0	0	0	0	0
19224	St. Paul Protective Insurance Company	A	0	0	0	0	0
32271	California Indemnity Insurance Company	A	0	0	0	0	0
19232	Allstate Insurance Company	A	0	0	0	0	0
10030	ACE Indemnity Insurance Company	A	0	0	0	0	0
19240	Allstate Indemnity Company	A	0	0	0	0	0
38369	Northern Assurance Co of America	A	0	0	0	0	0
24017	Beacon Mutual Insurance Company	B	0	0	0	0	0
31348	Crum & Forster Indemnity Company	B	0	0	0	0	0
24791	St Paul Mercury Insurance Company	A	0	0	0	0	0
32778	Washington International Insurance Co	A	0	0	0	0	0

# VI 000025

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 4

## Calendar Year 2009 Premiums

NCCI Company Number (1)	Company Name (2)	Elected Discount Schedule (3)	Written Premium (\$000) (4)	Residual Market Written Premium (\$000) (5)	Adjusted Voluntary Written Premium		
					Total Written Premium (\$000) (6)	Type A Written Premium (\$000) (7)	Type B Written Premium (\$000) (8)
24899	Alea North America Insurance Company	A	0	0	0	0	0
34649	Centre Insurance Company	A	0	0	0	0	0
20982	COUNTRY Casualty Insurance Company	B	0	0	0	0	0
19895	Atlantic Mutual Insurance Company	A	0	0	0	0	0
20990	COUNTRY Mutual Insurance Company	B	0	0	0	0	0
29157	United Wisconsin Insurance Company	A	0	0	0	0	0
14974	Pennsylvania Lumbermens Mutual Ins Co	A	0	0	0	0	0
38970	Markel Insurance Company	B	0	0	0	0	0
14990	Pennsylvania National Mutual Cas Ins Co	B	0	0	0	0	0
40320	Massachusetts Homeland Insurance Co	A	0	0	0	0	0
25496	TIG Indemnity Company	A	0	0	0	0	0
21962	Pennsylvania General Insurance Company	A	0	0	0	0	0
25518	Fairmont Premier Insurance Company	A	0	0	0	0	0
32603	Berkley Insurance Company	A	0	0	0	0	0
25534	TIG Insurance Company	A	0	0	0	0	0
33022	AXA Insurance Company	B	0	0	0	0	0
21121	Westchester Fire Insurance Company	B	0	0	0	0	0
34266	Frontier Insurance Company	A	0	0	0	0	0
21130	SEACO Insurance Company	A	0	0	0	0	0
34754	Commerce Insurance Company	B	0	0	0	0	0
19321	Maine Bonding and Casualty Company	A	0	0	0	0	0
35408	Delos Insurance Company	B	0	0	0	0	0
15024	Preferred Mutual Insurance Company	A	0	0	0	0	0
19909	Centennial Insurance Company	A	0	0	0	0	0
11231	Generali USB	A	0	0	0	0	0
20052	National Liability & Fire Insurance Co	A	0	0	0	0	0
25763	Seaton Insurance Company	A	0	0	0	0	0
38237	American Country Insurance Company	A	0	0	0	0	0
21237	Casualty Reciprocal Exchange	A	0	0	0	0	0
38849	Houston General Insurance Company	A	0	0	0	0	0
14613	Montgomery Mutual Insurance Company	A	0	0	0	0	0
39659	Eastern Casualty Insurance Company	A	0	0	0	0	0
21350	Empire Insurance Company	B	0	0	0	0	0
24384	Fairmont Specialty Insurance Company	A	0	0	0	0	0
13730	Selective Insurance Company of New York	A	0	0	0	0	0
12572	Selective Insurance Company of America	A	0	0	0	0	0
21423	Union Insurance Company of Providence	A	0	0	0	0	0
23787	Nationwide Mutual Insurance Company	B	0	0	0	0	0
10641	Endurance American Insurance Company	A	0	0	0	0	0
24295	Providence Washington Insurance Company	A	0	0	0	0	0
13986	Frankenmuth Mutual Insurance Company	A	0	0	0	0	0
32280	Commercial Casualty Insurance Company	A	0	0	0	0	0
26077	Lancer Insurance Company	A	0	0	0	0	0
23795	21st Century Pacific Insurance Company	B	0	0	0	0	0
26085	Warner Insurance Company	A	0	0	0	0	0
33014	Transport Insurance Company	A	0	0	0	0	0
26093	Nationwide Affinity Insurance Co of Amer	A	0	0	0	0	0
14435	Lumber Mutual Insurance Company	A	0	0	0	0	0
10062	Covenant Insurance Company	A	0	0	0	0	0
22195	Insurance Company of Greater New York	A	0	0	0	0	0
21750	Pilgrim Insurance Company	B	0	0	0	0	0
34347	Colonial American Casualty & Surety Co	A	0	0	0	0	0
26344	Great American Assurance Company	A	0	0	0	0	0
34690	Property and Casualty Ins Co of Hartford	A	0	0	0	0	0
10212	Allmerica Financial Alliance Ins Co	A	0	0	0	0	0
34789	21st Century Centennial Insurance Co	A	0	0	0	0	0
26433	Harco National Insurance Company	B	0	0	0	0	0
35300	Allianz Global Risks US Insurance Co	A	0	0	0	0	0
21830	New England Insurance Company	A	0	0	0	0	0
10510	Carolina Casualty Insurance Company	B	0	0	0	0	0
26921	Everest Reinsurance Company	A	0	0	0	0	0
36170	Travelers Casualty Company of CT	A	0	0	0	0	0
23914	Northwestern National Insurance Company	A	0	0	0	0	0
36455	Northbrook Indemnity Company	A	0	0	0	0	0
27120	Trumbull Insurance Company	A	0	0	0	0	0

# VI 000026

Section VI - Expenses  
 Subsection H - Expenses Net of Premium Discount  
 9/1/2011

Section VI - H  
 Exhibit 4

## Calendar Year 2009 Premiums

NCCI Company Number (1)	Company Name (2)	Elected Discount Schedule (3)	Written Premium (\$000) (4)	Residual Market Written Premium (\$000) (5)	Adjusted Voluntary Written Premium		
					Total Written Premium (\$000) (6)	Type A Written Premium (\$000) (7)	Type B Written Premium (\$000) (8)
37273	AXIS Insurance Company	A	0	0	0	0	0
14923	Patrons Mutual Insurance Company of CT	B	0	0	0	0	0
37877	Nationwide Property & Casualty Ins Co	B	0	0	0	0	0
43702	North American Lumber Insurance Company	A	0	0	0	0	0
10014	Affiliated FM Insurance Company	B	0	0	0	0	0
10936	Seneca Insurance Company Inc	A	0	0	0	0	0
38318	Republic Insurance Company	A	0	0	0	0	0
23779	Nationwide Mutual Fire Insurance Company	B	0	0	0	0	0
38512	Rampart Insurance Company	A	0	0	0	0	0
15586	Preserver Insurance Company	A	0	0	0	0	0
38962	Genesis Insurance Company	A	0	0	0	0	0
29700	North American Elite Insurance Company	A	0	0	0	0	0
39357	MetLife Insurance Company of Connecticut	A	0	0	0	0	0
10847	CUMIS Insurance Society Inc	B	0	0	0	0	0
45934	American Compensation Insurance Company	A	0	0	0	0	0
12831	State National Insurance Company, Inc	A	0	0	0	0	0
12513	Professional Liability Ins Co of America	A	0	0	0	0	0
41769	Athena Assurance Company	A	0	0	0	0	0
40282	Travelers Commercial Casualty Company	B	0	0	0	0	0
41840	Allmerica Financial Benefit Insurance Co	A	0	0	0	0	0
14737	Plymouth Rock Assurance Corporation	B	0	0	0	0	0
42048	Diamond State Insurance Company	A	0	0	0	0	0
24422	Legion Insurance Company	A	0	0	0	0	0
10499	Chrysler Insurance Company	A	0	0	0	0	0
41939	Liberty Northwest Insurance Corporation	A	0	0	0	0	0
31003	Tri-State Insurance Company of Minnesota	A	0	0	0	0	0
18619	Platte River Insurance Company	A	0	0	0	0	0
31194	Travelers Casualty and Surety Co America	A	0	0	0	0	0
43478	Utica National Insurance Company of TX	A	0	0	0	0	0
19577	Villanova Insurance Company	A	0	0	0	0	0
12190	NIPPONKOA Insurance Company of America	A	0	0	0	0	0
20109	Bituminous Fire & Marine Insurance Co	B	0	0	0	0	0
10340	Stonington Insurance Company	B	0	0	0	0	0
44784	Fairfield Insurance Company	A	0	0	0	0	0
Total			736,730	27,976	708,754	422,989	285,765

Percentage of Voluntary premium electing Type A Discount: 59.7%  
 Percentage of Voluntary premium electing Type B Discount: 40.3%

Note:

- (4) = Annual Statement Exhibit of Premium and Losses
- (5) = consistent with the Annual Statement Exhibit of Premium and Losses
- (6) = (4) - (5), subject to a minimum of 0

# VI 000027

Section VI - Expenses  
Subsection I - Expense Constant Offset  
9/1/2011

Section VI - I  
Exhibit 1

## Calculation of Expense Constant as Percent of Premium for Policy Effective Period

(1) Expense Constant Offset for Policy Year 2008	0.952
(2) Expense Constant as percent of premium for Policy Year 2008 = 1.0 - (1)	4.8%
(3) Calculated Expense Constant for Policy Year 2008	\$256.05
(4) Factor to bring Policy Year 2008 premium to premium level of policy effective period	1.23
(5) Expense Constant for (4)	\$254.59
(6) Expense Constant as percent of premium for policy effective period = { (2) x [ (5) / (3) ] } / { [ (4) x (1) ] + [ (2) x ( (5) / (3) ) ] }	4.0%

Notes:

(3): Unit Statistical Plan Data

# VI 000028

Section VI - Expenses  
Subsection I - Expense Constant Offset  
9/1/2011

Section VI - I  
Exhibit 2

## Expense Constant Offsets

Policy Year	Standard Premium Plus ARAP	Expense Constant	Expense Constant Offset = (2) / [ (2) + (3) ]
(1)	(2)	(3)	(4)
2007	937,107,423	38,616,285	0.960
2008	758,606,533	40,218,960	0.950

Note: Unit Statistical Plan Data. Excluding large deductible policies.

# VI 000029

Section VI - Expenses  
Subsection J - Acquisition Expenses  
9/1/2011

Section VI - J  
Exhibit 1

## Provision for Commission and Other Acquisition Expense including Frictional Reinsurance Expenses

(1)	Other Acquisition Expense Ratio (exclusive of Expense Constants)	2.7%
(2)	Average Commission Ratio (exclusive of Expense Constants)	7.8%
(3)	Average Frictional Reinsurance Expense	1.0%
(4)	Incidental Income and Earned but Uncollected Premium Expense	0.0%

(5)	Commission and Other Acquisition Expense Ratio = (1) + (2) + (3) + (4)	<b>11.5%</b>
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### Notes:

- (1): Exhibit 2.
- (2): Exhibit 3.
- (3): Exhibit 4, Page 1.
- (4): Exhibit 5.

# VI 000030

Section VI - Expenses  
 Subsection J - Acquisition Expenses  
 9/1/2011

Section VI - J  
 Exhibit 2

## Calculation of Other Acquisition Expense

		Calendar Year							
		2007	2008	2009					
(1)	Standard Earned Premium plus ARAP	1,196,495,206	1,067,734,004	938,240,483					
(2)	Adjustment for Experience, Merit, ARAP and CCPAP Offbalance	1.003	1.006	1.000					
(3)	Adjustment for Insolvency Fund Recoupment	0.979	1.018	1.006					
(4)	Adjusted Standard Earned Premium plus ARAP = (1) x (2) x (3)	1,175,226,902	1,092,521,768	944,541,028					
(5)	Other Acquisition, Field Supervision, Collection Expenses for Home Office and Branch Office, excluding Commissions	50,944,219	45,337,283	46,702,285					
(6)	Other Acquisition Expense Ratio = (5) / (4)	4.3%	4.1%	4.9%					
(7)	Three Year Average		4.5%						
(8)	Expense Constant as a percent of Premium in prospective period		4.0%						
(9)	Other Acquisition Portion of Expense Constant		46.7%						
(10)	Percent of Premium due to Portion of Expense Constant for Other Acquisition Expense = (8) x (9)		1.8%						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(11)</td> <td style="width: 55%;">Other Acquisition Expense and Field Supervision Ratio, exclusive of Expense Constant = [ (7) - (10) ] / [ 1.0 - (8) ]</td> <td></td> <td style="text-align: right; vertical-align: bottom;"><b>2.7%</b></td> <td></td> </tr> </table>					(11)	Other Acquisition Expense and Field Supervision Ratio, exclusive of Expense Constant = [ (7) - (10) ] / [ 1.0 - (8) ]		<b>2.7%</b>	
(11)	Other Acquisition Expense and Field Supervision Ratio, exclusive of Expense Constant = [ (7) - (10) ] / [ 1.0 - (8) ]		<b>2.7%</b>						

**Notes:**

- (1): Aggregate Financial Reconciliation Report Calls, Calendar Years 2007 - 2009.  
Reported premium, plus ARAP, and including large deductible policies at Standard premium.
- (2): Section III-B, Exhibit 1.
- (3): Section III-C, Exhibit 1.
- (5): Aggregate Financial Expense Calls, Calendar Years 2007 - 2009.
- (8): Section VI-I, Exhibit 1.
- (9): Section VI-B, Exhibit 3.

# VI 000031

Section VI - Expenses  
 Subsection J - Acquisition Expenses  
 9/1/2011

Section VI - J  
 Exhibit 3

## Calculation of Average Commission

	Calendar Year		
	2007	2008	2009
(1) Direct Written Premium	1,037,123,044	812,324,428	748,625,490
(2) Adjustment for Experience, Merit, ARAP and CCPAP Off-Balance	1.007	1.011	1.010
(3) Adjustment for Insolvency Fund Recoupment	0.991	1.022	1.001
(4) Adjusted Direct Written Premium = (1) x (2) x (3)	1,034,860,271	839,351,973	756,211,206
(5) Total Commissions for Agents and Brokers	74,464,797	64,010,059	57,952,558
(6) Average Commission Rate = (5) / (4)	7.2%	7.6%	7.7%
(7) Three Year Average		7.5%	
(8) Expense Constant as a percent of Premium in prospective period		4.0%	
(9) Commission Ratio, Exclusive of Expense Constant = (7) / [ 1.0 - (8) ]		<b>7.8%</b>	

**Notes:**

- (1): Annual Statement Exhibit of Premium and Losses, Calendar Years 2007 - 2009.
- (2): Section III-B, Exhibit 1. 2007 based on Policy Year 2007 and 2008 based on Policy Year 2008.
- (3): Section III-C, Exhibit 1. 2007 based on Policy Year 2007 and 2008 based on Policy Year 2008.
- (5): Aggregate Financial Expense Calls, Calendar Years 2007 - 2009.
- (8): Section VI-I, Exhibit 1.

# VI 000032

Section VI - Expenses  
 Subsection J - Acquisition Expenses  
 9/1/2011

Section VI - J  
 Exhibit 4  
 Page 1

## Frictional Reinsurance Expenses

Calendar Year	Reinsurer Expense as Percentage of Net Written Premium				
	Commission and Brokerage	Other Acquisition	General Expenses	Taxes	Total Underwriting Expenses = (2) + (3) + (4) + (5)
(1)	(2)	(3)	(4)	(5)	(6)
1995	20.3%	3.2%	2.4%	0.1%	26.0%
1996	22.3%	3.8%	2.6%	0.4%	29.1%
1997	20.7%	4.1%	2.9%	0.2%	27.9%
1998	21.1%	4.8%	3.3%	0.2%	29.4%
1999	18.3%	3.8%	2.7%	0.2%	25.0%
2000	19.3%	3.3%	2.4%	0.8%	25.8%
2001	18.2%	3.8%	2.5%	0.3%	24.8%
2002	20.3%	3.7%	2.7%	0.4%	27.0%
2003	18.7%	4.2%	2.7%	0.6%	26.2%
2004	18.0%	4.0%	2.9%	0.5%	25.4%
2005	26.2%	8.0%	6.4%	0.7%	41.3%
2006	13.3%	4.6%	4.4%	0.5%	22.8%
2007	14.0%	4.9%	4.2%	0.5%	23.6%
2008	18.4%	4.3%	3.9%	0.6%	27.2%
2009	19.8%	2.9%	3.4%	0.2%	26.3%
(7) Average	19.3%	4.2%	3.3%	0.4%	27.2%
(8) Ceding Commissions Offset	14.8%				
(9) Adjusted Average = (7) - (8)	4.4%	4.2%	3.3%	0.4%	12.4%
(10) Est. % of Direct Premium Ceded for Non-Proportional Reinsurance					12.2%
(11) Implied Frictional Reinsurance Expenses Relative to Direct Premiums (as a %) = Total (9) x (10)					1.51%
(12) Selected Frictional Reinsurance Expenses Relative to Standard plus ARAP Premiums (exclusive of expense constants)					1.0%

**Notes:**

(2)-(5): Insurance Expense Exhibit database - By Line Underwriting Experience from Best's Aggregates & Averages for Reinsurance. Editions 1996 - 2010.

(8): Page 2, (10).

(10): Page 2, (11).

Estimate of Ceding Commission Rate

Calendar Year (1)	Written Premiums (000's)			Ratio of Commission & Brokerage Incurred to Written Premium		Commission & Brokerage Expenses Incurred (000's)		
	Direct (2)	Net (3)	Direct - Net = (2) - (3) (4)	Direct (5)	Net (6)	Direct = (2) x (5) (7)	Net = (3) x (6) (8)	Direct - Net = (7) - (8) (9)
1995	31,917,541	29,538,099	2,379,442	0.061	0.068	1,946,970	2,008,591	(61,621)
1996	30,046,302	27,714,978	2,331,324	0.064	0.068	1,922,963	1,884,619	38,345
1997	29,775,890	27,583,106	2,192,784	0.069	0.063	2,054,536	1,737,736	316,801
1998	29,136,120	25,683,152	3,452,968	0.077	0.060	2,243,481	1,540,989	702,492
1999	29,524,205	24,653,790	4,870,415	0.082	0.064	2,420,985	1,577,843	843,142
2000	32,780,086	28,240,208	4,539,878	0.082	0.068	2,687,967	1,920,334	767,633
2001	37,333,721	31,520,736	5,812,985	0.084	0.066	3,136,033	2,080,369	1,055,664
2002	43,950,839	38,137,991	5,812,848	0.077	0.066	3,384,215	2,517,107	867,107
2003	50,031,977	43,333,685	6,698,292	0.072	0.063	3,602,302	2,730,022	872,280
2004	51,988,628	45,667,027	6,321,601	0.074	0.063	3,847,158	2,877,023	970,136
2005	53,139,231	46,633,441	6,505,790	0.068	0.056	3,613,468	2,611,473	1,001,995
2006	50,942,134	45,033,012	5,909,122	0.072	0.069	3,667,834	3,107,278	560,556
2007	50,367,861	44,207,021	6,160,840	0.071	0.061	3,576,118	2,696,628	879,490
2008	42,686,615	37,535,546	5,151,069	0.077	0.060	3,286,869	2,252,133	1,034,737
2009	37,879,014	32,642,883	5,236,131	0.079	0.060	2,992,442	1,958,573	1,033,869
Total	601,500,164	528,124,675	73,375,489	0.074	0.063	44,383,342	33,500,716	10,882,626

(10) Estimated Ceding Commission & Brokerage Ratio = Total (9) / Total (4) 14.8%

(11) Est. % of Direct Premium Ceded for Non-Proportional Reinsurance = Total (4) / Total (2) 12.2%

Notes:

(2), (3), (5), (6): Insurance Expense Exhibit database - By Line Underwriting Experience from Best's Aggregates & Averages for Workers' Comp Editions 1996-2010.

VI 000033

# VI 000034

Section VI - Expenses  
 Subsection J - Acquisition Expenses  
 9/1/2011

Section VI - J  
 Exhibit 5

## Effect of Incidental Income and Earned but Uncollected Premium

		Calendar Year							
		2007	2008	2009					
(1)	Standard Earned Premium plus ARAP	1,196,495,206	1,067,734,004	938,240,483					
(2)	Adjustment for Experience, Merit, ARAP and CCPAP Off-balance	1.003	1.006	1.000					
(3)	Adjustment for Insolvency Fund Recoupment	0.979	1.018	1.006					
(4)	Adjusted Standard Earned Premium plus ARAP = (1) x (2) x (3)	1,175,226,902	1,092,521,768	944,541,028					
(5)	Earned But Uncollected Premium	4,860,482	15,766,342	11,918,752					
(6)	Incidental Income	75,494	1,173,727	1,981,819					
(7)	Net Effect of Incidental Income and Earned but Uncollected Premium Expense = [ (5) - (6) ] / (4)	0.4%	1.3%	1.1%					
(8)	Three Year Average		0.9%						
(9)	Expense Constant as a percent of Premium in prospective period		4.0%						
(10)	Effect of Incidental Income and Earned but Uncollected Premium Expense exclusive of Expense Constant = (8) / [ 1.0 - (9) ]		1.0%						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(11)</td> <td style="width: 55%;">Selected Effect of Incidental Income and Earned but Uncollected Premium Expense exclusive of Expense Constant</td> <td></td> <td style="text-align: right;">0.0%</td> <td></td> </tr> </table>					(11)	Selected Effect of Incidental Income and Earned but Uncollected Premium Expense exclusive of Expense Constant		0.0%	
(11)	Selected Effect of Incidental Income and Earned but Uncollected Premium Expense exclusive of Expense Constant		0.0%						

**Notes:**

- (1): Aggregate Financial Reconciliation Report Calls, Calendar Years 2007 - 2009. Reported premium, plus ARAP, and including large deductible policies at Standard premium.
- (2): Section III-B, Exhibit 1.
- (3): Section III-C, Exhibit 1.
- (5),(6): Aggregate Financial Expense Call.
- (9): Section VI-I, Exhibit 1.

# VI 000035

Section VI - Expenses  
 Subsection K - Loss Adjustment Expense  
 9/1/2011

Section VI - K  
 Exhibit 1

## Loss Adjustment Expenses

		Calendar Year		
		2007	2008	2009
(1)	Direct Incurred Losses	678,847,559	579,321,741	549,271,262
(2)	Direct Incurred Defense and Cost Containment Expense	68,775,158	66,162,577	68,964,230
(3)	Average Provision for Defense and Cost Containment Expense = (2) / (1)	10.1%	11.4%	12.6%
(4)	Three Year Average Provision for Defense and Cost Containment Expense = Average of (3)	11.4%		
(5)	Direct Incurred Adjusting and Other Expense	51,976,704	37,899,057	50,318,947
(6)	Average Provision for Adjusting and Other Expense = (5) / (1)	7.7%	6.5%	9.2%
(7)	Factor to adjust for effect of Large Deductible policies	0.944	0.928	0.927
(8)	Adjusted Provision for Adjusting and Other Expense = (6) x (7)	7.2%	6.1%	8.5%
(9)	Three Year Average Provision for Adjusting and Other Expense = Average of (8)	7.3%		
(10) Adjusted Provision for Total Loss Adjustment Expenses = (4) + (9)		<b>18.6%</b>		

**Notes:**

(1),(2),(5): Aggregate Financial Calls, 2007 - 2009.  
 (7): Section VI-L, Exhibit 1, Page 1.

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Section VI - Expenses  
 Subsection L - Adjustment for Large Deductible Policies  
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Section VI - L  
 Exhibit 1  
 Page 1

## Adjustment to the Adjusting and Other Expense Provision

	Calendar Year		
	2007	2008	2009
(1) Average premium reduction for Large Deductible policies	84.6%	87.1%	86.8%
(2) Loss Elimination Ratio (LER) for Large Deductible policies = (1) x 1.103	93.4%	96.1%	95.8%
(3) Market share (Standard Premium basis) of Large Deductible policies	11.4%	14.0%	14.1%
(4) LER for Full Coverage plus Large Deductible policies = [ (2) x (3) ] + { 0.0 x [ 1.0 - (3) ] }	10.6%	13.5%	13.5%
(5) Factor to adjust the Direct Losses = 1.0 / [ 1.0 - (4) ]	1.119	1.156	1.156
(6) Factor to adjust the Adjusting and Other Expense provision = 1.0 / { 1.0 - [ 0.5 x (4) ] }	1.056	1.072	1.073
(7) Factor to adjust the Ratio of Direct Adjusting and Other Expense to Direct Losses = (6) / (5)	0.944	0.928	0.927

**Notes:**

- (1),(3): Exhibit 2.
- (2): Exhibit 1, Page 2.
- (3): Exhibit 2.
- (6): Assumes 50% of Adjusting & Other expense varies directly with losses.

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Section VI - Expenses  
 Subsection L - Adjustment for Large Deductible Policies  
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Section VI - L  
 Exhibit 1  
 Page 2

## Loss Elimination Ratio for Large Deductible Policies

	As a % of Standard Premium plus ARAP
(1) Acquisition Expense Ratio	11.3%
(2) Premium Discount Ratio	5.5%
(3) Premium Tax Ratio = 2.28% x [ 1.0 - (2) ]	2.2%
(4) Profit and Contingencies	0.0%
(5) Insolvency Fund Assessment	0.0%
(6) Residual Market Subsidy (Retrospectively-rated policies)	0.2%
(7) Variable Expense Ratio = (1) + (2) + (3) + (4) + (5) + (6)	19.3%
(8) Adjusting and Other Expenses	8.1%
(9) Expected Loss Ratio without LAE	63.7%
(10) Defense and Cost Containment Expense	6.9%
(11) Variable Adjusting and Other Expenses = 0.5 x (8) x (9)	2.6%
(12) Expected Loss and DCC Ratio (ELARD) = (9) + (10) + (11)	73.1%
(13) LER / D = [ 1.0 - (7) ] / (12)	1.103

Expense Ratios approved for rates effective 9/01/10.

D = Premium Reduction for Large Deductible Policies

LER = Loss Elimination Ratio

ELARD = (Portion of Expected Loss + LAE Ratio that varies with deductible)

assume to be: Loss + DCC + ( 1/2 x AO )

$D = [ LER \times ELARD ] / [ 100\% - (Variable Expense) ]$

$LER = D \times [ 1.0 - (Variable Expense) ] / LER \times ( 1.0 + DCC + 1/2 \times AO )$

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Section VI - Expenses  
 Subsection L - Adjustment for Large Deductible Policies  
 9/1/2011

Section VI - L  
 Exhibit 2

## Average Large Deductible Premium Reduction and Large Deductible Market Share

		Policy Year			
		2006	2007	2008	2009*
(1)	Standard Earned Premium excluding Large Deductible Policies	952,318,273	938,622,828	790,010,953	442,983,459
(2)	Earned Premium Net of Deductible Credit for Large Deductible Policies	17,038,215	18,796,576	17,502,222	9,361,811
(3)	Standard Earned Premium for Large Deductible Policies	92,839,471	151,183,662	131,040,160	72,150,348
(4)	Standard Earned Premium for all Policies = (1) + (3)	1,045,157,744	1,089,806,490	921,051,113	515,133,807
(5)	Average premium reduction for Large Deductible Policies = 1.0 - [ (2) / (3) ]	81.6%	87.6%	86.6%	87.0%
(6)	Market Share (Standard Premium basis) of Large Deductible Policies = (3) / (4)	8.9%	13.9%	14.2%	14.0%

		Calendar Year		
		2007	2008	2009
(7)	Average premium reduction for Large Deductible Policies = Average of PY-1 and PY	84.6%	87.1%	86.8%
(8)	Market share (Standard Premium basis) of Large Deductible Policies = Average of PY-1 and PY	11.4%	14.0%	14.1%

**Notes:**

(1): Aggregate Financial Policy Year Call.

(2),(3): Aggregate Financial Large Deductible Policy Year Call.

\* Policy Year 2009 as of 12/31/2009

## UNDERWRITING PROFIT PROVISION

### Background

For many years prior to 2003, workers' compensation rate filings in Massachusetts utilized the Myers-Cohn (M-C) model to establish underwriting profit provisions. In the 2003 filing, however, the WCRIBMA relied on a different approach, known as the internal rate of return (IRR) model. The Commissioner approved the use of the IRR in her decision on 2003 rates.<sup>1</sup> The WCRIBMA continues to rely on an IRR model in this filing.

Fundamental principles of economics tell us that the price of insurance should be set to cover the expected value of future costs associated with the risk transfer under consideration.<sup>2</sup> In addition to losses and expenses, one of the costs of insurance is the cost of capital: there must be a provision in the rates that compensates investors for the opportunity cost of the capital committed to the insurance activity. The underwriting profit provision is the component of the rates that, taken along with investment income, should provide insurers with a fair rate of return.

This suggests that to set an underwriting profit provision in insurance rates, one should first establish a fair and reasonable rate of return, and then select a profit provision that produces that fair return. Such an analysis is consistent with the

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<sup>1</sup> See, for example, page 40: "For the following reasons, we conclude that use of an IRR model for the underwriting profits provisions will be superior to the M-C model."

<sup>2</sup> This is simply the insurance specific application of the general proposition that price should equal marginal cost. This is not only a principle of economics; basic precepts of actuarial science require the same thing. See, for example, the CAS Statement of Principles on Property Casualty Insurance Ratemaking or the Standard of Practice on Rate of Return in Ratemaking.

traditional practice in other regulated industries, where rates include allowances for the expected costs of providing the regulated product or service, along with a provision for a fair rate of return on the capital required to produce the regulated product or service. This type of procedure comports with the legal standard under which fair regulation is applied, as articulated in the Hope Natural Gas decision of the U.S. Supreme Court.<sup>3</sup> It is also consistent with the procedures relied upon in Massachusetts for the regulation of public utilities.

To that end, the WCRIBMA requested that David Appel and his colleagues at Milliman, Inc. assist the WCRIBMA's staff in developing a procedure for setting the profit factor in workers' compensation rates that will yield insurers a fair and reasonable return on the equity invested in support of the insurance transaction. Dr. Appel has performed the following analyses for the WCRIBMA:

1. He has assisted the WCRIBMA in developing a methodology to estimate the cost of capital, or fair rate of return, insurers should be allowed for bearing the risk of underwriting workers' compensation insurance in Massachusetts.
2. He has assisted the WCRIBMA in developing a discounted cash flow model (the IRR model) to estimate the underwriting profit factor required to yield the indicated fair rate of return.

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<sup>3</sup> The Hope decision states, in part, that "...the return to the equity owner should be commensurate with the returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital." Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944).

3. He has utilized the WCRIBMA's cost of capital and IRR models, using assumptions and cash flow patterns specific to Massachusetts workers' compensation insurance, to derive an underwriting profit factor that is consistent with the current cost of capital. This is the underwriting profit factor used in this rate filing.

Dr. Appel's role in preparing the present rate filing has been slightly different than his role in the 2003 filing. In the 2003 filing, Milliman was engaged by the WCRIBMA to develop a cost of capital and IRR methodology for the WCRIBMA's use. At that time, Dr. Appel utilized Milliman's proprietary cost of capital methodology and also developed a proprietary IRR model that the WCRIBMA relied upon in its rate filing. During the course of the hearing, however, questions were raised about the use of proprietary models to develop rates in a public proceeding. To address those concerns, the WCRIBMA decided to develop its own models, which would be available to the public and not subject to the confidentiality requirements of the Milliman models. In developing its models, the WCRIBMA took advantage of Milliman's substantial experience in developing and testing such models. Dr. Appel assisted the WCRIBMA's staff in designing its models, reviewed the programming and implementation of the design, and tested the model's output for reasonableness.

In this filing, the calculated underwriting profit provision is 5.96%. Section VII-A, Exhibit 1, summarizes this calculation. The IRR model and the cost of capital calculation are actuarially sound and produce a rate in the statutorily required range of reasonableness. We therefore recommend that the Commissioner approve their use.

**VII-B and VII-C – Internal Rate of Return and Cost of Capital**

In Section VII-B we present the IRR model we have constructed and implemented with Dr. Appel's assistance, along with the exhibits generated by the model. In Section VII-C we present the cost of capital analysis developed with Dr. Appel's assistance, including a detailed appendix describing the methods used. To estimate the cost of capital prior to the 2010 filing, the WCRIBMA relied on a sample of large, publicly traded property/casualty insurers, drawn exclusively from the Value Line Investment Survey, Part 3 (The Ratings and Reports). In the 2010 filing as well as in this filing, the WCRIBMA has expanded the sample to include data on all publicly traded property casualty insurers. These additional data are drawn from the Value Line Investment Survey, Small & Mid Cap Edition, and the Standard & Poor's Compustat database. The Compustat database includes the data from smaller companies not included in ValueLine dataset, and is therefore more representative of the Massachusetts industry's carrier mix than a sample relying only on the largest publicly traded insurers in the country. The addition of information on a broader range of insurers produces more reliable and robust estimates of the cost of capital, because these data more appropriately reflect the risk associated with smaller carriers.

**VII-D – Leverage Ratio**

In the WCRIBMA's 2003 filing, the IRR model established the level of surplus under the assumption that the written premium to surplus ratio was 2:1. During the course of the 2003 hearing, arguments were raised that surplus should be allocated to workers' compensation based on the level of reserves, not premium. In this filing, the amount of surplus is estimated using a total reserve to surplus ratio, as was approved in the Commissioner's decision on 2005 automobile insurance rates and used in Workers' Compensation rate filings since 2005.

In calculating the reserves to surplus ratio, we use data for the "Commercial Casualty Composite" group of companies as identified in Best's Aggregates and Averages (2010 ed.). We estimate this ratio by using an average of five years of data for loss and LAE reserves, plus unearned premium reserves. The calculation of the ratio is shown in Exhibit 1.

**VII-E - Premium Flow**

In the WCRIBMA's 2008 filing, the WCRIBMA updated the data underlying the premium cash flow pattern in an effort to improve the accuracy of the profit model. In order to construct a new flow, a special premium payment call was made to a representative group of carriers. Each company group was asked to obtain a random sample of fifty complete-year guaranteed cost (non large deductible) policies with policy effective dates in 2004 that include premiums related to Massachusetts' workers'

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compensation exposures. The 50 randomly selected policies were stratified, based on the total premium for all states covered by the policy, as follows:

Policy Premium Range	Number of Policies in Sample
0 – 9,999	10
10,000 – 199,999	24
Over 200,000	16

If the population of policies in any of the premium ranges was not sufficient to allow for the recommended sample size, the size of the samples for the other premium layers was increased so that 50 policies were sampled in total. The premium flow used in the profit model is shown in Exhibit 1.

### **VII-F - Expense Flows and Weights**

The expense flows used by the WCRIBMA this year are weighted averages of separately determined flows for commissions, premium and other taxes, general expenses, other acquisition expenses, loss and loss adjustment expenses, premium discount and reinsurance expenses. In the current filing, separate policy year 2007 and policy year 2008 weights are calculated for general expenses, miscellaneous and other taxes, and loss and loss adjustment expenses. The average of the two policy year weights is used in the IRR model.

The resulting expense flows appear in Table II-A of the IRR display (Section VII-B, Exhibit 2, Page 1). All flows in the IRR model have been converted to a policy year basis from their original form as single policy flows.

**General Expense**

The results of a study of general expense flow patterns were reported in the 1977 filing. General expenses were divided into general administration, audit, inspection and bureau expenses. A time line was constructed to indicate a particular type of expenditure's distance from the effective date of a typical policy. Expenses by cost center, including home and field office expenses, were analyzed to establish how the pattern of such expenses relates to the effective date of a policy. The combination of all such expense patterns resulted in the overall general expense pattern listed in Exhibit 2.

**Other Acquisition Expense**

The distribution of other acquisition costs was estimated from the same time pattern study that was used for general expenses. Marketing, field offices and services, billing and collection, policy issuance and advertising expenses were examined to observe their timing relative to the issuance of a policy. The combination of all such expense patterns resulted in the other acquisition expense pattern listed in Exhibit 2.

**Premium and Other Taxes**

The premium tax liability for any individual policy is assumed to be incurred and paid during the first quarter of the policy term. The payment pattern for other taxes, which remains unchanged, was estimated from the same time pattern study that was used for general expenses.

**Commissions and Premium Discount**

We assume that the commission and premium discount flow patterns coincide with the paid premium flow.

**Reinsurance Expenses**

As in the last filing we are including a provision to reflect the frictional costs of reinsurance to insurers. We assume that the reinsurance expense flow pattern coincides with the earned premium flow.

**Loss Adjustment Expense**

The Defense and Cost Containment Expense (DCC) flow is assumed to have the same pattern as the loss flow as shown in Section VII-F, Exhibit 3. This corresponds to an assumption that on average DCC payments occur at approximately the same time as claim payments.

The pattern of the Adjusting and Other Expense (AO) flow is assumed to be the same as the average of the loss flow and an earned premium flow. This corresponds to an assumption that on average half of the AO payments are made as accidents occur over

the course of the policy effective period and that the other half of the AO payments are made as claims are paid.

The weights given to each of these flows have been calculated from data in Section VI-D, Exhibit 1.

### **Expense Flow Weights**

The weights used to combine the various expense flow patterns into final expense flows are calculated using the expense provisions from Section VI.

Acquisition expenses, premium taxes and premium discounts are treated as varying in proportion to standard premium plus ARAP. Loss adjustment expenses are treated as varying in proportion to losses. General expenses and other taxes are treated as fixed expenses.

Since the total premium amount will vary with the profit provision, and since losses, loss adjustment expenses and fixed expense amounts are all treated as not varying with premium levels, the proportion of premium attributable to losses, LAE and fixed expenses depends on the underwriting profit provision. Thus their weights relative to those items that vary in proportion to total premium will change as the profit provision does but their weight relative to each other will not.

### **VII-G - Loss Flows**

The WCRIBMA has updated the data underlying both the medical and the indemnity loss flows used in determining the profit provision. The WCRIBMA has used the

most recent available financial aggregate data to derive estimates of the patterns of loss payments. The combined loss flow used in the profit model, which reflects a weighted average of the medical and indemnity flows, appears in Table II-A of the IRR display (Section VII-B, Exhibit 2, Page 1). The aggregated flow on a single policy basis is shown in Exhibit 1.

**Medical Loss Flow**

The flow for medical losses is based on Accident Year Financial Aggregate Data (see Exhibit 2, Page 2). The estimate of ultimate medical losses for each accident year is calculated using a medical tail factor from Section II.

We compute the loss development factors from the averages of the latest two year link ratios for each reporting interval until the 21st report. Beyond that report, the selected percentage of paid to ultimate has been distributed evenly. We calculate the percentage of losses paid by taking one over the loss development factors to ultimate. The resulting medical loss flow is shown in Exhibit 1.

**Indemnity Loss Flow**

The flow for indemnity losses has been derived from the financial aggregate data using a method identical to the method we used for medical losses except that the indemnity losses have been adjusted for escalation of benefits (see Exhibit 2, Page 1). The indemnity financial aggregate data and loss flows are shown in Exhibit 2, Page 3.

Exhibit 1 shows the final combined medical and indemnity loss flow.

**VII-H - Portfolio Rate of Return****Portfolio Composition**

For many years prior to 2005, the mix of securities in the insurance industry asset portfolio was based on data compiled by the Federal Reserve Bank (known as the Federal Reserve Flow of Funds data). A more complete (and more reliable) source for this information, however, is A.M Best's Aggregates & Averages. Best's is the single most widely recognized source of insurer financial data, and is the source that is routinely relied upon for insurer asset information. Not only are these data compiled directly from insurer annual statements, but they also contain substantially more detail on the mix and maturity of bonds than does the Flow of Funds data. Hence this is a preferred source for estimating the mix of securities in the insurer asset portfolio.

We begin our calculation of the portfolio rate of return by assigning weights to each of eight categories of assets: cash and short-term investments; government securities and other taxable bonds including industrials; tax exempt bonds including bonds issued by states and territories and special revenue bonds; common stocks; real estate (the sum of real estate investments, offices and sales); and preferred stocks. We assign weights using data from Best's Aggregates and Averages Property Casualty, 2010 edition for total US Property and Casualty Industry (Exhibit 1, Page 2). The weights are shown in column (2) of Exhibit 1, Page 1.

**Investment Yields**

Prior to its 2005 filing the WCRIBMA relied on 12-month average yields to estimate expected future investment income. It is more appropriate, however, to rely on more recent data for this purpose, as it is more likely to be predictive of future investment earnings. In the IRR used this year (and in the filings from 2005 to present), the WCRIBMA has relied on yields average over the last 3 months.

We use the return on 3-month T-bills to estimate the pre-tax return for cash and short-term investments (3-month average from Exhibit 2, Page 3). The pre-tax returns on bonds shown in the next column are taken from Exhibit 2, Page 1. Using industrywide allocations of bonds by class and maturity from Best's Aggregates and Averages, we calculate (in Exhibit 3) the percentages of bonds in each class. Using yields developed from the data shown on Exhibit 2, Page 3 (calculated on Exhibit 2, Page 2), we calculate an average yield (based on a 3-month average of yields) for each of the bond categories included in the Best's data (Exhibit 2, Page 1). We derive the pre-tax return on common stocks using a three horizon CAPM calculation, assuming that these assets have a beta of 1.0. The pre-tax return on real estate is the sum of the 3-month treasury rate and the real estate differential of 3.94% taken from Ibbotson and Siegel, "Real Estate Returns: A Comparison with Other Investments". The pre-tax return on preferred stocks is taken from the yield data in Exhibit 2, Page 2.

### **Market Risk Premium**

We use market returns from 1926-2010 to calculate the short term, intermediate term and long term market risk premiums used to calculate the yield on stocks. (As

discussed in Section VII-C, these are the same risk premiums used to calculate the cost of capital, which is required for internal consistency in the rate filing.) The calculation, shown on Exhibit 4, uses data drawn from the 2010 Ibbotson & Associates *Year Book* and SBBI December 2010 Year End Report.

### **Investment Expenses**

The WCRIBMA has relied on the same data source for this value as for the asset portfolio, A.M Best's Aggregates & Averages. This is appropriate. Since investment yields are estimated based on the actual portfolios held by insurers, it is consistent to estimate the reported investment expenses that are associated with those portfolios.

We subtract after-tax investment expenses from after-tax returns in Exhibit 1. In Exhibit 5 we calculate investment expenses using data from Best's Aggregates and Averages. The pre-tax average investment expense carried to Section VII-H, Exhibit 1, Page 1 is 0.41%.

### **Tax Rate on Common Stocks**

We calculate the effective tax rate on common stock in Exhibit 6. The effective tax rate for capital gains on common stocks is shown in Exhibit 6, Page 2. That rate is based on a 36% turnover ratio, taken from an AIB study of Massachusetts auto insurers' portfolio stock sales. The interest rate used in calculating the present value of the taxes is the weighted average cost of capital from Section VII-C, Exhibit 1 as opposed to the risk free rate we used in the 2005 rate filing. Prior to the 2010 filing the WCRIBMA relied on a 10

year average to calculate the capital gains and dividend weights shown in Exhibit 6, Page 1. In this filing, the WCRIBMA relied on data from 1926 – 2010. This change was made because of the extreme volatility in the financial markets in recent years.

Combining a tax rate of 14.18% for common stock dividends and 24.33% on capital gains, we derive an overall average tax rate of 20.73% (Exhibit 6, Page 1).

Exhibit 6, Page 3 displays the calculation of common stock tax rate for different discount rates and turnover rates.

**Overall Result**

The after-tax portfolio rate of return used in this filing is 2.24%.

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Section VII - Profit  
Subsection A - Summary  
9/1/2011

Section VII - A  
Exhibit 1

### Summary Exhibit

(1) IRR Profit Provision	5.96%
Cost of Capital:	
(2) Equity DCF	11.09%
(3) Equity CAPM	9.53%
(4) Debt Cost	7.06%
(5) Debt / Equity Ratios	25% / 75%
(6) Weighted Cost of Capital	9.50%
Portfolio Rate of Return:	
(7) Investment Expense	0.41%
(8) Pretax Return on Assets	2.72%
(9) Tax Rate	19.96%
(10) After-Tax Return on Assets	2.24%
Leverage Ratio:	
(11) Reserves to Surplus	2.03

#### Notes:

(1): Section VII-B, Exhibit 1.

(2) - (6): Section VII-C, Exhibit 1.

(7): Section VII-H, Exhibit 5.

(8) - (10): Section VII-H, Exhibit 1, page 1.

(11): Section VII-D, Exhibit 1.

## INTERNAL RATE OF RETURN MODEL

### Internal Rate of Return (IRR) Model: General Considerations

The objective of this analysis is to estimate the profit provision to be included in Massachusetts workers' compensation rates. Once the fair rate of return has been estimated, one needs to determine the underwriting profit provision that will yield a total return on equity (including both underwriting and investment income) equal to the fair return. The internal rate of return (IRR) methodology, applied to the Massachusetts workers' compensation insurance transaction, is used for this purpose.

In general, the IRR model estimates the cash flows attributable to an investment decision, and then calculates the rate of return embodied in those cash flows. As applied to insurance, the IRR model estimates the cash flows attributable to the sale of insurance coverage, and calculates the rate of return they will produce. Virtually every textbook on modern corporate and managerial finance cites the IRR, along with the net present value method, as the most widely supported investment decision-making rules currently known. Furthermore, many insurers rely on precisely this model to estimate the expected rate of return associated with alternative insurance transactions.

The IRR methodology has several features that make it particularly appealing for use in rate regulation.

1. An IRR analysis is prospective, and therefore consistent with both actuarial principles and regulatory standards.

Discounted cash flow models, such as the IRR, attempt to estimate the rate of return attributable to the policies sold in the future. From a financial perspective this is the essence of the rate approval process: to set a price that yields a fair rate of return on the insurance contracts sold under the proposed rates. Alternative approaches, such as accounting models, attempt to estimate the rate of return that will be earned by the insurance company next year, assuming a proposed set of rates is approved. While this is no doubt an interesting question, it is not directly related to the primary economic issue in rate regulation – the return on the policies sold under a set of proposed rates.

2. An IRR analysis accounts for all investment income on both policyholder and investor supplied funds.

One crucial aspect of the IRR is its ability to account for investment income in ratemaking. In essence the intention is to credit the investment income insurers expect to earn in the time period between the sale of policies and the payment of all losses and expenses. This investment income is then used as an offset against premium requirements.

The IRR model accounts for all such income based on the investment yields insurers can expect to earn when the investible funds are received. Moreover, it accounts for all the income that will be earned by the investment of funds provided by, or on behalf of, future policyholders.

3. An IRR analysis accounts for the time value of money.

The cash flows for some lines of insurance can extend for literally decades after the sale of the policy. In such a case the relative value of the income stream that occurs in future years should be discounted to obtain its present value. Only in this fashion can insurers make rational decisions regarding the comparison of alternative investment opportunities.

Virtually every textbook on modern financial theory recommends discounted cash flow techniques for evaluating investments that pay returns over a period of years into the future. This is because such techniques place all investments on a common footing: that is, they evaluate the future cash flows in the context of the present. This is the only sound basis for comparing alternatives.

4. An IRR analysis accounts for federal income taxes.

The impact of taxes on insurance rates of return can be substantial, particularly given the special provisions of the internal revenue code applied to insurers. These provisions generally affect the timing of taxable income, and the only way to correctly account for them is to look at the flow of taxes over time, which can be readily accomplished using the IRR model.

The IRR model focuses solely on the policy or block of policies that will be sold when the approved rates are actually in effect. These are exactly the policies for which

the rate of return should be calculated, as they are the ones to which the rates will apply. To calculate the rate of return, the IRR follows these policies through their lifetime, estimating in each time period the actual cash flows that accrue to the insurer.

These cash flows include the following:

1. Premiums
2. Losses
3. Loss Adjustment Expenses
4. Other Expenses
5. Taxes
6. Investment Income
7. Surplus

In principle, when an insurer sells a policy it sets into motion a series of events, including the collection of premium, the payment of losses, expenses and taxes, the earning of investment income and the commitment and later release of surplus. Each one of these cash flows is estimated quarterly for the first six years and yearly after that, to calculate the final flow of funds to and from the equity of the insurer. In essence it is an estimate of the "cash in, cash out" attributable to the policies sold at a given rate. Once the final cash flows are known, the internal rate of return is then calculated; it is simply the interest rate that discounts the stream of final investor cash flows to yield a net present value of zero. This can be interpreted as the compound annual rate of return, or the yield to maturity, of the investment.

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Although the model may appear complex, the underlying concepts are quite straightforward. Furthermore, the general ideas behind discounted cash flow models are common to a wide range of financial analyses. A very simple example illustrates these concepts.

Consider an investor placing \$120 at risk in support of an insurance policy. This is the initial contribution of equity, from which a series of cash flows will develop. Let us assume that after all the events have taken place this set of policies will pay the investor the following amounts at the end of each indicated time period:

<u>Year</u>	<u>Cash Flow</u>
1	\$55.00
2	\$48.40
3	\$39.90

After year 3 the transaction is over; that is, it produces no further cash flows to the investor. In this case the internal rate of return on the investment is 10%. This is calculated as follows:

<u>Year</u>	<u>Cash Flow</u>	<u>Present Value at 10% interest</u>
0	-\$120.00	-\$120.00
1	\$55.00	\$ 50.00
2	\$48.40	\$ 40.00
3	\$39.90	\$ 30.00
Total	\$23.30	0

Ten percent is the interest rate that discounts the set of cash flows to a net present value of zero. Thus, for the investor who makes a \$120 investment today, with

the expectation of future earnings as indicated in the table above, the compound annual return on the equity investment is 10%. While the cash flows that derive from a real insurance transaction are substantially more complicated, the procedure for discounting them to present value is identical.

### **The IRR for Massachusetts Workers' Compensation Insurance**

The implementation of the IRR in this filing is designed to set an appropriate underwriting profit to be included in the rates. The IRR model is used to find the underwriting profit factor that would produce a rate of return equal to the current cost of capital. To the extent that the profit factor is set too high, the estimated IRR will exceed the cost of capital, while if the profit factor is set too low, the IRR will fall short of the cost of capital.

In the context of insurance ratemaking, it is appropriate to use the cost of capital as the “target” rate of return in the IRR. If the allowed rates produce an expected return at least equal to the cost of capital, insurers will “invest”, by providing adequate capacity and offering coverage in the market. However, when the rate of return falls below the cost of capital, insurers have a tendency to restrict underwriting and withdraw capacity from the market. Thus, from the regulatory perspective, setting an underwriting profit that yields a rate of return equal to the cost of capital balances the interests of insurers and policyholders.

This section of the filing contains a series of spreadsheets that portray the cash flows arising from the sale of Massachusetts workers' compensation insurance policies

during the coming year, the year the approved rates will be in effect. As can be seen from the first page of the exhibits to this Section VII-B, the rates are set such that with a model underwriting profit of 5.96%, insurers can expect to earn a return of 9.50%, exactly equal to the cost of capital.

The WCRIBMA estimated the IRR with the most recent available data. The model reflects the cash flows arising from a policy year of activity, which in this context is defined as the financial transactions associated with the block of policies sold during a given calendar year. The policy year is the relevant period of analysis for the insurers subject to the approved rates, because for Massachusetts workers' compensation insurers, all the policies sold during the coming year will be at these rates.

The IRR analysis displayed in the exhibits to this Section VII-B is composed of seven tables, as follows.

Table I identifies the WCRIBMA's assumptions concerning the net loss and expense provisions, investment income yield, and the operating characteristics of insurers.

Table II provides the cash flow patterns and amounts for premium collection, payment of losses, and expenses calculated by the WCRIBMA. The cash flow patterns for a single policy were converted to a policy year basis.

For Tables III through VII, all values are derived from previous calculations in the model, with the exception of the tax credits in Table IV, which rely on IRS discount factors and an accident year payment pattern for discounting, as required by law.

Table III presents the flow of premiums available to pay expenses after accounting for loss, loss adjustment expense, and unearned premium reserves.

Table IV presents the tax credits and liabilities arising from the insurance operations, with special attention to the implications of the Tax Reform Act of 1986. (The details supporting the discounting of each accident year's losses are provided in Tables IV-A through IV-C.)

Table V presents the funds from the underwriting operation after accounting for reserves, payment of expenses, and income tax liabilities and credits.

Table VI derives the amount of funds available for investment. These funds include the funds held in loss, loss adjustment expense, and unearned premium reserves, less non-cash assets, plus the surplus that supports the liabilities in this analysis.

Table VII presents the net cash flow to and from investors attributable to Massachusetts workers' compensation insurance operations. This net cash flow is the sum of the funds from the underwriting operation, income expected from the investment of reserves and surplus, and the flow of surplus to and from this business.

### **Additional IRR Issues**

In the course of the 2003 rate hearing, a number of issues arose relating to the specific implementation of the IRR model for workers' compensation ratemaking in Massachusetts. In addition, the WCRIBMA has made several changes in the model to make it more internally consistent.

**Deferred Tax Assets:** Under the statutory accounting rules applicable to property casualty insurers, insurers may establish a balance sheet asset relating to the tax credits that will emerge in the future as a result of the loss discounting and revenue acceleration provisions of the 1986 Tax Reform Act. The IRR model used in this filing appropriately reflects those deferred tax assets.

**Tax Credits on Debt:** Because the WCRIBMA has considered debt in determining the cost of capital, the IRR model also reflects the tax deductions attributable to the interest payments on debt.

### **IRR Results**

As shown in Table I of this Section, given the assumptions in the filing regarding losses, expenses, investment yields and cash flow patterns, if the model underwriting profit is set to 5.96%, as proposed by the WCRIBMA, Massachusetts workers' compensation insurance would be expected to produce a rate of return on equity equal to the cost of capital of 9.50%. Since the underwriting profit provision is set specifically to yield this fair and reasonable return on equity, if the actuarial projections underlying the rates are reasonable, the rates as filed must be reasonable and satisfy the regulatory requirement that they be neither excessive nor inadequate.

# VII 000025

Section VII - Profit  
 Subsection B - Internal Rate of Return Model  
 9/1/2011

Section VII-B  
 Exhibit 1

## Internal Rate of Return Analysis

<b>INTERNAL RATE OF RETURN ANALYSIS</b>		
<b>WCRIB OF MA</b>		
<b>TABLE I: ASSUMPTIONS AND INTERNAL RATE OF RETURN</b>		
<b>ASSUMPTIONS</b>		
(1)	LOSS AND LAE RATIO	70.38%
(2)	COMMISSIONS	7.80%
(3)	GENERAL EXPENSES	4.87%
(4)	OTHER ACQUISITION EXPENSES	2.74%
(5)	PREMIUM TAXES	2.17%
(6)	MISCELLANEOUS AND OTHER TAXES	0.35%
(7)	REINSURANCE EXPENSES	1.00%
(8)	PREMIUM DISCOUNT	4.73%
(9)	PROFIT	5.96%
(10)	INVESTMENT INCOME	
	(A) PRE-TAX RETURN ON ASSETS	2.72%
	(B) POST-TAX RETURN ON ASSETS	2.24%
(11)	LOSS RESERVE TO SURPLUS RATIO	2.03
(12)	PREMIUMS WRITTEN	1,000
(13)	COLLECTED PREMIUM	1,000
(14)	FEDERAL DISCOUNT RATE FOR TAXES	3.81%
<b>PROFIT PROVISION</b>		<b>5.96%</b>
<b>INTERNAL RATE OF RETURN</b>		<b>9.50%</b>

**Notes:**

(1) - (8): Section VII-F, Exhibit 1 (average of the two policy years).

(1), (3), (6) are divided by (1.0 + Rate Change).

(9) = 1.0 - [ (1) + (2) + (3) + (4) + (5) + (6) + (7) + (8) ]

(10): From Section VII-H, Exhibit 1, Page1.

(11): From Section VII-D, Exhibit 1.

(14): Current Rate specified in IRS regulations (Internal Revenue Bulletin: 2010-50)

# VII 000026

## INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA

**TABLE II-A: CASH FLOW PATTERNS**

TIME INTERVAL		PREMIUM WRITTEN (3)	PREMIUM COLLECTED (4)	LOSS + LAE PAYOUT (5)	COMMISS. & BROKER. (6)	GENERAL EXPENSES (7)	OTHER ACQ. EXPENSES (8)	PREMIUM TAXES (9)	MISC. AND OTHER TAXES (10)	REINS. EXPENSES (11)	PREMIUM DISCOUNT (12)
FROM (1)	TO (2)										
09/01/10	11/30/10		0.00%	0.00%	0.00%	0.11%	0.22%	0.00%	0.11%	0.00%	0.00%
12/01/10	02/28/11		0.00%	0.00%	0.00%	0.37%	1.16%	0.00%	0.47%	0.00%	0.00%
03/01/11	05/31/11		0.00%	0.00%	0.00%	2.21%	3.50%	0.00%	2.37%	0.00%	0.00%
06/01/11	08/31/11		0.53%	0.00%	0.53%	7.03%	10.18%	0.00%	7.70%	0.00%	0.53%
09/01/11	11/30/11	21.01%	5.24%	0.68%	5.24%	12.78%	19.77%	10.98%	14.54%	2.75%	5.24%
12/01/11	02/29/12	31.87%	13.43%	2.30%	13.43%	16.58%	23.63%	26.18%	18.39%	9.26%	13.43%
03/01/12	05/31/12	23.78%	19.80%	4.06%	19.80%	16.79%	21.06%	27.74%	17.94%	16.37%	19.80%
06/01/12	08/31/12	23.34%	21.55%	5.53%	21.55%	13.71%	12.99%	24.16%	13.55%	22.26%	21.55%
09/01/12	11/30/12		16.67%	6.29%	16.67%	10.61%	4.52%	10.94%	9.06%	22.12%	16.67%
12/01/12	02/28/13		9.71%	6.51%	9.71%	8.40%	1.25%	0.00%	6.64%	15.52%	9.71%
03/01/13	05/31/13		5.41%	6.99%	5.41%	6.29%	0.92%	0.00%	5.02%	8.98%	5.41%
06/01/13	08/31/13		2.89%	7.12%	2.89%	3.67%	0.59%	0.00%	2.97%	2.74%	2.89%
09/01/13	11/30/13		2.15%	6.81%	2.15%	1.33%	0.22%	0.00%	1.12%	0.00%	2.15%
12/01/13	02/28/14		1.46%	5.89%	1.46%	0.11%	0.00%	0.00%	0.11%	0.00%	1.46%
03/01/14	05/31/14		0.75%	5.11%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.75%
06/01/14	08/31/14		0.33%	4.19%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.33%
09/01/14	11/30/14		0.09%	3.61%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%
12/01/14	02/28/15		0.00%	3.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
03/01/15	05/31/15		0.00%	2.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
06/01/15	08/31/15		0.00%	2.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/15	11/30/15		0.00%	1.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
12/01/15	02/29/16		0.00%	1.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
03/01/16	05/31/16		0.00%	1.48%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
06/01/16	08/31/16		0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/16	11/30/16		0.00%	1.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
12/01/16	02/28/17		0.00%	0.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
03/01/17	05/31/17		0.00%	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
06/01/17	08/31/17		0.00%	0.63%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/17	08/31/18		0.00%	1.90%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/18	08/31/19		0.00%	1.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/19	08/31/20		0.00%	0.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/20	08/31/21		0.00%	0.98%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/21	08/31/22		0.00%	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/22	08/31/23		0.00%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/23	08/31/24		0.00%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/24	08/31/25		0.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/25	08/31/26		0.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/26	08/31/27		0.00%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/27	08/31/28		0.00%	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/28	08/31/29		0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/29	08/31/30		0.00%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/30	08/31/31		0.00%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/31	08/31/32		0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/32	08/31/33		0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/33	08/31/34		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/34	08/31/35		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/35	08/31/36		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/36	08/31/37		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/37	08/31/38		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/38	08/31/39		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/39	08/31/40		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/40	08/31/41		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/41	08/31/42		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/42	08/31/43		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/43	08/31/44		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/44	08/31/45		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/45	08/31/46		0.00%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
09/01/46	08/31/47		0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>TOTAL</b>		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

**Notes:**

- (3): Unit Statistical Plan Data; premium is adjusted to a common rate level.
- (4): The premium collection pattern for a single policy from Section VII-E, Exhibit 1, converted to a full policy year basis.
- (5): The loss and LAE payout pattern for a single policy from Section VII-F, Exhibit 3, converted to a full policy year basis.
- (6): We assume that commissions and brokerage have the same payment pattern as premium collected.
- (7)-(10): Single policy patterns from Section VII-F, Exhibit 2, converted to a full policy year basis.
- (11): We assume that the reinsurance expense pattern coincides with the earned premium flow.
- (12): We assume that premium discount payment pattern coincides with premium collected.

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Section VII-B  
 Exhibit 2  
 Page 2

INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA										
TABLE II-B: CASH FLOWS										
TIME INTERVAL		PREMIUM COLLECTED (3)	LOSS + LAE PAYOUT (4)	COMMISS. & BROKER. (5)	GENERAL EXPENSES (6)	OTHER ACQ. EXPENSES (7)	PREMIUM TAXES (8)	MISC. AND OTHER TAXES (9)	REINS. EXPENSES (10)	PREMIUM DISCOUNT (11)
FROM (1)	TO (2)									
9/1/2010	11/30/2010	0.00	0.00	0.00	0.05	0.06	0.00	0.00	0.00	0.00
12/1/2010	2/28/2011	0.00	0.00	0.00	0.18	0.32	0.00	0.02	0.00	0.00
3/1/2011	5/31/2011	0.00	0.00	0.00	1.08	0.96	0.00	0.08	0.00	0.00
6/1/2011	8/31/2011	5.35	0.00	0.42	3.43	2.78	0.00	0.27	0.00	0.25
9/1/2011	11/30/2011	52.37	4.80	4.09	6.23	5.41	2.39	0.50	0.27	2.47
12/1/2011	2/29/2012	134.25	16.18	10.48	8.08	6.46	5.69	0.64	0.93	6.35
3/1/2012	5/31/2012	197.98	28.61	15.45	8.18	5.76	6.03	0.62	1.64	9.36
6/1/2012	8/31/2012	215.54	38.91	16.82	6.68	3.55	5.25	0.47	2.23	10.19
9/1/2012	11/30/2012	166.66	44.24	13.01	5.17	1.24	2.38	0.31	2.21	7.88
12/1/2012	2/28/2013	97.12	45.81	7.58	4.10	0.34	0.00	0.23	1.55	4.59
3/1/2013	5/31/2013	54.05	49.17	4.22	3.07	0.25	0.00	0.17	0.90	2.55
6/1/2013	8/31/2013	28.88	50.09	2.25	1.79	0.16	0.00	0.10	0.27	1.36
9/1/2013	11/30/2013	21.50	47.96	1.68	0.65	0.06	0.00	0.04	0.00	1.02
12/1/2013	2/28/2014	14.64	41.46	1.14	0.05	0.00	0.00	0.00	0.00	0.69
3/1/2014	5/31/2014	7.53	35.95	0.59	0.00	0.00	0.00	0.00	0.00	0.36
6/1/2014	8/31/2014	3.26	29.50	0.25	0.00	0.00	0.00	0.00	0.00	0.15
9/1/2014	11/30/2014	0.89	25.39	0.07	0.00	0.00	0.00	0.00	0.00	0.04
12/1/2014	2/28/2015	0.00	22.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2015	5/31/2015	0.00	19.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2015	8/31/2015	0.00	16.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2015	11/30/2015	0.00	13.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/1/2015	2/29/2016	0.00	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2016	5/31/2016	0.00	10.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2016	8/31/2016	0.00	8.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2016	11/30/2016	0.00	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/1/2016	2/28/2017	0.00	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2017	5/31/2017	0.00	5.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2017	8/31/2017	0.00	4.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2017	8/31/2018	0.00	13.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2018	8/31/2019	0.00	8.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2019	8/31/2020	0.00	6.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2020	8/31/2021	0.00	6.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2021	8/31/2022	0.00	5.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2022	8/31/2023	0.00	3.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2023	8/31/2024	0.00	3.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2024	8/31/2025	0.00	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2025	8/31/2026	0.00	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2026	8/31/2027	0.00	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2027	8/31/2028	0.00	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2028	8/31/2029	0.00	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2029	8/31/2030	0.00	1.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2030	8/31/2031	0.00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2031	8/31/2032	0.00	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2032	8/31/2033	0.00	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2033	8/31/2034	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2034	8/31/2035	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2035	8/31/2036	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2036	8/31/2037	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2037	8/31/2038	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2038	8/31/2039	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2039	8/31/2040	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2040	8/31/2041	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2041	8/31/2042	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2042	8/31/2043	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2043	8/31/2044	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2044	8/31/2045	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2045	8/31/2046	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/1/2046	8/31/2047	0.00	1.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>		1,000.00	703.83	78.04	48.75	27.36	21.72	3.47	10.00	47.26

Notes:

- (3) = Table I, (13) x Table II-A, (4)
- (4) = Table I, (1) x Table I, (12) x Table II-A, (5)
- (5) = Table I, (2) x Table I, (12) x Table II-A, (6)
- (6) = Table I, (3) x Table I, (13) x Table II-A, (7)
- (7) = Table I, (4) x Table I, (13) x Table II-A, (8)
- (8) = Table I, (5) x Table I, (13) x Table II-A, (9)
- (9) = Table I, (6) x Table I, (13) x Table II-A, (10)
- (10) = Table I, (7) x Table I, (13) x Table II-A, (11)
- (11) = Table I, (8) x Table I, (12) x Table II-A, (12)

# VII 000028

Section VII - Profit  
 Subsection B - Internal Rate of Return Model  
 9/1/2011

Section VII-B  
 Exhibit 3

INTERNAL RATE OF RETURN ANALYSIS WCRI OF MA								
TABLE III: CASH FLOW NET OF LOSS, LOSS ADJUSTMENT EXPENSE AND UNEARNED PREMIUM RESERVES								
TIME INTERVAL		CUMULATIVE PREMIUM COLLECTED (3)	PREMIUM BALANCES (4)	NON-CASH ASSETS (incl. deferred tax) (5)	LOSSES INCURRED (6)	UNEARNED PREMIUMS (7)	TOTAL PREM NET OF RESERVES (8)	PREMIUM NET OF RESERVES (9)
FROM (1)	TO (2)							
9/1/2010	11/30/2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/1/2010	2/28/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2011	5/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2011	8/31/2011	5.35	(5.35)	(5.35)	0.00	0.00	0.00	0.00
9/1/2011	11/30/2011	57.71	152.41	168.29	19.32	182.67	24.01	24.01
12/1/2011	2/29/2012	191.97	336.82	354.73	84.49	408.74	53.46	29.46
3/1/2012	5/31/2012	389.94	376.63	395.43	199.72	482.82	102.84	49.38
6/1/2012	8/31/2012	605.48	394.52	414.22	356.42	493.60	169.67	66.83
9/1/2012	11/30/2012	772.14	227.86	248.44	512.11	272.39	236.08	66.40
12/1/2012	2/28/2013	869.26	130.74	148.94	621.38	117.14	279.67	43.59
3/1/2013	5/31/2013	923.31	76.69	90.87	684.58	27.35	302.24	22.57
6/1/2013	8/31/2013	952.18	47.82	57.97	703.83	0.00	306.32	4.08
9/1/2013	11/30/2013	973.68	26.32	32.45	703.83	0.00	302.30	(4.02)
12/1/2013	2/28/2014	988.32	11.68	16.10	703.83	0.00	300.59	(1.70)
3/1/2014	5/31/2014	995.85	4.15	8.04	703.83	0.00	300.05	(0.54)
6/1/2014	8/31/2014	999.11	0.89	4.23	703.83	0.00	299.51	(0.54)
9/1/2014	11/30/2014	1,000.00	0.00	2.80	703.83	0.00	298.97	(0.54)
12/1/2014	2/28/2015	1,000.00	0.00	2.40	703.83	0.00	298.57	(0.40)
3/1/2015	5/31/2015	1,000.00	0.00	2.08	703.83	0.00	298.24	(0.33)
6/1/2015	8/31/2015	1,000.00	0.00	1.75	703.83	0.00	297.92	(0.33)
9/1/2015	11/30/2015	1,000.00	0.00	1.42	703.83	0.00	297.59	(0.33)
12/1/2015	2/29/2016	1,000.00	0.00	1.22	703.83	0.00	297.38	(0.20)
3/1/2016	5/31/2016	1,000.00	0.00	1.07	703.83	0.00	297.24	(0.14)
6/1/2016	8/31/2016	1,000.00	0.00	0.93	703.83	0.00	297.10	(0.14)
9/1/2016	11/30/2016	1,000.00	0.00	0.79	703.83	0.00	296.96	(0.14)
12/1/2016	2/28/2017	1,000.00	0.00	0.78	703.83	0.00	296.94	(0.01)
3/1/2017	5/31/2017	1,000.00	0.00	0.83	703.83	0.00	297.00	0.05
6/1/2017	8/31/2017	1,000.00	0.00	0.88	703.83	0.00	297.05	0.05
9/1/2017	8/31/2018	1,000.00	0.00	0.78	703.83	0.00	296.95	(0.10)
9/1/2018	8/31/2019	1,000.00	0.00	0.81	703.83	0.00	296.98	0.03
9/1/2019	8/31/2020	1,000.00	0.00	0.99	703.83	0.00	297.16	0.18
9/1/2020	8/31/2021	1,000.00	0.00	0.93	703.83	0.00	297.10	(0.06)
9/1/2021	8/31/2022	1,000.00	0.00	0.82	703.83	0.00	296.99	(0.11)
9/1/2022	8/31/2023	1,000.00	0.00	0.81	703.83	0.00	296.98	(0.01)
9/1/2023	8/31/2024	1,000.00	0.00	0.81	703.83	0.00	296.98	0.00
9/1/2024	8/31/2025	1,000.00	0.00	0.78	703.83	0.00	296.95	(0.03)
9/1/2025	8/31/2026	1,000.00	0.00	0.37	703.83	0.00	296.54	(0.41)
9/1/2026	8/31/2027	1,000.00	0.00	0.07	703.83	0.00	296.23	(0.31)
9/1/2027	8/31/2028	1,000.00	0.00	0.01	703.83	0.00	296.18	(0.06)
9/1/2028	8/31/2029	1,000.00	0.00	0.01	703.83	0.00	296.18	(0.00)
9/1/2029	8/31/2030	1,000.00	0.00	0.01	703.83	0.00	296.18	0.00
9/1/2030	8/31/2031	1,000.00	0.00	0.01	703.83	0.00	296.18	0.00
9/1/2031	8/31/2032	1,000.00	0.00	0.02	703.83	0.00	296.19	0.01
9/1/2032	8/31/2033	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2033	8/31/2034	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2034	8/31/2035	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2035	8/31/2036	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2036	8/31/2037	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2037	8/31/2038	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2038	8/31/2039	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2039	8/31/2040	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2040	8/31/2041	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2041	8/31/2042	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2042	8/31/2043	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2043	8/31/2044	1,000.00	0.00	0.02	703.83	0.00	296.19	0.00
9/1/2044	8/31/2045	1,000.00	0.00	0.02	703.83	0.00	296.19	(0.00)
9/1/2045	8/31/2046	1,000.00	0.00	0.01	703.83	0.00	296.18	(0.01)
9/1/2046	8/31/2047	1,000.00	0.00	0.00	703.83	0.00	296.17	(0.01)

Notes:

- (3) = Table II-B, (3), cumulative
- (4) = Table II-A, (3), cumulative x Table I, (13) - Table III, (3)
- (5) = Table III, (4) + Table IV, (14) for different time intervals
- (6) = Table I, (1) x Table I, (12) x earned premium, cumulative
- (7) = Table II-A, (3), cumulative x Table I, (12) - earned premium, cumulative
- (8) = (3) + (5) - (6) - (7)
- (9) = (8) current period - (8) previous period

# VII 000029

INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA													
TABLE IV: TAX CREDITS AVAILABLE FROM UNDERWRITING OPERATIONS													
TIME INTERVAL		PREMIUM WRITTEN (3)	CHANGE IN UNEARNED PREMIUMS (4)	EXPENSES (5)	LOSSES PAID			CHANGE IN DISCOUNTED LOSSES			DEBT INTEREST (12)	TAX CREDITS (13)	DEFERRED TAX ASSET (14)
FROM (1)	TO (2)				ACCIDENT YEAR 1 (6)	ACCIDENT YEAR 2 (7)	ACCIDENT YEAR 3 (8)	ACCIDENT YEAR 1 (9)	ACCIDENT YEAR 2 (10)	ACCIDENT YEAR 3 (11)			
1/1/2010	12/31/2010	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00
1/1/2011	12/31/2011	291.55	241.99	42.24	5.27	0.00	0.00	25.73	0.00	0.00	0.44	(8.50)	17.32
1/1/2012	12/31/2012	708.45	(36.09)	159.12	9.54	122.79	0.00	(8.46)	348.13	0.00	4.96	(35.43)	20.88
1/1/2013	12/31/2013	0.00	(205.90)	32.47	7.20	150.34	47.78	(6.41)	(132.65)	84.10	3.96	7.72	4.79
1/1/2014	12/31/2014	0.00	0.00	2.55	3.86	84.08	36.26	(3.40)	(75.13)	(31.99)	2.46	6.54	2.62
1/1/2015	12/31/2015	0.00	0.00	0.00	2.10	45.76	19.26	(1.87)	(40.49)	(17.27)	1.68	3.21	1.31
1/1/2016	12/31/2016	0.00	0.00	0.00	1.10	24.80	10.50	(0.95)	(22.36)	(9.35)	1.25	1.75	0.74
1/1/2017	12/31/2017	0.00	0.00	0.00	0.64	12.53	5.61	(0.47)	(11.06)	(5.13)	1.03	1.10	0.95
1/1/2018	12/31/2018	0.00	0.00	0.00	0.42	8.32	2.98	(0.32)	(6.03)	(2.66)	0.94	1.28	0.70
1/1/2019	12/31/2019	0.00	0.00	0.00	0.32	5.20	2.00	(0.18)	(3.91)	(1.43)	0.86	1.00	0.86
1/1/2020	12/31/2020	0.00	0.00	0.00	0.35	4.57	1.35	(0.20)	(2.60)	(1.01)	0.79	1.14	1.06
1/1/2021	12/31/2021	0.00	0.00	0.00	0.25	5.67	1.35	(0.12)	(3.34)	(0.79)	0.74	1.31	0.87
1/1/2022	12/31/2022	0.00	0.00	0.00	0.15	2.62	1.33	(0.04)	(0.86)	(0.73)	0.69	1.11	0.80
1/1/2023	12/31/2023	0.00	0.00	0.00	0.17	2.20	0.65	(0.05)	(0.50)	(0.18)	0.66	1.03	0.81
1/1/2024	12/31/2024	0.00	0.00	0.00	0.17	2.66	0.64	(0.06)	(0.91)	(0.17)	0.63	1.03	0.81
1/1/2025	12/31/2025	0.00	0.00	0.00	0.17	2.53	0.73	(0.06)	(0.81)	(0.25)	0.60	1.02	0.77
1/1/2026	12/31/2026	0.00	0.00	0.00	0.15	2.66	0.71	(0.14)	(0.94)	(0.24)	0.57	0.97	0.18
1/1/2027	12/31/2027	0.00	0.00	0.00	0.10	1.96	0.68	(0.09)	(1.92)	(0.21)	0.54	0.37	0.01
1/1/2028	12/31/2028	0.00	0.00	0.00	0.08	1.17	0.47	(0.08)	(1.15)	(0.46)	0.52	0.19	0.01
1/1/2029	12/31/2029	0.00	0.00	0.00	0.06	1.30	0.33	(0.06)	(1.28)	(0.32)	0.51	0.19	0.01
1/1/2030	12/31/2030	0.00	0.00	0.00	0.07	0.75	0.32	(0.07)	(0.73)	(0.31)	0.50	0.18	0.01
1/1/2031	12/31/2031	0.00	0.00	0.00	0.09	1.16	0.23	(0.09)	(1.14)	(0.23)	0.48	0.18	0.01
1/1/2032	12/31/2032	0.00	0.00	0.00	0.15	1.38	0.34	(0.15)	(1.36)	(0.34)	0.47	0.18	0.02
1/1/2033	12/31/2033	0.00	0.00	0.00	0.19	2.75	0.50	(0.19)	(2.70)	(0.49)	0.44	0.18	0.02
1/1/2034	12/31/2034	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.42	0.17	0.02
1/1/2035	12/31/2035	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.38	0.16	0.02
1/1/2036	12/31/2036	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.35	0.15	0.02
1/1/2037	12/31/2037	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.32	0.14	0.02
1/1/2038	12/31/2038	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.28	0.12	0.02
1/1/2039	12/31/2039	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.25	0.11	0.02
1/1/2040	12/31/2040	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.22	0.10	0.02
1/1/2041	12/31/2041	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.19	0.09	0.02
1/1/2042	12/31/2042	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.15	0.08	0.02
1/1/2043	12/31/2043	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.12	0.07	0.02
1/1/2044	12/31/2044	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.09	0.06	0.02
1/1/2045	12/31/2045	0.00	0.00	0.00	0.19	2.83	0.78	(0.19)	(2.78)	(0.77)	0.05	0.04	0.02
1/1/2046	12/31/2046	0.00	0.00	0.00	0.07	2.83	0.78	(0.07)	(2.78)	(0.77)	0.02	0.03	0.00
1/1/2047	12/31/2047	0.00	0.00	0.00	0.00	0.16	0.56	0.00	(0.16)	(0.55)	0.01	0.01	0.00

**Notes:**

- (3) = Table I, (12) x Percentage of Premium written in corresponding year
- (4) = Table I, (12) x (unearned premium at end of year i - unearned premium at end of year i-1)
- (5) = Table II-B [ (5) + (6) + (7) + (8) + (9) + (10) + (11) ] for each CY
- (6), (7), (8) = Table I, (1) x Table I, (13) x Loss and LAE Payout (from Section VII-F, Exhibit 3) for each CY
- (9) = Table IV-A, (8)
- (10) = Table IV-B, (8)
- (11) = Table IV-C, (8)
- (12) = [ ( Table VI, (8), current + Table VI, (8), previous ) / 2 ] x [ debt share x ((1 + debt cost)^length of time period - 1) ] for each CY  
 where debt share = 25% and debt cost = 7.06% from Section VII-C, Exhibit 5 and Section VII-C, Exhibit 4, respectively.
- (13) = - 0.35 x [ (3) - 0.8 x (4) - (5) - (6) - (7) - (8) - (9) - (10) - (11) - (12) ]
- (14) = 0.35 x { Table IV, (4), cumulative x 0.2 + [Table IV-A, (10) + Table IV-B, (10) + Table IV-C, (10)] for subsequent time interval }

# VII 000030

Section VII - Profit  
 Subsection B - Internal Rate of Return Model  
 9/1/2011

Section VII-B  
 Exhibit 4  
 Page 2

INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA										
Table IV-A : DERIVATION OF DISCOUNTED LOSS RESERVES										
ACCIDENT YEAR 1										
TIME INTERVAL		DISCOUNT FACTOR	UNDISCOUNTED		DISCOUNTED		CHANGE IN DISCOUNTED LOSSES	PAID LOSSES	PAID + CHANGE IN DISCOUNTED LOSSES AY1	
			UNPAID LOSSES BEG OF YEAR	UNPAID LOSSES END OF YEAR	UNPAID LOSSES BEG OF YEAR	UNPAID LOSSES END OF YEAR				
FROM (1)	TO (2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1/1/2011	12/31/2011	0.8674	0.00	29.66	0.00	25.73	25.73			
1/1/2012	12/31/2012	0.8584	29.66	20.12	25.73	17.27	(8.46)	9.54	1.08	
1/1/2013	12/31/2013	0.8407	20.12	12.92	17.27	10.86	(6.41)	7.20	0.79	
1/1/2014	12/31/2014	0.8240	12.92	9.05	10.86	7.46	(3.40)	3.86	0.46	
1/1/2015	12/31/2015	0.8040	9.05	6.95	7.46	5.59	(1.87)	2.10	0.23	
1/1/2016	12/31/2016	0.7923	6.95	5.85	5.59	4.64	(0.95)	1.10	0.15	
1/1/2017	12/31/2017	0.7997	5.85	5.22	4.64	4.17	(0.47)	0.64	0.17	
1/1/2018	12/31/2018	0.8033	5.22	4.80	4.17	3.86	(0.32)	0.42	0.10	
1/1/2019	12/31/2019	0.8196	4.80	4.48	3.86	3.68	(0.18)	0.32	0.14	
1/1/2020	12/31/2020	0.8415	4.48	4.13	3.68	3.48	(0.20)	0.35	0.15	
1/1/2021	12/31/2021	0.8649	4.13	3.88	3.48	3.36	(0.12)	0.25	0.13	
1/1/2022	12/31/2022	0.8903	3.88	3.73	3.36	3.32	(0.04)	0.15	0.12	
1/1/2023	12/31/2023	0.9178	3.73	3.57	3.32	3.27	(0.05)	0.17	0.12	
1/1/2024	12/31/2024	0.9480	3.57	3.39	3.27	3.22	(0.06)	0.17	0.12	
1/1/2025	12/31/2025	0.9815	3.39	3.22	3.22	3.16	(0.06)	0.17	0.12	
1/1/2026	12/31/2026	0.9815	3.22	3.07	3.16	3.02	(0.14)	0.15	0.00	
1/1/2027	12/31/2027	0.9815	3.07	2.98	3.02	2.92	(0.09)	0.10	0.00	
1/1/2028	12/31/2028	0.9815	2.98	2.89	2.92	2.84	(0.08)	0.08	0.00	
1/1/2029	12/31/2029	0.9815	2.89	2.83	2.84	2.78	(0.06)	0.06	0.00	
1/1/2030	12/31/2030	0.9815	2.83	2.76	2.78	2.71	(0.07)	0.07	0.00	
1/1/2031	12/31/2031	0.9815	2.76	2.68	2.71	2.63	(0.09)	0.09	0.00	
1/1/2032	12/31/2032	0.9815	2.68	2.53	2.63	2.48	(0.15)	0.15	0.00	
1/1/2033	12/31/2033	0.9815	2.53	2.34	2.48	2.29	(0.19)	0.19	0.00	
1/1/2034	12/31/2034	0.9815	2.34	2.15	2.29	2.11	(0.19)	0.19	0.00	
1/1/2035	12/31/2035	0.9815	2.15	1.96	2.11	1.92	(0.19)	0.19	0.00	
1/1/2036	12/31/2036	0.9815	1.96	1.77	1.92	1.74	(0.19)	0.19	0.00	
1/1/2037	12/31/2037	0.9815	1.77	1.58	1.74	1.55	(0.19)	0.19	0.00	
1/1/2038	12/31/2038	0.9815	1.58	1.39	1.55	1.37	(0.19)	0.19	0.00	
1/1/2039	12/31/2039	0.9815	1.39	1.21	1.37	1.18	(0.19)	0.19	0.00	
1/1/2040	12/31/2040	0.9815	1.21	1.02	1.18	1.00	(0.19)	0.19	0.00	
1/1/2041	12/31/2041	0.9815	1.02	0.83	1.00	0.81	(0.19)	0.19	0.00	
1/1/2042	12/31/2042	0.9815	0.83	0.64	0.81	0.63	(0.19)	0.19	0.00	
1/1/2043	12/31/2043	0.9815	0.64	0.45	0.63	0.44	(0.19)	0.19	0.00	
1/1/2044	12/31/2044	0.9815	0.45	0.26	0.44	0.26	(0.19)	0.19	0.00	
1/1/2045	12/31/2045	0.9815	0.26	0.07	0.26	0.07	(0.19)	0.19	0.00	
1/1/2046	12/31/2046	0.9815	0.07	0.00	0.07	0.00	(0.07)	0.07	0.00	
1/1/2047	12/31/2047	0.9815	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

- Notes:
- (3): Discount factors specified in IRS regulations (Internal Revenue Bulletin: 2010-50).
  - (4) = (5) in previous period
  - (5) = Table IV, (6), Total - Table IV, (6), cumulative
  - (6) = (7) in previous period
  - (7) = (3) x (5)
  - (8) = (7) - (6)
  - (9) = (4) - (5)
  - (10) = (8) + (9)

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INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA									
Table IV-B : DERIVATION OF DISCOUNTED LOSS RESERVES									
ACCIDENT YEAR 2									
TIME INTERVAL		DISCOUNT FACTOR	UNDISCOUNTED		DISCOUNTED		CHANGE IN DISCOUNTED LOSSES	PAID LOSSES	PAID + CHANGE IN DISCOUNTED LOSSES AY2
			BEG OF YEAR	END OF YEAR	BEG OF YEAR	END OF YEAR			
FROM	TO	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1/1/2011	12/31/2011	N/A	0.00	0.00	0.00	0.00	0.00		0.00
1/1/2012	12/31/2012	0.8674	0.00	401.37	0.00	348.13	348.13		0.00
1/1/2013	12/31/2013	0.8584	401.37	251.03	348.13	215.48	(132.65)	150.34	17.68
1/1/2014	12/31/2014	0.8407	251.03	166.96	215.48	140.35	(75.13)	84.08	8.95
1/1/2015	12/31/2015	0.8240	166.96	121.19	140.35	99.86	(40.49)	45.76	5.27
1/1/2016	12/31/2016	0.8040	121.19	96.40	99.86	77.50	(22.36)	24.80	2.44
1/1/2017	12/31/2017	0.7923	96.40	83.86	77.50	66.44	(11.06)	12.53	1.47
1/1/2018	12/31/2018	0.7997	83.86	75.54	66.44	60.41	(6.03)	8.32	2.29
1/1/2019	12/31/2019	0.8033	75.54	70.34	60.41	56.50	(3.91)	5.20	1.29
1/1/2020	12/31/2020	0.8196	70.34	65.77	56.50	53.90	(2.60)	4.57	1.98
1/1/2021	12/31/2021	0.8415	65.77	60.09	53.90	50.57	(3.34)	5.67	2.34
1/1/2022	12/31/2022	0.8649	60.09	57.47	50.57	49.71	(0.86)	2.62	1.76
1/1/2023	12/31/2023	0.8903	57.47	55.28	49.71	49.21	(0.50)	2.20	1.70
1/1/2024	12/31/2024	0.9178	55.28	52.62	49.21	48.30	(0.91)	2.66	1.74
1/1/2025	12/31/2025	0.9480	52.62	50.09	48.30	47.49	(0.81)	2.53	1.72
1/1/2026	12/31/2026	0.9815	50.09	47.42	47.49	46.55	(0.94)	2.66	1.72
1/1/2027	12/31/2027	0.9815	47.42	45.47	46.55	44.62	(1.92)	1.96	0.04
1/1/2028	12/31/2028	0.9815	45.47	44.30	44.62	43.48	(1.15)	1.17	0.02
1/1/2029	12/31/2029	0.9815	44.30	42.99	43.48	42.20	(1.28)	1.30	0.02
1/1/2030	12/31/2030	0.9815	42.99	42.24	42.20	41.46	(0.73)	0.75	0.01
1/1/2031	12/31/2031	0.9815	42.24	41.09	41.46	40.33	(1.14)	1.16	0.02
1/1/2032	12/31/2032	0.9815	41.09	39.70	40.33	38.97	(1.36)	1.38	0.03
1/1/2033	12/31/2033	0.9815	39.70	36.96	38.97	36.27	(2.70)	2.75	0.05
1/1/2034	12/31/2034	0.9815	36.96	34.12	36.27	33.49	(2.78)	2.83	0.05
1/1/2035	12/31/2035	0.9815	34.12	31.29	33.49	30.71	(2.78)	2.83	0.05
1/1/2036	12/31/2036	0.9815	31.29	28.46	30.71	27.94	(2.78)	2.83	0.05
1/1/2037	12/31/2037	0.9815	28.46	25.63	27.94	25.16	(2.78)	2.83	0.05
1/1/2038	12/31/2038	0.9815	25.63	22.80	25.16	22.38	(2.78)	2.83	0.05
1/1/2039	12/31/2039	0.9815	22.80	19.97	22.38	19.60	(2.78)	2.83	0.05
1/1/2040	12/31/2040	0.9815	19.97	17.14	19.60	16.82	(2.78)	2.83	0.05
1/1/2041	12/31/2041	0.9815	17.14	14.31	16.82	14.05	(2.78)	2.83	0.05
1/1/2042	12/31/2042	0.9815	14.31	11.48	14.05	11.27	(2.78)	2.83	0.05
1/1/2043	12/31/2043	0.9815	11.48	8.65	11.27	8.49	(2.78)	2.83	0.05
1/1/2044	12/31/2044	0.9815	8.65	5.82	8.49	5.71	(2.78)	2.83	0.05
1/1/2045	12/31/2045	0.9815	5.82	2.99	5.71	2.93	(2.78)	2.83	0.05
1/1/2046	12/31/2046	0.9815	2.99	0.16	2.93	0.16	(2.78)	2.83	0.05
1/1/2047	12/31/2047	0.9815	0.16	0.00	0.16	0.00	(0.16)	0.16	0.00

- Notes:
- (3): Discount factors specified in IRS regulations (Internal Revenue Bulletin: 2010-50).
  - (4) = (5) in previous period
  - (5) = Table IV, (7), Total - Table IV, (7), cumulative
  - (6) = (7) in previous period
  - (7) = (3) x (5)
  - (8) = (7) - (6)
  - (9) = (4) - (5)
  - (10) = (8) + (9)

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INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA									
Table IV-C: DERIVATION OF DISCOUNTED LOSS RESERVES									
ACCIDENT YEAR 3									
TIME INTERVAL		DISCOUNT FACTOR (3)	UNDISCOUNTED		DISCOUNTED		CHANGE IN DISCOUNTED LOSSES (8)	PAID LOSSES (9)	PAID + CHANGE IN DISCOUNTED LOSSES AY3 (10)
			UNPAID LOSSES BEG OF YEAR (4)	UNPAID LOSSES END OF YEAR (5)	UNPAID LOSSES BEG OF YEAR (6)	UNPAID LOSSES END OF YEAR (7)			
FROM (1)	TO (2)								
1/1/2011	12/31/2011	N/A	0.00	0.00	0.00	0.00	0.00		0.00
1/1/2012	12/31/2012	N/A	0.00	0.00	0.00	0.00	0.00		0.00
1/1/2013	12/31/2013	0.8674	0.00	96.96	0.00	84.10	84.10		0.00
1/1/2014	12/31/2014	0.8584	96.96	60.70	84.10	52.10	(31.99)	36.26	4.26
1/1/2015	12/31/2015	0.8407	60.70	41.44	52.10	34.83	(17.27)	19.26	1.99
1/1/2016	12/31/2016	0.8240	41.44	30.93	34.83	25.49	(9.35)	10.50	1.16
1/1/2017	12/31/2017	0.8040	30.93	25.32	25.49	20.36	(5.13)	5.61	0.48
1/1/2018	12/31/2018	0.7923	25.32	22.34	20.36	17.70	(2.66)	2.98	0.32
1/1/2019	12/31/2019	0.7997	22.34	20.34	17.70	16.26	(1.43)	2.00	0.57
1/1/2020	12/31/2020	0.8033	20.34	18.99	16.26	15.25	(1.01)	1.35	0.34
1/1/2021	12/31/2021	0.8196	18.99	17.64	15.25	14.46	(0.79)	1.35	0.55
1/1/2022	12/31/2022	0.8415	17.64	16.31	14.46	13.73	(0.73)	1.33	0.60
1/1/2023	12/31/2023	0.8649	16.31	15.66	13.73	13.55	(0.18)	0.65	0.47
1/1/2024	12/31/2024	0.8903	15.66	15.02	13.55	13.37	(0.17)	0.64	0.47
1/1/2025	12/31/2025	0.9178	15.02	14.29	13.37	13.12	(0.25)	0.73	0.47
1/1/2026	12/31/2026	0.9480	14.29	13.58	13.12	12.88	(0.24)	0.71	0.47
1/1/2027	12/31/2027	0.9815	13.58	12.90	12.88	12.66	(0.21)	0.68	0.47
1/1/2028	12/31/2028	0.9815	12.90	12.44	12.66	12.21	(0.46)	0.47	0.01
1/1/2029	12/31/2029	0.9815	12.44	12.11	12.21	11.89	(0.32)	0.33	0.01
1/1/2030	12/31/2030	0.9815	12.11	11.80	11.89	11.58	(0.31)	0.32	0.01
1/1/2031	12/31/2031	0.9815	11.80	11.56	11.58	11.35	(0.23)	0.23	0.00
1/1/2032	12/31/2032	0.9815	11.56	11.22	11.35	11.01	(0.34)	0.34	0.01
1/1/2033	12/31/2033	0.9815	11.22	10.72	11.01	10.52	(0.49)	0.50	0.01
1/1/2034	12/31/2034	0.9815	10.72	9.94	10.52	9.76	(0.77)	0.78	0.01
1/1/2035	12/31/2035	0.9815	9.94	9.16	9.76	8.99	(0.77)	0.78	0.01
1/1/2036	12/31/2036	0.9815	9.16	8.38	8.99	8.22	(0.77)	0.78	0.01
1/1/2037	12/31/2037	0.9815	8.38	7.59	8.22	7.45	(0.77)	0.78	0.01
1/1/2038	12/31/2038	0.9815	7.59	6.81	7.45	6.69	(0.77)	0.78	0.01
1/1/2039	12/31/2039	0.9815	6.81	6.03	6.69	5.92	(0.77)	0.78	0.01
1/1/2040	12/31/2040	0.9815	6.03	5.25	5.92	5.15	(0.77)	0.78	0.01
1/1/2041	12/31/2041	0.9815	5.25	4.47	5.15	4.39	(0.77)	0.78	0.01
1/1/2042	12/31/2042	0.9815	4.47	3.69	4.39	3.62	(0.77)	0.78	0.01
1/1/2043	12/31/2043	0.9815	3.69	2.91	3.62	2.85	(0.77)	0.78	0.01
1/1/2044	12/31/2044	0.9815	2.91	2.12	2.85	2.08	(0.77)	0.78	0.01
1/1/2045	12/31/2045	0.9815	2.12	1.34	2.08	1.32	(0.77)	0.78	0.01
1/1/2046	12/31/2046	0.9815	1.34	0.56	1.32	0.55	(0.77)	0.78	0.01
1/1/2047	12/31/2047	0.9815	0.56	0.00	0.55	0.00	(0.55)	0.56	0.01

- Notes:
- (3): Discount factors specified in IRS regulations (Internal Revenue Bulletin: 2010-50).
  - (4) = (5) in previous period
  - (5) = Table IV, (8), Total - Table IV, (8), cumulative
  - (6) = (7) in previous period
  - (7) = (3) x (5)
  - (8) = (7) - (6)
  - (9) = (4) - (5)
  - (10) = (8) + (9)

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INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA						
Table V: NET CASH FLOWS FROM UNDERWRITING						
TIME INTERVAL		PREMIUM FLOWS NET OF RESERVES (3)	TAX CREDITS (4)	EXPENSES (5)	NET CASH FLOW FROM UNDERWRITING (6)	
FROM (1)	TO (2)					
9/1/2010	11/30/2010	0.00	0.06	0.12		(0.06)
12/1/2010	2/28/2011	0.00	(1.40)	0.51		(1.91)
3/1/2011	5/31/2011	0.00	(2.13)	2.12		(4.24)
6/1/2011	8/31/2011	0.00	(2.13)	7.15		(9.27)
9/1/2011	11/30/2011	24.01	(2.13)	21.37		0.51
12/1/2011	2/29/2012	29.46	(6.61)	38.62		(15.77)
3/1/2012	5/31/2012	49.38	(8.86)	47.04		(6.52)
6/1/2012	8/31/2012	66.83	(8.86)	45.19		12.79
9/1/2012	11/30/2012	66.40	(8.86)	32.20		25.35
12/1/2012	2/28/2013	43.59	(1.67)	18.39		23.54
3/1/2013	5/31/2013	22.57	1.93	11.16		13.34
6/1/2013	8/31/2013	4.08	1.93	5.95		0.06
9/1/2013	11/30/2013	(4.02)	1.93	3.44		(5.54)
12/1/2013	2/28/2014	(1.70)	1.73	1.89		(1.86)
3/1/2014	5/31/2014	(0.54)	1.64	0.94		0.15
6/1/2014	8/31/2014	(0.54)	1.64	0.41		0.69
9/1/2014	11/30/2014	(0.54)	1.64	0.11		0.98
12/1/2014	2/28/2015	(0.40)	1.08	0.00		0.68
3/1/2015	5/31/2015	(0.33)	0.80	0.00		0.47
6/1/2015	8/31/2015	(0.33)	0.80	0.00		0.47
9/1/2015	11/30/2015	(0.33)	0.80	0.00		0.47
12/1/2015	2/29/2016	(0.20)	0.56	0.00		0.36
3/1/2016	5/31/2016	(0.14)	0.44	0.00		0.30
6/1/2016	8/31/2016	(0.14)	0.44	0.00		0.30
9/1/2016	11/30/2016	(0.14)	0.44	0.00		0.30
12/1/2016	2/28/2017	(0.01)	0.33	0.00		0.32
3/1/2017	5/31/2017	0.05	0.28	0.00		0.33
6/1/2017	8/31/2017	0.05	0.28	0.00		0.33
9/1/2017	8/31/2018	(0.10)	1.22	0.00		1.12
9/1/2018	8/31/2019	0.03	1.09	0.00		1.12
9/1/2019	8/31/2020	0.18	1.09	0.00		1.28
9/1/2020	8/31/2021	(0.06)	1.26	0.00		1.19
9/1/2021	8/31/2022	(0.11)	1.18	0.00		1.07
9/1/2022	8/31/2023	(0.01)	1.06	0.00		1.04
9/1/2023	8/31/2024	0.00	1.03	0.00		1.03
9/1/2024	8/31/2025	(0.03)	1.02	0.00		0.99
9/1/2025	8/31/2026	(0.41)	0.98	0.00		0.58
9/1/2026	8/31/2027	(0.31)	0.57	0.00		0.26
9/1/2027	8/31/2028	(0.06)	0.25	0.00		0.20
9/1/2028	8/31/2029	(0.00)	0.19	0.00		0.19
9/1/2029	8/31/2030	0.00	0.18	0.00		0.18
9/1/2030	8/31/2031	0.00	0.18	0.00		0.18
9/1/2031	8/31/2032	0.01	0.18	0.00		0.18
9/1/2032	8/31/2033	0.00	0.18	0.00		0.18
9/1/2033	8/31/2034	0.00	0.17	0.00		0.17
9/1/2034	8/31/2035	0.00	0.16	0.00		0.16
9/1/2035	8/31/2036	0.00	0.15	0.00		0.15
9/1/2036	8/31/2037	0.00	0.14	0.00		0.14
9/1/2037	8/31/2038	0.00	0.13	0.00		0.13
9/1/2038	8/31/2039	0.00	0.12	0.00		0.12
9/1/2039	8/31/2040	0.00	0.10	0.00		0.10
9/1/2040	8/31/2041	0.00	0.09	0.00		0.09
9/1/2041	8/31/2042	0.00	0.08	0.00		0.08
9/1/2042	8/31/2043	0.00	0.07	0.00		0.07
9/1/2043	8/31/2044	0.00	0.06	0.00		0.06
9/1/2044	8/31/2045	(0.00)	0.05	0.00		0.05
9/1/2045	8/31/2046	(0.01)	0.04	0.00		0.02
9/1/2046	8/31/2047	(0.01)	0.02	0.00		0.01

Notes:

- (3) = Table III, (9)
- (4) = Based on Table IV, (13).
- (5) = Table II-B, [(5) + (6) + (7) + (8) + (9) + (10) + (11)]
- (6) = (3) + (4) - (5)

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INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA							
Table VI: DERIVATION OF INVESTED CASH LEVELS							
TIME INTERVAL		LOSS AND LOSS ADJ. RESERVES (3)	UNEARNED PREMIUM RESERVES (4)	NON-CASH ASSETS (5)	INVESTABLE FUND (6)	RESERVE/ SURPLUS RATIO (7)	FUNDS IN SURPLUS ACCOUNT (8)
FROM (1)	TO (2)						
9/1/2010	11/30/2010	0.00	0.00	0.00	0.00	0.00	0.00
12/1/2010	2/28/2011	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2011	5/31/2011	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2011	8/31/2011	0.00	0.00	(5.35)	5.35	0.00	0.00
9/1/2011	11/30/2011	14.52	182.67	168.29	28.91	2.03	97.05
12/1/2011	2/29/2012	63.51	408.74	354.73	117.52	2.03	232.41
3/1/2012	5/31/2012	150.13	482.82	395.43	237.51	2.03	311.49
6/1/2012	8/31/2012	267.93	493.60	414.22	347.31	2.03	374.77
9/1/2012	11/30/2012	379.38	272.39	248.44	403.33	2.03	320.76
12/1/2012	2/28/2013	442.84	117.14	148.94	411.04	2.03	275.59
3/1/2013	5/31/2013	456.87	27.35	90.87	393.35	2.03	238.30
6/1/2013	8/31/2013	426.03	0.00	57.97	368.06	2.03	209.66
9/1/2013	11/30/2013	378.07	0.00	32.45	345.62	2.03	186.06
12/1/2013	2/28/2014	336.61	0.00	16.10	320.51	2.03	165.66
3/1/2014	5/31/2014	300.66	0.00	8.04	292.62	2.03	147.96
6/1/2014	8/31/2014	271.16	0.00	4.23	266.93	2.03	133.45
9/1/2014	11/30/2014	245.78	0.00	2.80	242.98	2.03	120.96
12/1/2014	2/28/2015	223.71	0.00	2.40	221.30	2.03	110.09
3/1/2015	5/31/2015	204.40	0.00	2.08	202.32	2.03	100.59
6/1/2015	8/31/2015	188.39	0.00	1.75	186.64	2.03	92.71
9/1/2015	11/30/2015	174.54	0.00	1.42	173.12	2.03	85.90
12/1/2015	2/29/2016	162.44	0.00	1.22	161.22	2.03	79.94
3/1/2016	5/31/2016	152.01	0.00	1.07	150.94	2.03	74.81
6/1/2016	8/31/2016	143.33	0.00	0.93	142.40	2.03	70.54
9/1/2016	11/30/2016	135.86	0.00	0.79	135.07	2.03	66.86
12/1/2016	2/28/2017	129.47	0.00	0.78	128.69	2.03	63.71
3/1/2017	5/31/2017	123.99	0.00	0.83	123.16	2.03	61.02
6/1/2017	8/31/2017	119.57	0.00	0.88	118.69	2.03	58.85
9/1/2017	8/31/2018	106.19	0.00	0.78	105.41	2.03	52.26
9/1/2018	8/31/2019	97.40	0.00	0.81	96.59	2.03	47.93
9/1/2019	8/31/2020	90.98	0.00	0.99	89.98	2.03	44.77
9/1/2020	8/31/2021	84.06	0.00	0.93	83.13	2.03	41.37
9/1/2021	8/31/2022	78.60	0.00	0.82	77.78	2.03	38.68
9/1/2022	8/31/2023	75.50	0.00	0.81	74.69	2.03	37.16
9/1/2023	8/31/2024	72.23	0.00	0.81	71.42	2.03	35.55
9/1/2024	8/31/2025	68.74	0.00	0.78	67.96	2.03	33.83
9/1/2025	8/31/2026	65.25	0.00	0.37	64.88	2.03	32.11
9/1/2026	8/31/2027	62.17	0.00	0.07	62.11	2.03	30.60
9/1/2027	8/31/2028	60.14	0.00	0.01	60.13	2.03	29.60
9/1/2028	8/31/2029	58.50	0.00	0.01	58.49	2.03	28.79
9/1/2029	8/31/2030	57.14	0.00	0.01	57.13	2.03	28.12
9/1/2030	8/31/2031	55.87	0.00	0.01	55.85	2.03	27.49
9/1/2031	8/31/2032	54.13	0.00	0.02	54.11	2.03	26.64
9/1/2032	8/31/2033	51.28	0.00	0.02	51.26	2.03	25.24
9/1/2033	8/31/2034	47.48	0.00	0.02	47.46	2.03	23.37
9/1/2034	8/31/2035	43.68	0.00	0.02	43.66	2.03	21.50
9/1/2035	8/31/2036	39.88	0.00	0.02	39.86	2.03	19.63
9/1/2036	8/31/2037	36.08	0.00	0.02	36.06	2.03	17.76
9/1/2037	8/31/2038	32.28	0.00	0.02	32.26	2.03	15.89
9/1/2038	8/31/2039	28.48	0.00	0.02	28.46	2.03	14.02
9/1/2039	8/31/2040	24.68	0.00	0.02	24.66	2.03	12.15
9/1/2040	8/31/2041	20.88	0.00	0.02	20.85	2.03	10.28
9/1/2041	8/31/2042	17.08	0.00	0.02	17.05	2.03	8.40
9/1/2042	8/31/2043	13.28	0.00	0.02	13.25	2.03	6.53
9/1/2043	8/31/2044	9.48	0.00	0.02	9.45	2.03	4.66
9/1/2044	8/31/2045	5.68	0.00	0.02	5.65	2.03	2.79
9/1/2045	8/31/2046	1.88	0.00	0.01	1.86	2.03	0.92
9/1/2046	8/31/2047	(0.00)	0.00	0.00	0.00	2.03	(0.00)

Notes:

(3) = Table III, (6) - [ Table II-A, (5), cumulative x Table I, (1) x Table I, (13) ]

(4) = Table III, (7)

(5) = Table III, (5)

(6) = The maximum value of [ (3) + (4) - (5) ] or 0

(7) = Table I, (11)

(8) = [ (3) + (4) ] / (7)

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Section VII - Profit  
 Subsection B - Internal Rate of Return Model  
 9/1/2011

Section VII-B  
 Exhibit 7

INTERNAL RATE OF RETURN ANALYSIS WCRIB OF MA							
Table VII: NOMINAL CASH FLOWS TO INVESTORS							
TIME INTERVAL		NET CASH FLOW FROM UNDERWRITING (3)	CASH POST-TAX INCOME (4)	NET FLOW FOR SURPLUS ACCOUNT (5)	SURPLUS POST-TAX INCOME (6)	NET CASH FLOW (7)	
FROM (1)	TO (2)						
9/1/2010	11/30/2010	(0.06)	0.00	0.00	0.00	(0.06)	
12/1/2010	2/28/2011	(1.91)	0.00	0.00	0.00	(1.91)	
3/1/2011	5/31/2011	(4.24)	0.00	0.00	0.00	(4.24)	
6/1/2011	8/31/2011	(9.27)	0.03	0.00	0.00	(9.24)	
9/1/2011	11/30/2011	0.51	0.16	(97.05)	0.53	(95.84)	
12/1/2011	2/29/2012	(15.77)	0.64	(135.37)	1.27	(149.22)	
3/1/2012	5/31/2012	(6.52)	1.31	(79.08)	1.72	(82.57)	
6/1/2012	8/31/2012	12.79	1.91	(63.28)	2.07	(46.51)	
9/1/2012	11/30/2012	25.35	2.20	54.01	1.75	83.31	
12/1/2012	2/28/2013	23.54	2.22	45.17	1.49	72.41	
3/1/2013	5/31/2013	13.34	2.17	37.29	1.32	54.12	
6/1/2013	8/31/2013	0.06	2.03	28.64	1.16	31.89	
9/1/2013	11/30/2013	(5.54)	1.89	23.60	1.02	20.98	
12/1/2013	2/28/2014	(1.86)	1.73	20.40	0.90	21.17	
3/1/2014	5/31/2014	0.15	1.62	17.69	0.82	20.28	
6/1/2014	8/31/2014	0.69	1.48	14.52	0.74	17.41	
9/1/2014	11/30/2014	0.98	1.33	12.49	0.66	15.47	
12/1/2014	2/28/2015	0.68	1.20	10.86	0.60	13.34	
3/1/2015	5/31/2015	0.47	1.12	9.50	0.56	11.65	
6/1/2015	8/31/2015	0.47	1.03	7.88	0.51	9.90	
9/1/2015	11/30/2015	0.47	0.95	6.82	0.47	8.71	
12/1/2015	2/29/2016	0.36	0.88	5.95	0.44	7.63	
3/1/2016	5/31/2016	0.30	0.83	5.13	0.41	6.67	
6/1/2016	8/31/2016	0.30	0.78	4.27	0.39	5.74	
9/1/2016	11/30/2016	0.30	0.74	3.68	0.36	5.07	
12/1/2016	2/28/2017	0.32	0.69	3.15	0.34	4.50	
3/1/2017	5/31/2017	0.33	0.68	2.69	0.34	4.04	
6/1/2017	8/31/2017	0.33	0.66	2.17	0.33	3.48	
9/1/2017	8/31/2018	1.12	2.35	6.58	1.17	11.22	
9/1/2018	8/31/2019	1.12	2.15	4.33	1.07	8.67	
9/1/2019	8/31/2020	1.28	2.01	3.16	1.00	7.45	
9/1/2020	8/31/2021	1.19	1.85	3.40	0.92	7.37	
9/1/2021	8/31/2022	1.07	1.73	2.69	0.86	6.35	
9/1/2022	8/31/2023	1.04	1.67	1.52	0.83	5.06	
9/1/2023	8/31/2024	1.03	1.60	1.61	0.79	5.04	
9/1/2024	8/31/2025	0.99	1.51	1.72	0.75	4.98	
9/1/2025	8/31/2026	0.58	1.45	1.72	0.72	4.46	
9/1/2026	8/31/2027	0.26	1.38	1.51	0.68	3.84	
9/1/2027	8/31/2028	0.20	1.34	1.00	0.66	3.20	
9/1/2028	8/31/2029	0.19	1.30	0.81	0.64	2.93	
9/1/2029	8/31/2030	0.18	1.27	0.67	0.63	2.75	
9/1/2030	8/31/2031	0.18	1.25	0.63	0.61	2.67	
9/1/2031	8/31/2032	0.18	1.21	0.85	0.60	2.84	
9/1/2032	8/31/2033	0.18	1.14	1.40	0.56	3.29	
9/1/2033	8/31/2034	0.17	1.06	1.87	0.52	3.62	
9/1/2034	8/31/2035	0.16	0.97	1.87	0.48	3.49	
9/1/2035	8/31/2036	0.15	0.89	1.87	0.44	3.35	
9/1/2036	8/31/2037	0.14	0.80	1.87	0.39	3.21	
9/1/2037	8/31/2038	0.13	0.72	1.87	0.35	3.07	
9/1/2038	8/31/2039	0.12	0.63	1.87	0.31	2.93	
9/1/2039	8/31/2040	0.10	0.55	1.87	0.27	2.80	
9/1/2040	8/31/2041	0.09	0.46	1.87	0.23	2.66	
9/1/2041	8/31/2042	0.08	0.38	1.87	0.19	2.52	
9/1/2042	8/31/2043	0.07	0.30	1.87	0.15	2.38	
9/1/2043	8/31/2044	0.06	0.21	1.87	0.10	2.25	
9/1/2044	8/31/2045	0.05	0.13	1.87	0.06	2.11	
9/1/2045	8/31/2046	0.02	0.04	1.87	0.02	1.96	
9/1/2046	8/31/2047	0.01	0.00	0.92	0.00	0.93	

**Notes:**

- (3) = Table V, (6)
- (4) = Table VI, (6) x { [ 1.0 + Table I, (10B) ] ^ length of time period - 1.0 }
- (5) = - (Table VI, (8), current - Table VI, (8), previous)
- (6) = Table VI, (8) x { [ 1.0 + Table I, (10B) ] ^ length of time period - 1.0 }
- (7) = (3) + (4) + (5) + (6)

## COST OF CAPITAL

The first step in setting an underwriting profit factor under a rate of return standard is to determine the fair and reasonable return that should be allowed for bearing the risk of underwriting workers' compensation insurance in Massachusetts. In the context of insurance ratemaking, a "fair and reasonable return" has traditionally been interpreted to mean the cost of the equity capital required to support insurance operations.<sup>1</sup> However, in her Decision on 2003 rates, the Commissioner endorsed the use of a weighted average cost of capital that includes the impact of debt capital at the insurance holding company level.<sup>2</sup> To narrow the debate again this year, the WCRIBMA has used a weighted average cost of capital in its derivation of the profit provision.

Calculating the weighted average cost of capital is simply a matter of separately calculating the cost of equity capital and the cost of debt capital, and then using appropriate weights to combine the two estimates.

**Equity.** Several methods have been used to estimate the cost of equity capital for a regulated firm or industry. However, it is widely agreed that methods that rely on market data are preferred, on both a theoretical and pragmatic basis, to those that are based

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<sup>1</sup> Insurance operating companies typically carry no debt on their balance sheets; that is, the capital of the operating companies is all equity capital.

<sup>2</sup> See, for example, page 52: "We agree that estimates of the cost of capital should reflect debt/equity financing at the holding company level."

on accounting data. Indeed, it is market requirements that suggest use of the term "cost of capital," as the phrase refers to the cost to the firm of attracting investment funds in capital markets.

As in the past, the WCRIBMA has relied on the two most prominent market based methodologies to estimate the cost of equity capital for the WCRIBMA: the DCF (discounted cash flow) model and the traditional, single factor CAPM (capital asset pricing model). These two methods have been widely recognized as the leading approaches for estimating the cost of equity capital in the US economy, and as a result, each method has explicitly been given equal weight in the estimation process.

To apply the CAPM and DCF models in the context of insurance regulation, a sample of firms that investors would view as representative of the risks and required returns for property/casualty insurers was selected. In prior years, the WCRIBMA has relied on a sample of large, publicly traded property/casualty insurers that was drawn exclusively from the Value Line Investment Survey. In this filing, consistent with the 2010 filing, the WCRIBMA has expanded the sample of companies to include firms drawn from two additional data sources: those included in the property/casualty insurance industry group in the Value Line Investment Survey, Small & Mid Cap Edition and also all property and casualty companies in Standard & Poor's Compustat database with SIC codes 6300 – 6399 and revenue in SIC codes 6331 or 6351. (Standard & Poor's Compustat database is used by institutional money managers and analysts around the world. Compustat provides vital company, index, and industry information that supports financial models and proprietary company and industry analysis.) The resulting sample,

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which exceeds 100 companies, is the largest sample of publicly traded insurers which can reasonably be used to estimate the cost of capital.

Based on these data, the cost of equity capital was calculated for the full sample of 105 property/casualty insurers. This calculation provides an estimate of the fair rate of return for the average risk activity in which property/casualty insurers are engaged. Based on the average of the DCF and CAPM results, Dr. Appel determined that investors currently require a return on equity of at least 10.31% for bearing the risk of underwriting property/casualty insurance, as shown below.

DCF	11.09%
CAPM	9.53%
Average	10.31%

Given these results, the WCRIBMA has used a cost of equity capital of 10.31% as the best estimate of the required equity return for the average risk activity in which property/casualty insurers are engaged.

**Debt.** To conform to the 2003 Commissioner’s decision, the WCRIBMA also requested Dr. Appel to calculate the cost of debt capital for property/casualty insurers, as well as the share of debt in their capital structure. For this group of 105 insurers, the average interest cost on long term debt is 7.06%, and the share of non-equity capital in the

corporate capital structure is 25%. Thus, the weighted average cost of capital is 9.50%, as shown below:

$$(25\% \times 7.06\%) + (75\% \times 10.31\%) = 9.50\%$$

Since the cost of capital is the required return for the average risk activity in which insurers are engaged, the question naturally arises as to whether workers' compensation insurance in Massachusetts is of average risk when compared to all lines of insurance. To the extent that this line of business is viewed as riskier than average, the cost of capital would be higher than average as well. There are several reasons why workers' compensation might be viewed as riskier than the average activity in which property/casualty insurers are engaged. Among them are these:

1. Workers' compensation is subject to unlimited liability; there are neither per claim, per occurrence or aggregate loss limits under the policy terms. This is in contrast to the typical property/casualty insurance contract, in which all these limits may apply.
2. Workers' compensation is a "long-tailed" line of business, meaning that the payment of losses may extend for many years beyond the sale date of the policy. It is a well-known principle of statistics that the longer the time horizon of a forecast, the greater the expected error in the estimate. Thus the forecast of

ultimate losses in this line is subject to greater risk than in many other lines of business.

3. Workers' compensation has a substantial exposure to medical inflation, which has been more rapid and less predictable than general inflation.
4. Workers' compensation is subject to the risk of occupational disease, which can lead to substantial and inherently unpredictable losses in the future.
5. Workers' compensation is subject to the phenomenon of "benefit utilization," which refers to the observation that as benefits become more generous, workers increase their utilization of the system. While the term has traditionally been applied to indemnity benefits (as benefits increase both claim frequency and duration increase) it is equally applicable to medical benefits. Since medical costs are covered with no deductibles or co-payments, workers' compensation has become an increasingly attractive alternative to health insurance for coverage of any workplace illness or injury.

While these characteristics suggest that workers' compensation is of above-average risk, the WCRIBMA has made no attempt to quantify the difference in risk, nor has such additional risk been reflected in its estimate of the cost of capital used in deriving the underwriting profit provision, making its provision conservative.

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Section VII – Profit  
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Section VII - C  
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The results of the analysis for the full sample of property/casualty insurers are contained in exhibits to this section, and a more detailed explanation of the models is contained in the accompanying appendix.

**APPENDIX: COST OF CAPITAL****A. INTRODUCTION.**

This appendix is intended to provide a more detailed description of the cost of capital methods selected by the WCRIBMA to derive the estimated cost of capital that is required to determine the underwriting profit provision in this filing.

The generally recognized standards for determining a fair rate of return for a regulated enterprise were articulated in two cases before the U.S. Supreme Court - Bluefield Waterworks and Hope Natural Gas. In Bluefield, the Court stated:

A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties ....

Bluefield Waterworks & Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679, 692-693 (1923). In Hope, the Court further stated:

From the investor or company point of view, it is important that there be enough revenue not only for operating expenses, but also for the capital

costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with the returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591, 603

(1944).

These decisions set forth the two basic standards of fairness under which regulated industries must operate: first, the rate of return to the equity holder should equal that which can be expected to be earned by investors in businesses of similar risk; and second, the rate of return must be sufficient to assure the continued attraction of capital. In essence these criteria, when reasonably applied, balance the interests of consumers of the regulated product or service, and investors, who provide the capital needed to operate the enterprise.

There are several methods that have been used to estimate the fair rate of return, or cost of capital, for a regulated firm or industry. However, it is widely agreed that methods that rely on market data are preferred, on both a theoretical and pragmatic basis, to those that are based on accounting data. Indeed, it is market requirements that suggest use of the term "cost of capital," as the phrase refers to the cost to the firm of attracting investment funds in capital markets. That cost, of course, is the return that

the firm must pay and investors expect to earn as a result of placing their capital at risk in the enterprise. For this reason, Dr. Appel used the two most prominent market-based methodologies to derive the cost of capital estimates for this filing. The first of these is known as the Discounted Cash Flow (DCF) model (sometimes called the Gordon growth model or the dividend valuation model), and the second is a specific form of Risk Premium Analysis known as the Capital Asset Pricing Model (CAPM).

Dr. Appel used DCF and CAPM approaches to obtain independent estimates of the cost of capital, so as not to place undue reliance on any single methodology. Moreover, he used these two models because economic and financial theory strongly support the use of market data to determine required rates of return, and these are the most prominent market-based methods currently available. Reliance on market data is critical for three reasons.

1. Such information reflects the consensus of all investors regarding the risk and required returns on different securities. Thus, the potential for the biases and perceptions of the analyst to overstate or understate the fair rate of return is minimized.
2. The alternative to market data is to use historical accounting data to estimate the cost of capital. This procedure is seriously flawed because it is not prospective and does not necessarily reflect the returns that are of ultimate concern to investors – those that can be earned in the market.

3. The use of market-based models is consistent with the dictates of Hope, in the sense that Hope instructs us to consider investor requirements when determining the fair and reasonable rate of return. (For example, "the return to the equity owner should be commensurate with the returns on investments in other enterprises having corresponding risks.")

In effect, these market based models provide an initial estimate of the "opportunity cost" of placing capital at risk in support of workers' compensation insurance in Massachusetts. Opportunity cost is among the most basic concepts in economics. It refers to the fact that resources have a variety of potential uses, and by using a resource in a particular endeavor an investor forgoes the returns that are available in other, alternative activities. Thus, the opportunity cost of capital (otherwise termed the cost of capital) is the return available from employing that capital in its next best alternative use. This is, of course, the return that investors have forgone by using their capital in support of Massachusetts workers' compensation insurance activities.

It is entirely appropriate to begin an estimate of Massachusetts workers' compensation insurers' cost of capital by evaluating the cost of capital for comparable insurers in the U.S. economy. To the extent that these firms are viewed by investors as being of equivalent risk, they will provide a reasonable starting point for estimating the appropriate cost of capital in this case. However, it is also necessary to consider the specific characteristics of the insurance coverage at issue in this proceeding, before

determining whether the cost of capital for any sample of insurers is a reasonable estimate to be used in the present rate-setting exercise. Should Massachusetts workers' compensation insurance be viewed as differing in risk from the average line of coverage, then the cost of capital may have to be adjusted.

## **B. METHODOLOGY**

The Discounted Cash Flow (DCF) model and a specific form of Risk Premium Analysis (RPA) known as the Capital Asset Pricing Model (CAPM) were used to estimate the cost of capital. These are the most widely recognized methods for estimating the cost of capital in regulatory proceedings. The DCF analysis is the leading model used by practitioners to estimate the required rate of return in regulatory rate proceedings, while RPA analysis is the leading approach used by academics, both for estimating the cost of capital and explaining capital market behavior. Each one provides a reasonable basis for estimating the cost of capital, and each should be accorded equal weight in the process.

Turning to the discounted cash flow (DCF) model first, the DCF is based upon the presumption that the cost of an investment, typically the price of a stock, must equal the present value of the cash flows from the investment. The logic of this assumption is as follows: investors are willing to pay the current price for a share of stock only if the present value of the expected cash flows emanating from that investment are equal to that price. If the present value of the cash flows were greater (less) than the current price, investors would bid the price up (down).

The cash flows arising from the purchase of a share of stock are the dividend payments and capital gains the investor expects to receive in the future. If the security is expected to be held in perpetuity, then the stock price can be expressed as the sum of the discounted dividends:

$$P_0 = [D_1/(1+k)] + [D_2/(1+k)^2] + [D_3/(1+k)^3] + \dots$$

where  $P_0$  is the price of the stock,  $D_i$  is the dividend in period  $i$ , and  $k$  is the investor's implicit discount rate, or cost of capital. If dividends are expected to grow at a constant annual rate,  $g$ , in the future, then the dividend in time period  $i$  is simply the current dividend,  $D_0$ , times the growth factor  $(1+g)^i$ . It can be shown, by suitable mathematical manipulation, that the DCF can be characterized by

$$k = (D_1 / P_0) + g,$$

where  $D_1/P_0$  is the dividend yield expected in the first year and  $g$  is the expected growth rate in dividends. It can also be shown that even if the investor expects to sell the security at some later date, the price at that time will be equal to present value of future dividend flows. Therefore any expected future capital gain will be impounded in the current estimates of future dividends.

Turning to the second model used to calculate the cost of capital, the specific form of Risk Premium Analysis (RPA) known as the Capital Asset Pricing Model (CAPM), it should be noted that risk premium analysis is a technique which attempts to

estimate the cost of capital by calculating the incremental return investors require to hold a particular security, as opposed to another, less risky asset. While the DCF estimates the cost of capital directly, by looking at expected cash flows and market prices, risk premium analysis estimates required returns by evaluating the relative risk of alternative investments. Obviously, those investments with greater risk require greater returns.

The single factor version of the Capital Asset Pricing Model (CAPM) is one specific form of risk premium analysis, which begins with the assumption that there is a risk-free asset, which is typically taken to be a U.S. Treasury security. It then estimates the relative risk of alternative securities to measure the "risk premium" investors require to hold these risky assets. In the classical application of the CAPM, the relative risk of a particular security is measured by a value known as the "beta for market risk" (otherwise known as simply beta) which is an estimate of the relative volatility of that security's returns (or price) compared with the volatility of the entire market (usually proxied by the New York Stock Exchange index or the S&P 500). The information on the beta is used in the following manner to estimate investors' required rate of return:

$$K = r_f + (\beta \times r_D)$$

where  $r_f$  is the risk-free yield,  $\beta$  is the beta for market risk, and  $r_D$  is the market risk premium.

As noted above, the beta coefficient is a measure of the relative volatility, or riskiness, of an investment, compared with the market average. If an individual stock has a beta of 1.5, for example, the stock has a tendency to be 50% more volatile than the market as a whole. This implies that if the market as a whole goes up (down) by 10% this stock has a tendency to go up (down) by 15%.

The market risk premium is the average difference between the returns on the market portfolio and the returns on the riskless asset. For example, over the period 1926 - 2010 a diversified portfolio of common stocks earned an annual return which averaged 8.22 percentage points higher than the return on U.S. Treasury bills. Therefore, an individual security of exactly average risk (i.e., with a beta of 1) would be expected to earn 8.22 percentage points more than a T-bill. In addition to the T-bill, however, it is also reasonable to consider alternative-term securities, and to measure the risk premium relative to them. In fact, this type of procedure is frequently recommended when the time horizon of the investment is relatively long, as is often the case with an investment in insurance.

There are at least three reasons to be concerned about the use of a beta for market risk to measure risk for present purposes. First, it is important to note that beta, as typically estimated, does not properly account for "interest rate risk" (that is, the risk that an investment will fluctuate with changes in interest rates). Since investments in property/casualty insurance stocks are subject to considerable interest rate risk, this means that the CAPM underestimates the cost of capital for the property/casualty insurance industry. Second, it is well known that small stocks tend to earn higher

returns than their market betas would predict. Thus, to the extent that property casualty insurers are smaller than typical firms, the cost of capital derived using the single factor CAPM would tend to understate the required return. Finally, it is also well known that firms with relatively high book to market value ratios tend to produce higher returns than their betas would predict. Therefore, since property casualty insurers tend to have relatively high book to market ratios, the single factor CAPM would tend to understate required returns.

### **C. RESULTS**

In estimating the cost of capital Dr. Appel relied on financial data for a sample of publicly traded property/casualty insurers, drawn from the Value Line Investment Survey and Standard & Poor's Compustat database. The Value Line Investment Survey is an independent investment advisory service that provides weekly reports on approximately 1,700 publicly traded stocks. In addition, it provides in depth quarterly reports on each of the firms it covers, which contain a wealth of historical and forecast information on each security. In terms of numbers of subscribers and annual revenues Value Line is the largest such service in the world. In addition, Value Line is the data source most widely relied upon by experts estimating the cost of capital in regulatory proceedings.

The data Dr. Appel used were drawn from Value Line's "Insurance-Property/Casualty" group of companies. This is one among nearly 100 groups that are established by Value Line so that they can report simultaneously on a set of companies, which are affected by common economic, social, and financial forces.

The Standard & Poor's Compustat ("Research Insight") program is one of the most complete and current databases of North American and Canadian companies that provides the annual and quarterly income statement, balance sheet, cash flows, and supplemental data items on most publicly held companies. Compustat's financial data items are collected from a wide variety of sources including: news wire services, news releases, shareholder reports, direct company contacts, and quarterly and annual documents filed with the Securities and Exchange Commission. Compustat files also contain information on aggregates, industry segments, banks, market prices, dividends, and earnings. Dr. Appel used all property and casualty companies in Standard & Poor's Compustat database with SIC codes 6300 – 6399 and revenue in SIC codes 6331 or 6351. His estimates are based on the most recent available data, from January 2011.

The DCF model requires an estimate of the current dividend yield and the expected growth rate in dividends. The sum of these is the estimated cost of capital.

To estimate the dividend yield, Dr. Appel utilized estimates for the expected first year dividend yield provided by Value Line and Compustat. If there was no information for a specific company in these two sources he checked Yahoo to see if they provided an estimate. Since the annual DCF model requires an estimate of the dividends payable during the first year of the investment, and Value Line's expected first year dividend yield is defined as the estimated dividends payable in the coming year divided by the current share price of the stock, it is precisely the correct value to use in the DCF model. However, for the companies from Compustat and the Value Line Investment Survey, Small and Mid Cap Edition, the dividend yield is defined as the current annual

dividend divided by the current share price, not the coming year's dividend as is required in the model. As a consequence, for those companies, an additional adjustment has been made: to estimate the dividends payable during the first year of the investment the current annual dividends are multiplied by  $1.0 + 0.5 \times \text{Dividend Growth Rate}$  (derived in Section VII-C Exhibit 2, Page 1)<sup>3</sup>.

To estimate the dividend growth rate, Dr. Appel averaged the results from two different techniques, one called the “growth forecast” method, and the other termed “fundamental analysis”. The first, “growth forecast” method, relies on estimates of growth based on historical earnings and dividend data along with analysts' forecasts of growth in these variables. The second, “fundamental analysis” relies on estimating a firm's sustainable growth based on the rate at which it retains and reinvests earnings. For each of these approaches, Dr. Appel relied on long term (i.e., ten-year) and short term (five-year) historical information, along with Value Line analysts' forecasts and Yahoo forecasts. When calculating the expected growth rate, Dr. Appel averaged the results based on these three data sources.

It is appropriate to assume that when evaluating future growth prospects, investors will consider all available information in forming their estimates. This suggests that historical growth in dividends and earnings per share will be of some significance in forming expectations about future growth. At the same time, analysts are an important

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<sup>3</sup> Stock dividends are generally paid quarterly but increased only once a year; thus, depending on the timing, a company's dividend may be increased in the current quarter, or up to four quarters in the future. The growth rate is multiplied by 0.5 year to account for the fact that on average, across a large sample of companies, dividends will be increased approximately one half year in the future.

source of information for investors, and their estimates of future growth are followed closely by the investment community.

As regards fundamental analysis, the premise is that sustainable growth in the future can arise from two sources: retained earnings and issuance of new stock at prices different than book value. In the first case, retained earnings can be reinvested to produce earnings, which will be used to pay higher dividends in the future. In the second case, the proceeds from the sale of stock at prices above book value can also be used for new investment, and the profits ultimately will be used to pay higher dividends in the future. Thus, the fundamental analysis computes the expected growth rate as the sum of the earnings retained as a percentage of common equity and a stock issuance adjustment factor, as follows:

$$g = (b \times r) + (s \times v)$$

where:  $b$  = retention ratio (retained earnings/profit)

$r$  = return on equity

$s$  = fraction of shares to be issued

$v$  = (market/book) - 1.

The results of the DCF analysis for the sample of property/casualty insurers are contained in summary form in section VII-C, Exhibit 2, Page 1 of the filing, with the details of the calculations contained in Exhibit 2, Page 2. These DCF models indicate that the current property/casualty insurance cost of equity capital averages 11.09%.

To illustrate the calculation, consider the model shown in section VII-C, Exhibit 2, Page 1. In this model, the first-year dividend yield is 1.97%, and the expected growth rate in dividends is 9.12%. Accordingly, the required rate of return (k) in this DCF model is equal to:

$$k = (D_1 / P_0) + g , \text{ or}$$
$$11.09\% = 1.97\% + 9.12\%$$

Turning now to the CAPM, the model begins with the assumption that there is a risk-free asset, which is typically taken to be a U.S. Treasury security. It then estimates the relative risk of alternative securities, measured by their “beta,” to measure the "risk premium" investors require to hold the risky assets. This information is used in the following manner to estimate investors' required rate of return:

$$K = r_f + (\beta \times r_D)$$

where  $r_f$  is the risk-free yield,  $\beta$  is the beta coefficient, and  $r_D$  is the market risk premium. In this case, Dr. Appel relied on an average of three CAPM estimates, where the different estimates arise from the choices of short-, intermediate- or long-term Treasuries as the risk-free rate.

As regards the estimate of the beta coefficient for the representative sample of 105 property/casualty insurers, the beta coefficient for this sample of companies ranges

from -0.01 to 2.86, and averages 1.04 This is shown on Section VII-C, Exhibit 3, Page 2.

Dr. Appel relied on three estimates of the risk-free yield, based on the yields on one-month US Treasury bills, 5-year US Treasury notes and 20-year US Treasury bonds, the standard choices for the riskless security used in practical applications of the CAPM. In implementing this model he chose to average the yields on these securities for the period from October through December 2010. This procedure obtains a representative estimate of current interest rates, and avoids any anomalous results that might arise due to unusual interest rate volatility. During this period the yields on one-month Treasury bills averaged 0.12%, while the yields on 5- and 20-year Treasuries averaged 1.49% and 3.84% respectively.

Combining the information concerning the recent yields on U.S. Treasury securities, beta coefficients for the property/casualty insurance industry, and the historical differential between risk-free and equity investments, Dr. Appel's best estimate of investors' required return on equity is 9.53%.

To illustrate this calculation, consider the results for the short term CAPM below:

$$K = r_f + (\beta \times r_d) , \text{ or}$$
$$8.70\% = 0.12\% + (1.04 \times 8.22\%)$$

Each of the other calculations (i.e., the intermediate and long horizon CAPM's) is performed identically. The results from these three models are averaged to produce a 9.53% CAPM cost of capital.

Based on all this information, Dr. Appel's single best estimate of the cost of equity capital for property/casualty insurance is 10.31%, which is the average of the results from the DCF and CAPM analyses. However, because traditional estimates of beta fail to account for interest rate risk, the CAPM estimates of the cost of capital will be understated.

Finally, consistent with the 2003 Commissioner's decision, the WCRIBMA requested that Dr. Appel estimate the share of debt and equity in insurer capital structures, and estimate the cost of debt, so as to calculate a weighted average cost of capital for use in ratemaking.<sup>4</sup> The details of these calculations are contained in Section VII-C, Exhibits 4 and 5. As these exhibits show, debt accounts for approximately 25% of insurer capital, while common equity accounts for 75% of capital. (WCRIBMA notes that the percentage of debt in the capital structure is far higher than in the past. For at least the last decade, debt was consistently in the range of 15% - 20% of total capital while equity constituted the remaining 80% - 85%. Although the most recent estimate appears to be an anomaly, Dr. Appel has not made any adjustments in the debt share which would result in a higher weighted average cost of capital and a higher profit provision.)

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<sup>4</sup> It is typical in insurance regulation to use the cost of equity capital alone as the target return in ratemaking. Since the cost of debt is lower than the cost of equity, the weighted average cost of capital will be lower than the cost of equity alone, and hence the rate indication is lower as well.

## VII 000057

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Given the equity cost, as shown above, of 10.31%, and the debt cost estimated in Exhibit 4 of 7.06%, the weighted average cost of capital is 9.50%, as shown below:

$$(25\% \times 7.06\%) + (75\% \times 10.31\%) = 9.50\%$$

## VII 000058

Section VII - Profit  
Subsection C - Cost of Capital  
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Section VII - C  
Exhibit 1

### Cost of Capital: Summary Exhibit for Property-Casualty Insurance Companies

(1) Discounted Cash Flow (from Exhibit 2, page 1)	11.09%
(2) Capital Asset Pricing Model (from Exhibit 3, page 1)	<u>9.53%</u>
(3) Cost of Equity { = [ (1) + (2) ] / 2.0 }	10.31%
(4) Cost of Debt (from Exhibit 4)	7.06%
(5) Capital Structure (from Exhibit 5):	
(a) Equity	75%
(b) Debt	25%
(6) Weighted Average Cost of Capital { = [ (3) x (5a) ] + [ (4) x (5b) ] }	9.50%

# VII 000059

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Exhibit 2  
Page 1

## Cost of Capital Estimate using Discounted Cash Flow Analysis

DCF Cost of Capital:  $K = D_1 / P_0 + g$

where:

K = cost of capital

$D_1 / P_0$  = estimated dividend yield to be declared the next 12 months

g = dividend growth rate

(1) Estimated Dividend Yield (from Page 2)	1.97
(2) Growth Forecast { = [ (a) + (b) ] / 2.0 }	7.77
(a) Dividend Component [ = Page 2, average of columns (3) through (5) ]	8.71
(b) Earnings Component [ = Page 2, average of columns (6) through (8) ]	6.83
(3) Fundamental Analysis [ = (a) + (b) ]	10.47
(a) Retention to book [ = Page 2, average of columns (9) through (11) ]	10.78
(b) Stock issuance factor [ = Page 2, column (15) ]	-0.32
(4) Dividend Growth Rate { = [ (2) + (3) ] / 2.0 }	9.12
(5) Cost of Capital [ = (1) + (4) ]	<b>11.09</b>

Discounted Cash Flow Analysis: Parameter Estimation

Property/Casualty Insurance Companies (1)	Dividend Yield (2)	Average Dividend Growth Rate			Average Earnings Growth Rate			Average Earnings Retention Rates Retained Earnings as a Percent of Common Equity			Stock Issuance Adjustment Factor			
		Annual Rate of Change			Annual Rate of Change						2010	2013 - 2015	2013 - 2015	Stock Issuance
		Past 10 Years (3)	Past 5 Years (4)	Forecast (5)	Past 10 Years (6)	Past 5 Years (7)	Forecast (8)	Past 10 Years (9)	Past 5 Years (10)	Forecast (11)	Shares (12)	Shares (13)	Market/ Book (14)	Adjustment Factor (15)
21ST CENTURY HOLDING CO	7.30	NA	24.33	NA	-1.11	25.30	NA	20.51	19.20	NA	NA	NA	NA	NA
ACE LTD	2.20	12.00	8.50	3.00	12.00	20.00	2.50	11.56	13.34	8.50	340.00	350.00	0.77	-0.17
ACMAT CORP -CL A	Nil	NA	NA	NA	-7.04	-16.60	NA	7.59	9.86	NA	NA	NA	NA	NA
AFFIRMATIVE INS HOLDINGS INC	Nil	NA	21.50	NA	NA	NA	10.00	5.66	NA	4.15	NA	NA	NA	NA
ALLEGHANY CORP	Nil	NA	NA	Nil	NA	NA	8.00	7.03	7.03	6.50	9.00	9.00	0.97	0.00
ALLIANZ SE -ADR	4.54	NA	-6.07	NA	8.06	43.10	7.40	6.93	9.38	NA	NA	NA	NA	NA
ALLIED WORLD ASSURANCE CO AG	1.46	NA	NA	NA	NA	NA	8.33	15.63	15.63	NA	NA	NA	NA	NA
ALLSTATE CORP	2.60	10.00	8.00	-7.00	2.00	3.50	5.00	9.55	10.60	11.00	537.00	530.00	1.15	-0.05
ALTERRA CAPITAL HOLDINGS LTD	2.32	NA	29.59	NA	NA	1.67	0.00	9.70	11.73	NA	NA	NA	NA	NA
AMERICAN FINANCIAL GROUP INC	2.00	-3.50	7.50	6.50	8.50	20.00	5.00	8.99	11.86	9.00	107.50	107.00	0.85	0.02
AMERICAN INTERNATIONAL GROUP	Nil	NA	NA	NA	NA	NA	0.00	10.20	9.07	NA	NA	NA	NA	NA
AMERICAN NATIONAL INSURANCE	3.76	1.29	0.73	NA	-19.40	-28.90	NA	4.18	4.76	NA	NA	NA	NA	NA
AMERICAN SAFETY INS HLDG LTD	Nil	NA	NA	NA	4.66	3.00	15.00	7.92	8.82	NA	NA	NA	NA	NA
AMERISAFE INC	Nil	NA	NA	NA	NA	NA	10.00	16.24	16.24	NA	NA	NA	NA	NA
AMTRUST FINANCIAL SERVICES	1.78	NA	NA	NA	NA	NA	10.00	17.30	17.30	NA	NA	NA	NA	NA
ARCH CAPITAL GROUP LTD	Nil	NA	NA	NA	NA	6.00	9.50	15.37	16.76	NA	NA	NA	NA	NA
ARGO GROUP INTL HOLDINGS LTD	1.36	NA	NA	NA	3.73	-36.00	10.00	10.24	NA	5.78	NA	NA	NA	NA
ASPEN INSURANCE HOLDINGS LTD	2.20	NA	38.00	NA	NA	7.00	10.00	10.58	10.08	NA	NA	NA	NA	NA
ASSURANT INC	1.88	NA	20.50	NA	NA	12.00	9.00	11.93	12.56	NA	NA	NA	NA	NA
ASSURED GUARANTY LTD	1.06	NA	20.93	NA	NA	NA	8.33	7.72	NA	6.18	NA	NA	NA	NA
ATLANTIC AMERICAN CORP	Nil	NA	NA	NA	-13.40	-12.00	NA	6.59	8.89	NA	NA	NA	NA	NA
AXA -ADR	7.73	14.29	25.86	NA	6.14	15.93	NA	7.05	6.30	NA	NA	NA	NA	NA
AXIS CAPITAL HOLDINGS LTD	2.68	NA	16.00	NA	NA	7.16	12.83	12.15	10.46	NA	NA	NA	NA	NA
BALDWIN & LYONS -CL B	4.91	14.29	6.00	NA	5.88	3.50	8.00	5.31	8.13	NA	NA	NA	NA	NA
BANCINSURANCE CORP	6.45	NA	NA	NA	1.39	NA	NA	10.18	10.66	NA	NA	NA	NA	NA
BERKLEY (W R) CORP	1.00	9.00	13.00	11.00	29.50	15.00	8.50	14.52	16.74	14.50	142.00	140.00	1.55	-0.19
BERKSHIRE HATHAWAY	Nil	NA	NA	Nil	24.00	25.00	8.00	7.34	8.18	8.00	2473.00	2485.00	1.35	0.04
CHUBB CORP	2.50	7.50	11.50	4.00	11.50	23.50	2.50	10.59	12.18	9.50	300.00	290.00	1.25	-0.21
CINCINNATI FINANCIAL CORP	5.20	10.50	10.50	1.50	5.00	0.50	-2.50	3.91	4.55	1.00	163.00	163.00	0.95	0.00
CITIZENS INC	Nil	NA	NA	NA	NA	-7.08	NA	5.43	7.88	NA	NA	NA	NA	NA
CNA FINANCIAL CORP	Nil	NA	NA	14.50	3.00	NA	8.50	7.56	7.56	10.00	269.00	268.00	0.95	0.00
CNA SURETY CORP	Nil	NA	NA	NA	7.59	42.00	4.00	9.91	12.76	NA	NA	NA	NA	NA
CORELOGIC INC	4.40	15.42	12.89	NA	-11.30	-31.70	5.73	11.92	8.18	NA	NA	NA	NA	NA
DONEGAL GROUP INC	2.51	8.28	10.00	NA	6.00	-1.00	5.00	6.43	7.12	NA	NA	NA	NA	NA
EASTERN INSURANCE HLDGS INC	2.46	NA	NA	NA	NA	16.20	8.50	4.50	4.91	NA	NA	NA	NA	NA
EHEALTH INC	Nil	0.00	NA	NA	0.00	NA	12.50	14.90	14.90	NA	NA	NA	NA	NA
EMC INSURANCE GROUP INC	3.56	1.70	3.50	NA	14.59	8.50	5.00	9.00	11.85	NA	NA	NA	NA	NA
EMPLOYERS HOLDINGS INC	1.57	NA	NA	NA	NA	NA	8.33	21.30	21.30	NA	NA	NA	NA	NA
ENDURANCE SPECIALTY HOLDINGS	2.27	NA	8.94	NA	NA	9.31	24.05	13.31	13.40	NA	NA	NA	NA	NA
ERIE INDEMNITY CO -CL A	3.00	15.50	16.50	2.50	4.00	-1.50	11.00	10.59	8.38	14.00	50.00	45.00	3.08	-5.41
EVEREST RE GROUP LTD	2.37	25.38	39.77	NA	10.57	4.48	7.50	11.30	13.21	NA	NA	NA	NA	NA
FAIRFAX FINANCIAL HOLDINGS	2.55	NA	38.34	NA	NA	53.87	15.00	13.47	17.48	NA	NA	NA	NA	NA
FIDELITY NATIONAL FINANCIAL	5.54	NA	NA	NA	NA	NA	11.50	4.85	4.85	NA	NA	NA	NA	NA
FIRST ACCEPTANCE CORP	Nil	NA	NA	NA	NA	57.76	NA	5.92	11.27	NA	NA	NA	NA	NA
FIRST MERCURY FINANCIAL CORP	0.63	NA	NA	NA	NA	NA	10.00	12.83	12.83	NA	NA	NA	NA	NA
FLAGSTONE REINSURANCE HLD SA	1.46	NA	NA	NA	NA	NA	8.33	16.57	16.57	NA	NA	NA	NA	NA
FPIC INSURANCE GROUP INC	Nil	NA	NA	NA	8.36	17.69	10.00	10.86	14.77	NA	NA	NA	NA	NA

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Discounted Cash Flow Analysis: Parameter Estimation

Property/Casualty Insurance Companies (1)	Dividend Yield (2)	Average Dividend Growth Rate			Average Earnings Growth Rate			Average Earnings Retention Rates Retained Earnings as a Percent of Common Equity			Stock Issuance Adjustment Factor			
		Annual Rate of Change			Annual Rate of Change						2010	2013 - 2015	2013 - 2015	Stock Issuance
		Past 10 Years (3)	Past 5 Years (4)	Forecast (5)	Past 10 Years (6)	Past 5 Years (7)	Forecast (8)	Past 10 Years (9)	Past 5 Years (10)	Forecast (11)	Shares (12)	Shares (13)	Market/ Book (14)	Adjustment Factor (15)
GAINSCO INC	Nil	NA	NA	NA	NA	-20.20	NA	15.56	11.07	NA	NA	NA	NA	NA
GENWORTH FINANCIAL INC	Nil	NA	NA	NA	NA	-56.70	16.50	8.31	8.31	NA	NA	NA	NA	NA
GLOBAL INDEMNITY PLC	Nil	NA	NA	NA	NA	-14.50	10.00	10.18	10.65	NA	NA	NA	NA	NA
GREENLIGHT CAPITAL RE LTD	Nil	NA	NA	NA	NA	NA	10.00	16.35	16.35	NA	NA	NA	NA	NA
HALLMARK FINANCIAL SERVICES	Nil	NA	NA	NA	NA	NA	15.00	9.85	9.85	NA	NA	NA	NA	NA
HANOVER INSURANCE GROUP INC	2.10	9.50	NA	17.50	-0.50	NA	8.00	7.21	7.22	8.50	45.00	44.00	1.06	-0.03
HARLEYSVILLE GROUP INC	4.18	8.41	10.50	NA	3.50	39.00	9.00	6.21	7.36	NA	NA	NA	NA	NA
HARTFORD FINANCIAL SERVICES	0.79	4.88	4.83	NA	NA	NA	14.10	9.93	12.25	NA	NA	NA	NA	NA
HCC INSURANCE HOLDINGS INC	2.10	16.00	20.00	5.50	14.00	17.00	4.50	10.64	11.60	10.00	114.00	110.00	1.30	-0.27
HILLTOP HOLDINGS INC	Nil	NA	NA	NA	NA	-37.30	NA	40.13	40.13	NA	NA	NA	NA	NA
HORACE MANN EDUCATORS CORP	2.55	0.28	-4.04	NA	-2.14	14.87	10.34	6.26	10.14	NA	NA	NA	NA	NA
INFINITY PROPERTY & CAS CORP	1.05	NA	17.50	NA	NA	-2.00	6.35	11.56	10.42	NA	NA	NA	NA	NA
KINGSTONE COS INC	Nil	NA	NA	NA	NA	5.16	NA	37.10	21.47	NA	NA	NA	NA	NA
KINGSWAY FINANCIAL SVCS INC	Nil	NA	NA	NA	NA	NA	10.00	12.70	14.51	NA	NA	NA	NA	NA
LOEWS CORP	0.67	4.12	4.56	NA	5.69	18.20	NA	12.22	13.37	NA	NA	NA	NA	NA
MAIDEN HOLDINGS LTD	3.66	NA	NA	NA	NA	NA	11.00	4.30	4.30	NA	NA	NA	NA	NA
MAJESTIC CAPITAL LTD	Nil	NA	NA	NA	NA	NA	NA	17.89	17.89	NA	NA	NA	NA	NA
MARKEL CORP	Nil	NA	NA	Nil	13.50	NA	5.50	9.50	11.16	5.50	10.00	10.00	1.50	0.00
MBIA INC	Nil	NA	NA	NA	NA	NA	10.00	11.61	13.78	NA	NA	NA	NA	NA
MEADOWBROOK INS GROUP INC	1.78	NA	NA	NA	7.45	21.00	10.00	7.64	9.02	NA	NA	NA	NA	NA
MERCER INSURANCE GROUP INC	2.20	NA	NA	NA	NA	30.00	8.00	6.75	7.44	NA	NA	NA	NA	NA
MERCURY GENERAL CORP	5.40	13.50	12.00	3.50	2.00	6.50	5.00	6.63	6.00	3.50	54.80	54.80	1.25	0.00
METLIFE INC	1.74	NA	19.79	NA	11.53	-1.88	13.28	9.77	13.09	NA	NA	NA	NA	NA
MGIC INVESTMENT CORP/WI	Nil	NA	NA	NA	NA	NA	5.00	15.88	12.53	NA	NA	NA	NA	NA
MONTPELIER RE HOLDINGS	1.88	NA	-11.50	NA	NA	-11.00	12.00	17.62	20.23	NA	NA	NA	NA	NA
NATIONAL INTERSTATE CORP	1.57	NA	NA	NA	NA	4.50	1.50	21.03	15.20	NA	NA	NA	NA	NA
NATIONAL SEC GROUP INC	5.12	2.36	-0.61	NA	-6.45	-14.40	NA	5.07	6.37	NA	NA	NA	NA	NA
NAVIGATORS GROUP INC	Nil	NA	NA	NA	17.62	17.79	11.00	7.82	9.60	NA	NA	NA	NA	NA
OLD REPUBLIC INTL CORP	5.40	13.00	13.50	1.50	-4.00	-16.50	NMF	8.15	5.87	4.50	260.00	260.00	1.20	0.00
ONEBEACON INSURANCE GROUP	5.96	NA	NA	NA	NA	NA	5.00	13.83	13.83	NA	NA	NA	NA	NA
PARTNERRE LTD	2.86	7.75	7.96	NA	13.06	12.09	7.63	11.96	16.13	NA	NA	NA	NA	NA
PLATINUM UNDERWRITERS HLDG	0.74	NA	0.00	NA	NA	27.01	11.50	11.49	15.30	NA	NA	NA	NA	NA
PMI GROUP INC	Nil	3.50	-4.50	NMF	NA	NA	NMF	13.63	11.70	12.50	161.00	161.00	1.07	0.00
PROASSURANCE CORP	Nil	NA	NA	NA	11.90	32.49	10.33	10.64	14.98	NA	NA	NA	NA	NA
PROGRESSIVE CORP-OHIO	0.80	NA	NA	NMF	9.50	-5.00	15.50	19.49	22.13	14.50	662.00	660.00	1.80	-0.06
PROTECTIVE LIFE CORP	2.20	5.41	2.78	NA	1.03	-5.72	11.00	8.66	9.30	NA	NA	NA	NA	NA
RADIAN GROUP INC	0.13	-2.84	-10.90	NA	NA	NA	8.50	14.55	14.12	NA	NA	NA	NA	NA
RAM HOLDINGS LTD	Nil	NA	NA	NA	NA	NA	13.00	14.87	17.18	NA	NA	NA	NA	NA
RENAISSANCE HOLDINGS LTD	1.64	8.69	7.45	NA	15.94	6.11	9.67	18.67	23.55	NA	NA	NA	NA	NA
RLI CORP	2.00	14.00	18.50	6.50	14.50	19.50	2.00	10.31	12.94	7.00	20.00	16.00	1.10	-0.54
SAFETY INSURANCE GROUP INC	4.50	NA	42.00	NA	NA	16.50	15.00	11.30	13.10	NA	NA	NA	NA	NA
SEABRIGHT HOLDINGS INC	2.40	NA	NA	NA	NA	NA	9.67	10.54	10.54	NA	NA	NA	NA	NA
SELECTIVE INS GROUP INC	3.00	6.00	10.00	3.00	5.50	7.00	6.50	6.63	8.50	6.50	53.50	54.00	1.05	0.01
STATE AUTO FINANCIAL CORP	3.97	19.55	30.00	NA	-1.86	-15.00	20.00	11.34	12.83	NA	NA	NA	NA	NA
SWISS REINSURANCE CO -ADR	1.82	5.50	16.38	NA	-30.60	-4.15	NA	8.14	7.11	NA	NA	NA	NA	NA
TOKIO MARINE HOLDINGS -ADR	2.07	13.61	21.86	NA	-1.94	1.84	2.30	4.25	2.98	NA	NA	NA	NA	NA
TOWER GROUP INC	1.99	NA	76.00	NA	NA	18.00	22.50	15.26	13.30	NA	NA	NA	NA	NA

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Discounted Cash Flow Analysis: Parameter Estimation

Property/Casualty Insurance Companies (1)	Dividend Yield (2)	Average Dividend Growth Rate Annual Rate of Change			Average Earnings Growth Rate Annual Rate of Change			Average Earnings Retention Rates Retained Earnings as a Percent of Common Equity			Stock Issuance Adjustment Factor			
		Past 10 Years (3)	Past 5 Years (4)	Forecast (5)	Past 10 Years (6)	Past 5 Years (7)	Forecast (8)	Past 10 Years (9)	Past 5 Years (10)	Forecast (11)	2010 Shares (12)	2013 - 2015 Shares (13)	2013 - 2015 Market/ Book (14)	Stock Issuance Adjustment Factor (15)
TRANSATLANTIC HOLDINGS INC	1.70	11.81	15.07	NA	5.35	7.73	7.00	8.65	7.88	NA	NA	NA	NA	NA
TRAVELERS COS INC	2.60	2.00	2.00	7.00	7.00	26.00	3.50	8.34	10.98	7.50	457.00	450.00	1.00	0.00
TRIPLE-S MANAGEMENT CORP	Nil	NA	NA	NA	NA	NA	10.35	10.57	10.57	NA	NA	NA	NA	NA
UNICO AMERICAN CORP	Nil	NA	NA	NA	-2.49	33.41	NA	9.58	10.18	NA	NA	NA	NA	NA
UNITED FIRE & CAS CO	3.03	5.89	8.50	NA	-0.27	NA	8.00	9.11	11.90	NA	NA	NA	NA	NA
UNITED INSURANCE HOLDINGS CO	6.75	NA	NA	NA	NA	NA	NA	28.96	28.96	NA	NA	NA	NA	NA
UNITRIN INC	3.75	2.03	-0.86	NA	-7.66	-1.23	7.00	6.29	5.73	NA	NA	NA	NA	NA
UNIVERSAL INSURANCE HLDGS	8.57	NA	NA	NA	45.43	NA	NA	38.92	46.52	NA	NA	NA	NA	NA
VALIDUS HOLDINGS LTD	3.01	NA	NA	NA	NA	NA	21.73	18.83	18.83	NA	NA	NA	NA	NA
WHITE MTNS INS GROUP LTD	0.30	12.51	34.08	NA	0.06	-7.46	8.00	15.83	9.48	NA	NA	NA	NA	NA
XL GROUP PLC	1.90	0.50	-6.00	-14.50	1.50	NMF	-10.50	8.71	12.45	5.00	320.00	315.00	0.55	0.18
<b>Average</b>	<b>1.97</b>	<b>8.24</b>	<b>13.76</b>	<b>4.13</b>	<b>4.86</b>	<b>6.80</b>	<b>8.84</b>	<b>11.68</b>	<b>12.25</b>	<b>8.43</b>	<b>311.80</b>	<b>310.56</b>	<b>1.23</b>	<b>-0.32</b>

10.78

Notes:

Sources: Value Line Investment Survey, Part 3, The Ratings & Reports, Dec. 17, 2010  
 Value Line Investment Survey, Part 2, Small and Mid Cap Edition, Dec. 10, 2010  
 Compustat Database (Version as of 12/31/2010)  
<http://finance.yahoo.com> (data available on February 1, 2011)

All companies with Nil values pay no dividends

NMF = Not a Meaningful Figure

(2): The dividend yields needed for the DCF Analysis relate dividends at time 1,  $D_1$ , to stock prices at time 0,  $P_0$ . Dividend yields from Compustat and VLIS, Small and Mid Cap Edition, must be adjusted because they are derived from the ratio of dividends at time 0,  $D_0$ , to stock price at time zero,  $P_0$ .  $D_1$  is estimated from  $D_0$  as follows:

$$D_1 = D_0 \times [ 1.0 + ( 0.5 \times \text{Dividend Growth Rate} ) ] \quad \text{where Dividend Growth Rate} = 9.12\% \text{ from Page 1.}$$

(12), (13): in millions.

(15) =  $[ (14) - 1.0 ] \times \{ [ (13) / (12) ]^{(t) - 1.0} \} \times 100$ , where t is 0.25 for the years between midyear 2010 and midyear 2013.

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## Cost of Capital Estimate using Capital Asset Pricing Model Analysis

$$\text{Cost of Capital: } K = r_f + (\beta \times r_d)$$

Time Horizon (1)	Risk-Free Yield ( $r_f$ ) (2)	Market Risk Premium ( $r_d$ ) (3)	Beta Coefficient ( $\beta$ ) (4)	Estimated Cost of Capital (K) (5)
Short-Term	0.12	8.22	1.04	8.70
Intermediate-Term	1.49	7.22	1.04	9.03
Long-Term	3.84	6.72	1.04	10.85
Average	1.81	7.39	1.04	<b>9.53</b>

Notes:

(2): Section VII-H, Exhibit 2, page 3

Short-Term = average yield on 1-month U.S. Treasury Constant Maturities (line (3))

Intermediate-Term = average yield on 5-year U.S. Treasury (line (9))

Long-Term = average yield on 20-year U.S. Treasury (line (12))

(3): Section VII-H, Exhibit 4

Short-Term = S&P 500 total returns minus U.S. Treasury Bill total returns

Intermediate-Term = S&P 500 total returns minus Intermediate-Term Government Bonds income returns

Long-Term = S&P 500 total returns minus Long-Term Government Bonds income returns

(4): Average Beta Coefficient (Page 2).

(5) = (2) + [ (4) x (3) ]

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## Capital Asset Pricing Model - Beta Coefficient

<u>Property/Casualty Insurance Companies</u>	<u>Beta Coefficients</u>
21ST CENTURY HOLDING CO	0.84
ACE LTD	0.85
ACMAT CORP -CL A	-0.01
AFFIRMATIVE INS HOLDINGS INC	1.10
ALLEGHANY CORP	0.80
ALLIANZ SE -ADR	1.54
ALLIED WORLD ASSURANCE CO AG	0.75
ALLSTATE CORP	1.10
ALTERRA CAPITAL HOLDINGS LTD	0.99
AMERICAN FINANCIAL GROUP INC	1.10
AMERICAN INTERNATIONAL GROUP	2.86
AMERICAN NATIONAL INSURANCE	1.28
AMERICAN SAFETY INS HLDG LTD	1.10
AMERISAFE INC	0.85
AMTRUST FINANCIAL SERVICES	1.10
ARCH CAPITAL GROUP LTD	0.65
ARGO GROUP INTL HOLDINGS LTD	0.70
ASPEN INSURANCE HOLDINGS LTD	0.90
ASSURANT INC	0.95
ASSURED GUARANTY LTD	1.96
ATLANTIC AMERICAN CORP	1.14
AXA -ADR	1.83
AXIS CAPITAL HOLDINGS LTD	0.86
BALDWIN & LYONS -CL B	0.55
BANCINSURANCE CORP	0.62
BERKLEY (W R) CORP	0.70
BERKSHIRE HATHAWAY	0.75
CHUBB CORP	0.85
CINCINNATI FINANCIAL CORP	0.95
CITIZENS INC	0.70
CNA FINANCIAL CORP	1.35
CNA SURETY CORP	1.10
CORELOGIC INC	0.89
DONEGAL GROUP INC	0.50
EASTERN INSURANCE HLDGS INC	1.03
EHEALTH INC	0.90
EMC INSURANCE GROUP INC	0.95
EMPLOYERS HOLDINGS INC	0.90
ENDURANCE SPECIALTY HOLDINGS	0.83
ERIE INDEMNITY CO -CL A	0.70
EVEREST RE GROUP LTD	0.69
FAIRFAX FINANCIAL HOLDINGS	0.67
FIDELITY NATIONAL FINANCIAL	0.85
FIRST ACCEPTANCE CORP	0.51
FIRST MERCURY FINANCIAL CORP	0.85
FLAGSTONE REINSURANCE HLD SA	0.60
FPIC INSURANCE GROUP INC	0.67
GAINSCO INC	1.64
GENWORTH FINANCIAL INC	2.47
GLOBAL INDEMNITY PLC	0.90
GREENLIGHT CAPITAL RE LTD	0.85
HALLMARK FINANCIAL SERVICES	0.85
HANOVER INSURANCE GROUP INC	0.85
HARLEYSVILLE GROUP INC	0.70
HARTFORD FINANCIAL SERVICES	2.36

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## Capital Asset Pricing Model - Beta Coefficient

<u>Property/Casualty Insurance Companies</u>	<u>Beta Coefficients</u>
HCC INSURANCE HOLDINGS INC	0.80
HILLTOP HOLDINGS INC	0.48
HORACE MANN EDUCATORS CORP	1.22
INFINITY PROPERTY & CAS CORP	0.75
KINGSTONE COS INC	1.10
KINGSWAY FINANCIAL SVCS INC	1.45
LOEWS CORP	1.16
MAIDEN HOLDINGS LTD	1.05
MAJESTIC CAPITAL LTD	1.22
MARKEL CORP	0.85
MBIA INC	2.09
MEADOWBROOK INS GROUP INC	0.90
MERCER INSURANCE GROUP INC	0.45
MERCURY GENERAL CORP	0.70
METLIFE INC	1.57
MGIC INVESTMENT CORP/WI	2.42
MONTPELIER RE HOLDINGS	0.95
NATIONAL INTERSTATE CORP	0.85
NATIONAL SEC GROUP INC	1.01
NAVIGATORS GROUP INC	0.45
OLD REPUBLIC INTL CORP	1.10
ONEBEACON INSURANCE GROUP	0.80
PARTNERRE LTD	0.63
PLATINUM UNDERWRITERS HLDG	0.76
PMI GROUP INC	2.70
PROASSURANCE CORP	0.62
PROGRESSIVE CORP-OHIO	0.95
PROTECTIVE LIFE CORP	2.36
RADIAN GROUP INC	2.35
RAM HOLDINGS LTD	1.81
RENAISSANCERE HOLDINGS LTD	0.69
RLI CORP	0.80
SAFETY INSURANCE GROUP INC	0.75
SEABRIGHT HOLDINGS INC	0.70
SELECTIVE INS GROUP INC	0.90
STATE AUTO FINANCIAL CORP	0.95
SWISS REINSURANCE CO -ADR	1.79
TOKIO MARINE HOLDINGS -ADR	0.88
TOWER GROUP INC	0.80
TRANSATLANTIC HOLDINGS INC	0.96
TRAVELERS COS INC	0.85
TRIPLE-S MANAGEMENT CORP	0.95
UNICO AMERICAN CORP	0.59
UNITED FIRE & CAS CO	0.95
UNITED INSURANCE HOLDINGS CO	0.97
UNITRIN INC	1.32
UNIVERSAL INSURANCE HLDGS	1.10
VALIDUS HOLDINGS LTD	0.58
WHITE MTNS INS GROUP LTD	1.01
XL GROUP PLC	1.60
Average	1.04

Sources: Value Line Investment Survey, Part 3, The Ratings & Reports, Dec. 17, 2010  
Value Line Investment Survey, Part 2, Small and Mid Cap Edition, Dec. 10, 2010  
Compustat Database (Version as of 12/31/2010)

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## Average Cost of Long-Term Debt for Property-Casualty Insurance Companies

Property/Casualty Insurance Companies (1)	Long-Term Interest \$ in millions (2)	Long-Term Debt \$ in millions (3)	Yield =(2) / (3) (4)
21ST CENTURY HOLDING CO	0.0	0.0	NA
ACE LTD	210.0	3,158.0	6.65%
ACMAT CORP -CL A	0.2	8.6	2.89%
AFFIRMATIVE INS HOLDINGS INC	23.5	188.4	12.50%
ALLEGHANY CORP	0.0	0.0	NA
ALLIANZ SE -ADR	2,023.7	22,075.6	9.17%
ALLIED WORLD ASSURANCE CO AG	39.0	498.9	7.82%
ALLSTATE CORP	315.0	5,909.0	5.33%
ALTERRA CAPITAL HOLDINGS LTD	21.3	90.5	23.59%
AMERICAN FINANCIAL GROUP INC	0.0	0.0	NA
AMERICAN INTERNATIONAL GROUP	10,169.0	111,766.0	9.10%
AMERICAN NATIONAL INSURANCE	0.0	39.5	0.00%
AMERICAN SAFETY INS HLDG LTD	3.2	36.3	8.80%
AMERISAFE INC	1.8	36.2	5.00%
AMTRUST FINANCIAL SERVICES	16.9	312.8	5.40%
ARCH CAPITAL GROUP LTD	24.4	400.0	6.11%
ARGO GROUP INTL HOLDINGS LTD	25.7	311.4	8.25%
ASPEN INSURANCE HOLDINGS LTD	15.6	249.6	6.25%
ASSURANT INC	60.7	972.1	6.24%
ASSURED GUARANTY LTD	62.8	1,032.4	6.08%
ATLANTIC AMERICAN CORP	2.8	41.2	6.68%
AXA -ADR	815.5	14,633.0	5.57%
AXIS CAPITAL HOLDINGS LTD	32.0	499.5	6.41%
BALDWIN & LYONS -CL B	0.0	0.0	NA
BANCINSURANCE CORP	0.8	15.5	5.27%
BERKLEY (W R) CORP	96.0	1,494.2	6.42%
BERKSHIRE HATHAWAY	0.0	0.0	NA
CHUBB CORP	240.0	3,975.0	6.04%
CINCINNATI FINANCIAL CORP	50.0	790.0	6.33%
CITIZENS INC	0.0	0.0	NA
CNA FINANCIAL CORP	135.0	2,251.0	6.00%
CNA SURETY CORP	1.4	30.9	4.50%
CORELOGIC INC	56.8	818.0	6.94%
DONEGAL GROUP INC	1.7	15.5	11.27%
EASTERN INSURANCE HLDGS INC	0.0	1.5	3.10%
EHEALTH INC	0.0	0.0	NA
EMC INSURANCE GROUP INC	0.9	38.5	2.34%
EMPLOYERS HOLDINGS INC	7.4	0.0	NA
ENDURANCE SPECIALTY HOLDINGS	30.2	447.7	6.74%
ERIE INDEMNITY CO -CL A	0.0	0.0	NA
EVEREST RE GROUP LTD	72.1	818.0	8.81%
FAIRFAX FINANCIAL HOLDINGS	166.3	2,147.6	7.74%
FIDELITY NATIONAL FINANCIAL	36.7	861.2	4.26%
FIRST ACCEPTANCE CORP	4.1	41.4	10.00%
FIRST MERCURY FINANCIAL CORP	5.7	67.0	8.48%
FLAGSTONE REINSURANCE HLD SA	12.1	252.4	4.80%
FPIC INSURANCE GROUP INC	3.6	46.1	7.86%
GAINSCO INC	2.1	43.0	4.85%
GENWORTH FINANCIAL INC	398.0	7,084.0	5.62%
GLOBAL INDEMNITY PLC	7.2	121.3	5.95%
GREENLIGHT CAPITAL RE LTD	0.0	0.0	NA
HALLMARK FINANCIAL SERVICES	4.6	59.5	7.73%
HANOVER INSURANCE GROUP INC	51.0	640.0	7.97%
HARLEYSVILLE GROUP INC	6.2	118.5	5.25%
HARTFORD FINANCIAL SERVICES	476.0	6,608.0	7.20%
HCC INSURANCE HOLDINGS INC	0.0	0.0	NA
HILLTOP HOLDINGS INC	9.7	138.4	6.99%
HORACE MANN EDUCATORS CORP	14.0	199.6	7.00%
INFINITY PROPERTY & CAS CORP	11.1	194.7	5.68%
KINGSTONE COS INC	0.3	2.4	13.17%
KINGSWAY FINANCIAL SVCS INC	23.9	330.4	7.24%
LOEWS CORP	477.0	9,475.0	5.03%
MAIDEN HOLDINGS LTD	35.4	215.1	16.46%
MAJESTIC CAPITAL LTD	3.8	44.1	8.62%

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## Average Cost of Long-Term Debt for Property-Casualty Insurance Companies

Property/Casualty Insurance Companies (1)	Long-Term Interest \$ in millions (2)	Long-Term Debt \$ in millions (3)	Yield =(2) / (3) (4)
MARKEL CORP	0.0	0.0	NA
MBIA INC	475.0	9,604.0	4.95%
MEADOWBROOK INS GROUP INC	10.6	118.7	8.93%
MERCER INSURANCE GROUP INC	1.4	15.6	9.12%
MERCURY GENERAL CORP	20.0	269.0	7.43%
METLIFE INC	1,083.0	21,277.0	5.09%
MGIC INVESTMENT CORP/WI	89.3	668.9	13.35%
MONTPELIER RE HOLDINGS	26.3	331.7	7.93%
NATIONAL INTERSTATE CORP	0.7	15.0	4.78%
NATIONAL SEC GROUP INC	1.1	12.4	9.10%
NAVIGATORS GROUP INC	8.5	114.0	7.42%
OLD REPUBLIC INTL CORP	25.0	316.2	7.91%
ONEBEACON INSURANCE GROUP	39.7	620.5	6.40%
PARTNERRE LTD	28.3	321.0	8.82%
PLATINUM UNDERWRITERS HLDG	19.0	250.0	7.61%
PMI GROUP INC	0.0	0.0	NA
PROASSURANCE CORP	3.5	49.9	6.97%
PROGRESSIVE CORP-OHIO	120.0	1,957.8	6.13%
PROTECTIVE LIFE CORP	114.1	2,744.6	4.16%
RADIAN GROUP INC	46.0	994.3	4.63%
RAM HOLDINGS LTD	2.5	110.0	2.28%
RENAISSANCERE HOLDINGS LTD	15.1	347.7	4.35%
RLI CORP	0.0	0.0	NA
SAFETY INSURANCE GROUP INC	0.1	0.0	NA
SEABRIGHT HOLDINGS INC	0.6	12.0	5.23%
SELECTIVE INS GROUP INC	18.0	262.3	6.86%
STATE AUTO FINANCIAL CORP	7.6	117.2	6.48%
SWISS REINSURANCE CO -ADR	1,056.2	19,145.6	5.52%
TOKIO MARINE HOLDINGS -ADR	76.8	4,269.9	1.80%
TOWER GROUP INC	17.6	235.1	7.47%
TRANSATLANTIC HOLDINGS INC	43.5	1,033.1	4.21%
TRAVELERS COS INC	0.0	0.0	NA
TRIPLE-S MANAGEMENT CORP	13.3	166.0	7.99%
UNICO AMERICAN CORP	0.0	0.0	NA
UNITED FIRE & CAS CO	0.0	0.0	NA
UNITED INSURANCE HOLDINGS CO	3.2	35.9	8.84%
UNITRIN INC	33.6	361.7	9.29%
UNIVERSAL INSURANCE HLDGS	0.8	24.6	3.24%
VALIDUS HOLDINGS LTD	44.1	289.8	15.23%
WHITE MTNS INS GROUP LTD	70.8	1,017.6	6.96%
XL GROUP PLC	210.0	2,465.9	8.52%
Average			7.06%

Sources: Value Line Investment Survey, Part 3, The Ratings & Reports, Dec. 17, 2010  
 Value Line Investment Survey, Part 2, Small and Mid Cap Edition, Dec. 10, 2010  
 Compustat Database (Version as of 12/31/2010)  
<http://finance.yahoo.com> (data available on February 1, 2011)

Capital Structure Ratios of Property-Casualty Insurance Companies

Property/Casualty Insurance Companies (1)	Total Debt \$ in millions (2)	L-T Debt \$ in millions (3)	S-T Debt =(2) - (3) (4)	Preferred Stock \$ in millions (5)	Total Non-equity Cap =(3) + (4) + (5) (6)	Common Equity \$ in millions (7)	Common Equity Weight =(7) / [(6) + (7)] (8)	Debt Weight =1.0 - (8) (9)
21ST CENTURY HOLDING CO	8.3	0.0	8.3	0.0	8.3	25.3	0.75	0.25
ACE LTD	3,313.0	3,158.0	155.0	309.0	3,622.0	21,127.0	0.85	0.15
ACMAT CORP -CL A	10.0	8.6	1.4	0.0	10.0	35.5	0.78	0.22
AFFIRMATIVE INS HOLDINGS INC	188.4	188.4	0.0	0.0	188.4	41.2	0.18	0.82
ALLEGHANY CORP	0.0	0.0	0.0	0.0	0.0	2,702.2	1.00	0.00
ALLIANZ SE -ADR	26,800.8	22,075.6	4,725.3	0.0	26,800.8	53,845.9	0.67	0.33
ALLIED WORLD ASSURANCE CO AG	498.9	498.9	0.0	0.0	498.9	2,956.2	0.86	0.14
ALLSTATE CORP	5,909.0	5,909.0	0.0	0.0	5,909.0	17,157.3	0.74	0.26
ALTERRA CAPITAL HOLDINGS LTD	90.5	90.5	0.0	0.0	90.5	1,209.0	0.93	0.07
AMERICAN FINANCIAL GROUP INC	954.0	0.0	954.0	0.0	954.0	3,479.4	0.78	0.22
AMERICAN INTERNATIONAL GROUP	145,875.0	111,766.0	34,109.0	46,784.0	192,659.0	38,524.8	0.17	0.83
AMERICAN NATIONAL INSURANCE	73.8	39.5	34.3	0.0	73.8	2,296.3	0.97	0.03
AMERICAN SAFETY INS HLDG LTD	36.3	36.3	0.0	0.0	36.3	220.7	0.86	0.14
AMERISAFE INC	36.2	36.2	0.0	0.0	36.2	330.6	0.90	0.10
AMTRUST FINANCIAL SERVICES	505.6	312.8	192.8	0.0	505.6	1,038.0	0.67	0.33
ARCH CAPITAL GROUP LTD	400.0	400.0	0.0	325.0	725.0	4,821.8	0.87	0.13
ARGO GROUP INTL HOLDINGS LTD	380.6	311.4	69.2	0.0	380.6	1,154.8	0.75	0.25
ASPEN INSURANCE HOLDINGS LTD	249.6	249.6	0.0	0.0	249.6	2,384.8	0.91	0.09
ASSURANT INC	972.1	972.1	0.0	0.0	972.1	4,493.3	0.82	0.18
ASSURED GUARANTY LTD	1,066.4	1,032.4	34.0	0.0	1,066.4	3,259.7	0.75	0.25
ATLANTIC AMERICAN CORP	41.2	41.2	0.0	0.1	41.3	45.3	0.52	0.48
AXA -ADR	16,576.4	14,633.0	1,943.4	0.0	16,576.4	38,247.0	0.70	0.30
AXIS CAPITAL HOLDINGS LTD	499.5	499.5	0.0	500.0	999.5	4,741.2	0.83	0.17
BALDWIN & LYONS -CL B	10.0	0.0	10.0	0.0	10.0	346.7	0.97	0.03
BANCINSURANCE CORP	18.5	15.5	3.0	0.0	18.5	42.2	0.70	0.30
BERKLEY (W R) CORP	1,736.9	1,494.2	242.7	0.0	1,736.9	3,971.2	0.70	0.30
BERKSHIRE HATHAWAY	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA
CHUBB CORP	3,975.0	3,975.0	0.0	0.0	3,975.0	18,186.2	0.82	0.18
CINCINNATI FINANCIAL CORP	839.0	790.0	49.0	0.0	839.0	5,157.1	0.86	0.14
CITIZENS INC	0.0	0.0	0.0	0.0	0.0	370.2	1.00	0.00
CNA FINANCIAL CORP	2,651.0	2,251.0	400.0	1,000.0	3,651.0	7,282.4	0.67	0.33
CNA SURETY CORP	30.9	30.9	0.0	0.0	30.9	1,048.3	0.97	0.03
CORELOGIC INC	891.1	818.0	73.1	0.0	891.1	1,912.8	0.68	0.32
DONEGAL GROUP INC	15.5	15.5	0.0	0.0	15.5	369.2	0.96	0.04
EASTERN INSURANCE HLDGS INC	2.0	1.5	0.5	0.0	2.0	115.3	0.98	0.02
EHEALTH INC	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA
EMC INSURANCE GROUP INC	38.5	38.5	0.0	0.0	38.5	296.9	0.89	0.11
EMPLOYERS HOLDINGS INC	132.0	0.0	132.0	0.0	132.0	750.0	0.85	0.15
ENDURANCE SPECIALTY HOLDINGS	447.7	447.7	0.0	8.0	455.7	2,539.2	0.85	0.15
ERIE INDEMNITY CO -CL A	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA
EVEREST RE GROUP LTD	1,018.0	818.0	200.0	0.0	1,018.0	5,031.4	0.83	0.17

Capital Structure Ratios of Property-Casualty Insurance Companies

Property/Casualty Insurance Companies (1)	Total Debt \$ in millions (2)	L-T Debt \$ in millions (3)	S-T Debt =(2) - (3) (4)	Preferred Stock \$ in millions (5)	Total Non-equity Cap =(3) + (4) + (5) (6)	Common Equity \$ in millions (7)	Common Equity Weight =(7) / [(6) + (7)] (8)	Debt Weight =1.0 - (8) (9)
FAIRFAX FINANCIAL HOLDINGS	2,149.4	2,147.6	1.8	227.2	2,376.6	8,186.7	0.78	0.22
FIDELITY NATIONAL FINANCIAL	861.9	861.2	0.7	0.0	861.9	3,122.4	0.78	0.22
FIRST ACCEPTANCE CORP	41.5	41.4	0.1	0.0	41.5	86.0	0.67	0.33
FIRST MERCURY FINANCIAL CORP	67.0	67.0	0.0	0.0	67.0	279.6	0.81	0.19
FLAGSTONE REINSURANCE HLD SA	252.4	252.4	0.0	0.0	252.4	1,045.6	0.81	0.19
FPIC INSURANCE GROUP INC	46.1	46.1	0.0	0.0	46.1	374.9	0.89	0.11
GAINSCO INC	52.2	43.0	9.2	0.0	52.2	43.0	0.45	0.55
GENWORTH FINANCIAL INC	8,014.0	7,084.0	930.0	0.0	8,014.0	6,420.2	0.44	0.56
GLOBAL INDEMNITY PLC	121.6	121.3	0.3	0.0	121.6	619.2	0.84	0.16
GREENLIGHT CAPITAL RE LTD	570.9	0.0	570.9	0.0	570.9	973.7	0.63	0.37
HALLMARK FINANCIAL SERVICES	59.5	59.5	0.0	0.0	59.5	183.0	0.75	0.25
HANOVER INSURANCE GROUP INC	640.0	640.0	0.0	0.0	640.0	2,107.5	0.77	0.23
HARLEYSVILLE GROUP INC	118.5	118.5	0.0	0.0	118.5	1,014.6	0.90	0.10
HARTFORD FINANCIAL SERVICES	6,975.0	6,608.0	367.0	2,960.0	9,935.0	10,145.9	0.51	0.49
HCC INSURANCE HOLDINGS INC	298.6	0.0	298.6	0.0	298.6	3,336.8	0.92	0.08
HILLTOP HOLDINGS INC	138.4	138.4	0.0	119.1	257.5	560.3	0.69	0.31
HORACE MANN EDUCATORS CORP	237.6	199.6	38.0	0.0	237.6	706.9	0.75	0.25
INFINITY PROPERTY & CAS CORP	194.7	194.7	0.0	0.0	194.7	834.1	0.81	0.19
KINGSTONE COS INC	2.4	2.4	0.0	0.0	2.4	10.5	0.81	0.19
KINGSWAY FINANCIAL SVCS INC	330.4	330.4	0.0	0.0	330.4	73.2	0.18	0.82
LOEWS CORP	9,485.0	9,475.0	10.0	0.0	9,485.0	16,539.5	0.64	0.36
MAIDEN HOLDINGS LTD	310.5	215.1	95.4	0.0	310.5	552.5	0.64	0.36
MAJESTIC CAPITAL LTD	44.1	44.1	0.0	0.0	44.1	7.2	0.14	0.86
MARKEL CORP	996.7	0.0	996.7	0.0	996.7	3,674.1	0.79	0.21
MBIA INC	11,358.9	9,604.0	1,755.0	0.0	11,358.9	2,454.0	0.18	0.82
MEADOWBROOK INS GROUP INC	130.8	118.7	12.1	0.0	130.8	569.1	0.81	0.19
MERCER INSURANCE GROUP INC	18.6	15.6	3.0	0.0	18.6	175.1	0.90	0.10
MERCURY GENERAL CORP	269.0	269.0	0.0	0.0	269.0	2,357.0	0.90	0.10
METLIFE INC	32,831.0	21,277.0	11,554.0	1.0	32,832.0	36,389.0	0.53	0.47
MGIC INVESTMENT CORP/WI	668.9	668.9	0.0	0.0	668.9	1,274.8	0.66	0.34
MONTPELIER RE HOLDINGS	331.7	331.7	0.0	0.0	331.7	1,595.2	0.83	0.17
NATIONAL INTERSTATE CORP	15.0	15.0	0.0	0.0	15.0	413.3	0.96	0.04
NATIONAL SEC GROUP INC	12.4	12.4	0.0	0.0	12.4	30.2	0.71	0.29
NAVIGATORS GROUP INC	114.0	114.0	0.0	0.0	114.0	848.2	0.88	0.12
OLD REPUBLIC INTL CORP	346.4	316.2	30.2	0.0	346.4	3,285.9	0.90	0.10
ONEBEACON INSURANCE GROUP	620.5	620.5	0.0	0.0	620.5	1,442.0	0.70	0.30
PARTNERRE LTD	521.0	321.0	200.0	20.8	541.8	6,635.4	0.92	0.08
PLATINUM UNDERWRITERS HLDG	250.0	250.0	0.0	0.0	250.0	2,066.1	0.89	0.11
PMI GROUP INC	588.5	0.0	588.5	0.0	588.5	531.9	0.47	0.53
PROASSURANCE CORP	50.2	49.9	0.3	0.0	50.2	1,964.2	0.98	0.02
PROGRESSIVE CORP-OHIO	1,957.8	1,957.8	0.0	0.0	1,957.8	13,180.8	0.87	0.13

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Capital Structure Ratios of Property-Casualty Insurance Companies

Property/Casualty Insurance Companies (1)	Total Debt \$ in millions (2)	L-T Debt \$ in millions (3)	S-T Debt =(2) - (3) (4)	Preferred Stock \$ in millions (5)	Total Non-equity Cap =(3) + (4) + (5) (6)	Common Equity \$ in millions (7)	Common Equity Weight =(7) / [(6) + (7)] (8)	Debt Weight =1.0 - (8) (9)
PROTECTIVE LIFE CORP	2,744.6	2,744.6	0.0	0.0	2,744.6	2,279.9	0.45	0.55
RADIAN GROUP INC	994.3	994.3	0.0	0.0	994.3	667.9	0.40	0.60
RAM HOLDINGS LTD	110.0	110.0	0.0	0.0	110.0	24.2	0.18	0.82
RENAISSANCERE HOLDINGS LTD	378.1	347.7	30.4	650.0	1,028.1	3,932.5	0.79	0.21
RLI CORP	100.0	0.0	100.0	0.0	100.0	1,101.2	0.92	0.08
SAFETY INSURANCE GROUP INC	0.0	0.0	0.0	0.0	0.0	718.6	1.00	0.00
SEABRIGHT HOLDINGS INC	12.0	12.0	0.0	0.0	12.0	191.2	0.94	0.06
SELECTIVE INS GROUP INC	262.3	262.3	0.0	0.0	262.3	971.2	0.79	0.21
STATE AUTO FINANCIAL CORP	117.2	117.2	0.0	0.0	117.2	693.3	0.86	0.14
SWISS REINSURANCE CO -ADR	27,234.0	19,145.6	8,088.4	0.0	27,234.0	19,089.8	0.41	0.59
TOKIO MARINE HOLDINGS -ADR	4,300.3	4,269.9	30.4	0.0	4,300.3	23,568.3	0.85	0.15
TOWER GROUP INC	235.1	235.1	0.0	0.0	235.1	1,151.6	0.83	0.17
TRANSATLANTIC HOLDINGS INC	1,033.1	1,033.1	0.0	0.0	1,033.1	3,426.7	0.77	0.23
TRAVELERS COS INC	6,252.0	0.0	6,252.0	79.0	6,331.0	25,573.3	0.80	0.20
TRIPLE-S MANAGEMENT CORP	167.7	166.0	1.6	0.0	167.7	556.2	0.77	0.23
UNICO AMERICAN CORP	0.0	0.0	0.0	0.0	0.0	48.5	1.00	0.00
UNITED FIRE & CAS CO	0.0	0.0	0.0	0.0	0.0	592.2	1.00	0.00
UNITED INSURANCE HOLDINGS CO	41.4	35.9	5.5	0.0	41.4	32.8	0.44	0.56
UNITRIN INC	561.4	361.7	199.7	0.0	561.4	1,530.2	0.73	0.27
UNIVERSAL INSURANCE HLDGS	44.9	24.6	20.3	0.3	45.2	184.0	0.80	0.20
VALIDUS HOLDINGS LTD	289.8	289.8	0.0	0.0	289.8	3,932.1	0.93	0.07
WHITE MTNS INS GROUP LTD	1,050.7	1,017.6	33.1	0.0	1,050.7	2,973.4	0.74	0.26
XL GROUP PLC	2,465.9	2,465.9	0.0	71.9	2,537.8	7,052.8	0.74	0.26
Average							<b>0.75</b>	<b>0.25</b>

Notes:  
Sources: Value Line Investment Survey, Part 3, The Ratings & Reports, Dec. 17, 2010  
Value Line Investment Survey, Part 2, Small and Mid Cap Edition, Dec. 10, 2010  
Compustat Database (Version as of 12/31/2010)  
(7) = (outstanding shares) \* (one month average share price)  
One month (Dec 1, 2010 - Dec 31, 2010) average share price from  
Compustat Database (Version as of 12/31/2010)

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# VII 000071

Section VII - Profit  
Subsection D - Leverage Ratio  
9/1/2011

Section VII - D  
Exhibit 1

## Losses & LAE and Unearned Premium Reserves to Surplus Ratio (In Millions)

Year (1)	Losses & LAE Reserves (2)	Unearned Premium Reserves (3)	Year-End Surplus (4)	Ratio = [ (2) + (3) ] / (4) (5)
2005	232,041	68,621	131,091	2.29
2006	241,176	71,188	153,673	2.03
2007	247,129	72,842	167,570	1.91
2008	245,088	70,329	152,239	2.07
2009	243,732	68,809	168,729	1.85
Average				<b>2.03</b>

Notes:

(2), (4): Best's Aggregates and Averages, 2010 edition, page 127.

(3): Data for Unearned Premium were provided by AM Best after a request from WCRIBMA.

Single Policy  
 Determination of Selected Premium Flow From Premium Collection SpecialCall

Time Interval		Net Premium Ranges									Weighted Average Selected Collection Pattern (12)
		0 - 9,999			10,000 - 199,999			200,000 +			
		Actual Premium Collection Pattern		Weight (5)	Actual Premium Collection Pattern		Weight (8)	Actual Premium Collection Pattern		Weight (11)	
From (1)	To (2)	Actual (3)	Selected (4)		Actual (6)	Selected (7)		Actual (9)	Selected (10)		
09/01/10	11/30/10	0.0%	0.0%	28.8%	0.1%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
12/01/10	02/28/11	0.0%	0.0%	28.8%	0.0%	0.0%	51.9%	0.2%	0.0%	19.3%	0.0%
03/01/11	05/31/11	0.1%	0.0%	28.8%	0.1%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
06/01/11	08/31/11	11.2%	11.2%	28.8%	2.7%	2.7%	51.9%	1.1%	1.0%	19.3%	4.8%
09/01/11	11/30/11	38.1%	38.1%	28.8%	34.5%	34.5%	51.9%	37.8%	37.8%	19.3%	36.2%
12/01/11	02/29/12	22.6%	22.6%	28.8%	26.0%	26.0%	51.9%	22.4%	22.4%	19.3%	24.3%
03/01/12	05/31/12	15.4%	15.4%	28.8%	20.5%	20.5%	51.9%	20.1%	20.1%	19.3%	19.0%
06/01/12	08/31/12	4.0%	4.0%	28.8%	5.7%	5.7%	51.9%	7.4%	7.5%	19.3%	5.6%
09/01/12	11/30/12	2.2%	2.2%	28.8%	1.8%	1.8%	51.9%	3.1%	3.0%	19.3%	2.1%
12/01/12	02/28/13	2.8%	2.8%	28.8%	4.0%	4.0%	51.9%	5.6%	5.6%	19.3%	4.0%
03/01/13	05/31/13	1.9%	1.9%	28.8%	2.2%	2.2%	51.9%	1.9%	1.9%	19.3%	2.1%
06/01/13	08/31/13	1.1%	1.1%	28.8%	1.2%	1.5%	51.9%	0.2%	0.5%	19.3%	1.2%
09/01/13	11/30/13	0.1%	0.7%	28.8%	0.2%	1.1%	51.9%	0.0%	0.2%	19.3%	0.8%
12/01/13	02/28/14	0.0%	0.0%	28.8%	0.1%	0.0%	51.9%	0.1%	0.0%	19.3%	0.0%
03/01/14	05/31/14	0.0%	0.0%	28.8%	0.0%	0.0%	51.9%	0.1%	0.0%	19.3%	0.0%
06/01/14	08/31/14	0.0%	0.0%	28.8%	0.0%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
09/01/14	11/30/14	0.2%	0.0%	28.8%	0.2%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
12/01/14	02/28/15	0.2%	0.0%	28.8%	0.4%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
03/01/15	05/31/15	0.1%	0.0%	28.8%	0.3%	0.0%	51.9%	0.0%	0.0%	19.3%	0.0%
Total											100.0%

Notes:

(5), (8), (11) are calculated using Unit Statistical Plan data for PY 2008.

(3), (6), (9) are from the premium collection special call.

(12) = [(4) x (5)] + [(7) x (8)] + [(10) x (11)]

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## VII 000073

Section VII - Profit  
 Subsection F - Expense Flows and Weights  
 9/1/2011

Section VII - F  
 Exhibit 1

### Cash Flow Weights

Item of Expense Allowance (% of Standard Premium plus ARAP)	Policy Year		Average
	2007	2008	
(1) Expected Losses	64.6%	61.9%	63.3%
(2) Expected Loss Adjustment Expense:	12.0%	11.5%	11.8%
(a) Defense and Cost Containment Expense	7.3%	7.0%	7.2%
(b) Adjusting and Other Expense	4.7%	4.5%	4.6%
(3) Expected Losses + LAE [= (1) + (2) ]	76.7%	73.4%	75.0%
(4) Fixed Expenses	5.4%	5.8%	5.6%
(a) General Expenses	5.0%	5.4%	5.2%
(b) Miscellaneous and Other Taxes	0.4%	0.4%	0.4%
(5) Variable Expenses [= (5a) + (5b) + (5c) ]	18.4%	18.4%	18.4%
(a) Total Acquisition	11.5%	11.5%	11.5%
(i) Commissions	7.8%	7.8%	7.8%
(ii) Other Acquisition	2.7%	2.7%	2.7%
(iii) Reinsurance Expenses	1.0%	1.0%	1.0%
(iv) Incidental Income and Earned but Uncollected Premium	0.0%	0.0%	0.0%
(b) Premium Tax	2.2%	2.2%	2.2%
(c) Premium Discount	4.7%	4.7%	4.7%
(6) Total Expenses [= (4) + (5) ]	23.8%	24.2%	24.0%

**Notes:**

- (1): Policy Year 2007 and Policy Year 2008 Expected Losses are based on the loss ratios projected to the prospective policy period adjusted by the factor to remove the residual market subsidy associated with large deductible policies from Section I-B, Exhibit 1. For example  $0.646 = 0.646 \times 1.000$ .
- (2): Expected LAE = Expected Losses  $\times$  0.186 where 0.186 is the LAE ratio calculated in VI-K, Exhibit 1.
- (2a), (2b): Loss Adjustment Expense split between DCC and AO is  $0.61 = 0.114 / 0.186$  and  $0.39 = 1 - 0.61$  where 0.114 is three year average ratio of DCC to loss from Section VI-K, Exhibit 1, line (4) and LAE ratio = 0.186 from Section VI-K, Exhibit 1, line (10).
- (4): Section VI-B, Exhibit 1 times the factor to reflect the impact of large deductible policies, from Section I-D, Exhibit 1, page 1.
- (4a), (4b): Policy Year 2007 Fixed Expenses split between General Expenses and Other Taxes based on \$37,487,794 General Expenses and \$2,667,900 Other Taxes. Policy Year 2008 General Expenses split based on \$39,378,466 General Expenses and \$2,802,454 Other Taxes. See VI-B, Exhibit 1, columns (12) & (13).
- (5a): Section VI-J, Exhibit 1.
- (5b), (5c): Section VI-A, Exhibit 1.

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Section VII - Profit  
 Subsection F - Expense Flows and Weights  
 9/1/2011

Section VII - F  
 Exhibit 2

Payment Patterns for General, Other Acquisition, and Taxes  
 Assuming Single Policy Written 9/1/2011

Time Interval		Distribution (%)			
From (1)	To (2)	General Expense (3)	Other Acquisition (4)	Premium Tax (5)	Other Tax (6)
09/01/10	11/30/10	0.01	0.02	0.00	0.01
12/01/10	02/28/11	0.01	0.06	0.00	0.02
03/01/11	05/31/11	0.15	0.12	0.00	0.14
06/01/11	08/31/11	0.23	0.44	0.00	0.29
09/01/11	11/30/11	0.21	0.30	1.00	0.23
12/01/11	02/29/12	0.10	0.02	0.00	0.08
03/01/12	05/31/12	0.09	0.01	0.00	0.07
06/01/12	08/31/12	0.09	0.01	0.00	0.07
09/01/12	11/30/12	0.10	0.02	0.00	0.08
12/01/12	02/28/13	0.01	0.00	0.00	0.01
Total		1.00	1.00	1.00	1.00

Notes:

(3): 1977 Filing, Exhibit 20.

(4) & (6): 1977 Filing, Exhibit 21.

# VII 000075

Section VII - Profit  
 Subsection F - Expense Flows and Weights  
 9/1/2011

Section VII - F  
 Exhibit 3

## Single Policy Loss and Loss Adjustment Expense Flow

Time Interval		Earned Premium (3)	Loss Flow (4)	DCC Flow (5) = (4)	AO Flow (6) = [(3) + (4)] / 2.0	Loss and LAE Flow (7)
From (1)	To (2)					
09/01/10	11/30/10	0.0000	0.0000	0.0000	0.0000	0.0000
12/01/10	02/28/11	0.0000	0.0000	0.0000	0.0000	0.0000
03/01/11	05/31/11	0.0000	0.0000	0.0000	0.0000	0.0000
06/01/11	08/31/11	0.0000	0.0000	0.0000	0.0000	0.0000
09/01/11	11/30/11	0.2500	0.0561	0.0561	0.1531	0.0621
12/01/11	02/29/12	0.2500	0.0561	0.0561	0.1531	0.0621
03/01/12	05/31/12	0.2500	0.0561	0.0561	0.1531	0.0621
06/01/12	08/31/12	0.2500	0.0561	0.0561	0.1531	0.0621
09/01/12	11/30/12	0.0000	0.0746	0.0746	0.0373	0.0723
12/01/12	02/28/13	0.0000	0.0746	0.0746	0.0373	0.0723
03/01/13	05/31/13	0.0000	0.0746	0.0746	0.0373	0.0723
06/01/13	08/31/13	0.0000	0.0746	0.0746	0.0373	0.0723
09/01/13	11/30/13	0.0000	0.0394	0.0394	0.0197	0.0382
12/01/13	02/28/14	0.0000	0.0394	0.0394	0.0197	0.0382
03/01/14	05/31/14	0.0000	0.0394	0.0394	0.0197	0.0382
06/01/14	08/31/14	0.0000	0.0394	0.0394	0.0197	0.0382
09/01/14	11/30/14	0.0000	0.0215	0.0215	0.0108	0.0208
12/01/14	02/28/15	0.0000	0.0215	0.0215	0.0108	0.0208
03/01/15	05/31/15	0.0000	0.0215	0.0215	0.0108	0.0208
06/01/15	08/31/15	0.0000	0.0215	0.0215	0.0108	0.0208
09/01/15	11/30/15	0.0000	0.0116	0.0116	0.0058	0.0113
12/01/15	02/29/16	0.0000	0.0116	0.0116	0.0058	0.0113
03/01/16	05/31/16	0.0000	0.0116	0.0116	0.0058	0.0113
06/01/16	08/31/16	0.0000	0.0116	0.0116	0.0058	0.0113
09/01/16	11/30/16	0.0000	0.0058	0.0058	0.0029	0.0057
12/01/16	02/28/17	0.0000	0.0058	0.0058	0.0029	0.0057
03/01/17	05/31/17	0.0000	0.0058	0.0058	0.0029	0.0057
06/01/17	08/31/17	0.0000	0.0058	0.0058	0.0029	0.0057
09/01/17	08/31/18	0.0000	0.0160	0.0160	0.0080	0.0155
09/01/18	08/31/19	0.0000	0.0099	0.0099	0.0049	0.0096
09/01/19	08/31/20	0.0000	0.0089	0.0089	0.0045	0.0087
09/01/20	08/31/21	0.0000	0.0113	0.0113	0.0056	0.0110
09/01/21	08/31/22	0.0000	0.0048	0.0048	0.0024	0.0046
09/01/22	08/31/23	0.0000	0.0043	0.0043	0.0021	0.0042
09/01/23	08/31/24	0.0000	0.0053	0.0053	0.0026	0.0051
09/01/24	08/31/25	0.0000	0.0050	0.0050	0.0025	0.0048
09/01/25	08/31/26	0.0000	0.0053	0.0053	0.0026	0.0051
09/01/26	08/31/27	0.0000	0.0038	0.0038	0.0019	0.0037
09/01/27	08/31/28	0.0000	0.0022	0.0022	0.0011	0.0021
09/01/28	08/31/29	0.0000	0.0026	0.0026	0.0013	0.0025
09/01/29	08/31/30	0.0000	0.0014	0.0014	0.0007	0.0014
09/01/30	08/31/31	0.0000	0.0023	0.0023	0.0012	0.0023
09/01/31	08/31/32	0.0000	0.0027	0.0027	0.0014	0.0027
09/01/32	08/31/33	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/33	08/31/34	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/34	08/31/35	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/35	08/31/36	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/36	08/31/37	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/37	08/31/38	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/38	08/31/39	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/39	08/31/40	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/40	08/31/41	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/41	08/31/42	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/42	08/31/43	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/43	08/31/44	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/44	08/31/45	0.0000	0.0056	0.0056	0.0028	0.0054
09/01/45	08/31/46	0.0000	0.0056	0.0056	0.0028	0.0054
(8) Relative Weights			1.0000	0.1137	0.0726	

**Notes:**

- (4): Section VII-G, Exhibit 1. Annual values divided by 4.0 for first 7 years.
- (7): Loss and LAE flow = ( 1.000 x (4) + 0.1137 x (5) + 0.0726 x (6) ) / ( 1.000 + 0.1137 + 0.0726 )
- (8): DCC relative weight = 1.000 x 0.186 x 0.61; AO relative weight = 1.000 x 0.186 x 0.39  
 where 0.186 is the LAE factor calculated in Section VI-K, Exhibit 1 and 0.61, 0.39  
 are the DCC and AO relative weights from Section VI-K, Exhibit 1.

Loss Payment Pattern

Age In Months (1)	Indemnity Unadjusted LDF to Ult (2)	Indemnity % Paid =1.0 / (2) (3)	Indemnity Incremental % Paid (3) - 1st Diff (4)	Medical LDF to Ult (5)	Medical %Paid =1.0 / (5) (6)	Medical Incremental % Paid (6) - 1st Diff (7)	Indemnity & Medical Incremental % Paid (8)
12	6.515	15.35%	15.35%	3.015	33.17%	33.17%	22.45%
24	2.286	43.74%	28.39%	1.535	65.15%	31.98%	29.82%
36	1.544	64.78%	21.04%	1.371	72.93%	7.78%	15.75%
48	1.302	76.83%	12.05%	1.310	76.34%	3.40%	8.60%
60	1.203	83.11%	6.27%	1.273	78.56%	2.22%	4.66%
72	1.161	86.13%	3.02%	1.252	79.86%	1.30%	2.34%
84	1.136	88.00%	1.87%	1.234	81.04%	1.18%	1.60%
96	1.124	88.93%	0.93%	1.218	82.12%	1.08%	0.99%
108	1.115	89.70%	0.77%	1.202	83.20%	1.08%	0.89%
120	1.101	90.82%	1.12%	1.186	84.35%	1.15%	1.13%
132	1.098	91.04%	0.22%	1.174	85.21%	0.87%	0.48%
144	1.095	91.31%	0.28%	1.164	85.88%	0.66%	0.43%
156	1.091	91.67%	0.35%	1.154	86.67%	0.79%	0.53%
168	1.089	91.82%	0.15%	1.140	87.69%	1.02%	0.50%
180	1.084	92.22%	0.40%	1.131	88.40%	0.71%	0.53%
192	1.081	92.50%	0.28%	1.125	88.92%	0.52%	0.38%
204	1.079	92.64%	0.13%	1.120	89.27%	0.36%	0.22%
216	1.078	92.75%	0.12%	1.114	89.75%	0.47%	0.26%
228	1.077	92.87%	0.12%	1.112	89.93%	0.18%	0.14%
240	1.075	93.01%	0.15%	1.108	90.29%	0.36%	0.23%
252	1.073	93.19%	0.17%	1.102	90.71%	0.43%	0.27%
264			0.49%			0.66%	0.56%
276			0.49%			0.66%	0.56%
288			0.49%			0.66%	0.56%
300			0.49%			0.66%	0.56%
312			0.49%			0.66%	0.56%
324			0.49%			0.66%	0.56%
336			0.49%			0.66%	0.56%
348			0.49%			0.66%	0.56%
360			0.49%			0.66%	0.56%
372			0.49%			0.66%	0.56%
384			0.49%			0.66%	0.56%
396			0.49%			0.66%	0.56%
408			0.49%			0.66%	0.56%
420			0.49%			0.66%	0.56%
Total			100.00%			100.00%	100.00%

Notes:

(2), (5): Exhibit 2, Page 1.

(8): Medical and Indemnity flows weighted by 60% Indemnity and 40% Medical.

Weights are calculated using data for Incurred Losses Projected to Policy

Effective Period from Section I, Exhibit 1, Pages 1 and 2.

Accident Year Financial Aggregate Data  
 Summary of Loss Development Factors  
 Industrywide

Months of Development	Loss Development Factors From																			Tail Factor	Escalation Factor	
	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
<u>(1) Indemnity Paid Losses</u>																						
2 Yr Average	2.850	1.481	1.186	1.082	1.036	1.022	1.011	1.009	1.012	1.002	1.003	1.004	1.002	1.004	1.003	1.001	1.001	1.001	1.002	1.002	1.041	1.031
Cumulative	6.515	2.286	1.544	1.302	1.203	1.161	1.136	1.124	1.115	1.101	1.098	1.095	1.091	1.089	1.084	1.081	1.079	1.078	1.077	1.075	1.073	1.031
<u>(2) Medical Paid Losses</u>																						
2 Yr Average	1.964	1.119	1.047	1.029	1.017	1.015	1.013	1.013	1.014	1.010	1.008	1.009	1.012	1.008	1.006	1.004	1.005	1.002	1.004	1.005	1.102	1.000
Cumulative	3.015	1.535	1.371	1.310	1.273	1.252	1.234	1.218	1.202	1.186	1.174	1.164	1.154	1.140	1.131	1.125	1.120	1.114	1.112	1.108	1.102	1.000

Notes:  
 Tail Factors from Section II-C, Exhibit 1, page 1 (accident year tail factors, were approximated using policy year tail factors).  
 Escalation Factor from Section II-D, Exhibit 1, page 1.

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 Exhibit 2  
 Page 2

## Accident Year Financial Aggregate Data Calculation of Medical Paid Loss Development Factors Industrywide

Accident Year	Losses evaluated at Month:		Link Ratio	Accident Year	Losses evaluated at Month:		Link Ratio
	12	24			132	144	
2008	42,965	83,013	1.932	1998	77,883	78,430	1.007
2007	39,874	79,609	1.997	1997	63,241	63,779	1.009
Average			1.964	Average			1.008
	24	36			144	156	
2007	79,609	88,252	1.109	1997	63,779	64,371	1.009
2006	71,226	80,513	1.130	1996	66,721	67,332	1.009
Average			1.119	Average			1.009
	36	48			156	168	
2006	80,513	84,432	1.049	1996	67,332	67,827	1.007
2005	87,329	91,225	1.045	1995	64,597	65,645	1.016
Average			1.047	Average			1.012
	48	60			168	180	
2005	91,225	94,385	1.035	1995	65,645	66,099	1.007
2004	99,054	101,392	1.024	1994	73,312	73,993	1.009
Average			1.029	Average			1.008
	60	72			180	192	
2004	101,392	102,538	1.011	1994	73,993	74,461	1.006
2003	101,775	103,996	1.022	1993	84,874	85,328	1.005
Average			1.017	Average			1.006
	72	84			192	204	
2003	103,996	105,472	1.014	1993	85,328	85,585	1.003
2002	98,180	99,691	1.015	1992	102,586	103,103	1.005
Average			1.015	Average			1.004
	84	96			204	216	
2002	99,691	101,190	1.015	1992	103,103	103,418	1.003
2001	94,915	96,015	1.012	1991	134,371	135,386	1.008
Average			1.013	Average			1.005
	96	108			216	228	
2001	96,015	97,082	1.011	1991	135,386	135,361	1.000
2000	100,518	102,041	1.015	1990	146,116	146,725	1.004
Average			1.013	Average			1.002
	108	120			228	240	
2000	102,041	103,626	1.016	1990	146,725	147,419	1.005
1999	92,868	93,995	1.012	1989	140,968	141,433	1.003
Average			1.014	Average			1.004
	120	132			240	252	
1999	93,995	95,157	1.012	1989	141,433	142,100	1.005
1998	77,252	77,883	1.008	Average			1.005
Average			1.010				



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Section VII - Profit  
 Subsection H - Portfolio Rate of Return  
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 Exhibit 1  
 Page 1

## Calculation of Portfolio Rate of Return

Asset Class (1)	Proportion (2)	Pre-tax Return (3)	Tax Rate (4)	After-tax Return (5)
Cash and Short-term Investments	7.52%	0.14%	35.00%	0.09%
Governments	12.93%	1.33%	35.00%	0.86%
States & Territories	12.88%	2.12%	5.25%	2.01%
Special Revenue	23.42%	2.14%	5.25%	2.02%
Industrials	23.95%	2.06%	35.00%	1.34%
Common Stocks	16.91%	9.21%	20.73%	7.30%
Real Estate	0.87%	4.08%	35.00%	2.65%
Preferred Stocks	1.52%	5.73%	14.18%	4.91%
(6) Total	100.00%	3.13%	19.96%	2.50%
(7) Investment Expenses		0.41%	35.00%	0.27%
(8) Portfolio Rate of Return		2.72%	17.68%	<b>2.24%</b>

Notes:

(2): Page 2, Total US Property/Casualty Industry.

(3): Pretax bond returns are from Exhibit 2, page 1.

Cash and short term investments: using short horizon CAPM with beta=0.00. Exhibit 2, Page 3, line (2).

Common stock return:  $r_f + b \times \text{MRP}$  with  $b=1.00$  and three horizons. MRP from Exhibit 4 and  $r_f$  from Exhibit 2, page 3, line (4) for short-term, line (9) for intermediate-term and line (12) for long-term horizon.  
 $9.21\% = \text{average} ( 8.22\% + 0.14\%, 7.22\% + 1.49\%, 6.72\% + 3.84\% )$

Real Estate: 3 month treasury rate, 0.14% Exhibit 2, page 3, line (4) plus the real estate differential, 3.94% from Ibbotson and Siegel, "Real Estate Returns: A Comparison with Other Investments".

Preferred Stock return: yield on A rated preferred stock from Mergent Bond Record (Exhibit 2, page 3, line (17)).

(4): Governments and Other taxable bonds taxed at Federal Tax Rate of 0.35.

Tax rate for Tax Exempt Bonds =  $0.15 \times 0.35$

Tax rate for Preferred stock =  $(0.30 \times 0.35) + (0.70 \times 0.15 \times 0.35)$

Tax rate for Common Stocks from Exhibit 6, page 1.

(5) = (3) x [ 1.0 - (4) ]

(7): Exhibit 5.

(8) = (6) - (7)

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 Exhibit 1  
 Page 2

## Asset Distribution for Property-Casualty Industry

Assets (1)	Net Admitted Assets (\$000) (2)	Share = (2) / (5) (3)	Adjusted Share = (3) / (6) (4)
Cash and Short Term Investments	92,822,806	7.18%	7.52%
Bonds:	903,163,013	69.85%	73.18%
Governments			12.93%
States & Territories			12.88%
Special Revenue			23.42%
Industrials			23.95%
Common Stocks	208,671,744	16.14%	16.91%
Real Estate	10,715,297	0.83%	0.87%
Preferred Stocks	18,820,927	1.46%	1.52%
Other Invested Assets	58,754,472	4.54%	

(5) Total 1,292,948,259 100.00% 100.00%

(6) Total excluding Other Invested Assets 95.46%

**Notes:**

Source: Best's Aggregates and Averages Property Casualty, 2010 Edition, page 140.

(2): Real estate is sum of: properties occupied by the company, properties held for the production of income and properties held for sale.

None of the values include investments in affiliates.

(4): The Adjusted Share for Bonds in total is 73.18%. This is allocated to the subcategories (Governments, States & Territories, Special Revenue and Industrials) by multiply 73.18% by the adjusted bond weights from Exhibit 3.

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 Exhibit 2  
 Page 1

### Calculation of Pretax Returns on Bonds

% of Bonds (adjusted for removal of Other Bonds category) by Class, by Maturity for P/C Industry				
Term to Maturity in years	Governments	States and Territories	Special Revenue	Industrials
0.5	3.38%	0.44%	1.66%	4.27%
3	7.93%	5.38%	11.03%	14.77%
7	4.05%	7.17%	9.74%	10.03%
15	1.58%	3.84%	5.77%	1.36%
25	0.72%	0.77%	3.81%	2.29%
Total	17.67%	17.61%	32.00%	32.72%

As of	Term to Maturity in years	Yield Data			
		Governments	States and Territories	Special Revenue	Industrials
Oct-10	0.5	0.18%	0.29%	0.28%	0.33%
	3	0.57%	0.66%	0.66%	1.04%
	7	1.85%	1.92%	1.92%	2.83%
	15	3.03%	3.15%	3.07%	3.98%
	25	3.70%	3.94%	3.68%	4.61%
Nov-10	0.5	0.18%	0.31%	0.31%	0.32%
	3	0.67%	0.79%	0.79%	1.16%
	7	2.02%	2.14%	2.13%	3.07%
	15	3.29%	3.42%	3.38%	4.26%
	25	4.01%	4.17%	4.06%	4.88%
Dec-10	0.5	0.19%	0.33%	0.32%	0.35%
	3	0.99%	1.09%	1.15%	1.40%
	7	2.66%	2.70%	2.86%	3.48%
	15	3.73%	3.80%	4.01%	4.53%
	25	4.30%	4.54%	4.68%	5.08%
		Weighted Yields			
Oct-10	All	1.14%	1.85%	1.82%	1.87%
Nov-10	All	1.26%	2.05%	2.03%	2.03%
Dec-10	All	1.60%	2.47%	2.56%	2.29%
	Average	<b>1.33%</b>	<b>2.12%</b>	<b>2.14%</b>	<b>2.06%</b>

**Notes:**

- % of bonds by Class and by Maturity for P/C Industry are from Exhibit 3.
- Yield Data are from Page 2.
- Example of Weighted Yield calculation for Oct-10, States and Territories:  

$$1.85 = (0.29 \times 0.44 + 0.66 \times 5.38 + 1.92 \times 7.17 + 3.15 \times 3.84 + 3.94 \times 0.77) / 17.61$$

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 Exhibit 2  
 Page 2

## Calculation of Yield Data

Term to Maturity in Years	Oct-10	Nov-10	Dec-10	Formulas used to derive the yields (reference to data on page 3)
<b>Governments</b>				
0.5	0.18%	0.18%	0.19%	=(5)
3	0.57%	0.67%	0.99%	=(8)
7	1.85%	2.02%	2.66%	=(10)
10	2.54%	2.76%	3.29%	=(11)
20	3.52%	3.82%	4.17%	=(12)
30	3.87%	4.19%	4.42%	=(13)
<b>States and Territories</b>				
0.5	0.29%	0.31%	0.33%	=(5) + 9.5/9.0 x [ (25) - (6) ] - 0.5/9.0 x [ (26) - (11) ]
3	0.66%	0.79%	1.09%	=(8) + 7.0/9.0 x [ (25) - (6) ] + 2.0/9.0 x [ (26) - (11) ]
7	1.92%	2.14%	2.70%	=(10) + 1.0/3.0 x [ (25) - (6) ] + 2.0/3.0 x [ (26) - (11) ]
10	2.60%	2.88%	3.28%	=(26)
20	3.70%	3.97%	4.33%	=(12) + 0.5 x [ (26) - (11) ] + 0.5 x [ (27) - (13) ]
30	4.17%	4.37%	4.75%	=(27)
<b>Special Revenue</b>				
0.5	0.28%	0.31%	0.32%	=(5) + 29.5/29.0 x [ (25) - (6) ] - 0.5/29.0 x [ (24) - (13) ]
3	0.66%	0.79%	1.15%	=(8) + 27.0/29.0 x [ (25) - (6) ] + 2.0/29.0 x [ (24) - (13) ]
7	1.92%	2.13%	2.86%	=(10) + 23.0/29.0 x [ (25) - (6) ] + 6.0/29.0 x [ (24) - (13) ]
10	2.60%	2.86%	3.52%	=(11) + 20.0/29.0 x [ (25) - (6) ] + 9.0/29.0 x [ (24) - (13) ]
20	3.53%	3.89%	4.50%	=(12) + 10.0/29.0 x [ (25) - (6) ] + 19.0/29.0 x [ (24) - (13) ]
30	3.84%	4.24%	4.85%	=(24)
<b>Industrial</b>				
0.5	0.33%	0.32%	0.35%	=(5) + 26.0/27.0 x [ (1) - (2) ] + 1.0/27.0 x [ (19) - (10) ]
3	1.04%	1.16%	1.40%	=(8) + 16.0/27.0 x [ (1) - (2) ] + 11.0/27.0 x [ (19) - (10) ]
7	2.83%	3.07%	3.48%	=(19)
10	3.51%	3.78%	4.10%	=(11) + 20.0/23.0 x [ (19) - (10) ] + 3.0/23.0 x [ (15) - (13) ]
20	4.45%	4.75%	4.96%	=(12) + 10.0/23.0 x [ (19) - (10) ] + 13.0/23.0 x [ (15) - (13) ]
30	4.77%	5.02%	5.19%	=(15)

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 Exhibit 2  
 Page 3

## Yield Data

	Oct-10	Nov-10	Dec-10	Average
<b>FEDERAL RESERVE STATISTICAL RELEASE</b>				
Commercial Paper				
(1) 3-month	0.25%	0.25%	0.27%	0.26%
U.S. Govt Securities - Secondary Market				
(2) 3-month	0.13%	0.14%	0.14%	0.14%
Treasury Constant Maturities				
(3) 1-month	0.14%	0.13%	0.09%	0.12%
(4) 3-month	0.13%	0.14%	0.14%	0.14%
(5) 6-month	0.18%	0.18%	0.19%	0.18%
(6) 1-year	0.23%	0.25%	0.29%	0.26%
(7) 2-year	0.38%	0.45%	0.62%	0.48%
(8) 3-year	0.57%	0.67%	0.99%	0.74%
(9) 5-year	1.18%	1.35%	1.93%	1.49%
(10) 7-year	1.85%	2.02%	2.66%	2.18%
(11) 10-year	2.54%	2.76%	3.29%	2.86%
(12) 20-year	3.52%	3.82%	4.17%	3.84%
(13) 30-year	3.87%	4.19%	4.42%	4.16%
Corporate Bonds - Moody's Seasoned				
(14) Conventional Mortgages	4.23%	4.30%	4.71%	4.41%
<b>MERGENT BOND RECORD</b>				
Long-Term Corporate Bond Yields (avg maturity at least 20 yrs)				
(15) Aa Industrial	4.77%	5.02%	5.19%	4.99%
(16) Aa Public Utility	4.89%	5.12%	5.32%	5.11%
Moody's Preferred Stock Ratings				
(17) Pub Util Pref Stock ("a")	5.78%	5.57%	5.83%	5.73%
<b>S&amp;P's CREDIT WEEK</b>				
Aa Industrial				
(18) 5-year to maturity	2.15%	2.45%	2.90%	2.50%
(19) 7-year to maturity ( = (18) + 0.4 x [ (20) - (18) ] )	2.83%	3.07%	3.48%	3.13%
(20) 10-year to maturity	3.85%	4.00%	4.35%	4.07%
(21) 30-year to maturity ( = (15) )	4.77%	5.02%	5.19%	4.99%
A Public Utility				
(22) 7-year to maturity ( = [ (19) / (21) ] x (23) ] )	2.90%	3.13%	3.57%	3.20%
(23) 30-year to maturity ( = (16) )	4.89%	5.12%	5.32%	5.11%
<b>VALUE LINE INVESTMENT SURVEY (Part II)</b>				
Municipal Bond Yields				
Bond Buyer Indexes				
(24) 20-Bond Index (GOs)	3.84%	4.24%	4.85%	4.31%
General Obligation Bonds (GOs)				
(25) 1-year Aaa	0.33%	0.38%	0.43%	0.38%
(26) 10-year Aaa	2.60%	2.88%	3.28%	2.92%
(27) 25/30-year Aaa	4.17%	4.37%	4.75%	4.43%

Note:

Sources: Various issues of Federal Reserve Statistical Release, H.15 , Mergent Bond Record, Standard & Poor's Credit Week and Value Line Investment Survey, Part II.

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Section VII - Profit  
 Subsection H - Portfolio Rate of Return  
 9/1/2011

Section VII - H  
 Exhibit 3

## Bond Distribution by Class and by Maturity for Property-Casualty Industry

### 2009 Industry Totals (\$000)

Term to Maturity in Years	Governments	States and Territories	Special Revenue	Industrials	Other Bonds	Total Bonds
0.5	30,570,345	3,943,009	14,979,365	38,614,912	4,232,865	92,340,496
3	71,682,221	48,648,423	99,637,182	133,432,858	775,906	354,176,590
7.5	36,636,557	64,782,718	88,034,000	90,653,258	319,765	280,426,298
15	14,284,252	34,701,475	52,102,677	12,247,755	558,641	113,894,800
25	6,466,112	6,996,670	34,383,845	20,710,361	2,666,154	71,223,142
Total	159,639,487	159,072,295	289,137,069	295,659,144	8,553,331	912,061,326

### % of Bonds by Class, by Maturity for P/C Industry

Term to Maturity in Years	Governments	States and Territories	Special Revenue	Industrials	Other Bonds	Total Bonds
0.5	3.35%	0.43%	1.64%	4.23%	0.46%	10.12%
3	7.86%	5.33%	10.92%	14.63%	0.09%	38.83%
7.5	4.02%	7.10%	9.65%	9.94%	0.04%	30.75%
15	1.57%	3.80%	5.71%	1.34%	0.06%	12.49%
25	0.71%	0.77%	3.77%	2.27%	0.29%	7.81%
Total	17.50%	17.44%	31.70%	32.42%	0.94%	100.00%

### % of Bonds (adjusted for removal of Other Bonds category) by Class, by Maturity for P/C Industry

Term to Maturity in Years	Governments	States and Territories	Special Revenue	Industrials	Total Bonds
0.5	3.38%	0.44%	1.66%	4.27%	9.75%
3	7.93%	5.38%	11.03%	14.77%	39.11%
7.5	4.05%	7.17%	9.74%	10.03%	31.00%
15	1.58%	3.84%	5.77%	1.36%	12.54%
25	0.72%	0.77%	3.81%	2.29%	7.59%
Total	17.67%	17.61%	32.00%	32.72%	100.00%

**Notes:**

Source: Best's Aggregates and Averages - Property-Casualty, 2010, pages 199-200.  
 Bonds less than a year adjusted to remove cash and short term investments.

Market Risk Premium

Year	Large Company Stocks Total Returns	Long-Term Government Bonds Income Returns	Interm.-Term Government Bonds Income Returns	Short - Term Total Returns	Long Term Risk Premium = (2) - (3)	Interm. Term Risk Premium = (2) - (4)	Short Term Risk Premium = (2) - (5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1926	11.62	3.73	3.78	3.27	7.89	7.84	8.35
1927	37.49	3.41	3.49	3.12	34.08	34.00	34.37
1928	43.61	3.22	3.64	3.56	40.39	39.97	40.05
1929	-8.42	3.47	4.07	4.75	-11.89	-12.49	-13.17
1930	-24.90	3.32	3.30	2.41	-28.22	-28.20	-27.31
1931	-43.34	3.33	3.16	1.07	-46.67	-46.50	-44.41
1932	-8.19	3.69	3.63	0.96	-11.88	-11.82	-9.15
1933	53.99	3.12	2.83	0.30	50.87	51.16	53.69
1934	-1.44	3.18	2.93	0.16	-4.62	-4.37	-1.60
1935	47.67	2.81	2.02	0.17	44.86	45.65	47.50
1936	33.92	2.77	1.44	0.18	31.15	32.48	33.74
1937	-35.03	2.66	1.48	0.31	-37.69	-36.51	-35.34
1938	31.12	2.64	1.82	-0.02	28.48	29.30	31.14
1939	-0.41	2.40	1.31	0.02	-2.81	-1.72	-0.43
1940	-9.78	2.23	0.90	0.00	-12.01	-10.68	-9.78
1941	-11.59	1.94	0.67	0.06	-13.53	-12.26	-11.65
1942	20.34	2.46	0.76	0.27	17.88	19.58	20.07
1943	25.90	2.44	1.56	0.35	23.46	24.34	25.55
1944	19.75	2.46	1.44	0.33	17.29	18.31	19.42
1945	36.44	2.34	1.19	0.33	34.10	35.25	36.11
1946	-8.07	2.04	1.08	0.35	-10.11	-9.15	-8.42
1947	5.71	2.13	1.21	0.50	3.58	4.50	5.21
1948	5.50	2.40	1.56	0.81	3.10	3.94	4.69
1949	18.79	2.25	1.36	1.10	16.54	17.43	17.69
1950	31.71	2.12	1.39	1.20	29.59	30.32	30.51
1951	24.02	2.38	1.98	1.49	21.64	22.04	22.53
1952	18.37	2.66	2.19	1.66	15.71	16.18	16.71
1953	-0.99	2.84	2.55	1.82	-3.83	-3.54	-2.81
1954	52.62	2.79	1.60	0.86	49.83	51.02	51.76
1955	31.56	2.75	2.45	1.57	28.81	29.11	29.99
1956	6.56	2.99	3.05	2.46	3.57	3.51	4.10
1957	-10.78	3.44	3.59	3.14	-14.22	-14.37	-13.92
1958	43.36	3.27	2.93	1.54	40.09	40.43	41.82
1959	11.96	4.01	4.18	2.95	7.95	7.78	9.01
1960	0.47	4.26	4.15	2.66	-3.79	-3.68	-2.19
1961	26.89	3.83	3.54	2.13	23.06	23.35	24.76
1962	-8.73	4.00	3.73	2.73	-12.73	-12.46	-11.46
1963	22.80	3.89	3.71	3.12	18.91	19.09	19.68
1964	16.48	4.15	4.00	3.54	12.33	12.48	12.94
1965	12.45	4.19	4.15	3.93	8.26	8.30	8.52
1966	-10.06	4.49	4.93	4.76	-14.55	-14.99	-14.82
1967	23.98	4.59	4.88	4.21	19.39	19.10	19.77
1968	11.06	5.50	5.49	5.21	5.56	5.57	5.85
1969	-8.50	5.95	6.65	6.58	-14.45	-15.15	-15.08
1970	3.86	6.74	7.49	6.52	-2.88	-3.63	-2.66
1971	14.30	6.32	5.75	4.39	7.98	8.55	9.91
1972	18.99	5.87	5.75	3.84	13.12	13.24	15.15
1973	-14.69	6.51	6.58	6.93	-21.20	-21.27	-21.62
1974	-26.47	7.27	7.24	8.00	-33.74	-33.71	-34.47
1975	37.23	7.99	7.35	5.80	29.24	29.88	31.43
1976	23.93	7.89	7.10	5.08	16.04	16.83	18.85

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Market Risk Premium

Year	Large Company Stocks Total Returns	Long-Term Government Bonds Income Returns	Interm.-Term Government Bonds Income Returns	Short - Term Total Returns	Long Term Risk Premium = (2) - (3)	Interm. Term Risk Premium = (2) - (4)	Short Term Risk Premium = (2) - (5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1977	-7.16	7.14	6.49	5.12	-14.30	-13.65	-12.28
1978	6.57	7.90	7.83	7.18	-1.33	-1.26	-0.61
1979	18.61	8.86	9.04	10.38	9.75	9.57	8.23
1980	32.50	9.97	10.55	11.24	22.53	21.95	21.26
1981	-4.92	11.55	12.97	14.71	-16.47	-17.89	-19.63
1982	21.55	13.50	12.81	10.54	8.05	8.74	11.01
1983	22.56	10.38	10.35	8.80	12.18	12.21	13.76
1984	6.27	11.74	11.68	9.85	-5.47	-5.41	-3.58
1985	31.73	11.25	10.29	7.72	20.48	21.44	24.01
1986	18.67	8.98	7.72	6.16	9.69	10.95	12.51
1987	5.25	7.92	7.47	5.47	-2.67	-2.22	-0.22
1988	16.61	8.97	8.24	6.35	7.64	8.37	10.26
1989	31.69	8.81	8.46	8.37	22.88	23.23	23.32
1990	-3.10	8.19	8.15	7.81	-11.29	-11.25	-10.91
1991	30.47	8.22	7.43	5.60	22.25	23.04	24.87
1992	7.62	7.26	6.27	3.51	0.36	1.35	4.11
1993	10.08	7.17	5.53	2.90	2.91	4.55	7.18
1994	1.32	6.59	6.07	3.90	-5.27	-4.75	-2.58
1995	37.58	7.60	6.69	5.60	29.98	30.89	31.98
1996	22.96	6.18	5.82	5.21	16.78	17.14	17.75
1997	33.36	6.64	6.14	5.26	26.72	27.22	28.10
1998	28.58	5.83	5.29	4.86	22.75	23.29	23.72
1999	21.04	5.57	5.30	4.68	15.47	15.74	16.36
2000	-9.10	6.50	6.19	5.89	-15.60	-15.29	-14.99
2001	-11.89	5.53	4.27	3.83	-17.42	-16.16	-15.72
2002	-22.10	5.59	3.98	1.65	-27.69	-26.08	-23.75
2003	28.68	4.80	2.85	1.02	23.88	25.83	27.66
2004	10.88	5.02	3.28	1.20	5.86	7.60	9.68
2005	4.91	4.69	3.92	2.98	0.22	0.99	1.93
2006	15.79	4.68	4.54	4.80	11.11	11.25	10.99
2007	5.49	4.86	4.44	4.66	0.63	1.05	0.83
2008	-37.00	4.45	2.96	1.60	-41.45	-39.96	-38.60
2009	26.46	3.47	2.01	0.10	22.99	24.45	26.36
2010	15.06	4.25	1.92	0.12	10.81	13.14	14.94
Average	11.88	5.17	4.66	3.67	6.72	7.22	8.22

**Long-Term Market Risk Premium 6.72**  
**Intermediate-Term Market Risk Premium 7.22**  
**Short-Term Market Risk Premium 8.22**

Notes:

Sources: SBBI, 2010 Valuation Yearbook from Ibbotson Associates and SBBI December 2010 Year End Report for Year 2010 values.

(2): Table B-1: Large Company Stocks, Total Returns, pages 164-165.

(3): Table B-7: Long Term Government Bonds Income Returns, page 176-177.

(4): Table B-11: Intermediate Term Government Bonds, Income Returns, pages 184-185.

(5): Table B-14: US Treasury Bills, Total Returns, pages 190-191.

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Investment Expense to Invested Assets Ratio

Calendar Year	Total Investment Expense Incurred (\$000) (1)	Interest Expense (\$000) (2)	Depreciation of Real Estate (\$000) (3)	Aggregate Write-ins (\$000) (4)	Total Deductions = (1) + (2) + (3) + (4) (5)	Total Cash and Invested Assets (\$000) (6)	Ratio = (5) / (6) (7)
2000	2,326,369	655,946	349,789	483,714	3,815,818	789,330,250	0.48%
2001	2,401,142	975,916	363,182	513,466	4,253,706	781,730,299	0.54%
2002	2,282,667	1,009,027	377,121	667,290	4,336,105	848,344,235	0.51%
2003	2,618,719	650,543	381,157	524,392	4,174,811	967,703,877	0.43%
2004	2,510,188	666,498	380,398	578,543	4,135,627	1,086,486,764	0.38%
2005	2,583,504	790,938	390,271	598,809	4,363,522	1,170,135,319	0.37%
2006	2,738,201	780,924	400,014	654,734	4,573,873	1,264,555,809	0.36%
2007	2,829,153	1,549,136	419,219	655,075	5,452,583	1,330,400,451	0.41%
2008	2,799,958	1,174,734	454,098	281,611	4,710,401	1,246,387,298	0.38%
2009	2,811,669	1,286,304	444,840	216,379	4,759,192	1,302,970,319	0.37%
Average	2,590,157	953,997	396,009	517,401	4,457,564	1,078,804,462	0.41%

Notes:

Source: Best's Aggregates and Averages.

(1) - (4): Exhibit of Net Investment Income, page 150 (calendar year 2009).

(6): Exhibit of Assets, page 140 (calendar year 2009).

Calculation of Common Stock Total Return Tax Rate

Year (1)	Income Returns (2)	Capital Appreciation Returns (3)
1926	5.41%	5.72%
1927	5.71%	30.91%
1928	4.81%	37.88%
1929	3.98%	-11.91%
1930	4.57%	-28.48%
1931	5.35%	-47.07%
1932	6.16%	-15.15%
1933	6.39%	46.59%
1934	4.46%	-5.94%
1935	4.95%	41.37%
1936	5.36%	27.92%
1937	4.66%	-38.59%
1938	4.83%	25.21%
1939	4.69%	-5.45%
1940	5.36%	-15.29%
1941	6.71%	-17.86%
1942	6.79%	12.43%
1943	6.24%	19.45%
1944	5.48%	13.80%
1945	4.97%	30.72%
1946	4.09%	-11.87%
1947	5.49%	0.00%
1948	6.08%	-0.65%
1949	7.50%	10.26%
1950	8.77%	21.78%
1951	6.91%	16.46%
1952	5.93%	11.78%
1953	5.46%	-6.62%
1954	6.21%	45.02%
1955	4.56%	26.40%
1956	3.83%	2.62%
1957	3.84%	-14.31%
1958	4.38%	38.06%
1959	3.31%	8.48%
1960	3.26%	-2.97%
1961	3.48%	23.13%
1962	2.98%	-11.81%
1963	3.61%	18.89%
1964	3.33%	12.97%
1965	3.21%	9.06%
1966	3.11%	-13.09%
1967	3.64%	20.09%
1968	3.18%	7.66%
1969	2.98%	-11.36%
1970	3.33%	0.10%
1971	3.49%	10.63%
1972	2.95%	15.79%
1973	2.86%	-17.37%
1974	3.69%	-29.72%
1975	5.37%	31.55%
1976	4.49%	19.15%
1977	4.35%	-11.50%
1978	5.33%	1.06%
1979	5.89%	12.31%
1980	5.74%	25.77%
1981	4.88%	-9.73%
1982	5.61%	14.76%
1983	5.04%	17.27%
1984	4.57%	1.40%

Calculation of Common Stock Total Return Tax Rate

Year (1)	Income Returns (2)	Capital Appreciation Returns (3)
1985	4.72%	26.33%
1986	3.92%	14.62%
1987	3.64%	2.03%
1988	3.99%	12.40%
1989	4.03%	27.25%
1990	3.43%	-6.56%
1991	3.76%	26.31%
1992	2.98%	4.46%
1993	2.91%	7.06%
1994	2.83%	-1.54%
1995	3.04%	34.11%
1996	2.43%	20.26%
1997	2.10%	31.01%
1998	1.67%	26.67%
1999	1.36%	19.53%
2000	1.11%	-10.14%
2001	1.18%	-13.04%
2002	1.39%	-23.37%
2003	1.99%	26.38%
2004	1.76%	8.99%
2005	1.84%	3.00%
2006	2.01%	13.62%
2007	1.96%	3.53%
2008	1.92%	-38.49%
2009	2.48%	23.45%
2010	2.02%	12.78%
Average	4.12%	7.51%

	Dividend	Capital Gains
(4) Weights	35.42%	64.58%
(5) Tax Rate	14.18%	24.33%
(6) Common Stock Tax Rate		<b>20.73%</b>

Notes:

Sources: SBBI, 2010 Valuation Yearbook from Ibbotson Associates and SBBI December 2010 Year End Report for Year 2010 values.

(2): Table B-2: Large Company Stocks, Income Returns, pages 166-167.

(3): Table B-3: Large Company Stocks, Capital Appreciation Returns, pages 168-169.

(5) = Dividend Tax Rate =  $0.3 \times 0.35 + 0.7 \times 0.35 \times 0.15$

Capital Gains Tax Rate is from page 2.

Calculation of Capital Gains Tax Rate

(1) Turnover Rate	36.00%
(2) Interest Rate used in calculating the present value	9.50%
(3) Marginal Tax Rate	35.00%
(4) Annual Expected Capital Gains Rate	7.51%

Year (5)	Investment Basis (6) <sub>t-1</sub> x [1.0 - (1)] (6)	Investment Value		Investment Sold (8) x (1) (9)	Realized Capital Gains [(8) - (6)] x (1) (10)	Taxes Paid (10) x (3) (11)	Present Value of the Taxes (12)
		Beg of Year (8) <sub>t-1</sub> - (9) <sub>t-1</sub> (7)	End of Year (7) x [1.0 + (4)] (8)				
0	1,000,000.00	1,000,000.00	1,075,101.18	387,036.42	27,036.42	9,462.75	9,042.88
1	640,000.00	688,064.75	739,739.23	266,306.12	35,906.12	12,567.14	10,967.44
2	409,600.00	473,433.10	508,988.49	183,235.86	35,779.86	12,522.95	9,980.54
3	262,144.00	325,752.63	350,217.04	126,078.13	31,706.29	11,097.20	8,076.82
4	167,772.16	224,138.90	240,972.00	86,749.92	26,351.94	9,223.18	6,130.37
5	107,374.18	154,222.08	165,804.34	59,689.56	21,034.86	7,362.20	4,468.81
6	68,719.48	106,114.78	114,084.12	41,070.28	16,331.27	5,715.95	3,168.49
7	43,980.47	73,013.84	78,497.26	28,259.01	12,426.05	4,349.12	2,201.63
8	28,147.50	50,238.25	54,011.20	19,444.03	9,310.93	3,258.83	1,506.55
9	18,014.40	34,567.17	37,163.20	13,378.75	6,893.57	2,412.75	1,018.62
10	11,529.22	23,784.45	25,570.69	9,205.45	5,054.93	1,769.23	682.12
11	7,378.70	16,365.24	17,594.29	6,333.94	3,677.61	1,287.16	453.20
12	4,722.37	11,260.35	12,106.01	4,358.16	2,658.11	930.34	299.14
13	3,022.31	7,747.85	8,329.72	2,998.70	1,910.67	668.73	196.37
14	1,934.28	5,331.02	5,731.39	2,063.30	1,366.96	478.44	128.30
15	1,237.94	3,668.09	3,943.56	1,419.68	974.02	340.91	83.49
16	792.28	2,523.88	2,713.43	976.83	691.61	242.06	54.14
17	507.06	1,736.59	1,867.01	672.13	489.58	171.35	35.00
18	324.52	1,194.89	1,284.63	462.47	345.64	120.97	22.56
19	207.69	822.16	883.91	318.21	243.44	85.20	14.51
20	132.92	565.70	608.18	608.18	475.26	166.34	25.87
Total					240,665.15	84,232.80	58,556.85

(13) Implied Tax Rate on Capital Gains 24.33%

Notes:

- (1): Turnover Rate is based on AIB Stock Turnover Study of 1988 transactions.  
 (2001 AIB Profit Filing, R2000-10, 100H-3, Exhibits 15 and 16)
- (2): Interest Rate is the weighted average cost of capital, Section VII - C, Exhibit 1.
- (4): Page 1.
- (10) Year 20 : All remaining capital gains are assumed realized in year 20.
- (12) = (11) x { [ 1.0 + (2) ]<sup>t</sup> - [ (5) + 0.5 ] }
- (13) = (12) Total / (10) Total

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Calculation of Common Stock Tax Rate for Different Discount Rates and Turnover Rates

		Discount Rate											
		4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
	0.10	17.97%	16.43%	15.12%	14.01%	13.05%	12.23%	11.52%	10.91%	10.37%	9.91%	9.50%	9.14%
	0.15	19.57%	18.21%	17.02%	15.99%	15.08%	14.28%	13.58%	12.95%	12.40%	11.90%	11.46%	11.06%
	0.20	21.05%	19.87%	18.82%	17.88%	17.04%	16.29%	15.61%	15.00%	14.45%	13.94%	13.48%	13.06%
	0.25	22.29%	21.27%	20.36%	19.52%	18.77%	18.08%	17.44%	16.86%	16.33%	15.83%	15.37%	14.95%
	0.30	23.26%	22.40%	21.60%	20.87%	20.19%	19.57%	18.99%	18.45%	17.94%	17.47%	17.03%	16.62%
	0.35	24.02%	23.28%	22.59%	21.95%	21.35%	20.78%	20.26%	19.76%	19.30%	18.86%	18.44%	18.05%
	0.40	24.61%	23.97%	23.37%	22.81%	22.28%	21.77%	21.30%	20.85%	20.42%	20.02%	19.64%	19.27%
	0.45	25.07%	24.52%	24.00%	23.51%	23.03%	22.59%	22.16%	21.76%	21.37%	21.00%	20.65%	20.31%
	0.50	25.45%	24.97%	24.52%	24.08%	23.67%	23.27%	22.89%	22.52%	22.18%	21.84%	21.52%	21.21%
	0.55	25.76%	25.35%	24.95%	24.56%	24.20%	23.84%	23.51%	23.18%	22.87%	22.56%	22.27%	21.99%
	0.60	26.02%	25.66%	25.31%	24.97%	24.65%	24.34%	24.04%	23.75%	23.46%	23.19%	22.93%	22.67%
	0.65	26.24%	25.93%	25.62%	25.33%	25.04%	24.77%	24.50%	24.24%	23.99%	23.74%	23.51%	23.28%
	0.70	26.43%	26.16%	25.89%	25.63%	25.38%	25.14%	24.90%	24.67%	24.45%	24.23%	24.02%	23.82%



**THE WORKERS' COMPENSATION  
RATING AND INSPECTION BUREAU**

## **WORKERS' COMPENSATION INSURANCE RATE FILING**

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### **Volume 2 of 2**

<b>Section VIII</b>	<b>F-Class Rate Recommendation</b>
<b>Section IX</b>	<b>Classification Pricing</b>
<b>Section X</b>	<b>Experience Rating</b>
<b>Section XI</b>	<b>Miscellaneous Values</b>
<b>Section XII</b>	<b>Retrospective Rating Plans</b>

***Proposed Effective Date: September 1, 2011***  
***Filing Date: March 1, 2011***

# MASSACHUSETTS WORKERS' COMPENSATION

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**F-CLASS RATE RECOMMENDATION****Background and Summary**

The United States Longshore and Harbor Workers (USL&HW) Act is a federal law that offers benefits to longshoremen, harbor workers, and other employees engaged in loading, unloading, repairing and building a vessel while working on the vessel or any adjoining navigable waters. F-Classes were created for risks that have considerable USL&HW exposure. Since the benefit provisions for F-Classes are different than those prescribed by Massachusetts workers' compensation law, rates for these classifications are calculated separately from Massachusetts state class codes.

To allow movement toward the levels indicated by the data, while tempering year-to-year variations, this section of the filing recommends that average rates for F-Class classifications be increased by 20.0% for the policy period beginning September 1, 2011. Because there is relatively little exposure in the F-Classes, the impact of the proposed increase in rates for the F-Classes on the overall premiums to be paid in Massachusetts for workers' compensation coverage is less than 0.1%.

**Overall Rate Indication**

The ratemaking methodology used for F-Classes is similar to that used in the statewide rate indication; we compare an indicated loss, LAE, loss based assessment, and fixed expense ratio to a permissible loss, LAE, loss based assessment, and fixed expense ratio. Consistent with prior F-Class filings, the indication is derived using the latest five years of Unit Statistical Plan data. The premium and losses are adjusted for

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the effects of trend, development, changes in benefits, and changes in rates. The resulting indicated adjusted loss ratio is loaded for loss adjustment expenses, loss based assessments associated with the USL&HW Act Special Fund (“Special Fund Assessment”), and fixed expenses. The expense provisions, with the exception of the Special Fund Assessment, are taken from Section I. The Special Fund Assessment is currently calculated by the NCCI as 20.0% of incurred indemnity losses covered under the USL&HW Act.

### **Calculation of Adjusted Standard Earned Premium**

To derive an indicated loss ratio, the premiums from policy years 2004 - 2008 must be projected to the level expected to prevail during the proposed effective period. This is done by first extending the reported exposures using the currently effective rates. Since the reported exposures may be subject to further development as a consequence of delayed premium audits, premium development factors are applied. Next, factors are applied to reflect the expected impacts of experience rating, merit rating and ARAP. Note that no wage trend adjustment is made to premiums because the trend applied in the calculation of adjusted losses is net of the impact of estimated wage trend.

In Section VIII-B, each policy year’s premium is adjusted to the prevailing level and then all five years are summed to a five year total. This total will be used with the five year total of adjusted losses calculated in Section VIII-C to calculate the indicated loss ratio in Section VIII-A.

**Calculation of Adjusted Total Losses**

Within Section VIII-C, the losses from policy years 2004 - 2008 are converted to the level expected to prevail during the proposed effective period. Given the differences in benefits and the applicability of the Special Fund Assessment, claims associated with the USL&HW Act and claims associated with the Massachusetts workers' compensation law are adjusted separately. Moreover, indemnity and medical loss data are adjusted separately because of differences in loss development and trend. Losses are adjusted for changes in benefit levels, loss development to ultimate, and trend (in excess of expected wage trend). Factors are also applied for the loading of loss adjustment expenses and the Special Fund Assessment resulting in estimates of the sum of loss, LAE and loss based assessments. Note that the conversion factors used to adjust F-Class losses related to the state workers compensation law are the same ones used in the development of class rates in Section IX.

**Calculation of Law Amendment Factors**

Injured workers in the F-Classes can receive benefits paid under either state law or federal law. Therefore, law amendment factors for both are needed in the derivation of the conversion factors used in Section VIII-C. Law amendment factors related to the USL&HW Act are taken from Section IV-F. (These were derived from the estimated effects of federal law amendments reported in NCCI's Annual Statistical Bulletin.) The law amendment factors related to state workers compensation benefits (and reflected in the conversion factors taken from Section IX) are derived in Section IV-A.

**Calculation of Loss Development Factors**

The reported losses used in the indication include losses paid and payable under the state workers compensation law and under the USL&HW Act. Since the differing benefit levels can affect development patterns, the losses related to the state workers compensation law are developed separately from losses related to the USL&HW Act. For USL&HW Act claims, NCCI loss development factors were utilized in Section VIII-E. For state workers compensation claims, the development factors are consistent with those used in Section IX.

**Calculation of Trend Factors**

Trend factors adjust for changes in wage levels, claim frequency, and average claim size between the historical period and the proposed effective period. The trend factors used in developing the F-Class indication are consistent with the premium and loss trends selected in Section IX-B, Exhibit 3.

**Calculation of Class Rates**

There are 14 F-Classes in Massachusetts for which we update class pure premium relativities in a manner similar to that used in Section IX.

The Massachusetts indicated pure premiums are derived from the latest five years of unit statistical plan loss and payroll data. This is the same loss data that underlies the F-Class indication in Subsection A. The losses are adjusted for the appropriate law level changes, development to ultimate, the proposed 18.6% loss

## VIII 000005

adjustment expense factor, and the Special Federal Fund Assessment. These adjustment factors are shown in Section VIII-E.

The countrywide relativities are calculated using the same countrywide data set used in Section IX. Pitch Factors are used to adjust the countrywide data to the same law level, LAE and Special Federal Fund Assessment level as the Massachusetts indicated pure premiums. The calculation of Pitch Factors is described in Section IX-A.

The relativities underlying present rates are calculated from the pure premiums underlying the last revision, adjusted to reflect the impact of benefit changes and trend to the proposed effective period. These adjustment factors are shown on Exhibit 2 of Subsection F.

This section uses the same classical credibility method and parameters as used in Section IX. The Massachusetts full credibility standards come from Section IX-D and are expected losses of \$17,500,000 and \$5,200,000 for indemnity and medical losses respectively. The countrywide full credibility standards also come from Section IX-D and correspond to countrywide claim counts of 1,150 and 1,000 for indemnity and medical losses respectively.

After the formula pure premium relativity is calculated, the proposed manual rates are calculated. Proposed manual rates are subject to swing limits of  $\pm 20\%$  surrounding the benefit change and half the experience change (see Section VIII-H). This is similar to the method used by NCCI and the same as the method used for Massachusetts state classes, as outlined in Section IX-H.

**Proposed F-Class Rates and Rating Values**

Minimum Premium, Expected Loss Rates and D-Ratios are calculated using the methodology and factors from Section IX and X.

**Pricing Example**

Section VIII-I contains a sample rate calculation for Class 6872, Ship Repair Conversion. Exhibit 1 of Section VIII-I details the calculation of the Massachusetts indicated pure premium relativity. Exhibit 2 of Section VIII-I details the calculation of the countrywide relativity. Exhibit 3 of Section VIII-I shows the calculation of the credibilities and the formula relativities. Exhibit 4 of Section VIII-I shows the derivation of the proposed average rate, manual rate and rating values.

**USL&HW Coverage Percentage**

The USL&HW Coverage Percentage is a factor applied to classification rates which do not anticipate operations subject to the USL&HW Act. If operations under such classifications involve some employees subject to the USL&HW Act, the manual rate and minimum premium are increased by the USL&HW Coverage Percentage for Manual Rates and the Expected Loss Rate is increased by the USL&HW Coverage Percentage for Expected Loss Rates.

The calculation of the proposed USL&HW Coverage Percentages are shown in Section VIII-J. The “Differential in Benefits” from the 9/1/2010 USL&HW Coverage Percentage is the starting point. Using the state and federal benefit level changes which have occurred since then and the projected benefit level changes from Section

## VIII 000007

Section VIII – Rate Recommendation  
Subsection A – F-Class Rate Recommendation  
9/1/2011

Section VIII-A  
Page 7

IV-A and IV-F, the revised differential in benefits is calculated on line (4) of Section VIII-J. The impact of the differential in benefits is then combined with the impact of the Special Fund Assessment to derive the USL&HW Coverage Percentage for Manual Rates on line (10) of Section VIII-J. The USL&HW Coverage Percentage for Expected Loss Rates does not include the impact of the Special Funds Assessment.

### **Federal Tax Multiplier**

The Federal Tax Multiplier is to be used in retrospective rating for those classes subject to the USL&HW Act. A Federal Tax Multiplier is needed to reflect the impact of the Special Fund Assessment applicable to indemnity losses paid under the USL&HW Act. This filing recommends a Federal Tax Multiplier of 1.117. The calculation is shown in Section VIII-K.

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Section VIII - F-Class Recommendation  
Subsection A - Indicated Rate Change  
9/1/2011

Section VIII-A  
Exhibit 1

### F-Class Rate Review Overall Indicated Rate Change

(1)	5-Year Adjusted Standard Plus ARAP Earned Premium	19,214,093
(2)	5-Year Adjusted Losses, LAE, and LBA	22,323,284
(3)	5-Year Adjusted Loss, LAE, and LBA Ratio = (2) / (1)	116.2%
(4)	Fixed Expense Ratio	5.6%
(5)	Indicated Policy Year 9/1/2011 Loss, LAE, Fixed Expense Ratio = (3) + (4)	121.7%
(6)	Variable Expense Ratio	18.4%
(7)	Profit and Contingencies	6.0%
(8)	Permissible Loss, LAE, LBA, and Fixed Expense Ratio = 1.000 - [ (6) + (7) ]	75.6%
(9)	Indicated Average Rate Change = [ (5) / (8) ] - 1.000	<b>61.0%</b>
(10)	Selected Average Rate Change	<b>20.0%</b>

#### Notes:

(1): Section VIII-B, Exhibit 1.

(2): Section VIII-C, Exhibit 1, Page 2 and 4.

(4): Average of Fixed Expense Ratios for 2 PYs from Section VI-B, Exhibit 1.

(6): Section VI-A, Exhibit 1.

(7): Section VI-A, Exhibit 1.

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Section VIII - F-Class Recommendation  
Subsection B - Adjusted Premium  
9/1/2011

Section VIII-B  
Exhibit 1

## 5 Year Adjusted Standard Plus ARAP Earned Premium

Policy Year (1)	Manual Premium (2)	Premium Development Factor (3)	Experience & Merit Rating Adjustment (4)	ARAP Adjustment (5)	Total Adj Standard Plus ARAP Premium (6)
2004	4,844,065	1.000	0.997	1.049	5,066,180
2005	5,475,980	1.000	0.997	1.049	5,727,116
2006	2,877,432	1.000	0.997	1.049	3,010,085
2007	3,147,139	1.001	0.997	1.049	3,295,751
2008	2,015,605	1.003	0.997	1.049	2,114,961
Total	18,360,221				19,214,093

Notes:

(2): Section VIII-F, Exhibit 1, Page 3.

(3): Section V-E, Exhibit 1.

(4): The offset for Merit Rating and Average Experience Modification from the 9/1/2010 Stipulation.

(5): The offset for ARAP from the 9/1/2010 Stipulation.

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

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Section VIII - F-Class Recommendation  
 Subsection C - Adjusted Losses  
 9/1/2011

Section VIII-C  
 Exhibit 1  
 Page 1

## Calculation of Adjusted Indemnity and Medical Losses Federal Losses

### (A). Unit Statistical Plan Limited Reported Losses

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	445,016	0	513,394	470,528	13,721
Major Permanent Partial	1,715,811	1,447,596	821,890	83,851	136,772
Minor Permanent Partial	142,661	111,477	53,326	23,489	39,544
Temporary Total	334,347	284,138	62,572	195,855	39,208
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	54,984	0	378,908	29,472	4,026
Major Permanent Partial	739,393	395,586	239,661	40,953	93,365
Minor Permanent Partial	111,274	297,221	85,780	34,610	22,810
Temporary Total	146,868	90,333	90,686	408,495	61,056
Medical Only	27,862	30,904	52,184	36,673	15,345

### (B). Unit Statistical Plan Converted Unlimited Losses

Unlimited Losses are Limited Losses after the application of Primary, Excess and Secondary Conversion Factors.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	665,934	0	919,727	957,872	38,412
Major Permanent Partial	3,174,505	2,920,188	1,750,567	218,724	524,192
Minor Permanent Partial	246,429	210,947	127,361	54,580	139,310
Temporary Total	576,384	527,693	118,896	440,950	102,928
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	157,626	0	894,305	108,767	11,614
Major Permanent Partial	1,799,401	1,106,741	577,597	113,860	331,204
Minor Permanent Partial	208,973	532,534	180,697	72,905	74,350
Temporary Total	314,050	209,139	159,880	666,160	116,876
Medical Only	43,089	44,585	74,436	56,311	25,411

Notes:

(B): Exhibit G.

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Section VIII - F-Class Recommendation  
 Subsection C - Adjusted Losses  
 9/1/2011

Section VIII-C  
 Exhibit 1  
 Page 2

## Calculation of Adjusted Indemnity and Medical Losses Federal Losses

### (C). Investment Income Offset Factor

The impact from this factor needs to be removed from the Federal Conversion Factors.

Indemnity	Investment Income Offset Factor
Fatal	0.841
Permanent Total	0.801
Major Permanent Partial	1.014
Minor Permanent Partial	1.032
Temporary Total	1.022
<b>Medical</b>	
Fatal	1.000
Permanent Total	0.804
Major Permanent Partial	1.017
Minor Permanent Partial	1.036
Temporary Total	1.026
Medical Only	1.000

### (D). Adjusted Losses

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	831,266	0	1,148,067	1,195,683	47,949
Major Permanent Partial	3,132,013	2,881,100	1,727,135	215,796	517,175
Minor Permanent Partial	238,750	204,374	123,393	52,880	134,969
Temporary Total	564,216	516,553	116,385	431,641	100,755
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	196,002	0	1,112,031	135,247	14,441
Major Permanent Partial	1,768,472	1,087,718	567,669	111,903	325,511
Minor Permanent Partial	201,681	513,951	174,391	70,360	71,756
Temporary Total	306,235	203,935	155,902	649,583	113,968
Medical Only	43,089	44,585	74,436	56,311	25,411
Adjusted Losses, LAE, LBA	<b>22,204,688</b>				

#### Notes:

(C): Section IX - B, Exhibit 4.

(D) = (B) / (C)

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Section VIII - F-Class Recommendation  
 Subsection C - Adjusted Losses  
 9/1/2011

Section VIII-C  
 Exhibit 1  
 Page 3

## Calculation of Adjusted Indemnity and Medical Losses State Losses

(A). Unit Statistical Plan Limited Reported Losses

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	1,555	0	0
Temporary Total	4,684	0	0	0	22,441
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	5,860	0	0
Temporary Total	5,238	0	0	0	16,776
Medical Only	55	0	0	0	0

(B). Unit Statistical Plan Converted Unlimited Losses

Unlimited Losses are Limited Losses after the application of Primary, Excess and Secondary Conversion Factors.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	2,414	0	0
Temporary Total	6,846	0	0	0	54,439
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	9,322	0	0
Temporary Total	9,559	0	0	0	38,825
Medical Only	89	0	0	0	0

Notes:

(B): Exhibit G.

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Section VIII - F-Class Recommendation  
 Subsection C - Adjusted Losses  
 9/1/2011

Section VIII-C  
 Exhibit 1  
 Page 4

## Calculation of Adjusted Indemnity and Medical Losses State Losses

### (C). Investment Income Offset Factor

The impact from this factor needs to be removed from the State Conversion Factors.

Indemnity	Investment Income Offset Factor
Fatal	0.841
Permanent Total	0.801
Major Permanent Partial	1.014
Minor Permanent Partial	1.032
Temporary Total	1.022
<b>Medical</b>	
Fatal	1.000
Permanent Total	0.804
Major Permanent Partial	1.017
Minor Permanent Partial	1.036
Temporary Total	1.026
Medical Only	1.000

### (D). Adjusted Losses

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	2,339	0	0
Temporary Total	6,701	0	0	0	53,290
<b>Medical</b>					
Fatal	0	0	0	0	0
Permanent Total	0	0	0	0	0
Major Permanent Partial	0	0	0	0	0
Minor Permanent Partial	0	0	8,997	0	0
Temporary Total	9,321	0	0	0	37,859
Medical Only	89	0	0	0	0
Adjusted Losses, LAE, LBA	118,596				

#### Notes:

(C): Section IX-B, Exhibit 4.

(D) = (B) / (C)

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Section VIII - F-Class Recommendation  
Subsection D - Proposed Rates  
9/1/2011

Section VIII-D  
Exhibit 1

## Proposed Rates and Rating Values to be Effective 9/1/2011

Class Code (1)	Manual Rate (2)	Minimum Premium (3)	Loss Constant (4)	Expected Loss Rate (5)	D-Ratio (6)
6801	15.73	500	0	5.46	0.20
6824	11.35	500	0	3.62	0.19
6826	12.67	500	0	4.40	0.21
6843	17.85	500	0	5.04	0.20
6872	45.19	500	0	12.76	0.20
6874	39.86	500	0	11.25	0.18
7309	36.92	500	0	10.42	0.18
7313	19.10	500	0	5.39	0.17
7317	18.25	500	0	5.15	0.18
7327	41.77	500	0	11.79	0.18
7350	21.60	500	0	6.89	0.18
8709	8.47	500	0	2.39	0.18
8726	6.92	492	0	2.40	0.21
9077	5.96	459	0	2.11	0.24

Notes:

(2),(3): Calculated as per Section VIII-I, Exhibit 4.

(4): F-Classes have no loss constant.

(5),(6): Calculated as per Section X.

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Section VIII - F-Class Recommendation  
 Subsection E - Conversion/Excess Loss Factors  
 9/1/2011

Section VIII-E  
 Exhibit 1  
 Page 1

## Calculation of Indemnity and Medical Conversion Factors Federal Losses

### (A). Benefit Level Adjustment Factors

The following factors are used to bring MA Unit Statistical Plan losses to the benefit level of the proposed effective policy year period.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	1.029	1.023	1.018	1.012	1.007
Permanent Total	1.041	1.033	1.026	1.017	1.009
Major Permanent Partial	1.075	1.060	1.045	1.030	1.016
Minor Permanent Partial	1.075	1.060	1.045	1.030	1.016
Temporary Total	1.023	1.019	1.015	1.010	1.005
<b>Medical</b>					
All Injury Types	1.036	1.032	1.032	1.032	1.024

### (B). Loss Development Factors

The following factors are used to bring MA Unit Statistical Plan losses from first through fifth report to an ultimate basis.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Likely	1.101	1.131	1.323	1.553	2.264
Not Likely	1.026	1.051	1.116	1.276	1.508
<b>Medical</b>					
Likely	1.397	1.470	1.582	1.699	1.976
Not Likely	1.068	1.033	1.002	1.046	1.070

### (C). Trend Factors

The following factors trend the MA Unit Statistical Plan losses from the reported period to the proposed effective period for new rates.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
All Injury Types	0.898	0.941	0.980	0.994	0.945
<b>Medical</b>					
Lost Time Medical	0.912	1.012	0.998	0.953	0.995
Medical Only	0.893	0.883	0.916	0.923	0.952

### (D). Primary Conversion Factors (PCF)

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal - LD	1.018	1.089	1.321	1.563	2.154
Fatal - NLD	0.948	1.012	1.114	1.284	1.435
Permanent Total	1.030	1.099	1.330	1.570	2.159
Major Permanent Partial - LD	1.064	1.129	1.355	1.590	2.174
Major Permanent Partial - NLD	0.991	1.049	1.143	1.307	1.448
Minor Permanent Partial - LD	1.064	1.129	1.355	1.590	2.174
Minor Permanent Partial - NLD	0.991	1.049	1.143	1.307	1.448
Temporary Total - LD	1.012	1.084	1.316	1.559	2.151
Temporary Total - NLD	0.943	1.008	1.110	1.281	1.433
<b>Medical</b>					
Lost Time Medical -LD	1.320	1.536	1.629	1.670	2.014
Lost Time Medical -NLD	1.009	1.079	1.032	1.028	1.091
Medical - NLD	0.988	0.941	0.947	0.996	1.044

Notes:

- (A): Section IV-F, Exhibit 1.
- (B): NCCI.
- (C): Section IX-B, Exhibit 3.
- (D) = (A) x (B) x (C)

# VIII 000016

## Calculation of Indemnity and Medical Conversion Factors Federal Losses

(A). Loss Adjustment Expense Factor

The following factor is applied to include the proposed loss adjustment expense.

	Indemnity	Medical
Loss Adjustment Expense Factor	1.186	1.186

(B). Loss Based Assessments (Special Fund Assessment)

	Indemnity	Medical
Loss Based Assessments	0.200	0.000

(C). Investment Income Offset Factor

The following factor is applied to adjust for investment income.

	Investment Income Offset Factor
<b>Indemnity</b>	
Fatal	0.841
Permanent Total	0.801
Major Permanent Partial	1.014
Minor Permanent Partial	1.032
Temporary Total	1.022
<b>Medical</b>	
Fatal	1.000
Permanent Total	0.804
Major Permanent Partial	1.017
Minor Permanent Partial	1.036
Temporary Total	1.026
Medical Only	1.000

(D). Secondary Conversion Factors (SCF)

<b>Indemnity</b>	
Fatal	1.166
Permanent Total	1.111
Major Permanent Partial	1.405
Minor Permanent Partial	1.431
Temporary Total	1.416
<b>Medical</b>	
Fatal	1.186
Permanent Total	0.954
Major Permanent Partial	1.207
Minor Permanent Partial	1.229
Temporary Total	1.217
Medical Only	1.186

Notes:

- (A): Section VI-A, Exhibit 1.
- (B): NCCI Tax and Assessment Directory.
- (C): Section IX-B, Exhibit 4.
- (D) = [(A) + (B)] x (C)

# VIII 000017

Section VIII - F-Class Recommendation  
 Subsection E - Conversion/Excess Loss Factors  
 9/1/2011

Section VIII-E  
 Exhibit 1  
 Page 3

## Calculation of Indemnity and Medical Conversion Factors State Losses

The MA Indicated Pure Premium Relativities are calculated from exposure and loss data for the latest available 5 composite policy years of Unit Statistical Plan data.

Below are adjustment factors used to put the losses at the level proposed in this filing.

### (A). Primary State Conversion Factors

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal - LD	0.935	1.020	1.159	1.359	1.984
Fatal - NLD	0.927	0.992	1.083	1.213	1.532
Permanent Total	0.946	1.030	1.168	1.365	1.988
Major Permanent Partial - LD	0.977	1.057	1.190	1.382	2.002
Major Permanent Partial - NLD	0.969	1.028	1.111	1.234	1.546
Minor Permanent Partial - LD	0.977	1.057	1.190	1.382	2.002
Minor Permanent Partial - NLD	0.969	1.028	1.111	1.234	1.546
Temporary Total - LD	0.929	1.016	1.156	1.355	1.981
Temporary Total - NLD	0.922	0.988	1.079	1.210	1.530
<b>Medical</b>					
Lost Time Medical - LD	1.067	1.231	1.312	1.391	1.625
Lost Time Medical - NLD	0.966	1.072	1.062	1.034	1.133
Medical - NLD	0.945	0.935	0.975	1.002	1.084

### (B). Secondary State Conversion Factors

Indemnity	
Fatal	0.998
Permanent Total	0.950
Major Permanent Partial	1.202
Minor Permanent Partial	1.224
Temporary Total	1.212
<b>Medical</b>	
Fatal	1.186
Permanent Total	0.954
Major Permanent Partial	1.207
Minor Permanent Partial	1.229
Temporary Total	1.216
Medical Only	1.186

**Notes:**

- (A): Section IX-B, Exhibit 1, Page 1.
- (B): Section IX-B, Exhibit 1, Page 2.

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Federal Industry Group  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total	Indemnity		Medical		Total
		Likely (3)	Not Likely (4)	Likely (5)	Not Likely (6)	(7)	Likely (8)	Not Likely (9)	Likely (10)	Not Likely (11)	(12)
2004	1	0	0	0	0	0	0	0	0	0	0
	2	445,016	0	54,984	0	500,000	458,196	0	72,598	0	530,794
	3	1,362,396	353,415	618,354	121,039	2,455,204	1,449,192	350,322	816,441	122,176	2,738,131
	4	20,222	122,439	37,599	73,675	253,935	21,510	121,368	49,644	74,367	266,889
	5	67,055	271,976	46,796	105,310	491,137	67,862	256,400	61,787	106,071	492,120
	6	0	0	0	27,917	27,917	0	0	0	27,584	27,584
2005	1	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0
	3	876,009	571,587	139,271	256,315	1,843,182	988,627	599,441	213,896	276,630	2,078,594
	4	28,302	83,175	29,054	268,167	408,698	31,940	87,228	44,622	289,421	453,211
	5	1	284,137	0	90,333	374,471	1	286,310	0	97,493	383,804
	6	0	0	0	30,904	30,904	0	0	0	29,076	29,076
2006	1	0	0	0	0	0	0	0	0	0	0
	2	513,394	0	378,908	0	892,302	682,926	0	617,214	0	1,300,140
	3	413,523	408,367	62,252	177,409	1,061,551	560,439	466,857	101,404	183,037	1,311,737
	4	33,249	21,632	12,179	79,461	146,521	45,062	24,681	19,839	82,160	171,742
	5	0	62,572	0	90,686	153,258	0	69,469	0	93,563	163,032
	6	0	0	0	52,184	52,184	0	0	0	49,426	49,426
2007	1	0	0	0	0	0	0	0	0	0	0
	2	470,528	0	29,472	0	500,000	738,797	0	49,225	0	788,022
	3	83,851	0	40,953	0	124,804	133,338	0	68,402	0	201,740
	4	5,284	18,205	11,942	22,668	58,099	8,402	23,786	19,946	23,309	75,443
	5	0	195,855	0	408,495	604,350	0	250,899	0	420,055	670,954
	6	0	0	0	36,673	36,673	0	0	0	36,531	36,531
2008	1	0	0	0	0	0	0	0	0	0	0
	2	13,721	0	4,026	0	17,747	29,627	0	8,108	0	37,735
	3	136,772	0	93,365	0	230,137	297,300	0	188,035	0	485,335
	4	34,894	4,650	19,810	3,000	62,354	75,849	6,732	39,897	3,272	125,750
	5	6,371	55,278	6,800	71,032	139,481	13,704	81,382	13,695	78,171	186,952
	6	0	0	0	15,345	15,345	0	0	0	16,016	16,016
All Years, All Injury		4,510,588	2,453,288	1,585,765	1,930,613	10,480,254	5,602,772	2,624,875	2,384,753	2,008,358	12,620,758

Notes:

- (3),(4),(5),(6): Unit Statistical Plan data, excluding Large Deductibles.  
 (8), (9), (10), (11): Limited Incurred Losses x Primary Conversion Factors from Section VIII-E, Exhibit 1, Page 1.  
 (12) = (8) + (9) + (10) + (11)

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Federal Industry Group  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total	Indemnity		Medical		Total	
		Likely (3)	Not Likely (4)	Likely (5)	Not Likely (6)	(7)	Likely (8)	Not Likely (9)	Likely (10)	Not Likely (11)	(12)	
2004	1	0	0	0	0	0	0	0	0	0	0	272,309
	2	141,420	0	92,619	0	234,039	665,934	0	157,626	0	823,560	
	3	351,569	108,125	451,879	100,210	1,011,783	2,530,322	644,183	1,530,963	268,438	4,973,906	
	4	3,041	26,299	11,327	34,666	75,333	35,130	211,299	74,947	134,026	455,402	
	5	14,274	74,099	22,341	75,797	186,511	116,324	466,906	102,351	221,259	906,840	
	6	0	0	0	8,811	8,811	0	0	0	43,178	43,178	
2005	1	0	0	0	0	0	0	0	0	0	0	318,133
	2	0	0	0	0	0	0	0	0	0	0	
	3	305,135	185,015	225,084	201,264	916,498	1,817,918	1,102,270	529,884	576,857	4,026,929	
	4	9,858	18,394	23,900	75,284	127,436	59,811	151,137	84,229	448,306	743,483	
	5	0	86,293	0	74,411	160,704	2	527,691	0	209,139	736,832	
	6	0	0	0	8,506	8,506	0	0	0	44,585	44,585	
2006	1	0	0	0	0	0	0	0	0	0	0	189,574
	2	145,208	0	320,155	0	465,363	919,727	0	894,305	0	1,814,032	
	3	106,167	112,368	75,991	118,075	412,601	936,676	813,892	214,130	363,467	2,328,165	
	4	13,908	7,328	14,708	37,879	73,823	84,381	45,395	42,466	147,553	319,795	
	5	0	14,483	0	37,852	52,335	0	118,896	0	159,880	278,776	
	6	0	0	0	13,319	13,319	0	0	0	74,436	74,436	
2007	1	0	0	0	0	0	0	0	0	0	0	209,049
	2	123,682	0	64,779	0	188,461	957,872	0	108,767	0	1,066,639	
	3	22,322	0	25,925	0	48,247	218,724	0	113,860	0	332,584	
	4	2,593	3,362	9,906	6,148	22,009	15,734	38,846	36,695	36,209	127,484	
	5	0	60,455	0	127,501	187,956	0	440,950	0	666,160	1,107,110	
	6	0	0	0	10,935	10,935	0	0	0	56,311	56,311	
2008	1	0	0	0	0	0	0	0	0	0	0	168,026
	2	4,960	0	4,065	0	9,025	38,412	0	11,614	0	50,026	
	3	75,753	0	86,349	0	162,102	524,192	0	331,204	0	855,396	
	4	12,698	2,078	14,984	2,333	32,093	126,703	12,607	67,461	6,890	213,661	
	5	1,937	20,586	3,596	32,527	58,646	22,152	135,216	21,036	134,666	313,070	
	6	0	0	0	5,404	5,404	0	0	0	25,411	25,411	
(14) All Years and Injury Types		1,334,525	718,885	1,447,608	970,922	4,471,940	9,070,014	4,709,288	4,321,538	3,616,771	21,717,611	1,157,091
(15) Pure Premium							7.839	4.070	3.735	3.126	18.769	

Notes:  
 (3), (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): From Page 3.  
 (15): Pure Premium calculated as the All Years, All Injury Types Adjusted Converted Losses divided by the All Years, All Injury Types Exposure.

VIII 000019

Calculation of Manual Premium by Extension of Exposures  
 Federal Industry Group  
 All Classes

Class Code	Exposure By Policy Year						Current Rate	Manual Premium					
	2004	2005	2006	2007	2008	Total		2004	2005	2006	2007	2008	Total
	(2)	(3)	(4)	(5)	(6)	(7)		= (2) x (8)	= (3) x (8)	= (4) x (8)	= (5) x (8)	= (6) x (8)	= (7) x (8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
6801	0	0	0	0	0	0	12.10	0	0	0	0	0	0
6824	45,987	46,262	52,300	54,273	30,981	229,803	10.18	468,148	470,947	532,414	552,499	315,387	2,339,395
6826	3,600	6,101	8,223	11,246	21,363	50,533	11.56	41,616	70,528	95,058	130,004	246,956	584,161
6843	1,520	0	0	0	0	1,520	13.73	20,870	0	0	0	0	20,870
6872	36,541	43,542	32,369	36,719	9,252	158,423	34.76	1,270,165	1,513,520	1,125,146	1,276,352	321,600	5,506,783
6874	16	1,095	1,532	483	1,979	5,105	32.64	522	35,741	50,004	15,765	64,595	166,627
7309	16,739	10,995	6,467	6,674	6,901	47,776	35.39	592,393	389,113	228,867	236,193	244,226	1,690,793
7313	0	0	0	0	0	0	14.69	0	0	0	0	0	0
7317	1,210	84	65	1,010	1,868	4,237	14.04	16,988	1,179	913	14,180	26,227	59,487
7327	30,973	42,021	461	403	220	74,078	32.13	995,162	1,350,135	14,812	12,948	7,069	2,380,126
7350	51,187	49,770	20,734	21,410	11,369	154,470	16.61	850,216	826,680	344,392	355,620	188,839	2,565,747
8709	30,743	49,341	420	536	8,004	89,044	6.51	200,137	321,210	2,734	3,489	52,106	579,676
8726	53,793	68,922	67,003	76,295	76,089	342,102	7.21	387,848	496,928	483,092	550,087	548,602	2,466,555
9077	0	0	0	0	0	0	4.58	0	0	0	0	0	0
Total	272,309	318,133	189,574	209,049	168,026	1,157,091		4,844,065	5,475,980	2,877,432	3,147,139	2,015,605	18,360,221

Notes:  
 (2) - (7): Unit Statistical Plan data.

VIII 000020

Calculation of Pure Premium Underlying Present Rate Factor

Industry Group (1)	Injury Type (2)	Uncapped Rate Level Factor (3)	Industry Group Pure Premium From Previous Revision (4)	Percent of Pure Premium = $(4) / [\text{Total of (4)}]$ (5)	Expected Loss and LAE Ratio (6)	Loss Based Assessment Change Factor (7)	Benefit Level Change Factor (8)	Trend (9)	Pure Premium Underlying Present Rate Factor = $(3) \times (5) \times (6) \times (7) \times (8) \times (9)$ (10)
Federal	Indemnity	17.448	10.381	0.575	0.757	0.999	1.001	0.985	7.481
	Medical	17.448	7.666	0.425	0.757	0.999	1.000	0.997	5.589
	Total		18.047						

Notes:

- (3): Section VIII-H, Exhibit 1 of the 9/1/2010 Stipulation.
- (4): Based on the most recently filed pure premium relativities for F-Class.
- (6): Section VI-A, Exhibit 1 of the 9/1/2010 Stipulation.
- (7): Change in load from Section VIII-K, Exhibit 1 and the 9/1/2010 Stipulation.
- (8): Weighted average of Section IV-A, Exhibit 1 and Section IV-F, Exhibit 1.
- (9): Section V-A, Exhibit 1.

## VIII 000022

Section VIII - F-Class Recommendation  
Subsection F - Proposed Pure Premium Relativities  
9/1/2011

Section VIII-F  
Exhibit 3

### Calculation of Pure Premiums Underlying Present Rate Federal Industry Group

Class Code	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity	Medical	Indemnity	Medical	Total = (4) + (5)
(1)	(2)	(3)	(4)	(5)	(6)
6801	0.783	1.023	5.854	5.715	11.569
6824	0.534	0.514	3.997	2.872	6.869
6826	0.526	0.693	3.935	3.873	7.808
6843	1.115	1.158	8.343	6.470	14.813
6872	2.365	2.946	17.693	16.466	34.159
6874	1.903	1.392	14.239	7.777	22.016
7309	2.073	1.496	15.506	8.361	23.867
7313	1.259	0.755	9.422	4.219	13.641
7317	6.296	3.488	47.101	19.492	66.593
7327	1.859	1.495	13.908	8.357	22.265
7350	0.863	0.852	6.454	4.761	11.215
8709	0.361	0.303	2.703	1.691	4.395
8726	0.371	0.348	2.776	1.946	4.722
9077	0.201	1.116	1.507	6.235	7.741

Notes:

(2), (3): Section VIII-H, Exhibit 2 of the 09/01/2010 Stipulation.

(4), (5) = (2),(3) x Pure Premium Underlying Present Rate Factors from Exhibit :

# VIII 000023

Section VIII - F-Class Recommendation  
 Subsection G - Class Relativities  
 9/1/2011

Section VIII - G  
 Exhibit 1

## Calculation of Class Relativities

Class(es): 6801 BOAT BUILDING - WOOD - NOC & DRIVERS: US ACT									Effective: 9/1/2011			Federal Class Codes		
Converted Unlimited Losses														
Amount														
Claim Count				Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>.</b>	<b>.</b>	<b>.</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.506	0.607	1.114
(16) Countrywide Indicated Relativity:	0.044	0.085	.
(17) Countrywide Credibility:	0.160	0.160	.
(18) Countrywide Lost-Time Claims:	11.000	.	.
(19) Pure Premium Underlying Present Rate:	5.854	5.715	11.569
(20) Relativity to Underlying Present Rate:	0.830	1.072	.
(21) Credibility to Underlying Relativity:	0.840	0.840	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.704	0.914	.
(24) Balanced Formula Relativity:	0.691	0.860	0.753

Class(es): 6824 BOAT BUILDING OR REPAIRING & DRIVERS: US ACT									Effective: 9/1/2011			Federal Class Codes		
Converted Unlimited Losses														
Amount														
Claim Count				Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	45.987	0	18	0	30.298	0	46.313	76.611	0.659	1.007	1.666			
2005	46.262	0	32	0	17.947	0	34.889	52.836	0.388	0.754	1.142			
2006	52.300	0	10	0	0	0	47.748	47.748	0.000	0.913	0.913			
2007	54.273	0	20	0	59.291	0	46.869	106.160	1.092	0.864	1.956			
2008	30.981	0	7	0	37.212	0	70.515	107.727	1.201	2.276	3.477			
<b>MA Total:</b>	<b>229.803</b>	<b>0</b>	<b>87</b>	<b>0</b>	<b>144.748</b>	<b>0</b>	<b>246.334</b>	<b>391.082</b>	<b>0.630</b>	<b>1.072</b>	<b>1.702</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.053	0.156	.
(14) Massachusetts Credibility:	0.310	0.440	.
(15) Countrywide Pure Premium:	7.224	5.670	12.893
(16) Countrywide Indicated Relativity:	0.627	0.798	.
(17) Countrywide Credibility:	0.350	0.280	.
(18) Countrywide Lost-Time Claims:	180.00	.	.
(19) Pure Premium Underlying Present Rate:	3.997	2.872	6.869
(20) Relativity to Underlying Present Rate:	0.567	0.539	.
(21) Credibility to Underlying Relativity:	0.340	0.280	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.429	0.443	.
(24) Balanced Formula Relativity:	0.421	0.416	0.419

# VIII 000024

Section VIII - F-Class Recommendation  
 Subsection G - Class Relativities  
 9/1/2011

Section VIII - G  
 Exhibit 2

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Federal Class Codes			
6826 MARINA & DRIVERS: US ACT												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	3,600	0	0	0	0	0	0	0	0.000	0.000	0.000	
2005	6,101	0	0	0	0	0	0	0	0.000	0.000	0.000	
2006	8,223	0	10	0	29,901	0	36,047	65,948	3,636	4,383	8,020	
2007	11,246	0	1	0	0	0	98	98	0.000	0.009	0.009	
2008	21,363	1	10	22,152	13,073	21,036	19,139	75,399	1,649	1,881	3,529	
<b>MA Total:</b>	<b>50,533</b>	<b>1</b>	<b>21</b>	<b>22,152</b>	<b>42,975</b>	<b>21,036</b>	<b>55,283</b>	<b>141,445</b>	<b>1,289</b>	<b>1,510</b>	<b>2,799</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.108	0.220	.
(14) Massachusetts Credibility:	0.170	0.270	.
(15) Countrywide Pure Premium:	3.534	5.254	8.788
(16) Countrywide Indicated Relativity:	0.307	0.739	.
(17) Countrywide Credibility:	0.230	0.250	.
(18) Countrywide Lost-Time Claims:	30.000	.	.
(19) Pure Premium Underlying Present Rate:	3.935	3.873	7.808
(20) Relativity to Underlying Present Rate:	0.558	0.727	.
(21) Credibility to Underlying Relativity:	0.600	0.480	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.424	0.593	.
(24) Balanced Formula Relativity:	0.416	0.557	0.468

Class(es):		Effective: 9/1/2011							Federal Class Codes			
6843 SHIP BUILDING-IRON OR STEEL-NOC & DRIVERS: US ACT												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	1,520	0	0	0	0	0	0	0	0.000	0.000	0.000	
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
<b>MA Total:</b>	<b>1,520</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.060	0.080	.
(15) Countrywide Pure Premium:	7.480	6.657	14.137
(16) Countrywide Indicated Relativity:	0.650	0.937	.
(17) Countrywide Credibility:	0.470	0.460	.
(18) Countrywide Lost-Time Claims:	359.00	.	.
(19) Pure Premium Underlying Present Rate:	8.343	6.470	14.813
(20) Relativity to Underlying Present Rate:	1.183	1.214	.
(21) Credibility to Underlying Relativity:	0.470	0.460	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.861	0.989	.
(24) Balanced Formula Relativity:	0.846	0.930	0.877

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Federal Class Codes		
6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	36,541	4	19	1,377,225	757,691	957,741	310,565	3,403,222	58,426	34,709	93,135
2005	43,542	4	22	576,723	798,512	392,082	293,942	2,061,258	31,584	15,756	47,340
2006	32,369	5	24	562,856	534,976	889,406	513,314	2,500,552	33,916	43,335	77,251
2007	36,719	1	22	15,734	251,843	36,695	133,005	437,278	7,287	4,622	11,909
2008	9,252	1	17	338,271	84,931	106,209	69,359	598,770	45,741	18,976	64,717
<b>MA Total:</b>	<b>158,423</b>	<b>15</b>	<b>104</b>	<b>2,870,808</b>	<b>2,427,952</b>	<b>2,382,134</b>	<b>1,320,185</b>	<b>9,001,080</b>	<b>33,447</b>	<b>23,370</b>	<b>56,817</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.809	3.406	.
(14) Massachusetts Credibility:	0.490	0.760	.
(15) Countrywide Pure Premium:	19.383	9.526	28.908
(16) Countrywide Indicated Relativity:	1.684	1.340	.
(17) Countrywide Credibility:	0.260	0.120	.
(18) Countrywide Lost-Time Claims:	285.00	.	.
(19) Pure Premium Underlying Present Rate:	17.693	16.466	34.159
(20) Relativity to Underlying Present Rate:	2.508	3.090	.
(21) Credibility to Underlying Relativity:	0.250	0.120	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	2.441	3.120	.
(24) Balanced Formula Relativity:	2.397	2.933	2.593

Class(es):		Effective: 9/1/2011							Federal Class Codes		
6874 PAINTING: SHIP HULLS - US ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	16	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,095	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	1,532	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	483	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	1,979	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>5,105</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.110	0.140	.
(15) Countrywide Pure Premium:	15.478	10.522	25.999
(16) Countrywide Indicated Relativity:	1.345	1.481	.
(17) Countrywide Credibility:	0.190	0.200	.
(18) Countrywide Lost-Time Claims:	19.000	.	.
(19) Pure Premium Underlying Present Rate:	14.239	7.777	22.016
(20) Relativity to Underlying Present Rate:	2.018	1.459	.
(21) Credibility to Underlying Relativity:	0.700	0.660	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	1.668	1.259	.
(24) Balanced Formula Relativity:	1.638	1.184	1.472

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## Calculation of Class Relativities

Class(es): 7309 STEVEDORING: NOC - US ACT		Effective: 9/1/2011							Federal Class Codes		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	16.739	0	6	0	73.625	0	83.312	156.937	4.399	4.977	9.376
2005	10.995	1	2	145.266	13.584	13.148	1.346	173.343	14.447	1.318	15.766
2006	6.467	0	1	0	0	0	733	733	0.000	0.113	0.113
2007	6.674	0	2	0	14.658	0	29.882	44.541	2.196	4.477	6.673
2008	6.901	0	1	0	12.607	0	6.890	19.497	1.827	0.998	2.825
<b>MA Total:</b>	<b>47.777</b>	<b>1</b>	<b>12</b>	<b>145.266</b>	<b>114.475</b>	<b>13,148</b>	<b>122,163</b>	<b>395,051</b>	<b>5,437</b>	<b>2,832</b>	<b>8,269</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.457	0.413	.
(14) Massachusetts Credibility:	0.290	0.360	.
(15) Countrywide Pure Premium:	20.807	11.145	31.951
(16) Countrywide Indicated Relativity:	1.807	1.568	.
(17) Countrywide Credibility:	0.360	0.320	.
(18) Countrywide Lost-Time Claims:	117.00	.	.
(19) Pure Premium Underlying Present Rate:	15.506	8.361	23.867
(20) Relativity to Underlying Present Rate:	2.198	1.569	.
(21) Credibility to Underlying Relativity:	0.350	0.320	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	1.552	1.152	.
(24) Balanced Formula Relativity:	1.525	1.083	1.363

Class(es): 7313 COAL DOCK OPERATION & STEVEDORING: US ACT		Effective: 9/1/2011							Federal Class Codes		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	10.155	4.517	14.672
(16) Countrywide Indicated Relativity:	0.882	0.636	.
(17) Countrywide Credibility:	0.280	0.300	.
(18) Countrywide Lost-Time Claims:	49.000	.	.
(19) Pure Premium Underlying Present Rate:	9.422	4.219	13.641
(20) Relativity to Underlying Present Rate:	1.336	0.792	.
(21) Credibility to Underlying Relativity:	0.720	0.700	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	1.209	0.745	.
(24) Balanced Formula Relativity:	1.187	0.700	1.009

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 Exhibit 5

## Calculation of Class Relativities

Class(es): 7317 STEVEDORING: BY HAND OR HAND TRUCKS: US ACT									Effective: 9/1/2011			Federal Class Codes		
Converted Unlimited Losses														
Amount														
Claim Count				Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	1,210	1	3	110,746	5,960	171,962	10,148	298,816	96,432	150,47	246,91			
2005	84	0	0	0	0	0	0	0	0,000	0,000	0,000			
2006	65	0	0	0	0	0	0	0	0,000	0,000	0,000			
2007	1,010	0	1	0	0	0	811	811	0,000	0,803	0,803			
2008	1,868	0	0	0	0	0	0	0	0,000	0,000	0,000			
<b>MA Total:</b>	<b>4,237</b>	<b>1</b>	<b>4</b>	<b>110,746</b>	<b>5,960</b>	<b>171,962</b>	<b>10,959</b>	<b>299,627</b>	<b>27,547</b>	<b>43,176</b>	<b>70,723</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.313	6.293	.
(14) Massachusetts Credibility:	0.170	0.190	.
(15) Countrywide Pure Premium:	16.674	8.679	25.353
(16) Countrywide Indicated Relativity:	1.448	1.221	.
(17) Countrywide Credibility:	0.420	0.410	.
(18) Countrywide Lost-Time Claims:	145.00	.	.
(19) Pure Premium Underlying Present Rate:	47.101	19.492	66.593
(20) Relativity to Underlying Present Rate:	6.676	3.657	.
(21) Credibility to Underlying Relativity:	0.410	0.400	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	3.739	3.159	.
(24) Balanced Formula Relativity:	3.672	2.970	3.415

Class(es): 7327 STEVEDORING: CONTAINERIZED FREIGHT & DRIVERS: US ACT									Effective: 9/1/2011			Federal Class Codes		
Converted Unlimited Losses														
Amount														
Claim Count				Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	30,973	1	17	38,230	287,097	15,890	139,033	480,250	10,504	5,002	15,506			
2005	42,021	2	30	1,155,742	849,448	208,884	471,956	2,686,029	47,718	16,202	63,920			
2006	461	0	0	0	0	0	0	0	0,000	0,000	0,000			
2007	403	0	0	0	0	0	0	0	0,000	0,000	0,000			
2008	220	0	0	0	0	0	0	0	0,000	0,000	0,000			
<b>MA Total:</b>	<b>74,079</b>	<b>3</b>	<b>47</b>	<b>1,193,971</b>	<b>1,136,545</b>	<b>224,774</b>	<b>610,990</b>	<b>3,166,279</b>	<b>31,460</b>	<b>11,282</b>	<b>42,742</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.642	1.644	.
(14) Massachusetts Credibility:	0.330	0.430	.
(15) Countrywide Pure Premium:	51.536	31.659	83.195
(16) Countrywide Indicated Relativity:	4.477	4.455	.
(17) Countrywide Credibility:	0.270	0.280	.
(18) Countrywide Lost-Time Claims:	42.000	.	.
(19) Pure Premium Underlying Present Rate:	13.908	8.357	22.265
(20) Relativity to Underlying Present Rate:	1.971	1.568	.
(21) Credibility to Underlying Relativity:	0.400	0.290	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	2.869	2.409	.
(24) Balanced Formula Relativity:	2.818	2.265	2.616

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Federal Class Codes		
7350 FREIGHT HANDLING NOC: US ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	51,187	5	8	1,189,808	83,456	580,915	41,819	1,895,998	24,875	12,166	37,041
2005	49,770	0	2	0	52,556	0	368,924	421,480	1,056	7,413	8,469
2006	20,734	2	4	1,377,928	397,602	261,495	106,714	2,143,738	85,634	17,759	103,39
2007	21,410	2	0	1,176,596	0	222,627	0	1,399,223	54,955	10,398	65,353
2008	11,369	3	0	351,037	0	304,069	0	655,106	30,876	26,745	57,621
MA Total:	154,470	12	14	4,095,369	533,614	1,369,106	517,457	6,515,545	29,967	12,213	42,180

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.516	1.780	.
(14) Massachusetts Credibility:	0.320	0.460	.
(15) Countrywide Pure Premium:	15.649	6.929	22.578
(16) Countrywide Indicated Relativity:	1.359	0.975	.
(17) Countrywide Credibility:	0.300	0.270	.
(18) Countrywide Lost-Time Claims:	59.000	.	.
(19) Pure Premium Underlying Present Rate:	6.454	4.761	11.215
(20) Relativity to Underlying Present Rate:	0.915	0.893	.
(21) Credibility to Underlying Relativity:	0.380	0.270	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	1.561	1.323	.
(24) Balanced Formula Relativity:	1.533	1.244	1.427

Class(es):		Effective: 9/1/2011							Federal Class Codes		
8709 STEVEDORING:TALLIERS & CHECKING CLERKS: US ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	30,743	1	3	596,574	20,522	64,432	5,287	686,815	20,073	2,268	22,341
2005	49,341	0	2	0	3,935	0	1,424	5,359	0,080	0,029	0,109
2006	420	0	0	0	0	0	0	0	0,000	0,000	0,000
2007	536	0	0	0	0	0	0	0	0,000	0,000	0,000
2008	8,004	0	0	0	0	0	0	0	0,000	0,000	0,000
MA Total:	89,044	1	5	596,574	24,457	64,432	6,711	692,174	6,974	0,799	7,773

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.586	0.116	.
(14) Massachusetts Credibility:	0.180	0.240	.
(15) Countrywide Pure Premium:	5.987	4.771	10.758
(16) Countrywide Indicated Relativity:	0.520	0.671	.
(17) Countrywide Credibility:	0.240	0.260	.
(18) Countrywide Lost-Time Claims:	34.000	.	.
(19) Pure Premium Underlying Present Rate:	2.703	1.691	4.395
(20) Relativity to Underlying Present Rate:	0.383	0.317	.
(21) Credibility to Underlying Relativity:	0.580	0.500	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.452	0.361	.
(24) Balanced Formula Relativity:	0.444	0.339	0.406

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 Exhibit 7

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Federal Class Codes			
8726 STEAMSHIP LINE OR AGENCY-PORT EMP: SPRVSR, CAPTNS, ENGRS, STWR												
Converted Unlimited Losses												
Amount												
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	53,793	3	19	35,128	63,739	74,947	30,424	204,239	1,838	1,959	3,797	
2005	68,922	0	12	0	45,117	0	106,406	151,522	0,655	1,544	2,198	
2006	67,003	0	10	0	15,703	0	40,780	56,483	0,234	0,609	0,843	
2007	76,295	0	19	0	154,004	0	548,016	702,019	2,019	7,183	9,201	
2008	76,089	0	3	0	0	0	1,064	1,064	0,000	0,014	0,014	
<b>MA Total:</b>	<b>342,103</b>	<b>3</b>	<b>63</b>	<b>35,128</b>	<b>278,563</b>	<b>74,947</b>	<b>726,690</b>	<b>1,115,328</b>	<b>0,917</b>	<b>2,343</b>	<b>3,260</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.077	0.342	.
(14) Massachusetts Credibility:	0.320	0.440	.
(15) Countrywide Pure Premium:	1.426	1.963	3.389
(16) Countrywide Indicated Relativity:	0.124	0.276	.
(17) Countrywide Credibility:	0.240	0.260	.
(18) Countrywide Lost-Time Claims:	33.000	.	.
(19) Pure Premium Underlying Present Rate:	2.776	1.946	4.722
(20) Relativity to Underlying Present Rate:	0.393	0.365	.
(21) Credibility to Underlying Relativity:	0.440	0.300	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.227	0.332	.
(24) Balanced Formula Relativity:	0.223	0.312	0.256

Class(es):		Effective: 9/1/2011							Federal Class Codes			
9077 UNITED STATES ARMED SERVICE RISK-ALL EMPLOYEES & DRIVERS												
Converted Unlimited Losses												
Amount												
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000	
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>.</b>	<b>.</b>	<b>.</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	46.228	25.402	71.630
(16) Countrywide Indicated Relativity:	4.016	3.575	.
(17) Countrywide Credibility:	0.080	0.080	.
(18) Countrywide Lost-Time Claims:	2.000	.	.
(19) Pure Premium Underlying Present Rate:	1.507	6.235	7.741
(20) Relativity to Underlying Present Rate:	0.214	1.170	.
(21) Credibility to Underlying Relativity:	0.920	0.920	.
(22) Industry Group Converted Pure Premium:	11.909	6.861	18.769
(23) Formula Relativity:	0.518	1.362	.
(24) Balanced Formula Relativity:	0.508	1.280	0.791

## VIII 000030

Section VIII - F-Class Recommendation  
Subsection H - Proposed Rates  
9/1/2011

Section VIII-H  
Exhibit 1

### Calculation of Federal Industry Group Rate Change and Limits

(1) Industry Group Differential	1.000
(2) Experience and Benefit Level Change - Overall	20.0%
(3) Target Rate Change = (1) x [ 1.000 + (2) ] - 1.000	20.0%
(4) State Benefit Level Change	-0.2%
(5) Federal Benefit Level Change	0.0%
(6) Federal Losses as % of Total Losses	99.5%
(7) Weighted Average Benefit Level Change = [ (5) x (6) ] + { (4) x [ 1.000 - (6) ] }	0.0%
(8) Experience Change - Overall = { [1.000 + (2) ] / [ 1.000 + (7) ] } - 1.000	20.0%
(9) Experience Change - by Group = { (1) x [ 1.000 + (8) ] } - 1.000	20.0%
(10) 1/2 Experience Change - by Group = (9) / 2	10.0%
(11) Maximum Rate Change = (7) + (10) + 20.0%	30.0%
(12) Minimum Rate Change = (7) + (10) - 20.0%	-10.0%
(13) Present Average Rate	16.593
(14) Uncapped Rate Level Factor = [ 1.000 + (3) ] x (13)	19.911
(15) Capped Rate Level Factor	28.315

In addition, the WCRIBMA is limiting the increase in average rates for any class to \$15 and no average rate shall exceed \$90 per \$100 of payroll.

#### Notes:

- (1): Federal Industry Group is the only group being evaluated.
- (2): Selected Rate Change, from Section VIII-A, Exhibit 1.
- (4): Section IV-A, Exhibit 1.
- (5): Section IV-F, Exhibit 1.
- (6): Based on ratio of Federal losses to sum of Federal and State losses from Section VIII-C, Exhibit 1, Page 1 & 3.
- (13): Rates by class consistent with the 09/01/10 stipulation, weighted by five years of exposure.
- (15): Proposed average uncapped rates are capped by an iterative process using rate levels to determine if the required change is achieved.

# VIII 000031

Section VIII - F-Class Recommendation  
 Subsection H - Proposed Rates  
 9/1/2011

Section VIII-H  
 Exhibit 2

## Calculation of Average Uncapped Rates

Class Code	Balanced Formula Relativity			Uncapped Rate Level Factor	Proposed Average Uncapped Rate = (4) x (5)
	Indemnity	Medical	Total		
(1)	(2)	(3)	(4)	(5)	(6)
6801	0.691	0.860	0.753	19.911	14.99
6824	0.421	0.416	0.419	19.911	8.35
6826	0.416	0.557	0.468	19.911	9.31
6843	0.846	0.930	0.877	19.911	17.45
6872	2.397	2.933	2.593	19.911	51.63
6874	1.638	1.184	1.472	19.911	29.31
7309	1.525	1.083	1.363	19.911	27.14
7313	1.187	0.700	1.009	19.911	20.09
7317	3.672	2.970	3.415	19.911	68.00
7327	2.818	2.265	2.616	19.911	52.08
7350	1.533	1.244	1.427	19.911	28.42
8709	0.444	0.339	0.406	19.911	8.08
8726	0.223	0.312	0.256	19.911	5.09
9077	0.508	1.280	0.791	19.911	15.74

Notes:

(2),(3),(4): Section VIII-G.

(5): Exhibit 1.

# VIII 000032

Section VIII - F-Class Recommendation  
Subsection H - Proposed Rates  
9/1/2011

Section VIII-H  
Exhibit 3

## Comparison of Average Rates

Class Code (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
6801	12.66	14.99	16.45
6824	10.64	8.35	11.87
6826	12.08	9.31	13.24
6843	14.36	17.45	18.67
6872	36.35	51.63	47.25
6874	34.13	29.31	41.68
7309	37.00	27.14	38.60
7313	15.36	20.09	19.97
7317	14.68	68.00	19.08
7327	33.60	52.08	43.68
7350	17.37	28.42	22.58
8709	6.81	8.08	8.85
8726	7.54	5.09	7.24
9077	4.79	15.74	6.23

Notes:

(2): 09/01/10 Stipulation.

(3): Exhibit 2.

(4) = Total Balanced Formula Relativity (Section VIII-G) x Capped Rate Level Factor Subject to maximum and minimum caps (Exhibit 1).

# VIII 000033

Section VIII - F-Class Recommendation  
Subsection H - Proposed Rates  
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Section VIII-H  
Exhibit 4

## Summary of Proposed Premium Change

Industry Group (1)	Present Premium (2)	Proposed Premium (3)	Proposed Change (4)	Target Change (5)	Capped Rate Level Factor (6)
Federal	19,199,124	23,038,949	20.0%	20.0%	28.32

Notes:

(2): Exposure x Current Average Rates.

(3): Exposure x Proposed Average Rates.

(4) = [(3) - (2)] / (2)

(5), (6): Exhibit 1.

# VIII 000034

Pricing Example for Class 6872  
 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of MA Indicated Relativity

(A). Federal Benefits - Limited Losses (Unit Statistical Plan data, Excluding Large Deductibles)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004			445,016	363,648	353,415	1	22,755	0	40,775	
	2005			0	249,086	344,356	28,302	0	1	71,990	
	2006			164,360	64,489	211,879	33,249	20,077	0	22,639	
	2007			0	0	0	5,284	0	0	106,074	
	2008			0	84,630	0	0	0	0	11,483	
Medical	2004			54,984	321,514	121,039	0	5,042	0	6,745	6,702
	2005			0	98,443	81,302	29,054	0	0	36,012	2,397
	2006			335,640	18,984	125,588	12,179	73,601	0	51,141	8,956
	2007			0	0	0	11,942	0	0	51,833	10,395
	2008			0	21,935	0	0	0	0	7,019	8,109

(B). Federal Benefits Primary Conversion Factors (Section VIII-E, Exhibit 1, Page 1)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	1.018	0.948	1.030	1.064	0.991	1.064	0.991	1.012	0.943	
	2005	1.089	1.012	1.099	1.129	1.049	1.129	1.049	1.084	1.008	
	2006	1.321	1.114	1.330	1.355	1.143	1.355	1.143	1.316	1.110	
	2007	1.563	1.284	1.570	1.590	1.307	1.590	1.307	1.559	1.281	
	2008	2.154	1.435	2.159	2.174	1.448	2.174	1.448	2.151	1.433	
Medical	2004	1.320	1.009	1.320	1.320	1.009	1.320	1.009	1.320	1.009	0.988
	2005	1.536	1.079	1.536	1.536	1.079	1.536	1.079	1.536	1.079	0.941
	2006	1.629	1.032	1.629	1.629	1.032	1.629	1.032	1.629	1.032	0.947
	2007	1.670	1.028	1.670	1.670	1.028	1.670	1.028	1.670	1.028	0.996
	2008	2.014	1.091	2.014	2.014	1.091	2.014	1.091	2.014	1.091	1.044

(C). Federal Converted Limited Losses (Limited Losses x Primary Conversion Factors)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	458,196	386,816	350,322	1	22,556	0	38,455	
	2005	0	0	0	281,108	361,137	31,940	0	1	72,540	
	2006	0	0	218,635	87,401	242,226	45,062	22,953	0	25,134	
	2007	0	0	0	0	0	8,402	0	0	135,886	
	2008	0	0	0	183,960	0	0	0	0	16,452	
Medical	2004	0	0	72,598	424,509	122,176	0	5,089	0	6,808	6,623
	2005	0	0	0	151,191	87,746	44,622	0	0	38,866	2,255
	2006	0	0	546,734	30,924	129,572	19,839	75,936	0	52,763	8,483
	2007	0	0	0	0	0	19,946	0	0	53,300	10,355
	2008	0	0	0	44,177	0	0	0	0	7,655	8,463

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Section VIII - F-Class Recommendation  
 Subsection I - Pricing Example  
 9/1/2011

Section VIII-I  
 Exhibit 1  
 Page 2

## Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of MA Indicated Relativity (cont.):

(D). Federal Unadjusted Excess Losses [ (Excess Factor - 1.0) x Converted Limited Losses ]											
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	202,029	170,556	154,465	0	9,945	0	16,956	
	2005	0	0	0	123,947	159,233	14,083	0	0	31,985	
	2006	0	0	96,401	38,537	106,803	19,869	10,120	0	11,082	
	2007	0	0	0	0	0	3,705	0	0	59,915	
	2008	0	0	0	81,112	0	0	0	0	7,254	
Medical	2004	0	0	32,010	187,176	53,870	0	2,244	0	3,002	2,920
	2005	0	0	0	66,664	38,689	19,675	0	0	17,137	994
	2006	0	0	241,067	13,635	57,131	8,747	33,482	0	23,265	3,740
	2007	0	0	0	0	0	8,795	0	0	23,501	4,566
	2008	0	0	0	19,478	0	0	0	0	3,375	3,732

(E). Federal Adjusted Excess Losses											
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	141,420	119,389	108,125	0	6,962	0	11,869	
	2005	0	0	0	86,763	111,463	9,858	0	0	22,389	
	2006	0	0	67,481	26,976	74,762	13,908	7,084	0	7,758	
	2007	0	0	0	0	0	2,593	0	0	41,941	
	2008	0	0	0	56,778	0	0	0	0	5,078	
Medical	2004	0	0	92,619	238,342	100,210	0	5,228	0	8,089	2,920
	2005	0	0	0	103,848	86,459	23,900	0	0	26,732	994
	2006	0	0	269,987	25,196	89,172	14,708	36,518	0	26,589	3,740
	2007	0	0	0	0	0	9,906	0	0	41,476	4,566
	2008	0	0	0	43,812	0	0	0	0	5,551	3,732

(F). Federal Secondary Conversion Factors						
	Fatal	Permanent Total	Major Permanent Partial	Minor Permanent Partial	Temporary Total	Medical Only
Indemnity	1.166	1.111	1.405	1.431	1.416	
Medical	1.186	0.954	1.207	1.229	1.217	1.186

(G). Federal Converted Unlimited Losses											
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	665,935	711,288	644,183	2	42,237	0	71,270	
	2005	0	0	0	516,910	664,069	59,811	0	2	134,442	
	2006	0	0	317,760	160,715	445,413	84,381	42,980	0	46,583	
	2007	0	0	0	0	0	15,734	0	0	251,843	
	2008	0	0	0	338,271	0	0	0	0	30,492	
Medical	2004	0	0	157,626	800,115	268,438	0	12,682	0	18,124	11,321
	2005	0	0	0	307,853	210,279	84,229	0	0	79,808	3,855
	2006	0	0	779,199	67,741	264,042	42,466	138,231	0	96,541	14,500
	2007	0	0	0	0	0	36,695	0	0	115,304	17,701
	2008	0	0	0	106,209	0	0	0	0	16,067	14,467

(H). Total Federal Converted Unlimited Losses				
Policy Year	Indemnity		Medical	
	LD	NLD	LD	NLD
2004	1,377,225	757,691	957,741	310,565
2005	576,723	798,512	392,082	293,942
2006	562,856	534,976	889,406	513,314
2007	15,734	251,843	36,695	133,005
2008	338,271	30,492	106,209	30,534
<b>Total</b>	<b>2,870,809</b>	<b>2,373,513</b>	<b>2,382,133</b>	<b>1,281,360</b>

Notes:

(E): Indemnity Adjusted Excess Losses = Indemnity Unadjusted Excess Losses x 0.7

Medical Adjusted Excess Losses = Medical Unadjusted Excess Losses + 0.3 x Indemnity Unadjusted Excess Losses

(F): Section VIII-E, Exhibit 1, Page 2.

(G) = [ (C) + (E) ] x (F)

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## Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of MA Indicated Relativity (cont.)

(A). State Benefits - Limited Losses (Unit Statistical Plan data, excluding Large Deductibles)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004								0	0	
	2005								0	0	
	2006								0	0	
	2007								0	0	
	2008								0	22,441	
Medical	2004								0	0	
	2005								0	0	
	2006								0	0	
	2007								0	0	
	2008								0	16,776	

(B). State Benefits Primary Conversion Factors (Section IX-B, Exhibit 1, Page 1)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0.935	0.927	0.946	0.977	0.969	0.977	0.969	0.929	0.922	
	2005	1.020	0.992	1.030	1.057	1.028	1.057	1.028	1.016	0.988	
	2006	1.159	1.083	1.168	1.190	1.111	1.190	1.111	1.156	1.079	
	2007	1.359	1.213	1.365	1.382	1.234	1.382	1.234	1.355	1.210	
	2008	1.984	1.532	1.988	2.002	1.546	2.002	1.546	1.981	1.530	
Medical	2004	1.067	0.966	1.067	1.067	0.966	1.067	0.966	1.067	0.966	0.945
	2005	1.231	1.072	1.231	1.231	1.072	1.231	1.072	1.231	1.072	0.935
	2006	1.312	1.062	1.312	1.312	1.062	1.312	1.062	1.312	1.062	0.975
	2007	1.391	1.034	1.391	1.391	1.034	1.391	1.034	1.391	1.034	1.002
	2008	1.625	1.133	1.625	1.625	1.133	1.625	1.133	1.625	1.133	1.084

(C). State Converted Limited Losses (Limited Losses x Primary Conversion Factors)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	0	0	0	0	0	
	2005	0	0	0	0	0	0	0	0	0	
	2006	0	0	0	0	0	0	0	0	0	
	2007	0	0	0	0	0	0	0	0	0	
	2008	0	0	0	0	0	0	0	0	34,335	
Medical	2004	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	0	0	0	0
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	19,002	0

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 Subsection I - Pricing Example  
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Section VIII-I  
 Exhibit 1  
 Page 4

## Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of MA Indicated Relativity (cont.):

		(D). State Unadjusted Excess Losses [ (Excess Factor -1.0) x Converted Limited Losses ]									
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	0	0	0	0	0	0	0	
	2005	0	0	0	0	0	0	0	0	0	
	2006	0	0	0	0	0	0	0	0	0	
	2007	0	0	0	0	0	0	0	0	0	
	2008	0	0	0	0	0	0	0	0	15,139	
Medical	2004	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	0	0	0	0
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	8,378	0

		(E). State Adjusted Excess Losses									
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	0	0	0	0	0	0	0	
	2005	0	0	0	0	0	0	0	0	0	
	2006	0	0	0	0	0	0	0	0	0	
	2007	0	0	0	0	0	0	0	0	0	
	2008	0	0	0	0	0	0	0	0	10,597	
Medical	2004	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	0	0	0	0
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	12,920	0

		(F). Federal Secondary Conversion Factors					
		Fatal	Permanent Total	Major Permanent Partial	Minor Permanent Partial	Temporary Total	Medical Only
Indemnity		0.998	0.950	1.202	1.224	1.212	
Medical		1.186	0.954	1.207	1.229	1.216	1.186

		(G). State Converted Unlimited Losses									
Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only	
	LD	NLD		LD	NLD	LD	NLD	LD	NLD		
Indemnity	2004	0	0	0	0	0	0	0	0	0	
	2005	0	0	0	0	0	0	0	0	0	
	2006	0	0	0	0	0	0	0	0	0	
	2007	0	0	0	0	0	0	0	0	0	
	2008	0	0	0	0	0	0	0	0	54,439	
Medical	2004	0	0	0	0	0	0	0	0	0	0
	2005	0	0	0	0	0	0	0	0	0	0
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	38,825	0

		(H). Total State Converted Unlimited Losses			
Policy Year	Indemnity		Medical		
	LD	NLD	LD	NLD	
2004	0	0	0	0	
2005	0	0	0	0	
2006	0	0	0	0	
2007	0	0	0	0	
2008	0	54,439	0	38,825	
Total	0	54,439	0	38,825	

Notes:

(E): Indemnity Adjusted Excess Losses = Indemnity Unadjusted Excess Losses x 0.7

Medical Adjusted Excess Losses = Medical Unadjusted Excess Losses + 0.3 x Indemnity Unadjusted Excess Losses

(F): Section VIII-E, Exhibit 1, Page 2.

(G) = [ (C) + (E) ] x (F)

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Section VIII - F-Class Recommendation  
 Subsection I - Pricing Example  
 9/1/2011

Section VIII-I  
 Exhibit 1  
 Page 5

Pricing Example for Class 6872  
 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of MA Indicated Relativity (cont.):

Exposure, Converted Unlimited Losses (Both Federal & State)			
Policy Year (1)	Exposure (2)	Indemnity (3)	Medical (4)
2004	36,541	2,134,916	1,268,306
2005	43,542	1,375,235	686,024
2006	32,369	1,097,832	1,402,720
2007	36,719	267,577	169,700
2008	9,252	423,202	175,569
Total	158,423	5,298,761	3,702,318
(5)	Indicated Pure Premium	33.447	23.370
(6)	Federal Class Codes Industry Group Pure Premium	11.909	6.861
(7)	MA Indicated Relativity	2.809	3.406

Notes:

- (2): Unit Statistical Plan data, excluding Large Deductibles
- (3), (4): Converted Unlimited Losses from Pages 1 & 2.
- (5): Totals of (3) and (4), divided by Total of (2), respectively.
- (6): Section VIII-F, Exhibit 1, Page 2.
- (7) = (5) / (6)

# VIII 000039

## Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of Countrywide Relativity

State Code (1)	State (2)	Losses				Lost-Time Claims		Payroll (9)
		Indemnity		Medical		Likely (7)	Not Likely (8)	
		Likely (3)	Not Likely (4)	Likely (5)	Not Likely (6)			
1	Alabama	0	0	0	0	0	0	645,466
2	Arizona	0	0	0	0	0	0	56,062
3	Arkansas	6,527	28,811	6,141	58,749	1	2	454,389
5	Colorado	0	0	0	0	0	0	7,973
6	Connecticut	247,416	0	1,547,398	3,378	2	0	1,315,011
8	District of Columbia	0	0	0	0	0	0	9,042
9	Florida	2,275,300	213,314	1,297,076	330,342	7	24	18,673,941
10	Georgia	0	0	0	0	0	0	8,546
11	Idaho	0	0	0	0	0	0	17,420
12	Illinois	0	24,125	0	133,888	0	3	8,100,059
13	Indiana	0	0	0	22,174	0	0	1,530,237
14	Iowa	0	0	0	0	0	0	514,819
15	Kansas	0	0	0	0	0	0	21,472
16	Kentucky	0	0	0	0	0	0	3,056,190
17	Louisiana	3,317,787	2,583,691	2,969,127	2,170,444	27	59	167,552,164
18	Maine	0	0	0	0	0	0	39,272
19	Maryland	0	78,830	0	43,698	0	1	1,374,973
23	Mississippi	436,087	86,120	455,964	358,444	2	17	21,653,533
24	Missouri	367,189	88,080	643,028	149,841	6	15	11,232,857
25	Montana	0	0	0	0	0	0	24,096
26	Nebraska	0	0	0	0	0	0	0
27	Nevada	0	0	0	0	0	0	0
28	New Hampshire	0	111,622	0	78,293	0	1	606,889
30	New Mexico	0	0	0	0	0	0	0
32	North Carolina	0	231,885	0	43,339	0	1	672,225
35	Oklahoma	0	0	0	0	0	0	0
36	Oregon	25,691	167,434	105,118	231,683	1	12	14,792,844
38	Rhode Island	0	27,501	0	48,372	0	3	1,205,298
39	South Carolina	182,935	15,670	252,216	41,068	2	1	4,045,197
40	South Dakota	0	0	0	0	0	0	0
41	Tennessee	0	68,443	0	83,895	0	1	819,955
43	Utah	0	0	0	0	0	0	425
44	Vermont	0	0	0	0	0	0	0
45	Virginia	185,854	652,262	262,586	909,232	4	38	47,774,756
52	Hawaii	377,172	663,650	264,280	237,273	3	17	11,135,721
54	Alaska	364,168	849,518	554,590	1,242,857	4	31	20,883,514
	Total	7,786,126	5,890,956	8,357,524	6,186,970	59	226	338,224,346

Notes:  
 (3) - (6): Data are total for latest three policy years.  
 (7), (8): Used in calculating countrywide credibilities. See Section IX-D, Exhibit 1, Page 1.

# VIII 000040

## Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

### Calculation of Countrywide Relativity

State Code (1)	State (2)	Federal Class Codes Pitch Factors		Pure Premiums, on MA Level		Total (7)
		Indemnity (3)	Medical (4)	Indemnity (5)	Medical (6)	
1	Alabama	1.693	0.701	0.000	0.000	
2	Arizona	10.917	0.791	0.000	0.000	
3	Arkansas	5.180	0.841	40.286	12.007	
5	Colorado	0.000	0.000	0.000	0.000	
6	Connecticut	0.837	0.120	15.743	14.119	
8	District of Columbia	0.785	0.453	0.000	0.000	
9	Florida	1.655	0.683	22.054	5.952	
10	Georgia	7.520	1.503	0.000	0.000	
11	Idaho	0.000	0.000	0.000	0.000	
12	Illinois	2.732	0.803	0.814	1.328	
13	Indiana	46.210	3.715	0.000	5.383	
14	Iowa	1.520	1.586	0.000	0.000	
15	Kansas	0.000	0.000	0.000	0.000	
16	Kentucky	0.269	0.141	0.000	0.000	
17	Louisiana	1.145	0.715	4.032	2.193	
18	Maine	0.015	0.010	0.000	0.000	
19	Maryland	3.006	2.297	17.232	7.301	
23	Mississippi	2.615	0.659	6.307	2.478	
24	Missouri	5.635	1.544	22.840	10.896	
25	Montana	0.000	0.000	0.000	0.000	
26	Nebraska	0.000	0.000	0.000	0.000	
27	Nevada	0.000	0.000	0.000	0.000	
28	New Hampshire	0.925	0.710	17.009	9.153	
30	New Mexico	0.000	2.235	0.000	0.000	
32	North Carolina	0.628	0.805	21.652	5.188	
35	Oklahoma	0.716	0.363	0.000	0.000	
36	Oregon	1.562	0.865	2.039	1.969	
38	Rhode Island	2.184	1.755	4.984	7.042	
39	South Carolina	0.600	0.112	2.948	0.812	
40	South Dakota	0.000	0.000	0.000	0.000	
41	Tennessee	1.462	0.611	12.201	6.256	
43	Utah	0.000	0.000	0.000	0.000	
44	Vermont	0.000	0.000	0.000	0.000	
45	Virginia	16.234	4.189	28.479	10.275	
52	Hawaii	0.995	0.812	9.300	3.656	
54	Alaska	1.782	0.739	10.356	6.359	
(8)	Average of (5), (6) weighted by Payroll from Page 1, respectively			9.796	4.220	
(9)	Conversion and Excess Loss Adjustment Factor			1.979	2.258	
(10)	CW Pure Premium = (8) x (9)			19.383	9.526	28.908
(11)	CW Federal Class Codes Pure Premium			11.512	7.106	18.618
(12)	CW Relativity = (10) / (11)			1.684	1.340	1.553
(13)	CW Relativity, balanced to unity			1.684	1.340	

**Notes:**

- (3), (4) = (MA Total Federal Class Code Limited Losses) / [(Federal Class Code Pure Premium by State) x (MA Total Federal Class Code Exposure)].
- (9) = (MA Total Federal Class Codes Adjusted Converted Losses) / (MA Federal Class Codes Limited Losses). See Section VIII-F, Exhibit 1, Pages 1-2.
- (11) = (10) weighted by MA five year Federal Class Codes Exposure
- (13): Relativities balanced to unity (weighted by MA exposure) over Federal Class Codes Industry Group.

## VIII 000041

Section VIII - F-Class Recommendation  
 Subsection I - Pricing Example  
 9/1/2011

Section VIII-I  
 Exhibit 3

### Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of Credibility and Balanced Formula Relativity:

- (1) MA Indicated Relativity
- (2) Countrywide Indicated Relativity
- (3) Relativity to Underlying Present Rate

Injury Type	
Indemnity	Medical
2.809	3.406
1.684	1.340
2.508	3.090

Calculation of MA Credibility:

The MA Credibilities are calculated using the formula  $Z=(E / F)^{0.4}$  where E are expected losses for that injury type.

- (4) Adopted Relativity
- (5) Industry Group Pure Premium Underlying Present Rate Factor
- (6) Pure Premium Underlying Present Rate  
= (4) x (5)
- (7) Expected Losses  
= (6) x [(Total Exposure from Exhibit 1, Page 5)]
- (8) Full Credibility Standards
- (9) MA Credibility  
= Minimum of {100%, [(7) / (8)]<sup>0.4</sup>}

Injury Type	
Indemnity	Medical
2.365	2.946
7.481	5.589
17.693	16.466
2,802,932	2,608,618
17,000,000	5,200,000
49%	76%

Calculation of Countrywide Credibility

The Countrywide Credibilities are calculated using the formula  $Z=(E / F)^{0.4}$  where E are the countrywide claim counts for that injury type. The countrywide credibility is limited to no more than half of the complement of the credibility assigned to the Massachusetts data.

- (10) Countrywide Lost-Time Claims
- (11) Countrywide Claim Count Standard
- (12) Countrywide Credibility  
= Minimum of { [(10) / (11)]<sup>0.4</sup>, 0.5 x [100% - (9)] }
- (13) Credibility to Underlying  
= 100% - (9) - (12)
- (14) Formula Relativity  
= [(1) x (9)] + [(2) x (12)] + [(3) x (13)]
- (15) Off Balance Factor

Injury Type	
Indemnity	Medical
285	285
1,150	1,000
26%	12%
25%	12%
2.441	3.121
1.018	1.064

- (16) Balanced Formula Relativity

Injury Type		
Indemnity	Medical	Total
2.397	2.933	2.593

Notes:

- (1): Exhibit 1, Page 5.
- (2): Exhibit 2, Page 2.
- (3): Relativity of (6) to Industry Group average, using 5 year Schedule Z exposure as weights.
- (4): Section VIII-F, Exhibit 3.
- (5): Section VIII-F, Exhibit 2.
- (8), (11): Section IX-D, Exhibit 1, Page 1.
- (10): Exhibit 2, Page 1.
- (15): Factor to balance Formula relativities across industry group to unity using 5 year Schedule Z exposure by injury type.
- (16) = (14) / (15) , Total Balanced Formula Relativity is the weighted average of Partial Relativities using the MA Industry Group Pure Premium as weights.

## VIII 000042

Section VIII - F-Class Recommendation  
Subsection I - Pricing Example  
9/1/2011

Section VIII-I  
Exhibit 4

### Pricing Example for Class 6872 SHIP REPAIR CONVERSION- ALL OP & DR: US ACT

Calculation of Proposed Average Rate and Proposed Manual Rate:

(1) Present Average Rate	36.35
(2) Total Balanced Formula Relativity	2.593
(3) Capped Rate Level Factor	28.315
(4) Maximum Average Rate	47.26
(5) Minimum Average Rate	32.72
(6) Proposed Average Capped Rate = (2) x (3), Subject to Caps (4), (5)	47.26
(7) Offset for Merit Rating	0.997
(8) Offset for ARAP	1.049
(9) Offset for Construction Classification Premium Adjustment Program	1.000
(10) Provision for Insolvency Fund Assessment Recoupment	0.0002
(11) Proposed Manual Rate = { (6) / [ (7) x (8) x (9) ] } x { 1.000 / [ 1.000 - (10) ] }	45.19
(12) Minimum Premium	500
(13) Loss Constant	0
(14) Expected Loss Rate	12.76
(15) D-Ratio	0.20

#### Notes:

(1): Section VIII-H, Page 3.

(2): Exhibit 3.

(3): Section H, Exhibit 1. Proposed average uncapped rates are capped by an iterative process using rate levels to determine if the required change is achieved. Class 6872 is in the Federal Class Codes Industry Group.

(4): Multiple caps apply including the maximum increase for any class within the industry group, a maximum absolute dollar change of \$15, and a maximum absolute average rate of \$90.

(5): Based on the minimum decrease for any class within the industry group.

(7), (8), (9), (10): Section IX - K. Class 6872 is not eligible for the Construction Credit program.

(12) = { [ (11) x 35.0 ] + (13) + Expense Constant } subject to a maximum of \$500

Where Expense Constant = 159 if (11) x 35 + (13) < 200,

= 250 if (11) x 35 + (13) >= 200 and < 1000

or = 338 if (11) x 35 + (13) >= 1000.

(13): No loss constant for Federal classes.

(14) = (6) x Ratio of Experience Rating ELR to Average Rate, from Section X-C, Exhibit 1.

Class 6872 is in Hazard Group G.

(15): See text of Section X for an explanation of the calculation of D-Ratios.

## VIII 000043

Section VIII - F-Class Recommendation  
Subsection J - U.S.L.H. & H.W. Coverage Percentage  
9/1/2011

Section VIII-J  
Exhibit 1

### Calculation of USLH & HW Compensation Coverage Percentage

(1)	Benefits Differential Underlying Current USLH & HW Coverage Percentage	1.206
(2)	State Benefit Level Adjustments Since Last Approval	1.005
(3)	Federal Benefit Level Adjustments Since Last Approval	1.001
(4)	Revised Benefits Differential = (1) x [ (3) / (2) ]	1.201
(5)	Federal Indemnity Losses as % of Total Federal Losses	66.5%
(6)	Expected Loss Ratio for State Classes	59.3%
(7)	Fixed Expense Ratio	5.6%
(8)	Special Fund Assessment Rate as % of Federal Indemnity Losses	0.200
(9)	Loss Adjustment Expense Factor (Applies to Losses)	1.186
(10)	USLH & HW Coverage Percentage for Manual Rates	1.311
(11)	USLH & HW Coverage Percentage for Expected Loss Rates	1.186

#### Notes:

(1): Section VIII-J, Exhibit 1 of 9/1/2010 Stipulation.

(2): Total Benefit Level Changes from 10/1/09 to Prospective Period from Section IV-A, Exhibit 1.

(3): Total Benefit Level Changes from 10/1/09 to Prospective Period from Section IV-F, Exhibit 1.

(5): Based on ratio of indemnity losses to total losses from Section VIII-C, Exhibit 1, Page 1.

(6): Section VI-A, Exhibit 1.

(7): Average of Fixed Expense Ratios for 2 PYs from Section VI-B, Exhibit 1.

(8): NCCI's Tax & Assessment Directory.

(9): Section VIII-E, Exhibit 1, Page 2.

(10) = { [ (6) x (4) x (9) ] + [ (6) x (4) x (5) x (8) ] + (7) } / { [ (6) x (9) ] + (7) }

(11) = { [ (6) x (4) x (9) ] + (7) } / { [ (6) x (9) ] + (7) }

## VIII 000044

Section VIII - F-Class Recommendation  
Subsection K - Federal Tax Multiplier  
9/1/2011

Section VIII-K  
Exhibit 1

### Calculation of Federal Tax Multiplier

(1)	State Tax Multiplier	1.028
(2)	Loading for Taxes and Residual Market Subsidy = $1.0 - [ 1.0 / (1) ]$	2.7%
(3)	Expected Loss Ratio (no LAE)	58.7%
(4)	Federal Special Funds Assessment	20.0%
(5)	Federal Indemnity Losses as % of Total Losses	66.2%
(6)	Loading for Federal Funds Assessment = $(3) \times (4) \times (5)$	7.8%
(7)	Federal Tax Multiplier = $1.0 / [ 1.0 - (2) - (6) ]$	1.117

Notes:

(1),(3): Section XII-A, Exhibit 4.

(4): NCCI Tax and Assessment Directory.

(5): Based on ratio of federal indemnity losses to state and federal total losses from Section VIII-C, Exhibit 1, Pages 1 and 3.

**CLASSIFICATION PRICING****Background**

One of the primary goals of ratemaking is to determine an appropriate price for each insured based on the losses that the insured is expected to generate in the prospective policy period. Because many risks are too small to generate an accurate rate based on their own individual experience, risks are combined into classifications.

The workers' compensation system assigns similar risks to the same classification codes and calculates a rate separately for each code. In aggregating risks, it is desirable to balance stability and responsiveness and derive groups that are distinctly different from each other. In order to attain stability, we want a group large enough that its losses do not fluctuate too much; and for responsiveness, we want a group small enough so that its rate adjusts to the changing costs of similar risks.

In the Massachusetts workers' compensation system, insureds are separated into five Industry Groups: Manufacturing, Construction, Office and Clerical, Goods and Services, and Miscellaneous. The assignment of class codes to each industry group is based on products produced, processes involved, and services provided.

**Revisions to Class Ratemaking Methodology**

With this filing, the WCRIBMA is incorporating changes to the class ratemaking methodology that are consistent with those that have been developed and implemented by the National Council of Compensation Insurance (NCCI) in the states for which they have developed rates or loss costs effective 10/1/2009 and later. A detailed description

of the NCCI's methodology is provided in the paper "Class Ratemaking for Workers Compensation: NCCI's New Methodology" by Tom Daley.

Three major changes to the class ratemaking methodology in this filing involve:

- Loss Limits
- Loss Development
- Class Credibility

### **Loss Limits**

In prior filings the WCRIBMA capped each claim at \$200,000. Following NCCI's methodology in this filing we capped individual claims at \$500,000 and multi-claimant occurrences were capped at \$1,500,000 (three times the individual claim limit of \$500,000).

### **Loss Development**

In prior filings, the WCRIBMA estimated loss development factors separately by injury type for indemnity and medical losses. For fatal and permanent total claims, this method resulted in loss development factors that were not stable across time because of the low volume of claims.

NCCI examined and tested claim characteristics, and produced a development framework which assigns claims to one of two categories - Likely-to-Develop and Not-Likely-to-Develop – based on the following information taken from unit statistical reports:

- Injury Type
- Claim Status (open vs. closed)
  - As reported in first report
  - If no first report assume open status
- Body Part (as reported in the initial USR for the claim)

Body part codes are assigned to either Group A or Group B. Part of body Group A consists of claims that have a greater potential to develop upward over time such as injuries to the back, head, shoulders, trunk, and those involving multiple body parts. Part of body Group B consists of all other claims. A listing of all the body part codes and the grouping to which they are mapped is shown in Appendix 1.

Consistent with NCCI's new loss development methodology, the WCRIBMA assigned losses into the following four loss development categories:

- Medical – Likely-to-Develop
- Medical – Not-Likely-to-Develop
- Indemnity – Likely-to-Develop
- Indemnity – Not-Likely-to-Develop

The following table summarizes the classification of claims as likely versus not-likely to develop.

**IX 000004**

<b>INJURY TYPE</b>	<b>NOT-LIKELY-TO-DEVELOP</b>	<b>LIKELY-TO-DEVELOP</b>
Fatal	Fatal at First Report	Becomes Fatal after First Report
Permanent Total	N/A	All
Permanent Partial	Closed at First Report or Body Part Group B	Open at First Report and Body Part Group A
Temporary Total	Closed at First Report or Body Part Group B	Open at First Report and Body Part Group A
Medical Only	All	N/A

In prior filings a tail factor derived from the Aggregate Financial database was applied only to those claims classified as serious claims. This implies that no tail loss development is attributable to those claims classified as non-serious claims. NCCI modified this assumption in their new methodology so that 80% of tail loss development is assumed to apply to Likely-to-Develop claims with the remaining 20% of tail development being applied to the Not-Likely-to-Develop claims.

**Class Credibility**

NCCI derived new full credibility standards (FCS). The current three way credibility weighting procedure will remain the same for Indicated, National and Present On-Rate Level pure premiums.

Full Credibility Standards for State Indicated	
Pure Premium	
Indemnity	850
Medical	400

Full Credibility Standards for National Indicated	
Pure Premium	
Indemnity	1,150
Medical	1,000

### **Summary**

In this section we first calculate the rate change for each Industry Group as it varies from the statewide overall indicated rate change. The calculation of the indicated Industry Group rate change is similar to the process used in developing the overall rate level indication. We update the indicated class relativities within each Industry Group to reflect the ratio of the pure premium for the individual class to the pure premium for the given Industry Group. Class relativities are updated regularly in order to maintain a fair and accurate classification system.

Estimated pure premium relativities for each class are a credibility-weighted average of three pure premium relativities: (1) recent Massachusetts (MA) experience, (2) recent "countrywide" (CW) experience, and (3) the relativities underlying the present rate. Average rates are calculated from the updated relativities to derive the proposed

rate change by Industry Group. Proposed average rates are capped according to the methodology established in the 9/1/2003 rate decision, and used in subsequent filings. Finally, proposed manual rates are determined by applying offsets to the proposed average capped rates. Since ARAP, Merit and Experience Rating, and the Construction Credit program are each designed to be revenue neutral, an offset for each of these programs is applied to the rate.

**Massachusetts Data**

The data used for the purpose of classification pricing are the Unit Statistical Plan data from Schedule Z, which shows detailed policy year payroll, premium and loss data for each classification in Massachusetts. The data used exclude the experience of large deductible policies. In this review, we have utilized the latest available five policy years of data, policy years 2004 through 2008.

**Adjustment of Massachusetts Data**

We begin this process by calculating "limited losses." Limited losses are determined by applying per claim limits and per occurrence limits. These limited losses are multiplied by primary conversion factors (PCF) (Section IX – B, Exhibit 1, Page 1) in order to adjust each policy year's experience to reflect current conditions. Primary conversion factors include benefit level adjustments, loss development factors, and trend factors. Converted limited losses are the product of the limited losses and the primary conversion factors.

We then apply excess loss factors. Prior to the 2010 filing, the WCRIBMA had relied on a different method of calculating excess loss factors. Indicated serious, non-serious and medical excess loss factors were calculated by adding unity to the quotient of converted excess losses and converted limited losses by hazard group. In this filing as in the 2010 filing, the WCRIBMA has followed the same methodology as NCCI's new class ratemaking methodology in calculating excess loss factors. A provision for excess losses has been determined using estimated excess ratios by hazard group from Section XII - F, Exhibit 3, Page 1. The excess ratios in Section XII – F, Exhibit 3, Page 1 are “per occurrence” excess ratios which need to be converted to “per claim” excess ratios. This is done by multiplying the excess ratios from Section XII – F, Exhibit 3, Page 1 by a factor of 0.985.

Separately for indemnity and medical losses, a factor (calculated as  $[ 1.0 / (1.0 - \text{Excess Ratio}) ] - 1.0$ ) is applied to converted limited losses by class to derive unadjusted excess losses. Consistent with NCCI's new methodology, 30% of the unadjusted indemnity excess losses is reassigned to medical excess losses. The resulting quantities are termed the adjusted excess losses.

Finally we calculate converted unlimited losses by multiplying the sum of the converted limited losses and the adjusted excess losses by the secondary conversion factors (SCF) (Section IX – B, Exhibit 1, Page 2). Secondary conversion factors include a factor to load loss adjustment expense factor and the investment income offset factor. Indemnity and medical converted unlimited losses are then summed by policy year.

These sums are displayed by Industry Group in Section IX - C. Massachusetts indicated pure premiums are calculated by dividing these losses by exposure (generally payrolls).

**Inclusion of Countrywide Data**

Massachusetts relativities are credibility-weighted with countrywide relativities and with the pure premiums underlying present relativities. The countrywide data used in this filing are supplied by NCCI. Countrywide relativities are based upon the latest available three composite policy years, although the specific years vary by state (see Section IX - D, Exhibit 3). Before the data can be used for ratemaking purposes, it must be adjusted to reflect the Massachusetts' distribution of exposure and loss levels.

Pitch factors are used to adjust the countrywide data to a corresponding Massachusetts level. These pitch factors are calculated as follows:

1. Multiply each state's classification pure premiums by the corresponding Massachusetts exposure to estimate the loss level that would occur if the employers in that state were located in Massachusetts.
2. Sum the indemnity and medical losses by state and industry group to determine the aggregate adjusted losses for each state.

3. Calculate aggregate adjusted losses for Massachusetts in a similar fashion.
  
4. Divide the aggregate adjusted losses for Massachusetts by the aggregate adjusted losses for each state to determine the pitch factors.

Pitch factors represent the amount by which another state's data must be adjusted to be on the same exposure distribution and loss level as the Massachusetts Schedule Z data (Section IX - D, Exhibit 2). Each state's pure premiums are multiplied by its corresponding pitch factor to derive adjusted pure premiums. The sum of the products of the adjusted pure premiums and exposures by state by class is then divided by the total exposure by class to derive countrywide class pure premiums.

Finally, the countrywide adjusted pure premiums are further adjusted to the Massachusetts indicated loss level by applying the conversion and excess loss factors in a manner similar to the adjustment of Massachusetts data. These countrywide pure premiums should then be on a comparable basis with the Massachusetts pure premiums.

For each Industry Group, the countrywide indicated pure premiums are converted to relativities, so that they balance to unity when weighted by Massachusetts exposures.

**Underlying Relativities**

The relativities underlying present rates are calculated by balancing the pure premiums underlying present rates (which have been adjusted to reflect the impact of benefit changes and trend to the proposed effective period) to unity, based on the five most recent years of exposure.

**Formula Relativities**

Once we have the separate (MA Indicated, CW and Underlying) relativities, we use credibility-weighted averages to calculate formula relativities. The indicated Massachusetts relativity is multiplied by its credibility, the indicated countrywide relativity is multiplied by its (limited) credibility and the relativity underlying the present rate is multiplied by the remaining credibility. The total formula relativity is the weighted average of the indemnity and medical relativities, using the Industry Group indemnity and medical pure premiums as weights. The calculated formula relativities are then balanced to unity based on the five most recent policy years of exposure.

**Credibility**

Credibility reflects the relative reliability and volume of class data used to determine class relativities. In general, a class with higher expected losses has more weight given to its recent MA indicated relativities, while a class with lower expected losses has more weight given to the countrywide and underlying relativities.

Credibilities are calculated separately for the MA and the CW experience, and the remainder of credibility is assigned to the relativity underlying the present rate.

**Massachusetts Credibility**

This filing follows the classical credibility method, which has been used since the 9/1/2001 filing, based on the formula:

$$Z = ( E / F )^{0.4}$$

Where        Z = Credibility assigned to MA or CW experience  
                 E = Expected Losses for MA, Claim Counts for CW  
                 F = Full Credibility Criterion

The Massachusetts full credibility criterion is calculated as the product of the claim count standard and the average claim cost. We use NCCI's new credibility standards. The average claim costs have been updated in Section IX - D, Exhibit 1, Page 2 of this filing.

Credibility is a function of the volume of indemnity and medical expected losses. By class, expected losses are calculated separately for indemnity and medical only losses by multiplying the pure premiums underlying the present rate by exposure. Pure premiums underlying present rates are the product of the adopted relativities from the previous rate revision and pure premium underlying present rate factors. The factors are

comprised of the rate level factor implicit in the current rate and an adjustment for benefit level changes and trend since the previous revision (Section IX - E, Exhibit 1).

### **Practical Credibility Considerations**

This method may produce anomalous credibilities for classes with small amounts of data. Therefore, the following constraints apply:

1. Credibilities cannot be negative.
2. Countrywide credibilities are limited so that the sum of the Massachusetts and countrywide credibilities is not more than 100%.
3. Countrywide credibilities cannot be greater than 50% and are limited to  $\frac{1}{2}$  of (1.0 - Massachusetts credibility).

### **Countrywide Credibility**

The credibility of adjusted countrywide pure premiums is determined based on claim counts for lost time claims (Section IX - D, Exhibit 1, Page 1). Exposure cannot be used as a measure of credibility since wage levels vary significantly between states.

### **Proposed Average Capped Rates**

Proposed average rates by class are calculated to achieve the proposed rate change by Industry Group. The uncapped rate for each class is the product of the formula pure premium relativity and the uncapped rate level factor for the Industry Group. This

uncapped rate level factor is the product of the present average rate and the average rate level change by industry group.

Proposed average rates are then subject to several capping mechanisms (Section IX – H, Exhibit 1). Proposed average uncapped rates are capped by an iterative process using rate levels and the 5 most recent years of exposures to determine if the required industry group change is achieved. The maximum rate change for a class within an industry group is equal to the benefit level change plus 1/2 the experience change plus 20%. The minimum rate change for a class within an industry group equals the benefit level change plus 1/2 the experience change minus 20%. Setting the caps in this manner provides some rate stability over time.

### **Manual Rates**

Section IX - A displays the proposed manual rates and rating values for this filing. Proposed manual rates are determined by applying offsets to the proposed average capped rates. We calculate offsets for the impact of merit and experience rating, ARAP, construction credits, and the recoupment of the Insolvency Fund assessments (calculated in Section I – E, Exhibit 1, Page 1), as shown in Section IX - K.

### **All Risk Adjustment Program**

The All Risk Adjustment Program (ARAP) surcharges those experience-rated risks, both voluntary and assigned, with a record of losses greater than expected under the Experience Rating Plan. The purpose of this program is to provide a pricing

## IX 000014

mechanism to reflect the unusually adverse experience of certain experience-rated risks. Because the program allows for surcharges only, it generates additional premium revenue. In order to achieve revenue-neutrality, we apply a corresponding offset to reduce the manual rates to make up for the anticipated surcharge premium.

The ARAP adjustment is calculated and identified as a separate factor on the Experience Rating Calculation sheet. The ARAP factor can range from 1.00 to a maximum of 1.25. The offset factor for ARAP, calculated in Section IX – K, Exhibit 3, is 1.049.

### **Merit Rating Program**

The objective of the Merit Rating Program is to provide a pricing mechanism for risks too small to qualify for experience rating to share in the loss experience that they generate.

A risk is eligible for the Merit Rating Program if it is not eligible for experience rating and has an average annual premium over the last three policy years of at least \$500. Eligible risks receive the following adjustments to their premium, based on the number of lost-time claims over the most recent three policy years.

Number of Lost-Time Claims	Merit Rating Adjustment
0	5% credit
1	None
2 or more	5% debit

To make the program revenue neutral, rates should be offset by the average historical merit rating credit weighted by the percentage of premium eligible for merit rating. Section IX - K, Exhibit 2 shows the calculation of the combined offset of 0.997 for Experience and Merit Rating.

### **Construction Credit Program**

The Massachusetts Construction Classification Premium Adjustment Program may reduce an eligible employer's premium if the employer's average weekly wage is \$18.00 or more per hour per construction employee. This is a credit-only program and we have calculated an offset to the eligible classes to assure revenue neutrality. Section IX - K, Exhibit 4 shows the derivation our selection of the 5.7% offset to be applied to the eligible classes.

### **Loading for Recoupment of Insolvency Fund Assessments**

Under Massachusetts law, from time to time the Massachusetts Insurers Insolvency Fund ("Fund") assesses carriers (that write policies in Massachusetts on the lines of insurance protected by the Fund) to cover the Fund's expenses. Beginning in 1988, workers' compensation insurance was covered by the Fund. The loading included in this filing is a recoupment of the assessments made by the Fund in 2010 that have not yet been recouped. The proposed factor is a loading of 0.0002.

### **Pricing Example**

Section IX - L is a sample rate calculation, for Class 0005 – Farm: Nursery Emp & Drivers. Exhibit 1, page 2 shows the calculation of the MA indicated pure premium and relativity. Exhibit 2, page 2 shows the calculation of the CW indicated pure premium and relativity. On Exhibit 3, we calculate the credibilities and formula relativity. The derivation of the proposed manual rate is shown on Exhibit 4.

### **Special Classes**

The following classes are special situations where the rates and rating values are calculated using a methodology other than that detailed above.

#### **6811, 6854, 6882, 6884: State Act Classes comparable to F-Class Codes**

- Established 1/1/1990.
- The manual rates for 6811, 6854, 6882, and 6884 are set at 76.28<sup>1</sup>% of the manual rates of F-Class Codes 6801 [Boat Building Wood NOC-US Act], 6843 [Ship Building Iron or Steel-NOC-US Act], 6872 [Ship Repair or Conversion-US Act] and 6874 [Painting Ship Hulls-US Act], respectively.
- The ELRs for 6811, 6854, 6882, and 6884 are set at 84.32%<sup>2</sup> of the ELRs of F-Class Codes 6801 [Boat Building Wood NOC-US Act], 6843 [Ship Building Iron or Steel-NOC-US Act], 6872 [Ship Repair or Conversion-US Act] and 6874 [Painting Ship Hulls-US Act], respectively.

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<sup>1</sup> 76.28% = 1.0 / Proposed USL&H Coverage Percentage for Manual Rates. Coverage Percentage from Section VIII – J, Exhibit 1.

<sup>2</sup> 84.32% = 1.0 / Proposed USL&H Coverage Percentage for ELRs. Coverage Percentage from Section VIII – J, Exhibit 1.

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- See Circular Letter No. 1519, released 1/3/1990.

### 0046: Fertilizer or Pesticide Application – Commercial or Domestic & Drivers

- Established 8/15/1997.
- The rate and rating values for 0046 are calculated as the weighted average of the rates and rating values of Class Codes 0042 [Landscape Gardening- and Drivers] and 9102 [Parks-NOC-All Employees and Drivers] using weights of 1/3 and 2/3, respectively.
- See Circular Letter No. 1783, released 8/11/1997.

### 8747: Display Showroom

- Established 7/1/2004.
- The rate and rating values for 8747 are assigned the rate and rating values of Class 8017 [Store: Retail NOC].
- See Circular Letter No. 1961, released 7/9/2004.

## APPENDIX 1: PART OF BODY MAP

<b><u>Group A</u></b>	<b><u>Group B</u></b>
<ul style="list-style-type: none"> <li>▪ 10 – Multiple Head Injury</li> <li>▪ 11 – Skull</li> <li>▪ 12 – Brain</li> <li>▪ 20 – Multiple Neck Injury</li> <li>▪ 21 – Vertebrae</li> <li>▪ 22 – Disc</li> <li>▪ 23 – Spinal Cord</li> <li>▪ 24 – Larynx</li> <li>▪ 25 – Soft Tissue</li> <li>▪ 30 – Multiple Upper Extremities</li> <li>▪ 40 – Multiple Trunk</li> <li>▪ 41 – Upper Back Area</li> <li>▪ 42 – Lower Back Area</li> <li>▪ 43 – Disc Cord</li> <li>▪ 45 – Sacrum and Coccyx</li> <li>▪ 47 – Spinal Cord</li> <li>▪ 48 – Internal Organs</li> <li>▪ 49 – Heart</li> <li>▪ 50 – Multiple Lower Extremities</li> <li>▪ 51 – Hip</li> <li>▪ 60 – Lungs</li> <li>▪ 62 – Buttocks</li> <li>▪ 63 – Lumbar and/or Sacral Vertebrae</li> <li>▪ 65 – Insufficient Info to Properly Identify – Unclassified</li> <li>▪ 90 – Multiple Body Parts</li> <li>▪ 91 – Body Systems and Multiple Body Systems</li> <li>▪ 99 - Whole Body</li> </ul>	<ul style="list-style-type: none"> <li>▪ 13 – Ear(s)</li> <li>▪ 14 – Eye(s)</li> <li>▪ 15 – Nose</li> <li>▪ 16 – Teeth</li> <li>▪ 17 –Mouth</li> <li>▪ 18 – Soft tissue</li> <li>▪ 19 – Facial Bones</li> <li>▪ 26 – Trachea</li> <li>▪ 31 – Upper Arm</li> <li>▪ 32 – Elbow</li> <li>▪ 33 – Lower Arm</li> <li>▪ 34 – Wrist</li> <li>▪ 35 – Hand</li> <li>▪ 36 – Finger(s)</li> <li>▪ 37 – Thumb</li> <li>▪ 38 – Shoulder(s)</li> <li>▪ 39 – Wrist(s) and Hand(s)</li> <li>▪ 52 – Upper Leg</li> <li>▪ 53 – Knee</li> <li>▪ 54 – Lower Leg</li> <li>▪ 55 – Ankle</li> <li>▪ 56 – Foot</li> <li>▪ 57 – Toes</li> <li>▪ 58 – Great Toe</li> <li>▪ 64 – Artificial Appliance</li> <li>▪ 66 – No Physical Injury</li> </ul>

# IX 000019

**MASSACHUSETTS WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE MANUAL (2008 Edition)** **RATES**

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## RATES

**LEGEND**

- |  |   |
|--|---|
| (a) Rate for each individual risk must be obtained by Home Office from the MA Bureau.<br>D Supplement Disease Loading. Refer to Section IV of the Manual Supplement - - Treatment of Disease Coverage. | F Rate provides for coverage under the United States Longshore and Harbor Workers' Compensation Act.<br>z Classifications potentially available. If needed, Home Office Should contact the MA Bureau. |
|--|---|

CLASS CODE	MIN RATE	LOSS PREM	LOSS CONST	CLASS CODE	MIN RATE	LOSS PREM	LOSS CONST	CLASS CODE	MIN RATE	LOSS PREM	LOSS CONST	CLASS CODE	MIN RATE	LOSS PREM	LOSS CONST
0005	2.62	271.	20.	1430	9.59	500.	--	2156	9.69	500.	--	2741	5.76	452.	--
0008	2.53	268.	20.	1438	3.70	289.	--	2157	6.33	472.	--	2747	7.04	496.	--
0016	4.34	331.	20.	1463	9.00	500.	--	2172	1.97	228.	--	2790	2.15	234.	--
0034	4.50	337.	20.	1624D	5.99	480.	20.	2174	3.71	289.	--	2802	4.66	322.	--
0035	2.17	255.	20.	1655	5.74	471.	20.	2211	6.15	465.	--	2835	2.17	235.	--
0036	4.50	337.	20.	1701	5.59	355.	--	2220	3.44	279.	--	2836	2.85	259.	--
0037	2.53	268.	20.	1710D	5.99	480.	20.	2260	7.19	500.	--	2841	3.95	297.	--
0042	4.23	327.	20.	1747	3.32	275.	--	2286	3.44	279.	--	2883	3.92	296.	--
0046	3.05	286.	20.	1748	3.07	266.	--	2288	2.61	250.	--	2923	1.79	222.	--
0050	6.96	500.	50.	1852	7.07	497.	--	2302	3.44	279.	--	2942	2.77	256.	--
0059D	0.30	.	.	1853	1.65	217.	--	2305	2.34	241.	--	3018	2.62	251.	--
0065D	0.13	.	.	1860	2.71	254.	--	2362	2.13	234.	--	3022	3.59	285.	--
0066D	0.11	.	.	1924	2.50	247.	--	2380	2.84	258.	--	3027	4.56	319.	--
0067D	0.11	.	.	1925	3.81	292.	--	2402	2.85	259.	--	3028	3.54	283.	--
0079	2.46	265.	20.	2001	3.67	287.	--	2413	3.41	278.	--	3030	7.09	498.	--
0083	6.14	485.	20.	2002	4.58	319.	--	2416	3.45	280.	--	3040	8.79	500.	--
0106	14.99	500.	20.	2003	3.67	287.	--	2417	3.34	276.	--	3041	4.22	307.	--
0113	4.50	337.	20.	2014	4.13	304.	--	2501	2.18	235.	--	3042	5.51	352.	--
0170	4.50	337.	20.	2021	4.01	299.	--	2503	1.12	198.	--	3064	2.87	259.	--
0251	4.01	319.	20.	2039	2.68	253.	--	2534	2.18	235.	--	3066	2.87	259.	--
0400	(a)	(a)	(a)	2041	2.77	256.	--	2570	4.46	315.	--	3076	2.73	255.	--
0401*	(a)	(a)	(a)	2070	4.15	304.	--	2576	2.97	263.	--	3081D	8.52	500.	--
0770b	1.67	.	.	2081	4.09	302.	--	2578	2.97	263.	--	3082D	8.52	500.	--
0773c	4.41	.	.	2089	2.52	247.	--	2585	3.37	277.	--	3085D	4.19	306.	--
0774d	3.23	.	.	2095	3.72	289.	--	2586	1.69	218.	--	3110	6.85	490.	--
0775e	2.93	.	.	2101	2.52	247.	--	2587	2.95	282.	20.	3111	2.99	264.	--
0776f	2.98	.	.	2105	(a)	(a)	(a)	2623	3.77	291.	--	3113	2.09	232.	--
0779g	2.25	.	.	2111	2.35	241.	--	2640	2.12	233.	--	3114	3.46	280.	--
0799h	9.93	.	.	2114	2.52	247.	--	2651	2.12	233.	--	3118	2.09	232.	--
0908	108.00	172.	--	2115	3.46	280.	--	2660	2.18	235.	--	3119	1.01	194.	--
0909	160.00	224.	--	2121	1.81	222.	--	2683	1.98	228.	--	3120	1.94	227.	--
0912	320.00	384.	--	2130	2.48	246.	--	2688	2.58	249.	--	3122	2.13	234.	--
0913	216.00	280.	--	2131	2.53	248.	--	2702	16.31	500.	20.	3127	1.10	198.	--
0917	2.79	277.	20.	2143	2.68	253.	--	2710	6.79	488.	--	3131	1.78	221.	--
0918	0.76	206.	20.	2150	6.38	473.	--	2731	4.47	315.	--	3132	3.22	272.	--

\*0401 - Minimum Premium \$100 per ginning location.

Non-Ratable Code and Rate to be used with the following classifications:

- b 4770   d 4774   f 4776   h 4799  
 c 4773   e 4775   g 4779

**IX 000020**

**MASSACHUSETTS WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE MANUAL (2008 Edition) RATES**

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RATES															
CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST
3145	1.98	228.	--	3642	1.10	198.	--	4304	4.05	301.	--	4799h	37.34	500.	--
3146	2.09	232.	--	3643	1.69	218.	--	4307	1.36	207.	--	4825	0.71	184.	--
3169	3.99	299.	--	3647	2.67	252.	--	4308	1.15	199.	--	4828	1.41	208.	--
3179	1.69	218.	--	3648	1.50	212.	--	4350	0.66	182.	--	4829	1.41	208.	--
3180	3.19	271.	--	3681	0.86	189.	--	4351	1.18	200.	--	4902	2.77	256.	--
3188	4.20	306.	--	3685	0.86	189.	--	4352	1.28	204.	--	4923	1.36	207.	--
3200	2.70	254.	--	3724	4.81	468.	50.	4360	1.36	207.	--	5020	7.52	500.	50.
3220	2.35	241.	--	3726	16.95	500.	50.	4361	0.60	200.	20.	5022	10.85	500.	50.
3223	(a)	(a)	(a)	3807	3.99	299.	--	4362	0.70	204.	20.	5037	28.89	500.	50.
3227	3.99	299.	--	3808	3.75	290.	--	4410	4.98	333.	--	5040	63.77	500.	50.
3241	2.50	247.	--	3821	4.82	348.	20.	4417	4.95	332.	--	5057	32.18	500.	50.
3255	3.25	273.	--	3826	2.91	261.	--	4432	1.42	209.	--	5059	32.18	500.	50.
3257	3.33	276.	--	3830	1.91	226.	--	4439	2.94	262.	--	5069	32.18	500.	50.
3270	2.39	243.	--	3841	2.10	233.	--	4452	2.99	264.	--	5102	7.90	500.	50.
3300	5.89	456.	--	4000	4.88	350.	20.	4459	3.24	272.	--	5146	5.59	496.	50.
3305	(a)	(a)	(a)	4021	4.80	327.	--	4470	2.78	256.	--	5160	3.57	334.	50.
3315	3.34	276.	--	4024	3.78	291.	--	4484	2.43	244.	--	5183	3.40	328.	50.
3334	(a)	(a)	(a)	4034	5.50	352.	--	4493	3.43	279.	--	5188	4.65	463.	50.
3336	3.01	264.	--	4036	3.38	277.	--	4511	0.34	191.	20.	5190	3.10	318.	50.
3365	8.61	500.	50.	4038	2.36	242.	--	4512	0.14	184.	20.	5191	1.03	215.	20.
3372	2.63	251.	--	4053	2.06	231.	--	4557	1.61	215.	--	5192	4.03	320.	20.
3373	4.51	317.	--	4061	2.64	251.	--	4558	1.69	218.	--	5213	17.95	500.	50.
3381	3.27	273.	--	4062	2.64	251.	--	4561	2.94	262.	--	5215	5.12	479.	50.
3383	1.31	205.	--	4112	0.80	187.	--	4583	3.28	274.	--	5221	7.66	500.	50.
3385	0.88	190.	--	4113	2.06	231.	--	4611	1.63	216.	--	5222	10.69	500.	50.
3400	3.99	299.	--	4114	2.83	258.	--	4635	2.96	263.	--	5223	5.12	479.	50.
3507	4.14	304.	--	4130	5.86	455.	--	4653	2.61	250.	--	5348	6.30	500.	50.
3515	2.85	259.	--	4133	1.96	228.	--	4665	9.08	500.	--	5402	9.50	500.	50.
3548	1.91	226.	--	4150	0.92	191.	--	4692	0.60	180.	--	5403	11.49	500.	50.
3558	0.74	185.	--	4239	2.93	262.	--	4693	1.00	194.	--	5437	5.11	479.	50.
3559	1.91	226.	--	4243	3.25	273.	--	4720	2.14	234.	--	5443	4.36	453.	50.
3571	1.18	200.	--	4244	3.80	292.	--	4740	1.04	195.	--	5445	7.80	500.	50.
3574	1.91	226.	--	4250	1.77	221.	--	4741	3.38	277.	--	5462	9.05	500.	50.
3612	2.23	237.	--	4251	1.85	224.	--	4770b	11.16	500.	--	5472	10.75	500.	50.
3620	5.33	346.	--	4273	2.78	256.	--	4773c	21.51	500.	--	5473	10.57	500.	50.
3629	1.91	226.	--	4279	3.48	281.	--	4774d	18.28	500.	--	5474	5.41	489.	50.
3632	1.91	226.	--	4282	0.87	189.	--	4775e	18.01	500.	--	5478	5.38	488.	50.
3634	1.75	220.	--	4283	3.32	275.	--	4776f	15.64	500.	--	5479	7.29	500.	50.
3635	4.11	303.	--	4299	2.18	235.	--	4777	3.28	274.	--	5480	5.46	491.	50.
3638	1.91	226.	--	4301	4.99	334.	--	4779g	12.73	500.	--	5506	7.91	500.	50.

For Non-Ratable portion of Rate, refer to:

- b 0770                      d 0774
- c 0773                      e 0775

# IX 000021

Section IX - Classification Pricing  
 Subsection A - Summary  
 9/1/2011

Section IX - A  
 Exhibit 1  
 Page 3

**MASSACHUSETTS WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE MANUAL (2008 Edition)** **RATES**

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RATES															
CLASS	MIN	LOSS		CLASS	MIN	LOSS		CLASS	MIN	LOSS		CLASS	MIN	LOSS	
CODE	RATE	PREM	CONST	CODE	RATE	PREM	CONST	CODE	RATE	PREM	CONST	CODE	RATE	PREM	CONST
5507	7.28	500.	50.	7230	6.75	500.	20.	8018	3.31	295.	20.	8709F	8.47	500.	--
5508D	7.38	500.	50.	7231	8.07	500.	20.	8021	2.63	271.	20.	8710	2.70	274.	20.
5509	4.21	356.	50.	7309F	36.92	500.	--	8031	2.57	269.	20.	8719	2.70	274.	20.
5538	6.32	500.	50.	7313F	19.10	500.	--	8032	1.63	236.	20.	8720	0.99	214.	20.
5545	35.44	500.	50.	7317F	18.25	500.	--	8033	2.16	255.	20.	8721	0.21	186.	20.
5547	19.18	500.	50.	7327F	41.77	500.	--	8034	4.11	323.	20.	8726F	6.92	492.	--
5606	1.84	273.	50.	7350F	21.60	500.	--	8039	1.42	229.	20.	8742	0.17	185.	20.
5610	5.28	485.	50.	7360	6.27	489.	20.	8044	3.02	285.	20.	8745	3.22	292.	20.
5645	8.77	500.	50.	7370	5.19	452.	20.	8046	2.93	282.	20.	8747	1.29	224.	20.
5651	8.77	500.	50.	7380	6.39	494.	20.	8048	3.33	296.	20.	8748	0.56	199.	20.
5701	20.09	500.	50.	7382	4.36	332.	20.	8050	1.63	236.	20.	8800	0.95	212.	20.
5703	22.09	500.	50.	7403	4.66	342.	20.	8058	3.29	294.	20.	8803	0.04	180.	20.
5705	11.74	500.	50.	7405i	1.18	220.	20.	8103	2.73	275.	20.	8810	0.09	182.	20.
6003	11.23	500.	50.	7420	7.48	500.	20.	8105	4.24	327.	20.	8820	0.09	182.	20.
6005	7.38	500.	50.	7421*	2.21	256.	20.	8106	7.85	500.	20.	8829	2.10	253.	20.
6204	10.38	500.	50.	7422	2.21	256.	20.	8107	3.92	316.	20.	8831	1.28	224.	20.
6217	5.00	475.	50.	7425	4.27	328.	20.	8111	3.21	291.	20.	8832	0.24	187.	20.
6229	5.00	475.	50.	7431j	1.66	237.	20.	8116	3.92	316.	20.	8833	1.21	221.	20.
6233	4.04	350.	50.	7445k	0.39	.	.	8203	5.23	453.	20.	8835	2.10	253.	20.
6251D	6.46	500.	50.	7453l	0.55	.	.	8204	5.31	456.	20.	8837	(a)	(a)	(a)
6252D	8.24	500.	50.	7502	4.15	324.	20.	8215	2.70	274.	20.	8868	0.74	205.	20.
6306	9.35	500.	50.	7515	1.99	249.	20.	8227	4.72	465.	50.	8901	0.09	182.	20.
6319	5.15	480.	50.	7520	4.01	319.	20.	8232	4.86	349.	20.	9014	2.72	274.	20.
6325	5.38	488.	50.	7538	6.49	500.	50.	8233	7.82	500.	20.	9015	3.16	290.	20.
6400	6.81	500.	50.	7539	1.50	232.	20.	8235	3.97	318.	20.	9016	1.81	242.	20.
6504	2.52	247.	--	7580	2.81	277.	20.	8263	7.34	500.	20.	9019	3.17	290.	20.
6801F	15.73	500.	--	7590	7.36	500.	20.	8264	4.68	343.	20.	9033	4.58	339.	20.
6811	12.00	500.	20.	7600	3.86	314.	20.	8265	7.82	500.	20.	9040	2.93	282.	20.
6824F	11.35	500.	--	7601	6.49	500.	50.	8279	3.90	316.	20.	9052	1.61	235.	20.
6826F	12.67	500.	--	7610	0.23	187.	20.	8291	3.90	316.	20.	9058	1.61	235.	20.
6834	2.81	277.	20.	7704	2.30	260.	20.	8292	3.70	309.	20.	9060	1.16	220.	20.
6836	3.10	288.	20.	7720	2.00	249.	20.	8293	9.34	500.	20.	9061	0.97	213.	20.
6843F	17.85	500.	--	7855	5.64	497.	50.	8350	6.50	498.	20.	9063	0.70	204.	20.
6854	13.62	500.	20.	8001	1.71	239.	20.	8380	2.70	274.	20.	9077F	5.96	459.	--
6872F	45.19	500.	--	8002	2.28	259.	20.	8381	1.97	248.	20.	9079	1.14	219.	20.
6874F	39.86	500.	--	8006	1.77	241.	20.	8385	3.78	311.	20.	9088	(a)	(a)	(a)
6882	34.47	500.	20.	8008	0.77	206.	20.	8392	1.51	232.	20.	9089	1.16	220.	20.
6884	30.40	500.	20.	8010	1.65	237.	20.	8393	2.04	250.	20.	9093	1.07	216.	20.
7133	(a)	(a)	(a)	8013	0.43	194.	20.	8500	7.82	500.	20.	9101	3.85	314.	20.
7219	10.17	500.	20.	8017	1.29	224.	20.	8601	0.30	190.	20.	9102	2.46	265.	20.

\*7421--A policy surcharge of \$100 per passenger seat, subject to a maximum surcharge of \$1,000 per aircraft, shall be charged in addition to the premium otherwise determined under this classification. These surcharges shall not be cumulative in the event of substitution of aircraft during the policy period; but these surcharges shall be cumulative in the event more than one aircraft is owned or operated during the same policy period. These surcharges and losses to employees other than members of flying crew are to be reported under Code 0088.

For Non-Ratable portion of Rate, refer to: f 0776 g 0779 h 0799 i 7445 j 7453 Non-Ratable Code and Rate to be used with: k 7405 l 7431

**IX 000022**

Section IX - Classification Pricing  
 Subsection A - Summary  
 9/1/2011

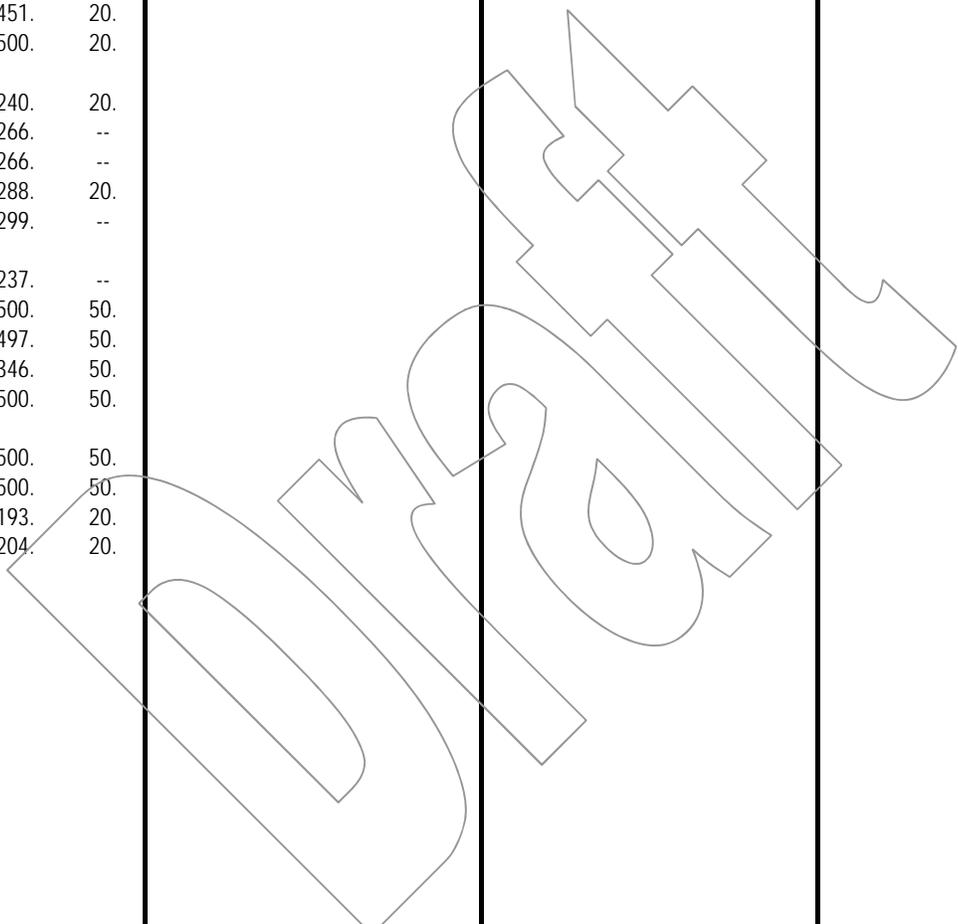
Section IX - A  
 Exhibit 1  
 Page 4

**MASSACHUSETTS WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE MANUAL (2008 Edition) RATES**

Draft Proposed Effective September 1, 2011 Page RA-4

**RATES**

CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST	CLASS CODE	RATE	MIN PREM	LOSS CONST
9154	1.45	230.	20.												
9156	1.33	226.	20.												
9178	15.49	500.	20.												
9179	26.89	500.	20.												
9180	4.73	345.	20.												
9182	4.31	330.	20.												
9186	4.73	345.	20.												
9220	3.81	312.	20.												
9402	5.17	451.	20.												
9403	9.91	500.	20.												
9410	1.73	240.	20.												
9501	3.07	266.	--												
9505	3.07	266.	--												
9519	3.12	288.	20.												
9521	3.99	299.	--												
9522	2.22	237.	--												
9533	17.30	500.	50.												
9534	5.64	497.	50.												
9545	3.92	346.	50.												
9549	5.83	500.	50.												
9552	9.77	500.	50.												
9553	9.77	500.	50.												
9586	0.41	193.	20.												
9620	0.72	204.	20.												



Calculation of Pure Premium Underlying Proposed Rate Factor

Industry Group (1)	Injury Type (2)	Uncapped Rate Level Factor (3)	Industry Group Pure Premium (4)	Percent of Pure Premium =(4) / [Total of (4)] (5)	Expected Loss and LAE Ratio (6)	Pure Premium Underlying Proposed Rate Factor = (3) x (5) x (6) (7)
Manufacturing	Indemnity	2.395	1.313	0.600	0.704	1.011
	Medical	2.395	0.876	0.400	0.704	0.675
	Total		2.189			
Construction	Indemnity	5.797	3.268	0.629	0.704	2.566
	Medical	5.797	1.930	0.371	0.704	1.515
	Total		5.199			
Office and Clerical	Indemnity	0.178	0.087	0.554	0.704	0.069
	Medical	0.178	0.070	0.446	0.704	0.056
	Total		0.157			
Goods and Services	Indemnity	1.994	1.004	0.579	0.704	0.812
	Medical	1.994	0.731	0.421	0.704	0.592
	Total		1.736			
Miscellaneous	Indemnity	5.880	2.965	0.601	0.704	2.487
	Medical	5.880	1.971	0.399	0.704	1.653
	Total		4.936			

Notes:

- (3): Section IX - H, Exhibit 1.
- (4): Section IX - C, Exhibits 1-5, page 2.
- (6): Section VI - A, Exhibit 1.

# IX 000024

Section IX - Classification Pricing  
Subsection B - Conversion/Excess Loss Factors  
9/1/2011

Section IX - B  
Exhibit 1  
Page 1

## Calculation of Indemnity and Medical Conversion Factors

### (A). Benefit Level Adjustment Factors

The following factors are used to bring MA Unit Statistical Plan losses to the benefit level of the proposed effective policy year period.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal	1.029	1.023	1.018	1.012	1.007
Permanent Total	1.041	1.033	1.026	1.017	1.009
Major Permanent Partial	1.075	1.060	1.045	1.030	1.016
Minor Permanent Partial	1.075	1.060	1.045	1.030	1.016
Temporary Total	1.023	1.019	1.015	1.010	1.005
<b>Medical</b>					
All Injury Types	1.036	1.032	1.032	1.032	1.024

### (B). Loss Development Factors

The following factors are used to bring MA Unit Statistical Plan losses from first through fifth report to an ultimate basis.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Indemnity - LD	1.011	1.059	1.162	1.350	2.085
Indemnity - NLD	1.003	1.030	1.085	1.205	1.610
Medical -LD	1.129	1.178	1.275	1.415	1.594
Medical -NLD	1.022	1.027	1.032	1.052	1.111

### (C). Trend Factors

The following factors trend the reported pure premiums from the reported period to the proposed effective period for new rates.

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
All Injury Types	0.898	0.941	0.980	0.994	0.945
<b>Medical</b>					
Lost Time Medical	0.912	1.012	0.998	0.953	0.995
Medical Only	0.893	0.883	0.916	0.923	0.952

### (D). Primary Conversion Factors (PCF)

Indemnity	Policy Year				
	2004	2005	2006	2007	2008
Fatal - LD	0.935	1.020	1.159	1.359	1.984
Fatal - NLD	0.927	0.992	1.083	1.213	1.532
Permanent Total	0.946	1.030	1.168	1.365	1.988
Major Permanent Partial - LD	0.977	1.057	1.190	1.382	2.002
Major Permanent Partial - NLD	0.969	1.028	1.111	1.234	1.546
Minor Permanent Partial - LD	0.977	1.057	1.190	1.382	2.002
Minor Permanent Partial - NLD	0.969	1.028	1.111	1.234	1.546
Temporary Total - LD	0.929	1.016	1.156	1.355	1.981
Temporary Total - NLD	0.922	0.988	1.079	1.210	1.530
<b>Medical</b>					
Lost Time Medical -LD	1.067	1.231	1.312	1.391	1.625
Lost Time Medical -NLD	0.966	1.072	1.062	1.034	1.133
Medical - NLD	0.945	0.935	0.975	1.002	1.084

#### Notes:

(A): Section IV - A, Exhibit 1.

(B): Development to 5th report (Exhibit 2, Page 1) x Development from 5th to ultimate. The 5th to ultimate development factor was calculated using data from Financial Aggregate Policy Year Call (Call 2) and Large Loss & Catastrophe Call (Call 7).

(C): Exhibit 3. Frequency x Severity Trends / Wage Trends

## IX 000025

Section IX - Classification Pricing  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section IX - B  
 Exhibit 1  
 Page 2

### Calculation of Indemnity and Medical Conversion Factors

(A). Loss Adjustment Expense Factor

The following factor is applied to include the proposed loss adjustment expense.

	Indemnity	Medical
Loss Adjustment Expense	1.186	1.186

(B). Investment Income Offset Factor

The following factor is applied to adjust for investment income.

Indemnity	Investment Income Offset Factor
Fatal	0.841
Permanent Total	0.801
Major Permanent Partial	1.014
Minor Permanent Partial	1.032
Temporary Total	1.022
Medical	
Fatal	1.000
Permanent Total	0.804
Major Permanent Partial	1.017
Minor Permanent Partial	1.036
Temporary Total	1.026
Medical Only	1.000

(C). Secondary Conversion Factors

The factors above are combined multiplicatively, resulting in the following conversion factors.

Indemnity	
Fatal	0.998
Permanent Total	0.950
Major Permanent Partial	1.202
Minor Permanent Partial	1.224
Temporary Total	1.212
Medical	
Fatal	1.186
Permanent Total	0.954
Major Permanent Partial	1.207
Minor Permanent Partial	1.229
Temporary Total	1.216
Medical Only	1.186

Notes:

(A): 1.000 + Loss Adjustment Expense (as a percent of losses) from Section VI - A, Exhibit 1.

(B): Exhibit 4.

(C) = (A) x (B)

# IX 000026

Section IX - Classification Pricing  
Subsection B - Conversion/Excess Loss Factors  
9/1/2011

Section IX - B  
Exhibit 2  
Page 1

## Summary of Development Factors

Likely to Develop				
Development Factors From:				
	18-30	30-42	42-54	54-66
<u>(1) Indemnity Losses</u>				
3 Yr Average	1.544	1.162	1.097	1.048
Cumulative	2.062	1.335	1.149	1.048
<u>(2) Medical Losses</u>				
3 Yr Average	1.127	1.110	1.082	1.043
Cumulative	1.412	1.253	1.129	1.043
<u>(3) Claim Counts</u>				
3 Yr Average	1.019	1.006	1.007	1.004
Cumulative	1.035	1.016	1.010	1.004

Not-Likely to Develop				
Development Factors From:				
	18-30	30-42	42-54	54-66
<u>(1) Indemnity Losses</u>				
3 Yr Average	1.336	1.111	1.053	1.028
Cumulative	1.606	1.202	1.082	1.028
<u>(2) Medical Losses</u>				
3 Yr Average	1.057	1.020	1.005	1.005
Cumulative	1.088	1.029	1.010	1.005
<u>(3) Claim Counts</u>				
3 Yr Average	1.022	1.006	1.002	1.001
Cumulative	1.032	1.010	1.004	1.001

# IX 000027

Section IX - Classification Pricing  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section IX - B  
 Exhibit 2  
 Page 2

## Calculation of Likely to Develop Development Factors

Likely to Develop									
Policy Year	Indemnity Losses			Medical Losses			Claim Counts		
	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio
	18	30		18	30		18	30	
2007	73,513,931	110,522,072	1.503	47,858,877	53,279,687	1.113	1,845	1,898	1.029
2006	72,980,858	115,695,717	1.585	47,737,864	54,451,739	1.141	2,102	2,121	1.009
Average			1.544			1.127			1.019
	30	42		30	42		30	42	
2006	118,050,150	137,996,427	1.169	55,003,955	61,397,768	1.116	2,179	2,192	1.006
2005	116,435,860	134,557,301	1.156	58,349,896	64,398,534	1.104	2,376	2,390	1.006
Average			1.162			1.110			1.006
	42	54		42	54		42	54	
2005	136,905,709	152,575,306	1.114	64,843,733	69,584,475	1.073	2,409	2,418	1.004
2004	145,120,931	156,537,076	1.079	66,664,624	72,677,340	1.090	2,679	2,705	1.010
Average			1.097			1.082			1.007
	54	66		54	66		54	66	
2004	161,926,641	169,347,605	1.046	73,927,973	75,454,754	1.021	2,733	2,743	1.004
2003	153,117,122	160,653,639	1.049	69,339,458	73,928,914	1.066	2,921	2,931	1.003
Average			1.048			1.043			1.004

# IX 000028

Section IX - Classification Pricing  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section IX - B  
 Exhibit 2  
 Page 3

## Calculation of Not-Likely to Develop Development Factors

Not-Likely to Develop									
Indemnity Losses			Medical Losses				Claim Counts		
Policy Year	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio
	18	30		18	30		18	30	
2007	118,973,068	158,670,290	1.334	115,975,385	122,728,871	1.058	13,468	13,773	1.023
2006	112,184,079	150,191,675	1.339	109,172,773	115,176,305	1.055	13,497	13,783	1.021
Average			1.336			1.057			1.022
2006	30	42		30	42		30	42	
2006	147,837,242	164,203,459	1.111	114,624,089	117,153,439	1.022	13,725	13,813	1.006
2005	150,970,611	167,758,357	1.111	113,650,290	115,596,496	1.017	14,873	14,956	1.006
Average			1.111			1.020			1.006
2005	42	54		42	54		42	54	
2005	165,408,500	172,555,892	1.043	115,149,005	114,911,469	0.998	14,936	14,966	1.002
2004	166,049,614	176,397,733	1.062	113,468,365	114,818,544	1.012	15,348	15,380	1.002
Average			1.053			1.005			1.002
2004	54	66		54	66		54	66	
2004	171,008,167	175,301,899	1.025	113,567,912	114,740,787	1.010	15,352	15,371	1.001
2003	157,136,469	161,848,422	1.030	109,876,888	109,767,338	0.999	16,623	16,651	1.002
Average			1.028			1.005			1.001

# IX 000029

Section IX - Classification Pricing  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section IX - B  
 Exhibit 3

## Trend Factors

Policy Year	Statewide Average Weekly Wage	Indemnity Severity	Lost Time Medical Severity	Medical Only Severity	Lost Time Claim Frequency	Medical Only Claim Frequency
(1) Historical Values						
2004	969.11	21,047	10,916	666	201.22	484.21
2005	1,011.25	21,630	10,588	726	195.07	468.45
2006	1,056.18	22,712	11,753	769	186.24	445.23
2007	1,092.12	23,218	12,758	798	185.80	440.37
2008	1,092.79	25,240	12,627	814	179.84	418.68
(2) Trend to PY 2008						
2004	1.128	1.199	1.157	1.223	0.894	0.865
2005	1.081	1.167	1.193	1.121	0.922	0.894
2006	1.035	1.111	1.074	1.058	0.966	0.940
2007	1.001	1.087	0.990	1.020	0.968	0.951
2008	1.000	1.000	1.000	1.000	1.000	1.000
(3) Projected Trend from PY 2008 to Policy Effective Period						
Selected Annual Trend	2.8%	4.3%	5.7%	5.2%	-2.9%	-3.5%
Trend Factor	1.108	1.166	1.227	1.203	0.898	0.877
(4) Trend Factors from PY 2008 to Policy Effective Period						
Policy Year	Statewide Average Weekly Wage	Indemnity Severity	Lost Time Medical Severity	Medical Only Severity	Lost Time Claim Frequency	Medical Only Claim Frequency
2004	1.249	1.398	1.419	1.472	0.803	0.758
2005	1.197	1.360	1.463	1.349	0.828	0.784
2006	1.146	1.295	1.318	1.274	0.868	0.824
2007	1.109	1.267	1.214	1.227	0.870	0.833
2008	1.108	1.166	1.227	1.203	0.898	0.877

**Notes:**

(1): Weekly Wage from Section V-G, Exhibit 2.

Indemnity Severity from Section V-C, Exhibit 1.

Lost Time Medical Severity from Section V-D, Exhibit 1.

Medical Only Severity from Section V-D, Exhibit 2.

Lost Time Claim Frequency from Section V-B, Exhibit 1.

Medical Only Claim Frequency from Section V-B, Exhibit 2.

(2) = (1) / (1) for Policy Year 2008

(3): Selected Annual Trend from Section V-A, Exhibit 1.

Trend Factor = ( 1.0 + Selected Annual Trend ) ^ Trend Period, where Trend Period extends from the midpoint of PY 2008 to midpoint of policy effective period 9/1/2011 - 8/30/2012, which is 3.667 years.

(4) = (2) x (3)

**IX 000030**

Calculation of Investment Income Offset Factor

Indemnity

Injury Type (1)	Loss Flow Discounted at 1.06% Post-Chapter 398 (2)	Injury Type Weights At Ultimate (3)	Investment Income Offset Factor (4)
Fatal	0.810	1.45%	0.841
Permanent Total	0.771	3.77%	0.801
Major Permanent Partial	0.976	36.10%	1.014
Minor Permanent Partial	0.994	6.09%	1.032
Temporary Total	0.983	13.65%	1.022
Total Indemnity			0.963

Medical

Injury Type (5)	Loss Flow Discounted at 1.06% Post-Chapter 398 (6)	Injury Type Weights At Ultimate (7)	Investment Income Offset Factor (8)
Fatal	0.810	0.15%	1.000
Permanent Total	0.771	3.51%	0.804
Major Permanent Partial	0.976	16.29%	1.017
Minor Permanent Partial	0.994	3.89%	1.036
Temporary Total	0.983	10.27%	1.026
Medical Only		4.83%	1.000
Total Medical			0.959

Notes:

(2), (6): Loss Flows are from the 8/1/99 rate filing, Section VIII - E, Exhibits 12 and 16. The discount rate is calculated by multiplying the pre-tax rate of return on governments (Section VII - H, Exhibit 1, Page 1) times the complement of the federal tax rate on investment income (Section VII-H, Exhibit 1, Page 1) [1.33% x (1.000 - 19.96%)] = 1.06%

(3): Section IV - E, Exhibit 2, page 1.

(4)= (2) / 0.963, which is the weighted average of (2) and (3).

(7): Section IV - E, Exhibit 2, page 2.

(8)= (6) / 0.959, which is the weighted average of (6) and (7). This weighted average excludes Fatal and Medical Only injury types as it is assumed that they generate no investment income.

**IX 000031**

Section IX - Classification Pricing  
Subsection B - Conversion/Excess Loss Factors  
9/1/2011

Section IX - B  
Exhibit 5

## Calculation of Excess Loss Factors

Hazard Group (1)	Excess Ratio (2)	Excess Factor (3) = [ 1.0 / (1.0 - (2)) ]
A	0.083	1.091
B	0.095	1.105
C	0.118	1.134
D	0.156	1.185
E	0.168	1.202
F	0.193	1.239
G	0.306	1.441

## Note:

(2) = Excess Ratio for Accident Limit of \$500,000 x 0.985, where Excess Ratio from Section XII-F, Exhibit 3, Page 1 and 0.985 is the factor to convert the per occurrence claims to per claim basis.

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Manufacturing Industry Group, Industry Code 1  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	
2004	1	0	2,097,997	0	19,495	2,117,492	0	1,944,800	0	18,826	1,963,626
	2	4,098,778	0	1,361,390	0	5,460,168	3,875,959	0	1,453,152	0	5,329,111
	3	14,417,905	19,750,363	5,961,740	6,054,618	46,184,626	14,085,565	19,134,845	6,363,579	5,846,780	45,430,769
	4	1,353,151	4,967,563	720,008	2,828,719	9,869,441	1,321,960	4,812,749	768,539	2,731,617	9,634,865
	5	3,111,795	7,422,581	1,365,606	6,633,728	18,533,710	2,892,390	6,841,928	1,457,652	6,406,010	17,597,980
	6	0	0	0	4,966,303	4,966,303	0	0	0	4,694,965	4,694,965
2005	1	0	917,427	0	139,963	1,057,390	0	910,375	0	150,106	1,060,481
	2	4,377,803	0	2,131,435	0	6,509,238	4,507,769	0	2,624,183	0	7,131,952
	3	12,448,950	13,421,795	4,515,201	4,073,400	34,459,346	13,158,159	13,800,292	5,559,030	4,368,603	36,886,084
	4	1,272,725	4,919,237	677,535	3,068,337	9,937,834	1,345,231	5,057,960	834,168	3,290,703	10,528,062
	5	3,849,982	8,939,905	2,406,269	7,226,933	22,423,089	3,909,894	8,831,907	2,962,553	7,750,676	23,455,030
	6	0	0	0	5,023,145	5,023,145	0	0	0	4,696,268	4,696,268
2006	1	317,380	245,825	276	298	563,779	367,974	266,181	362	317	634,834
	2	1,490,719	0	982,342	0	2,473,061	1,740,975	0	1,289,266	0	3,030,241
	3	10,348,102	14,369,614	4,018,302	5,719,028	34,455,046	12,312,988	15,968,414	5,273,786	6,074,478	39,629,666
	4	1,124,218	4,701,317	757,950	3,010,230	9,593,715	1,337,683	5,224,398	994,765	3,197,323	10,754,169
	5	4,320,649	8,109,457	1,893,099	7,322,450	21,645,655	4,992,624	8,751,562	2,484,581	7,777,557	24,006,324
	6	0	0	0	5,112,172	5,112,172	0	0	0	4,984,750	4,984,750
2007	1	0	0	0	0	0	0	0	0	0	0
	2	936,960	0	236,283	0	1,173,243	1,278,914	0	328,631	0	1,607,545
	3	9,454,272	13,794,471	4,629,393	4,429,517	32,307,653	13,069,341	17,022,434	6,438,729	4,579,974	41,110,478
	4	1,538,502	4,738,555	1,034,116	3,071,108	10,382,281	2,126,785	5,847,396	1,438,286	3,175,424	12,587,891
	5	3,448,706	7,983,699	1,684,024	6,983,586	20,100,015	4,674,363	9,659,650	2,342,202	7,220,796	23,897,011
	6	0	0	0	4,562,360	4,562,360	0	0	0	4,569,792	4,569,792
2008	1	0	492,007	0	68,993	561,000	0	753,836	0	78,146	831,982
	2	288	0	1,571	0	1,859	573	0	2,553	0	3,126
	3	3,728,301	4,688,998	2,206,209	2,321,764	12,945,272	7,463,303	7,249,803	3,585,168	2,629,789	20,928,063
	4	748,286	2,695,439	667,073	1,976,984	6,087,782	1,497,917	4,167,501	1,084,018	2,239,268	8,988,704
	5	3,660,999	10,333,577	2,634,110	9,729,303	26,357,989	7,252,185	15,810,516	4,280,523	11,020,076	38,363,300
	6	0	0	0	4,171,418	4,171,418	0	0	0	4,521,800	4,521,800
(13) All Years, All Injury Types		86,048,471	134,589,827	39,883,932	98,513,852	359,036,082	103,212,552	152,056,547	51,565,726	102,024,044	408,858,869

Notes:

(3), (4), (5), (6): From Unit Statistical Plan data, excluding Large Deductibles.

(7)= (3) + (4) + (5) + (6)

(8)= (3) x Primary Conversion Factors from Section IX - B, Exhibit 1

(9)= (4) x Primary Conversion Factors from Section IX - B, Exhibit 1

(10)= (5) x Primary Conversion Factors from Section IX - B, Exhibit 1

(11)= (6) x Primary Conversion Factors from Section IX - B, Exhibit 1

(12)= (8) + (9) + (10) +(11)

IX 000032

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Manufacturing Industry Group, Industry Code 1  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total	Indemnity		Medical		Total	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	(7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	(12)	
2004	1	0	198,559	0	87,816	286,375	0	2,138,906	0	126,477	2,265,383	49,682,089
	2	393,939	0	366,495	0	760,434	4,056,893	0	1,735,563	0	5,792,456	
	3	1,388,919	1,919,490	1,535,301	1,668,651	6,512,361	18,601,733	25,309,218	9,531,913	9,069,189	62,512,053	
	4	131,275	483,387	163,161	601,586	1,379,409	1,778,972	6,483,246	1,144,950	4,096,117	13,503,285	
	5	319,298	684,709	356,575	1,199,748	2,560,330	3,891,210	9,119,109	2,206,584	9,250,632	24,467,535	
	6	0	0	0	650,942	650,942	0	0	0	6,340,246	6,340,246	
2005	1	0	115,064	0	75,738	190,802	0	1,023,308	0	267,851	1,291,159	49,243,931
	2	401,418	0	525,812	0	927,230	4,664,292	0	3,004,439	0	7,668,731	
	3	1,283,437	1,366,649	1,346,020	1,188,731	5,184,837	17,360,108	18,232,038	8,332,617	6,706,272	50,631,035	
	4	134,966	486,946	169,859	658,917	1,450,688	1,811,978	6,787,776	1,233,832	4,853,621	14,687,207	
	5	381,634	885,658	560,444	1,476,474	3,304,210	5,199,522	11,773,590	4,284,904	11,222,676	32,480,692	
	6	0	0	0	659,645	659,645	0	0	0	6,352,112	6,352,112	
2006	1	34,668	24,928	14,906	10,726	85,228	401,806	290,505	18,108	13,096	723,515	51,435,884
	2	188,531	0	261,315	0	449,846	1,833,252	0	1,478,931	0	3,312,183	
	3	1,266,479	1,568,089	1,306,843	1,496,096	5,637,507	16,323,750	21,080,466	7,941,125	9,135,733	54,481,074	
	4	132,699	506,765	194,257	663,441	1,497,162	1,799,963	7,015,781	1,461,169	4,744,428	15,021,341	
	5	465,563	857,896	526,657	1,476,397	3,326,513	6,613,021	11,642,609	3,662,469	11,255,276	33,173,375	
	6	0	0	0	703,585	703,585	0	0	0	6,746,365	6,746,365	
2007	1	0	0	0	0	0	0	0	0	0	0	52,991,318
	2	111,297	0	89,634	0	200,931	1,320,860	0	398,938	0	1,719,798	
	3	1,306,603	1,704,175	1,502,754	1,392,696	5,906,228	17,281,187	22,511,081	9,583,325	7,207,474	56,583,067	
	4	200,900	583,843	280,504	703,417	1,768,664	2,849,428	7,872,777	2,112,193	4,766,643	17,601,041	
	5	443,069	936,147	497,126	1,418,066	3,294,408	6,200,169	12,837,637	3,453,381	10,507,161	32,998,348	
	6	0	0	0	639,199	639,199	0	0	0	6,177,863	6,177,863	
2008	1	0	57,092	0	32,867	89,959	0	809,243	0	131,661	940,904	51,667,412
	2	58	0	405	0	463	599	0	2,821	0	3,420	
	3	773,107	744,669	867,158	705,211	3,090,145	9,900,910	9,610,080	5,372,811	4,024,487	28,908,288	
	4	165,026	409,059	239,735	488,074	1,301,894	2,035,685	5,602,378	1,626,737	3,351,584	12,616,384	
	5	716,632	1,562,491	897,088	2,211,324	5,387,535	9,654,844	21,048,757	6,297,356	16,092,912	53,093,869	
	6	0	0	0	637,803	637,803	0	0	0	6,119,289	6,119,289	
(14) All Years, All Injury Types		10,239,518	15,095,616	11,702,049	20,847,150	57,884,333	133,580,182	201,188,505	74,884,166	148,559,165	558,212,018	255,020,634
(15) Pure Premium							0.524	0.789	0.294	0.583	2.189	

Notes:  
 (3) , (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): Unit Statistical Plan data, excluding Large Deductibles.  
 (15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

IX 000033

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Construction Industry Group, Industry Code 2  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	
2004	1	395,882	626,010	45,600	34,991	1,102,483	370,048	580,298	48,674	33,790	1,032,810
	2	8,626,002	0	2,690,159	0	11,316,161	8,157,073	0	2,871,484	0	11,028,557
	3	44,479,793	34,984,543	17,664,628	10,550,843	107,679,807	43,454,512	33,894,253	18,855,276	10,188,662	106,392,703
	4	1,794,840	4,571,307	1,575,305	3,146,057	11,087,509	1,753,468	4,428,843	1,681,485	3,038,061	10,901,857
	5	6,389,718	16,145,175	2,803,592	10,511,544	35,850,029	5,939,194	14,882,172	2,992,562	10,150,712	33,964,640
	6	0	0	0	5,030,476	5,030,476	0	0	0	4,755,632	4,755,632
2005	1	45,971	1,413,624	5,740	185,866	1,651,201	46,894	1,402,757	7,067	199,336	1,656,054
	2	7,282,475	0	3,559,181	0	10,841,656	7,498,674	0	4,381,996	0	11,880,670
	3	42,863,922	35,867,857	17,149,658	10,423,165	106,304,602	45,305,854	36,879,335	21,114,332	11,178,543	114,478,064
	4	1,497,158	4,346,717	1,044,038	2,779,167	9,667,080	1,582,450	4,469,295	1,285,400	2,980,576	10,317,721
	5	5,137,433	16,878,442	3,280,998	11,578,829	36,875,702	5,217,584	16,674,543	4,039,537	12,417,959	38,349,623
	6	0	0	0	5,405,025	5,405,025	0	0	0	5,053,372	5,053,372
2006	1	0	1,993,700	0	104,369	2,098,069	0	2,158,795	0	110,856	2,269,651
	2	2,080,986	0	753,139	0	2,834,125	2,430,334	0	988,450	0	3,418,784
	3	36,643,133	35,928,969	14,355,702	11,874,202	98,802,006	43,600,891	39,926,518	18,841,017	12,612,211	114,980,637
	4	1,305,788	2,784,065	655,281	1,685,306	6,430,440	1,553,730	3,093,827	860,018	1,790,052	7,297,627
	5	6,882,911	17,476,799	3,296,257	12,067,876	39,723,843	7,953,385	18,860,607	4,326,144	12,817,922	43,958,058
	6	0	0	0	4,849,076	4,849,076	0	0	0	4,728,212	4,728,212
2007	1	235,000	1,781,254	0	283,880	2,300,134	319,272	2,160,281	0	293,522	2,773,075
	2	1,426,316	0	654,670	0	2,080,986	1,946,866	0	910,538	0	2,857,404
	3	33,239,962	31,448,808	14,673,447	11,998,697	91,360,914	45,950,066	38,807,958	20,408,365	12,406,254	117,572,643
	4	1,384,180	3,469,887	1,083,615	2,304,885	8,242,567	1,913,455	4,281,855	1,507,131	2,383,175	10,085,616
	5	5,167,359	14,977,768	3,224,483	10,518,128	33,887,738	7,003,818	18,121,925	4,484,729	10,875,395	40,485,867
	6	0	0	0	4,765,120	4,765,120	0	0	0	4,772,882	4,772,882
2008	1	0	1,212,184	0	201,326	1,413,510	0	1,857,264	0	228,035	2,085,299
	2	400,807	0	268,244	0	669,051	797,004	0	435,907	0	1,232,911
	3	13,366,105	17,164,102	6,097,846	7,980,302	44,608,355	26,756,230	26,537,943	9,909,219	9,039,037	72,242,429
	4	393,180	2,998,315	499,423	2,510,680	6,401,598	787,067	4,635,786	811,580	2,843,768	9,078,201
	5	6,032,596	16,401,136	4,729,555	12,400,741	39,564,028	11,950,154	25,093,965	7,685,697	14,045,930	58,775,746
	6	0	0	0	3,681,018	3,681,018	0	0	0	3,990,208	3,990,208
(13) All Years, All Injury Types		227,071,517	262,470,662	100,110,561	146,871,569	736,524,309	272,288,023	298,748,220	128,446,608	152,934,102	852,416,953

Notes:

- (3), (4), (5), (6): From Unit Statistical Plan data, excluding Large Deductibles.
- (7)= (3) + (4) + (5) + (6)
- (8)= (3) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (9)= (4) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (10)= (5) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (11)= (6) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (12)= (8) + (9) + (10) +(11)

IX 000034

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Construction Industry Group, Industry Code 2  
 All Classes

Composite Policy Year (1)	Injury Type (2)	Adjusted Excess Losses				Converted Unlimited Losses						Exposure (13)
		Indemnity		Medical		Indemnity		Medical		Total		
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Total (7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	Total (12)	
2004	1	83,342	128,646	47,359	62,235	321,582	452,448	707,471	113,894	113,885	1,387,698	46,829,102
	2	1,377,142	0	1,346,837	0	2,723,979	9,058,599	0	4,023,399	0	13,081,998	
	3	7,343,505	5,925,046	7,801,326	5,115,478	26,185,355	61,063,820	47,866,406	32,167,653	18,468,155	159,566,034	
	4	300,155	728,150	521,295	1,006,494	2,556,094	2,513,935	6,312,913	2,706,961	4,970,286	16,504,095	
	5	1,014,170	2,507,524	1,165,290	3,481,608	8,168,592	8,424,545	21,068,976	5,057,058	16,580,537	51,131,116	
	6	0	0	0	1,109,391	1,109,391	0	0	0	6,955,917	6,955,917	
2005	1	14,474	276,540	9,319	161,221	461,554	61,240	1,675,808	19,434	427,621	2,184,103	49,506,418
	2	1,263,384	0	1,700,401	0	2,963,785	8,324,962	0	5,801,339	0	14,126,301	
	3	8,098,559	6,553,860	8,821,813	5,670,045	29,144,277	64,196,943	52,210,637	36,125,218	20,331,906	172,864,704	
	4	276,985	735,867	478,600	1,020,977	2,512,429	2,276,220	6,371,880	2,167,750	4,917,442	15,733,292	
	5	882,762	2,729,138	1,405,423	4,090,207	9,107,530	7,391,046	23,509,077	6,622,524	20,078,334	57,600,981	
	6	0	0	0	1,204,176	1,204,176	0	0	0	7,421,452	7,421,452	
2006	1	0	434,319	0	222,413	656,732	0	2,587,727	0	395,258	2,982,985	49,515,492
	2	355,183	0	357,012	0	712,195	2,646,561	0	1,283,291	0	3,929,852	
	3	7,585,998	6,975,532	8,000,277	6,103,287	28,665,094	61,531,280	56,380,515	32,390,529	22,584,786	172,887,110	
	4	262,072	518,471	328,540	648,696	1,757,779	2,222,806	4,421,981	1,460,600	2,996,936	11,102,323	
	5	1,264,741	3,023,433	1,542,826	4,283,698	10,114,698	11,168,481	26,514,227	7,138,233	20,800,132	65,621,073	
	6	0	0	0	1,102,435	1,102,435	0	0	0	6,915,146	6,915,146	
2007	1	45,482	392,534	19,492	237,521	695,029	363,997	2,547,511	23,118	629,817	3,564,443	50,977,022
	2	380,076	0	434,103	0	814,179	2,210,862	0	1,282,507	0	3,493,369	
	3	8,151,986	6,707,219	8,815,478	5,937,812	29,612,495	65,035,569	54,713,367	35,265,651	22,136,562	177,151,149	
	4	345,312	742,670	515,118	918,656	2,521,756	2,765,061	6,150,753	2,485,109	4,057,564	15,458,487	
	5	1,171,530	3,001,888	1,598,534	3,890,706	9,662,658	9,905,073	25,593,153	7,398,871	17,959,518	60,856,615	
	6	0	0	0	1,146,183	1,146,183	0	0	0	7,020,012	7,020,012	
2008	1	0	418,566	0	234,328	652,894	0	2,271,102	0	548,363	2,819,465	47,576,545
	2	114,557	0	137,388	0	251,945	866,088	0	546,804	0	1,412,892	
	3	4,563,815	4,681,002	4,340,485	4,281,850	17,867,152	37,649,533	37,528,001	17,195,722	16,074,880	108,448,136	
	4	140,033	768,555	299,962	989,808	2,198,358	1,134,905	6,615,704	1,365,955	4,711,018	13,827,582	
	5	2,017,890	4,218,866	2,869,052	5,173,806	14,279,614	16,923,378	35,514,788	12,837,391	23,376,326	88,651,883	
	6	0	0	0	936,754	936,754	0	0	0	5,843,378	5,843,378	
(14) All Years, All Injury Types		47,053,153	51,467,826	52,555,930	59,029,785	210,106,694	378,187,352	420,561,997	215,479,011	256,315,231	1,270,543,591	244,404,577
(15) Pure Premium							1.547	1.721	0.882	1.049	5.199	

Notes:  
 (3) , (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): Unit Statistical Plan data, excluding Large Deductibles.  
 (15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

IX 000035

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Office and Clerical Industry Group, Industry Code 3  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total	Indemnity		Medical		Total
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	(7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	(12)
2004	1	213,848	514,128	16,168	34,891	779,035	199,893	476,586	17,258	33,693	727,430
	2	3,294,071	0	1,431,175	0	4,725,246	3,114,997	0	1,527,641	0	4,642,638
	3	11,437,464	7,910,627	6,307,628	2,861,377	28,517,096	11,173,824	7,664,093	6,732,781	2,763,154	28,333,852
	4	1,378,805	2,505,224	812,805	1,566,712	6,263,546	1,347,023	2,427,149	867,590	1,512,931	6,154,693
	5	3,537,398	5,965,043	2,100,471	5,716,827	17,319,739	3,287,984	5,498,410	2,242,049	5,520,584	16,549,027
	6	0	0	0	5,158,899	5,158,899	0	0	0	4,877,039	4,877,039
2005	1	453,013	420,813	46,987	4,115	924,928	462,109	417,578	57,850	4,413	941,950
	2	1,276,960	0	438,167	0	1,715,127	1,314,870	0	539,463	0	1,854,333
	3	8,528,984	7,608,667	3,369,593	2,343,339	21,850,583	9,014,875	7,823,232	4,148,578	2,513,164	23,499,849
	4	1,005,571	1,934,189	660,686	1,333,167	4,933,613	1,062,858	1,988,733	813,424	1,429,783	5,294,798
	5	3,695,328	6,567,777	2,358,495	5,926,368	18,547,968	3,752,834	6,488,436	2,903,734	6,355,858	19,500,862
	6	0	0	0	5,290,333	5,290,333	0	0	0	4,946,069	4,946,069
2006	1	0	508,204	0	10,585	518,789	0	550,288	0	11,243	561,531
	2	1,386,630	0	294,292	0	1,680,922	1,619,412	0	386,240	0	2,005,652
	3	10,327,650	6,016,319	5,150,886	2,285,200	23,780,055	12,288,653	6,685,710	6,760,236	2,427,230	28,161,829
	4	1,152,986	1,871,067	885,735	1,489,912	5,399,700	1,371,914	2,079,247	1,162,475	1,582,513	6,196,149
	5	2,646,788	6,105,671	2,098,810	6,104,001	16,955,270	3,058,433	6,589,116	2,754,565	6,483,378	18,885,492
	6	0	0	0	5,322,897	5,322,897	0	0	0	5,190,222	5,190,222
2007	1	0	337,623	0	2,439	340,062	0	409,465	0	2,522	411,987
	2	431,475	0	309,287	0	740,762	588,947	0	430,167	0	1,019,114
	3	7,162,433	8,766,689	2,759,725	2,931,978	21,620,825	9,901,163	10,818,130	3,838,326	3,031,568	27,589,187
	4	1,063,221	2,245,660	922,845	2,034,188	6,265,914	1,469,769	2,771,154	1,283,526	2,103,283	7,627,732
	5	3,179,673	6,252,984	1,443,600	7,125,439	18,001,696	4,309,717	7,570,437	2,007,812	7,369,555	21,257,521
	6	0	0	0	5,728,762	5,728,762	0	0	0	5,738,094	5,738,094
2008	1	0	673,064	0	47,136	720,200	0	1,031,244	0	53,390	1,084,634
	2	0	0	0	0	0	0	0	0	0	0
	3	4,368,373	4,381,597	2,060,536	1,867,610	12,678,116	8,744,595	6,774,521	3,348,446	2,115,383	20,982,945
	4	361,949	1,509,298	373,823	1,289,330	3,534,400	724,548	2,333,572	607,476	1,460,384	5,125,980
	5	4,371,888	8,270,182	3,773,881	9,020,049	25,436,000	8,660,407	12,653,493	6,132,691	10,216,726	37,663,317
	6	0	0	0	5,516,753	5,516,753	0	0	0	5,980,137	5,980,137
(13) All Years, All Injury Types		71,274,508	80,364,826	37,615,595	81,012,307	270,267,236	87,468,825	93,050,594	48,562,328	83,722,316	312,804,063

Notes:

- (3), (4), (5), (6): From Unit Statistical Plan data, excluding Large Deductibles.
- (7)= (3) + (4) + (5) + (6)
- (8)= (3) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (9)= (4) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (10)= (5) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (11)= (6) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (12)= (8) + (9) + (10) +(11)

IX 000036

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Office and Clerical Industry Group, Industry Code 3  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total	Indemnity		Medical		Total	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	(7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	(12)	
2004	1	28,254	41,461	15,594	22,193	107,502	227,673	516,970	38,962	66,281	849,886	462,415,641
	2	326,769	0	367,170	0	693,939	3,270,074	0	1,807,254	0	5,077,328	
	3	1,115,562	753,903	1,411,480	700,641	3,981,586	14,772,956	10,119,194	9,828,025	4,179,908	38,900,083	
	4	135,633	243,966	183,872	322,523	885,994	1,814,988	3,269,835	1,292,125	2,255,558	8,632,506	
	5	338,632	548,655	460,411	997,708	2,345,406	4,393,929	7,326,492	3,286,912	7,927,982	22,935,315	
	6	0	0	0	677,154	677,154	0	0	0	6,587,272	6,587,272	
2005	1	43,277	39,107	26,287	17,350	126,021	504,336	455,736	99,786	25,812	1,085,670	505,264,881
	2	112,917	0	114,696	0	227,613	1,356,561	0	623,931	0	1,980,492	
	3	937,707	747,667	1,015,071	661,897	3,362,342	11,963,906	10,302,997	6,231,195	3,831,481	32,329,579	
	4	95,465	193,848	147,114	287,211	723,638	1,417,957	2,671,798	1,180,389	2,109,985	7,380,129	
	5	384,350	629,960	582,605	1,139,556	2,736,471	5,012,521	8,624,493	4,240,319	9,116,423	26,993,756	
	6	0	0	0	677,277	677,277	0	0	0	6,669,289	6,669,289	
2006	1	0	51,312	0	23,232	74,544	0	600,350	0	40,887	641,237	557,166,576
	2	163,390	0	125,193	0	288,583	1,693,867	0	487,801	0	2,181,668	
	3	1,187,508	686,345	1,411,049	621,659	3,906,561	16,199,567	8,861,878	9,860,636	3,679,224	38,601,305	
	4	132,728	199,587	229,237	306,401	867,953	1,841,902	2,789,625	1,710,252	2,321,256	8,663,035	
	5	284,396	629,590	490,719	1,141,712	2,546,417	4,050,100	8,746,028	3,947,131	9,274,144	26,017,403	
	6	0	0	0	705,019	705,019	0	0	0	6,991,756	6,991,756	
2007	1	0	56,885	0	24,889	81,774	0	465,381	0	32,509	497,890	589,498,171
	2	62,795	0	111,076	0	173,871	619,230	0	516,233	0	1,135,463	
	3	942,049	1,012,447	901,664	829,662	3,685,822	13,034,523	14,221,425	5,719,948	4,659,509	37,635,405	
	4	141,058	257,631	254,713	399,329	1,052,731	1,971,888	3,707,675	1,890,317	3,075,418	10,645,298	
	5	441,952	723,929	475,901	1,310,959	2,952,741	5,757,019	10,049,273	3,020,857	10,557,820	29,384,969	
	6	0	0	0	779,693	779,693	0	0	0	7,730,096	7,730,096	
2008	1	0	122,466	0	61,197	183,663	0	1,151,313	0	135,900	1,287,213	607,700,658
	2	0	0	0	0	0	0	0	0	0	0	
	3	832,626	688,564	818,480	596,106	2,935,776	11,512,688	8,971,305	5,028,406	3,272,069	28,784,468	
	4	68,794	215,497	111,976	292,854	689,121	971,167	3,120,433	884,122	2,154,524	7,130,246	
	5	878,383	1,212,957	1,245,624	1,936,931	5,273,895	11,556,990	16,800,289	8,973,999	14,782,090	52,113,368	
	6	0	0	0	804,075	804,075	0	0	0	8,046,076	8,046,076	
(14) All Years, All Injury Types		8,654,245	9,055,777	10,499,932	15,337,228	43,547,182	113,943,842	122,772,490	70,668,600	119,523,269	426,908,201	2,722,045,927
(15) Pure Premium							0.042	0.045	0.026	0.044	0.157	

Notes:  
 (3) , (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): Unit Statistical Plan data, excluding Large Deductibles.  
 (15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

IX 000037

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Goods and Services Industry Group, Industry Code 9  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	
2004	1	34,650	887,713	0	1,999	924,362	32,389	822,892	0	1,930	857,211
	2	5,904,899	0	2,566,685	0	8,471,584	5,583,895	0	2,739,688	0	8,323,583
	3	30,665,542	23,658,834	13,278,725	7,733,885	75,336,986	29,958,686	22,921,509	14,173,750	7,468,402	74,522,347
	4	4,117,913	6,597,101	2,616,432	3,394,146	16,725,592	4,022,993	6,391,503	2,792,787	3,277,634	16,484,917
	5	7,497,997	15,988,317	4,425,849	15,384,834	43,296,997	6,969,331	14,737,584	4,724,164	14,856,715	41,287,794
	6	0	0	0	9,982,569	9,982,569	0	0	0	9,437,219	9,437,219
2005	1	1,235,393	1,690,225	93,742	8,926	3,028,286	1,260,198	1,677,232	115,413	9,573	3,062,416
	2	4,511,431	0	2,360,317	0	6,871,748	4,645,365	0	2,905,977	0	7,551,342
	3	25,958,681	22,042,495	12,215,137	6,092,943	66,309,256	27,437,531	22,664,096	15,039,044	6,534,505	71,675,176
	4	3,460,682	6,853,729	1,789,551	4,197,922	16,301,884	3,657,835	7,047,005	2,203,261	4,502,150	17,410,251
	5	7,738,107	16,013,734	4,021,374	15,066,612	42,839,827	7,858,525	15,820,281	4,951,040	16,158,505	44,788,351
	6	0	0	0	10,824,267	10,824,267	0	0	0	10,119,887	10,119,887
2006	1	415,731	995,516	270	44,917	1,456,434	482,004	1,077,953	354	47,709	1,608,020
	2	2,984,651	0	2,320,468	0	5,305,119	3,485,703	0	3,045,478	0	6,531,181
	3	28,963,507	20,735,265	11,665,508	7,511,655	68,875,935	34,463,067	23,042,324	15,310,295	7,978,521	80,794,207
	4	3,082,558	6,477,651	1,646,071	3,548,454	14,754,734	3,667,871	7,198,371	2,160,372	3,768,998	16,795,612
	5	6,741,839	15,553,525	3,606,053	15,998,001	41,899,418	7,790,373	16,785,049	4,732,733	16,992,313	46,300,468
	6	0	0	0	10,418,427	10,418,427	0	0	0	10,158,745	10,158,745
2007	1	499,473	388,000	527	48,769	936,769	678,587	470,561	732	50,426	1,200,306
	2	361,122	0	341,824	0	702,946	492,918	0	475,421	0	968,339
	3	17,261,377	19,672,972	7,708,127	8,309,451	52,951,927	23,861,682	24,276,528	10,720,744	8,591,697	67,450,651
	4	3,465,912	6,970,247	2,038,451	4,799,247	17,273,857	4,791,187	8,601,313	2,835,152	4,962,262	21,189,914
	5	6,355,196	14,838,218	3,627,616	16,230,423	41,051,453	8,613,808	17,954,586	5,045,421	16,782,220	48,396,035
	6	0	0	0	11,086,396	11,086,396	0	0	0	11,104,456	11,104,456
2008	1	0	1,443,020	0	132,933	1,575,953	0	2,210,943	0	150,569	2,361,512
	2	555,156	0	504,860	0	1,060,016	1,103,926	0	820,416	0	1,924,342
	3	8,263,927	13,302,216	4,035,635	6,041,227	31,643,005	16,542,705	20,566,962	6,558,052	6,842,708	50,510,427
	4	1,764,726	5,684,048	1,613,787	4,110,093	13,172,654	3,532,623	8,788,280	2,622,462	4,655,373	19,598,738
	5	11,930,231	19,826,378	8,101,668	21,033,805	60,892,082	23,632,959	30,334,633	13,165,502	23,824,331	90,957,425
	6	0	0	0	10,352,788	10,352,788	0	0	0	11,222,379	11,222,379
(13) All Years, All Injury Types		183,770,701	219,619,204	90,578,677	192,354,689	686,323,271	224,566,161	253,389,605	117,138,258	199,499,227	794,593,251

Notes:

- (3), (4), (5), (6): From Unit Statistical Plan data, excluding Large Deductibles.
- (7)= (3) + (4) + (5) + (6)
- (8)= (3) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (9)= (4) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (10)= (5) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (11)= (6) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (12)= (8) + (9) + (10) +(11)

IX 000038

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Goods and Services Industry Group, Industry Code 9  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total	Indemnity		Medical		Total	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	(7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	(12)	
2004	1	2,380	81,316	1,020	35,101	119,817	34,697	902,329	1,210	43,919	982,155	117,610,050
	2	554,493	0	666,534	0	1,221,027	5,832,174	0	3,248,825	0	9,080,999	
	3	3,040,511	2,362,283	3,373,407	2,103,026	10,879,227	39,668,025	30,393,409	21,174,899	11,550,249	102,786,582	
	4	373,759	611,504	567,200	695,755	2,248,218	5,382,268	8,572,704	4,129,033	4,882,832	22,966,837	
	5	754,328	1,503,719	1,039,359	2,748,439	6,045,845	9,357,816	19,677,609	7,009,981	21,412,563	57,457,969	
	6	0	0	0	1,258,969	1,258,969	0	0	0	12,685,679	12,685,679	
2005	1	129,433	173,007	73,113	75,762	451,315	1,386,744	1,846,395	223,592	101,208	3,557,939	121,429,454
	2	416,457	0	561,719	0	978,176	4,809,312	0	3,307,460	0	8,116,772	
	3	2,866,335	2,361,751	3,403,616	1,929,291	10,560,993	36,427,993	30,083,336	22,255,541	10,213,622	98,980,492	
	4	345,181	673,071	444,030	868,097	2,330,379	4,900,277	9,450,502	3,253,212	6,599,407	24,203,398	
	5	823,648	1,554,607	1,133,713	2,890,919	6,402,887	10,519,132	21,051,036	7,400,683	23,169,181	62,140,032	
	6	0	0	0	1,340,574	1,340,574	0	0	0	13,592,107	13,592,107	
2006	1	45,140	105,412	19,393	50,076	220,021	526,048	1,180,907	23,421	115,972	1,846,348	122,780,150
	2	379,893	0	617,525	0	997,418	3,672,760	0	3,493,742	0	7,166,502	
	3	3,589,034	2,327,511	3,787,627	2,161,058	11,865,230	45,742,074	30,496,840	23,046,273	12,235,861	111,521,048	
	4	327,975	686,542	426,354	800,123	2,240,994	4,891,499	9,652,287	3,178,785	5,614,917	23,337,488	
	5	805,492	1,652,004	1,045,973	3,059,320	6,562,789	10,414,562	22,337,931	7,028,449	24,388,134	64,169,076	
	6	0	0	0	1,336,426	1,336,426	0	0	0	13,633,272	13,633,272	
2007	1	95,916	29,863	41,255	17,718	184,752	772,894	499,385	49,796	80,818	1,402,893	132,614,446
	2	52,411	0	91,380	0	143,791	518,124	0	540,610	0	1,058,734	
	3	2,463,060	2,464,325	2,603,639	2,266,615	9,797,639	31,644,726	32,144,928	16,079,099	13,103,186	92,971,939	
	4	438,377	800,099	550,406	1,005,320	2,794,202	6,401,751	11,508,703	4,160,455	7,333,462	29,404,371	
	5	836,031	1,799,700	1,080,170	3,115,571	6,831,472	11,449,220	23,933,863	7,450,352	24,201,022	67,034,457	
	6	0	0	0	1,435,935	1,435,935	0	0	0	14,872,903	14,872,903	
2008	1	0	247,483	0	122,483	369,966	0	2,453,318	0	323,840	2,777,158	132,177,100
	2	152,068	0	221,580	0	373,648	1,193,339	0	993,848	0	2,187,187	
	3	1,743,706	2,060,167	1,697,411	1,852,225	7,353,509	21,981,923	27,199,860	9,962,217	10,492,545	69,636,545	
	4	337,953	817,522	496,814	945,919	2,598,208	4,738,151	11,758,906	3,833,226	6,883,335	27,213,618	
	5	2,326,228	2,946,394	2,796,034	4,559,545	12,628,201	31,451,586	40,322,567	19,413,485	34,522,364	125,710,002	
	6	0	0	0	1,453,004	1,453,004	0	0	0	15,033,005	15,033,005	
(14) All Years, All Injury Types		22,899,809	25,258,280	26,739,272	38,127,271	113,024,632	293,717,095	335,466,815	171,258,194	287,085,403	1,087,527,507	626,611,200
(15) Pure Premium							0.469	0.535	0.273	0.458	1.736	

Notes:  
 (3) , (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): Unit Statistical Plan data, excluding Large Deductibles.  
 (15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

IX 000039

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Miscellaneous Industry Group, Industry Code 0  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	
2004	1	184,052	528,681	0	1,288	714,021	172,041	490,076	0	1,244	663,361
	2	1,932,733	0	956,300	0	2,889,033	1,827,666	0	1,020,757	0	2,848,423
	3	12,375,124	8,263,140	5,167,025	3,236,647	29,041,936	12,089,872	8,005,620	5,515,297	3,125,542	28,736,331
	4	1,245,420	1,637,572	722,539	1,098,259	4,703,790	1,216,712	1,586,537	771,240	1,060,559	4,635,048
	5	1,866,110	6,399,374	1,088,295	4,906,342	14,260,121	1,734,535	5,898,764	1,161,649	4,737,921	13,532,869
	6	0	0	0	2,398,127	2,398,127	0	0	0	2,267,103	2,267,103
2005	1	286,979	1,190,341	8,638	18,893	1,504,851	292,741	1,181,191	10,635	20,262	1,504,829
	2	1,717,779	0	1,105,379	0	2,823,158	1,768,776	0	1,360,921	0	3,129,697
	3	13,822,765	7,459,336	5,296,009	2,742,407	29,320,517	14,610,240	7,669,690	6,520,345	2,941,152	31,741,427
	4	935,334	1,844,303	482,408	957,322	4,219,367	988,619	1,896,313	593,932	1,026,700	4,505,564
	5	2,011,357	6,688,067	1,774,673	5,339,652	15,813,749	2,042,657	6,607,272	2,184,944	5,726,622	16,561,495
	6	0	0	0	2,494,377	2,494,377	0	0	0	2,332,057	2,332,057
2006	1	103,854	949,478	40,949	132,472	1,226,753	120,410	1,028,103	53,743	140,705	1,342,961
	2	1,549,480	0	888,924	0	2,438,404	1,809,600	0	1,166,661	0	2,976,261
	3	13,748,740	8,143,569	4,844,922	2,437,807	29,175,038	16,359,336	9,049,643	6,358,676	2,589,322	34,356,977
	4	956,107	1,186,438	711,250	764,103	3,617,898	1,137,652	1,318,444	933,474	811,594	4,201,164
	5	1,945,391	5,404,848	955,816	4,624,290	12,930,345	2,247,951	5,832,802	1,254,452	4,911,700	14,246,905
	6	0	0	0	2,647,944	2,647,944	0	0	0	2,581,943	2,581,943
2007	1	1,133,515	1,095,266	866,485	4,269	3,099,535	1,540,000	1,328,324	1,205,139	4,414	4,077,877
	2	1,591,606	0	724,490	0	2,316,096	2,172,479	0	1,007,648	0	3,180,127
	3	10,053,331	8,748,180	4,414,647	4,035,338	27,251,496	13,897,466	10,795,290	6,140,051	4,172,405	35,005,212
	4	639,355	1,589,090	402,445	1,029,363	3,660,253	883,828	1,960,944	559,735	1,064,327	4,468,834
	5	2,933,756	6,048,285	1,754,178	5,866,218	16,602,437	3,976,402	7,317,951	2,439,775	6,065,475	19,799,603
	6	0	0	0	2,517,609	2,517,609	0	0	0	2,521,710	2,521,710
2008	1	0	265,505	0	35,304	300,809	0	406,797	0	39,988	446,785
	2	116,472	0	58,562	0	175,034	231,604	0	95,165	0	326,769
	3	4,278,992	5,463,082	1,928,217	2,340,720	14,011,011	8,565,674	8,446,638	3,133,422	2,651,260	22,796,994
	4	353,861	1,039,908	336,351	692,444	2,422,564	708,358	1,607,834	546,582	784,310	3,647,084
	5	3,925,648	8,019,796	3,070,195	7,404,063	22,419,702	7,776,436	12,270,399	4,989,177	8,386,350	33,422,362
	6	0	0	0	2,266,683	2,266,683	0	0	0	2,457,075	2,457,075
(13) All Years, All Injury Types		79,707,761	81,964,259	37,598,697	59,991,941	259,262,658	98,171,055	94,698,632	49,023,420	62,421,740	304,314,847

Notes:

- (3), (4), (5), (6): From Unit Statistical Plan data, excluding Large Deductibles.
- (7)= (3) + (4) + (5) + (6)
- (8)= (3) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (9)= (4) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (10)= (5) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (11)= (6) x Primary Conversion Factors from Section IX - B, Exhibit 1
- (12)= (8) + (9) + (10) +(11)

IX 000040

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 Miscellaneous Industry Group, Industry Code 0  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total	Indemnity		Medical		Total	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	(7)	Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	Total (12)	
2004	1	28,801	82,044	12,343	35,459	158,647	200,426	570,931	14,639	43,530	829,526	17,334,527
	2	266,409	0	344,080	0	610,489	1,989,611	0	1,301,770	0	3,291,381	
	3	1,687,757	1,160,899	1,763,569	1,167,626	5,779,851	16,561,958	11,018,987	8,783,718	5,180,747	41,545,410	
	4	156,261	224,023	215,903	310,057	906,244	1,680,720	2,216,390	1,213,084	1,684,327	6,794,521	
	5	257,815	786,005	345,651	1,261,272	2,650,743	2,413,888	8,099,121	1,833,279	7,296,618	19,642,906	
	6	0	0	0	409,052	409,052	0	0	0	3,173,920	3,173,920	
2005	1	49,008	197,743	23,547	89,593	359,891	341,039	1,376,070	40,540	130,288	1,887,937	17,774,894
	2	273,440	0	386,626	0	660,066	1,940,340	0	1,666,796	0	3,607,136	
	3	2,130,576	1,086,727	2,261,410	1,061,123	6,539,836	20,123,978	10,526,007	10,597,316	4,829,715	46,077,016	
	4	126,098	265,043	155,899	325,232	872,272	1,364,577	2,645,815	921,455	1,661,367	6,593,214	
	5	268,052	925,583	538,393	1,540,443	3,272,471	2,799,605	9,126,644	3,312,303	8,838,690	24,077,242	
	6	0	0	0	415,380	415,380	0	0	0	3,258,461	3,258,461	
2006	1	20,158	156,178	21,492	95,487	293,315	140,275	1,181,821	89,229	280,125	1,691,450	17,486,182
	2	287,352	0	377,521	0	664,873	1,992,346	0	1,472,828	0	3,465,174	
	3	2,356,121	1,310,658	2,318,412	1,102,366	7,087,557	22,497,676	12,454,021	10,471,010	4,454,916	49,877,623	
	4	137,800	178,341	228,363	234,050	778,554	1,561,340	1,832,283	1,427,762	1,284,975	6,106,360	
	5	300,449	792,473	366,647	1,303,544	2,763,113	3,087,585	8,027,040	1,971,689	7,559,395	20,645,709	
	6	0	0	0	442,690	442,690	0	0	0	3,587,215	3,587,215	
2007	1	235,417	187,753	322,692	81,357	827,219	1,771,728	1,512,927	1,812,008	101,725	5,198,388	17,674,252
	2	314,800	0	369,004	0	683,804	2,363,201	0	1,313,038	0	3,676,239	
	3	1,959,409	1,554,791	2,080,739	1,575,575	7,170,514	19,061,401	14,845,918	9,920,377	6,936,332	50,764,028	
	4	114,436	266,629	156,870	320,707	858,642	1,222,021	2,726,874	880,624	1,702,046	6,531,565	
	5	636,191	1,008,328	718,895	1,607,446	3,970,860	5,588,517	10,087,938	3,841,785	9,332,318	28,850,558	
	6	0	0	0	445,452	445,452	0	0	0	3,519,054	3,519,054	
2008	1	0	56,964	0	33,976	90,940	0	462,797	0	87,721	550,518	18,059,444
	2	29,966	0	30,432	0	60,398	248,522	0	119,794	0	368,316	
	3	1,225,454	1,177,715	1,189,321	1,046,601	4,639,091	11,769,823	11,569,344	5,216,438	4,462,366	33,017,971	
	4	84,689	209,771	137,273	236,647	668,380	970,805	2,225,014	840,378	1,254,636	5,290,833	
	5	1,098,749	1,708,190	1,402,923	2,409,757	6,619,619	10,752,981	16,936,154	7,774,498	13,130,945	48,594,578	
	6	0	0	0	446,802	446,802	0	0	0	3,443,998	3,443,998	
(14) All Years, All Injury Types		14,045,208	13,335,858	15,768,005	17,997,694	61,146,765	132,444,363	129,442,096	76,836,358	97,235,430	435,958,247	88,329,298
(15) Pure Premium							1.499	1.465	0.870	1.101	4.936	

Notes:  
 (3) , (4) = 0.7 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Indemnity Converted Limited Losses from Page 1, Columns (8) and (9).  
 (5), (6) = [ Excess Factor - 1.0 ] x Medical Converted Limited Losses + 0.3 x [ Excess Factor - 1.0 ] x Indemnity Converted Limited Losses. Excess Factor from Section IX-B, Exhibit 5 and Medical Converted Limited Losses from Page 1, Columns (10) and (11).  
 (7) = (3) + (4) + (5) + (6)  
 (8), (9), (10), (11): Converted Limited Losses from Page 1 + Adjusted Excess Losses.  
 (12) = (8) + (9) + (10) + (11)  
 (13): Unit Statistical Plan data, excluding Large Deductibles.  
 (15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

IX 000041

Calculation of Converted Limited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 All Industry Groups  
 All Classes

Policy Year (1)	Injury Type (2)	Limited Losses					Converted Limited Losses				
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)	
2004	1	828,432	4,654,529	61,768	92,664	5,637,393	774,371	4,314,652	65,932	89,483	5,244,438
	2	23,856,483	0	9,005,709	0	32,862,192	22,559,590	0	9,612,722	0	32,172,312
	3	113,375,828	94,567,507	48,379,746	30,437,370	286,760,451	110,762,459	91,620,320	51,640,683	29,392,540	283,416,002
	4	9,890,129	20,278,767	6,447,089	12,033,893	48,649,878	9,662,156	19,646,781	6,881,641	11,620,802	47,811,380
	5	22,403,018	51,920,490	11,783,813	43,153,275	129,260,596	20,823,434	47,858,858	12,578,076	41,671,942	122,932,310
	6	0	0	0	27,536,374	27,536,374	0	0	0	26,031,958	26,031,958
2005	1	2,021,356	5,632,430	155,107	357,763	8,166,656	2,061,942	5,589,133	190,965	383,690	8,225,730
	2	19,166,448	0	9,594,479	0	28,760,927	19,735,454	0	11,812,540	0	31,547,994
	3	103,623,302	86,400,150	42,545,598	25,675,254	258,244,304	109,526,659	88,836,645	52,381,329	27,535,967	278,280,600
	4	8,171,470	19,898,175	4,654,218	12,335,915	45,059,778	8,636,993	20,459,306	5,730,185	13,229,912	48,056,396
	5	22,432,207	55,087,925	13,841,809	45,138,394	136,500,335	22,781,494	54,422,439	17,041,808	48,409,620	142,655,361
	6	0	0	0	29,037,147	29,037,147	0	0	0	27,147,653	27,147,653
2006	1	836,965	4,692,723	41,495	292,641	5,863,824	970,388	5,081,320	54,459	310,830	6,416,997
	2	9,492,466	0	5,239,165	0	14,731,631	11,086,024	0	6,876,095	0	17,962,119
	3	100,031,132	85,193,736	40,035,320	29,827,892	255,088,080	119,024,935	94,672,609	52,544,010	31,681,762	297,923,316
	4	7,621,657	17,020,538	4,656,287	10,498,005	39,796,487	9,068,850	18,914,287	6,111,104	11,150,480	45,244,721
	5	22,537,578	52,650,300	11,850,035	46,116,618	133,154,531	26,042,766	56,819,136	15,552,475	48,982,870	147,397,247
	6	0	0	0	28,350,516	28,350,516	0	0	0	27,643,872	27,643,872
2007	1	1,867,988	3,602,143	867,012	339,357	6,676,500	2,537,859	4,368,631	1,205,871	350,884	8,463,245
	2	4,747,479	0	2,266,554	0	7,014,033	6,480,124	0	3,152,405	0	9,632,529
	3	77,171,375	82,431,120	34,185,339	31,704,981	225,492,815	106,679,718	101,720,340	47,546,215	32,781,898	288,728,171
	4	8,091,170	19,013,439	5,481,472	13,238,791	45,824,872	11,185,024	23,462,662	7,623,830	13,688,471	55,959,987
	5	21,084,690	50,100,954	11,733,901	46,723,794	129,643,339	28,578,108	60,624,549	16,319,939	48,313,441	153,836,037
	6	0	0	0	28,660,247	28,660,247	0	0	0	28,706,934	28,706,934
2008	1	0	4,085,780	0	485,692	4,571,472	0	6,260,084	0	550,128	6,810,212
	2	1,072,723	0	833,237	0	1,905,960	2,133,107	0	1,354,041	0	3,487,148
	3	34,005,698	44,999,995	16,328,443	20,551,623	115,885,759	68,072,507	69,575,867	26,534,307	23,278,177	187,460,858
	4	3,622,002	13,927,008	3,490,457	10,579,531	31,618,998	7,250,513	21,532,973	5,672,118	11,983,103	46,438,707
	5	29,921,362	62,851,069	22,309,409	59,587,961	174,669,801	59,272,141	96,163,006	36,253,590	67,493,413	259,182,150
	6	0	0	0	25,988,660	25,988,660	0	0	0	28,171,599	28,171,599
(13) All Years, All Injury		647,872,958	779,008,778	305,787,462	578,744,358	2,311,413,556	785,706,616	891,943,598	394,736,340	600,601,429	2,672,987,983

Notes:  
 (4) - (12): Total of Section IX - C, Page 1 of Exhibits 1 through 5.

IX 000042

Calculation of Converted Unlimited Losses by Indemnity Likely/Not-Likely and Medical Likely/Not-Likely  
 All Industry Groups  
 All Classes

Policy Year (1)	Injury Type (2)	Adjusted Excess Losses					Converted Unlimited Losses					Exposure (13)
		Indemnity		Medical		Total (7)	Indemnity		Medical		Total (12)	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)		Likely (8)	Not-Likely (9)	Likely (10)	Not-Likely (11)		
2004	1	142,777	532,026	76,316	242,804	993,923	915,244	4,836,607	168,705	394,092	6,314,648	50,597,333
	2	2,918,752	0	3,091,116	0	6,009,868	24,207,351	0	12,116,811	0	36,324,162	
	3	14,576,254	12,121,621	15,885,083	10,755,422	53,338,380	150,668,492	124,707,214	81,486,208	48,448,248	405,310,162	
	4	1,097,083	2,291,030	1,651,431	2,936,415	7,975,959	13,170,883	26,855,088	10,486,153	17,889,120	68,401,244	
	5	2,684,243	6,030,612	3,367,286	9,688,775	21,770,916	28,481,388	65,291,307	19,393,814	62,468,332	175,634,841	
	6	0	0	0	4,105,508	4,105,508	0	0	0	35,743,034	35,743,034	
		0	0	0	0	0	0	0	0	0	0	
2005	1	236,192	801,461	132,266	419,664	1,589,583	2,293,359	6,377,317	383,352	952,780	10,006,808	51,537,290
	2	2,467,616	0	3,289,254	0	5,756,870	21,095,467	0	14,403,965	0	35,499,432	
	3	15,316,614	12,116,654	16,847,930	10,511,087	54,792,285	150,072,928	121,355,015	83,541,887	45,912,996	400,882,826	
	4	978,695	2,354,775	1,395,502	3,160,434	7,889,406	11,771,009	27,927,771	8,756,638	20,141,822	68,597,240	
	5	2,740,446	6,724,946	4,220,578	11,137,599	24,823,569	30,921,826	74,084,840	25,860,733	72,425,304	203,292,703	
	6	0	0	0	4,297,052	4,297,052	0	0	0	37,293,421	37,293,421	
		0	0	0	0	0	0	0	0	0	0	
2006	1	99,966	772,149	55,791	401,934	1,329,840	1,068,129	5,841,310	130,758	845,338	7,885,535	52,102,207
	2	1,374,349	0	1,738,566	0	3,112,915	11,838,786	0	8,216,593	0	20,055,379	
	3	15,985,140	12,868,135	16,824,208	11,484,466	57,161,949	162,294,347	129,273,720	83,709,573	52,090,520	427,368,160	
	4	993,274	2,089,706	1,406,751	2,652,711	7,142,442	12,317,510	25,711,957	9,238,568	16,962,512	64,230,547	
	5	3,120,641	6,955,396	3,972,822	11,264,671	25,313,530	35,333,749	77,267,835	23,747,971	73,277,081	209,626,636	
	6	0	0	0	4,290,155	4,290,155	0	0	0	37,873,754	37,873,754	
		0	0	0	0	0	0	0	0	0	0	
2007	1	376,815	667,035	383,439	361,485	1,788,774	2,908,619	5,025,204	1,884,922	844,869	10,663,614	55,899,937
	2	921,379	0	1,095,197	0	2,016,576	7,032,277	0	4,051,326	0	11,083,603	
	3	14,823,107	13,442,957	15,904,274	12,002,360	56,172,698	146,057,406	138,436,719	76,568,400	54,043,063	415,105,588	
	4	1,240,083	2,650,872	1,757,611	3,347,429	8,995,995	15,210,149	31,966,782	11,528,698	20,935,133	79,640,762	
	5	3,528,773	7,469,992	4,370,626	11,342,748	26,712,139	38,899,998	82,501,864	25,165,246	72,557,839	219,124,947	
	6	0	0	0	4,446,462	4,446,462	0	0	0	39,319,928	39,319,928	
		0	0	0	0	0	0	0	0	0	0	
2008	1	0	902,571	0	484,851	1,387,422	0	7,147,773	0	1,227,485	8,375,258	51,667,412
	2	296,649	0	389,805	0	686,454	2,308,548	0	1,663,267	0	3,971,815	
	3	9,138,708	9,352,117	8,912,855	8,481,993	35,885,673	92,814,877	94,878,590	42,775,594	38,326,347	268,795,408	
	4	796,495	2,420,404	1,285,760	2,953,302	7,455,961	9,850,713	29,322,435	8,550,418	18,355,097	66,078,663	
	5	7,037,882	11,648,898	9,210,721	16,291,363	44,188,864	80,339,779	130,622,555	55,296,729	101,904,637	368,163,700	
	6	0	0	0	4,278,438	4,278,438	0	0	0	38,485,746	38,485,746	
(14) All Years, All Injury Types		102,891,933	114,213,357	117,265,188	151,339,128	485,709,606	1,051,872,834	1,209,431,903	609,126,329	908,718,498	3,779,149,564	261,804,179
(15) Pure Premium							4.018	4.620	2.327	3.471	14.435	

Notes:

(3) - (12): Total of Section IX - C, Page 2 of Exhibits 1 through 5.

(15): Pure Premium calculated as the All Years, All Injury Types Converted Unlimited Losses divided by the All Years, All Injury Types Exposure.

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**IX 000044**

Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
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 Page 1

MA Full Credibility Standard and Partial Credibility

	Indemnity	Medical
(1) Average Claim Cost (See Page 2)	20,000	13,000
(2) Claims	850	400
(3) Full Credibility Standard =(1) x (2)	17,000,000	5,200,000

Partial Credibility Z is given in terms of E, the expected losses and F, the criterion for full credibility by the formula:

$$Z=(E / F)^{0.4}$$

Credibility of Countrywide Data

	Indemnity	Medical
(4) Number of Countrywide Claims	1,150	1,000

Notes:

Partial Credibility is determined from the full credibility standard and the observed number of countrywide claims using the same formula as is done for the Massachusetts data.

(2),(4): From the paper "Class Ratemaking for Workers Compensation: NCCI's New Methodology" by Tom Daley.

**IX 000045**

Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
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 Exhibit 1  
 Page 2

Selection of Average Massachusetts Indemnity Claim Costs

Policy Year 2008

	Indemnity		Medical	
	Likely	Not-Likely	Likely	Not-Likely
(1) On-Level Losses Developed to Fifth Report	151,576,289	191,055,107	67,564,650	126,142,424
(2) Loss Development from Fifth Report to Ultimate	1.011	1.003	1.129	1.022
(3) On-Level Ultimate Losses = (1) x (2)	153,273,809	191,590,103	76,305,707	128,884,366
(4) Claim Count Developed to Fifth Report	1,910	13,894	1,910	13,894
<b>Summary:</b>	<b>Indemnity</b>		<b>Medical</b>	
(5) Ultimate Losses	344,863,912		205,190,073	
(6) Ultimate Claim Count	15,805		15,805	
(7) Average Claim Cost = (5) / (6)	21,820		12,983	
(8) Selected Average Claim Cost	20,000		13,000	

Notes:

- (1): Section IX - B, Exhibit 2, Pages 1 - 4.  
 (2): Calculated using data from Financial Aggregate Policy Year Call (Call 2) and Large Loss & Catastrophe Call (Call 7).  
 (4): Section IX - B, Exhibit 2, Pages 1 - 4.  
 (5) = Sum of (3)  
 (6) = Sum of (4)

# IX 000046

Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
 9/1/2011

Section IX - D  
 Exhibit 2

## Countrywide Classification Experience: Pitch Factors

State (1)	State Code (2)	Industry Group (3)	Industry Code (4)	Indemnity (5)	Medical (6)
Alabama	1	Manufacturing	1	1.716	0.319
		Construction	2	1.565	0.255
		Office and Clerical	3	1.021	0.249
		Goods and Services	9	1.153	0.236
		Miscellaneous	0	1.412	0.291
Arizona	2	Manufacturing	1	2.675	0.462
		Construction	2	1.821	0.316
		Office and Clerical	3	1.416	0.262
		Goods and Services	9	1.552	0.344
		Miscellaneous	0	1.633	0.348
Arkansas	3	Manufacturing	1	1.662	0.487
		Construction	2	1.796	0.462
		Office and Clerical	3	1.550	0.444
		Goods and Services	9	1.792	0.521
		Miscellaneous	0	2.183	0.618
Colorado	5	Manufacturing	1	1.042	0.490
		Construction	2	1.027	0.525
		Office and Clerical	3	0.737	0.405
		Goods and Services	9	0.779	0.435
		Miscellaneous	0	1.066	0.603
Connecticut	6	Manufacturing	1	0.450	0.267
		Construction	2	0.521	0.251
		Office and Clerical	3	0.249	0.181
		Goods and Services	9	0.472	0.275
		Miscellaneous	0	0.516	0.300
D.C.	8	Manufacturing	1	1.348	1.157
		Construction	2	1.247	0.787
		Office and Clerical	3	1.136	1.004
		Goods and Services	9	0.918	0.876
		Miscellaneous	0	0.813	0.822
Florida	9	Manufacturing	1	1.284	0.331
		Construction	2	1.360	0.313
		Office and Clerical	3	0.790	0.229
		Goods and Services	9	1.208	0.339
		Miscellaneous	0	1.401	0.398
Georgia	10	Manufacturing	1	1.029	0.498
		Construction	2	0.690	0.318
		Office and Clerical	3	0.815	0.453
		Goods and Services	9	0.830	0.443
		Miscellaneous	0	0.981	0.476
Idaho	11	Manufacturing	1	1.048	0.315
		Construction	2	1.170	0.361
		Office and Clerical	3	0.547	0.186
		Goods and Services	9	0.921	0.292
		Miscellaneous	0	1.220	0.376

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Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
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Section IX - D  
 Exhibit 2

## Countrywide Classification Experience: Pitch Factors

State (1)	State Code (2)	Industry Group (3)	Industry Code (4)	Indemnity (5)	Medical (6)
Illinois	12	Manufacturing	1	0.476	0.226
		Construction	2	0.458	0.248
		Office and Clerical	3	0.492	0.321
		Goods and Services	9	0.515	0.254
		Miscellaneous	0	0.521	0.294
Indiana	13	Manufacturing	1	2.361	0.426
		Construction	2	2.624	0.507
		Office and Clerical	3	1.682	0.365
		Goods and Services	9	2.315	0.429
		Miscellaneous	0	2.494	0.534
Iowa	14	Manufacturing	1	0.877	0.340
		Construction	2	0.849	0.396
		Office and Clerical	3	0.413	0.214
		Goods and Services	9	0.750	0.324
		Miscellaneous	0	0.826	0.456
Kansas	15	Manufacturing	1	1.077	0.390
		Construction	2	1.524	0.441
		Office and Clerical	3	0.721	0.282
		Goods and Services	9	1.016	0.363
		Miscellaneous	0	1.455	0.460
Kentucky	16	Manufacturing	1	1.346	0.363
		Construction	2	1.096	0.267
		Office and Clerical	3	0.850	0.263
		Goods and Services	9	1.218	0.314
		Miscellaneous	0	1.175	0.338
Louisiana	17	Manufacturing	1	0.945	0.405
		Construction	2	1.208	0.490
		Office and Clerical	3	0.505	0.247
		Goods and Services	9	0.903	0.390
		Miscellaneous	0	0.659	0.376
Maine	18	Manufacturing	1	0.711	0.336
		Construction	2	0.627	0.296
		Office and Clerical	3	0.474	0.165
		Goods and Services	9	0.635	0.325
		Miscellaneous	0	0.936	0.451
Maryland	19	Manufacturing	1	1.110	0.610
		Construction	2	0.973	0.396
		Office and Clerical	3	0.600	0.377
		Goods and Services	9	0.889	0.493
		Miscellaneous	0	0.780	0.487
Mississippi	23	Manufacturing	1	1.430	0.453
		Construction	2	1.306	0.414
		Office and Clerical	3	0.562	0.195
		Goods and Services	9	1.165	0.407
		Miscellaneous	0	1.268	0.526

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 Subsection D - Credibility/Countrywide Data  
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Section IX - D  
 Exhibit 2

## Countrywide Classification Experience: Pitch Factors

State (1)	State Code (2)	Industry Group (3)	Industry Code (4)	Indemnity (5)	Medical (6)
Missouri	24	Manufacturing	1	0.967	0.384
		Construction	2	1.238	0.414
		Office and Clerical	3	0.592	0.312
		Goods and Services	9	0.989	0.369
		Miscellaneous	0	1.141	0.374
Montana	25	Manufacturing	1	0.637	0.158
		Construction	2	0.642	0.152
		Office and Clerical	3	0.416	0.090
		Goods and Services	9	0.548	0.135
		Miscellaneous	0	0.835	0.220
Nebraska	26	Manufacturing	1	1.232	0.330
		Construction	2	1.178	0.313
		Office and Clerical	3	0.609	0.235
		Goods and Services	9	1.220	0.323
		Miscellaneous	0	1.373	0.358
Nevada	27	Manufacturing	1	1.092	0.572
		Construction	2	1.033	0.517
		Office and Clerical	3	0.341	0.214
		Goods and Services	9	0.928	0.457
		Miscellaneous	0	0.782	0.414
New Hampshire	28	Manufacturing	1	0.794	0.149
		Construction	2	1.096	0.196
		Office and Clerical	3	0.729	0.152
		Goods and Services	9	0.912	0.191
		Miscellaneous	0	1.381	0.269
New Mexico	30	Manufacturing	1	0.759	0.255
		Construction	2	1.420	0.418
		Office and Clerical	3	0.495	0.192
		Goods and Services	9	0.967	0.347
		Miscellaneous	0	1.462	0.513
North Carolina	32	Manufacturing	1	0.929	0.549
		Construction	2	0.710	0.314
		Office and Clerical	3	0.478	0.360
		Goods and Services	9	0.704	0.404
		Miscellaneous	0	0.685	0.407
Oklahoma	35	Manufacturing	1	0.421	0.364
		Construction	2	0.520	0.370
		Office and Clerical	3	0.180	0.192
		Goods and Services	9	0.328	0.297
		Miscellaneous	0	0.440	0.387
Oregon	36	Manufacturing	1	1.087	0.405
		Construction	2	1.020	0.376
		Office and Clerical	3	0.824	0.321
		Goods and Services	9	0.900	0.372
		Miscellaneous	0	1.117	0.453

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Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
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Section IX - D  
 Exhibit 2

## Countrywide Classification Experience: Pitch Factors

State (1)	State Code (2)	Industry Group (3)	Industry Code (4)	Indemnity (5)	Medical (6)
Rhode Island	38	Manufacturing	1	0.499	0.483
		Construction	2	0.673	0.612
		Office and Clerical	3	0.396	0.460
		Goods and Services	9	0.517	0.546
		Miscellaneous	0	0.550	0.676
South Carolina	39	Manufacturing	1	0.656	0.449
		Construction	2	0.639	0.338
		Office and Clerical	3	0.336	0.256
		Goods and Services	9	0.613	0.421
		Miscellaneous	0	0.799	0.510
South Dakota	40	Manufacturing	1	1.496	0.320
		Construction	2	1.127	0.229
		Office and Clerical	3	0.848	0.200
		Goods and Services	9	1.383	0.331
		Miscellaneous	0	2.402	0.448
Tennessee	41	Manufacturing	1	0.871	0.340
		Construction	2	0.956	0.288
		Office and Clerical	3	0.609	0.298
		Goods and Services	9	1.008	0.380
		Miscellaneous	0	1.189	0.423
Utah	43	Manufacturing	1	2.977	0.571
		Construction	2	2.171	0.378
		Office and Clerical	3	1.184	0.157
		Goods and Services	9	1.971	0.406
		Miscellaneous	0	2.206	0.534
Vermont	44	Manufacturing	1	0.523	0.222
		Construction	2	0.819	0.342
		Office and Clerical	3	0.249	0.158
		Goods and Services	9	0.590	0.289
		Miscellaneous	0	0.805	0.371
Virginia	45	Manufacturing	1	1.873	0.541
		Construction	2	1.788	0.470
		Office and Clerical	3	1.545	0.534
		Goods and Services	9	1.651	0.486
		Miscellaneous	0	1.628	0.555
Hawaii	52	Manufacturing	1	0.985	0.712
		Construction	2	1.306	0.907
		Office and Clerical	3	0.420	0.324
		Goods and Services	9	0.745	0.595
		Miscellaneous	0	0.996	0.695
Alaska	54	Manufacturing	1	0.705	0.143
		Construction	2	1.495	0.256
		Office and Clerical	3	0.376	0.082
		Goods and Services	9	1.012	0.201
		Miscellaneous	0	1.675	0.284

**Notes:**

Factors to adjust countrywide data to the same payroll distribution and loss level as MA.  
 Pitch Factor = (MA Limited Losses) / [ (State Pure Premium) x (MA Exposure) ]  
 For a sample countrywide pure premium calculation, see Section IX - L, Exhibit 2, page 2.

**IX 000050**

Section IX - Classification Pricing  
 Subsection D - Credibility/Countrywide Data  
 9/1/2011

Section IX - D  
 Exhibit 3

Countrywide Classification Experience: Database

State (1)	State Code (2)	Experience Data					
		First Report (3)		Second Report (4)		Third Report (5)	
Alabama	1	5/1/2007	- 4/30/2008	5/1/2006	- 4/30/2007	5/1/2005	- 4/30/2006
Arizona	2	3/1/2007	- 2/29/2008	3/1/2006	- 2/28/2007	3/1/2005	- 2/28/2006
Arkansas	3	2/1/2007	- 1/31/2008	2/1/2006	- 1/31/2007	2/1/2005	- 1/31/2006
Colorado	5	3/1/2007	- 2/29/2008	3/1/2006	- 2/28/2007	3/1/2005	- 2/28/2006
Connecticut	6	8/1/2007	- 7/31/2008	8/1/2006	- 7/31/2007	8/1/2005	- 7/31/2006
D.C.	8	2/1/2007	- 1/31/2008	2/1/2006	- 1/31/2007	2/1/2005	- 1/31/2006
Florida	9	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
Georgia	10	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Idaho	11	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Illinois	12	4/1/2007	- 3/31/2008	4/1/2006	- 3/31/2007	4/1/2005	- 3/31/2006
Indiana	13	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Iowa	14	3/1/2007	- 2/29/2008	3/1/2006	- 2/28/2007	3/1/2005	- 2/28/2006
Kansas	15	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Kentucky	16	5/1/2007	- 4/30/2008	5/1/2006	- 4/30/2007	5/1/2005	- 4/30/2006
Louisiana	17	9/1/2007	- 8/31/2008	9/1/2006	- 8/31/2007	9/1/2005	- 8/31/2006
Maine	18	6/1/2007	- 5/31/2008	6/1/2006	- 5/31/2007	6/1/2005	- 5/31/2006
Maryland	19	4/1/2007	- 3/31/2008	4/1/2006	- 3/31/2007	4/1/2005	- 3/31/2006
Mississippi	23	9/1/2007	- 8/31/2008	9/1/2006	- 8/31/2007	9/1/2005	- 8/31/2006
Missouri	24	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Montana	25	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
Nebraska	26	8/1/2007	- 7/31/2008	8/1/2006	- 7/31/2007	8/1/2005	- 7/31/2006
Nevada	27	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
New Hampshire	28	4/1/2007	- 3/31/2008	4/1/2006	- 3/31/2007	4/1/2005	- 3/31/2006
New Mexico	30	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
North Carolina	32	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
Oklahoma	35	6/1/2007	- 5/31/2008	6/1/2006	- 5/31/2007	6/1/2005	- 5/31/2006
Oregon	36	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
Rhode Island	38	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
South Carolina	39	5/1/2007	- 4/30/2008	5/1/2006	- 4/30/2007	5/1/2005	- 4/30/2006
South Dakota	40	1/1/2007	- 12/31/2007	1/1/2006	- 12/31/2006	1/1/2005	- 12/31/2005
Tennessee	41	6/1/2007	- 5/31/2008	6/1/2006	- 5/31/2007	6/1/2005	- 5/31/2006
Utah	43	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Vermont	44	7/1/2007	- 6/30/2008	7/1/2006	- 6/30/2007	7/1/2005	- 6/30/2006
Virginia	45	2/1/2007	- 1/31/2008	2/1/2006	- 1/31/2007	2/1/2005	- 1/31/2006
Hawaii	52	6/1/2007	- 5/31/2008	6/1/2006	- 5/31/2007	6/1/2005	- 5/31/2006
Alaska	54	4/1/2007	- 3/31/2008	4/1/2006	- 3/31/2007	4/1/2005	- 3/31/2006

Calculation of Pure Premium Underlying Present Rate Factor

Industry Group (1)	Injury Type (2)	Uncapped Rate Level Factor (3)	Industry Group Pure Premium From Previous Revision (4)	Percent of Pure Premium =(4) / [Total of (4)] (5)	Expected Loss and LAE Ratio (6)	Benefit Level Change Factor (7)	Trend Factor (8)	Pure Premium Underlying Present Rate Factor = (3) x (5) x (6) x (7) x (8) (9)
Manufacturing	Indemnity	2.427	1.121	0.515	0.757	1.007	0.985	0.939
	Medical	2.427	1.054	0.485	0.757	1.000	0.997	0.888
	Total		2.175					
Construction	Indemnity	5.565	2.717	0.542	0.757	1.007	0.985	2.265
	Medical	5.565	2.295	0.458	0.757	1.000	0.997	1.924
	Total		5.012					
Office and Clerical	Indemnity	0.163	0.075	0.469	0.757	1.007	0.985	0.057
	Medical	0.163	0.085	0.531	0.757	1.000	0.997	0.065
	Total		0.160					
Goods and Services	Indemnity	1.880	0.846	0.492	0.757	1.007	0.985	0.695
	Medical	1.880	0.872	0.508	0.757	1.000	0.997	0.720
	Total		1.718					
Miscellaneous	Indemnity	5.137	2.345	0.505	0.757	1.007	0.985	1.948
	Medical	5.137	2.298	0.495	0.757	1.000	0.997	1.919
	Total		4.643					

Notes:

- (3): Section IX - H, Exhibit 1 of 09/01/10 stipulation.
- (4): Section IX - C, Page 2 of Exhibits 1-5 of 09/01/10 stipulation.
- (6): Section VI - A, Exhibit 1 of 09/01/10 stipulation.
- (7): Section IV - A, Exhibit 1.
- (8): Net Indemnity and Medical Trends from Section V - A, Exhibit 1.

IX 000051

**IX 000052**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 1

Calculation of Pure Premiums Underlying Present Rate  
 Manufacturing Industry Group, Industry Code 1

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
1430	4.074	1.814	3.825	1.611	5.436
1438	1.234	1.342	1.158	1.192	2.351
1463	4.719	3.771	4.431	3.349	7.780
1701	2.676	1.646	2.513	1.461	3.974
1747	1.680	1.791	1.578	1.590	3.168
1748	1.465	1.347	1.375	1.196	2.571
1852	4.451	1.920	4.180	1.705	5.885
1853	0.958	0.545	0.899	0.484	1.383
1860	1.264	1.177	1.187	1.045	2.232
1924	1.178	1.061	1.106	0.942	2.048
1925	1.887	1.844	1.772	1.637	3.410
2001	1.376	1.393	1.292	1.237	2.528
2002	2.185	2.799	2.051	2.485	4.537
2003	1.376	1.393	1.292	1.237	2.528
2014	1.676	1.579	1.574	1.402	2.976
2021	1.935	1.453	1.817	1.291	3.108
2039	1.351	1.036	1.269	0.920	2.188
2041	1.134	1.041	1.065	0.924	1.989
2070	1.825	1.786	1.713	1.586	3.300
2081	1.548	1.805	1.454	1.603	3.057
2089	1.116	1.028	1.048	0.913	1.961
2095	1.936	1.685	1.818	1.496	3.314
2101	1.116	1.028	1.048	0.913	1.961
2111	1.178	1.101	1.106	0.977	2.083
2114	1.116	1.028	1.048	0.913	1.961
2115	1.491	1.289	1.400	1.144	2.545
2121	0.914	0.849	0.858	0.754	1.612
2130	1.295	0.992	1.216	0.881	2.097
2131	1.001	1.019	0.940	0.904	1.844
2143	1.482	1.142	1.391	1.014	2.405
2150	2.625	2.444	2.465	2.171	4.635
2156	4.359	4.418	4.093	3.923	8.016
2157	2.727	2.140	2.561	1.900	4.461
2172	1.045	0.729	0.981	0.647	1.628
2174	1.846	1.183	1.733	1.050	2.784
2211	2.434	2.671	2.285	2.372	4.657
2220	1.464	1.585	1.375	1.407	2.783
2260	3.112	1.845	2.922	1.639	4.560
2286	1.464	1.585	1.375	1.407	2.783
2288	0.882	0.944	0.829	0.838	1.667
2302	1.464	1.585	1.375	1.407	2.783
2305	0.953	0.687	0.895	0.610	1.505
2362	0.991	1.035	0.930	0.919	1.849
2380	1.081	1.401	1.015	1.244	2.259
2402	1.467	1.138	1.378	1.011	2.388
2413	1.689	1.335	1.586	1.186	2.772
2416	1.355	1.421	1.273	1.262	2.534
2417	1.360	1.238	1.277	1.100	2.377

**IX 000053**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 1

Calculation of Pure Premiums Underlying Present Rate  
 Manufacturing Industry Group, Industry Code 1

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
2501	1.063	0.964	0.998	0.856	1.854
2503	0.432	0.522	0.405	0.464	0.869
2534	1.063	0.964	0.998	0.856	1.854
2570	1.948	2.160	1.829	1.918	3.747
2576	1.465	1.289	1.375	1.144	2.520
2578	1.465	1.289	1.375	1.144	2.520
2585	1.224	1.171	1.149	1.040	2.189
2586	0.732	0.646	0.687	0.574	1.261
2623	1.802	1.475	1.692	1.310	3.001
2640	1.118	0.971	1.050	0.862	1.912
2651	1.118	0.971	1.050	0.862	1.912
2660	0.760	1.020	0.714	0.906	1.620
2683	0.938	0.892	0.881	0.792	1.673
2688	1.199	1.056	1.126	0.937	2.063
2710	2.801	2.679	2.631	2.379	5.009
2731	2.012	1.987	1.890	1.765	3.655
2741	3.021	2.115	2.836	1.878	4.714
2747	3.443	3.157	3.233	2.803	6.036
2790	0.881	1.048	0.828	0.931	1.758
2802	1.924	1.925	1.806	1.709	3.516
2835	0.886	1.023	0.832	0.909	1.741
2836	1.653	1.070	1.552	0.951	2.502
2841	1.576	1.811	1.480	1.608	3.088
2883	1.518	1.610	1.426	1.430	2.856
2923	0.915	0.776	0.859	0.689	1.548
2942	0.937	1.311	0.880	1.164	2.044
3018	1.189	1.231	1.116	1.093	2.209
3022	1.632	1.719	1.532	1.526	3.059
3027	1.885	2.189	1.770	1.944	3.714
3028	1.607	2.105	1.509	1.870	3.379
3030	3.282	3.821	3.082	3.393	6.475
3040	3.586	2.849	3.368	2.530	5.898
3041	2.282	1.606	2.143	1.426	3.569
3042	5.018	2.552	4.712	2.266	6.978
3064	1.309	1.248	1.229	1.108	2.337
3066	1.309	1.248	1.229	1.108	2.337
3076	1.181	1.090	1.109	0.968	2.077
3081	3.321	3.720	3.119	3.304	6.422
3082	3.321	3.720	3.119	3.304	6.422
3085	2.039	2.165	1.915	1.922	3.837
3110	3.327	3.846	3.124	3.415	6.539
3111	1.192	1.313	1.119	1.166	2.285
3113	0.931	0.941	0.875	0.836	1.710
3114	1.543	1.546	1.449	1.373	2.822
3118	0.931	0.941	0.875	0.836	1.710
3119	0.459	0.491	0.431	0.436	0.867
3120	0.994	0.658	0.934	0.584	1.518
3122	1.140	1.103	1.071	0.979	2.050

**IX 000054**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 1

Calculation of Pure Premiums Underlying Present Rate  
 Manufacturing Industry Group, Industry Code 1

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
3127	0.367	0.423	0.345	0.376	0.721
3131	1.005	0.814	0.943	0.723	1.666
3132	1.047	1.197	0.983	1.063	2.046
3145	0.838	0.917	0.787	0.814	1.601
3146	1.002	0.791	0.941	0.702	1.643
3169	1.658	2.051	1.557	1.821	3.378
3179	0.798	0.641	0.750	0.569	1.319
3180	1.254	1.213	1.178	1.077	2.255
3188	1.754	1.617	1.647	1.436	3.083
3200	1.240	1.487	1.164	1.320	2.485
3220	0.852	0.811	0.800	0.720	1.520
3227	1.658	2.051	1.557	1.821	3.378
3241	1.178	1.061	1.106	0.942	2.048
3255	1.418	1.548	1.331	1.375	2.706
3257	1.305	1.522	1.226	1.351	2.577
3270	0.920	0.736	0.864	0.654	1.518
3300	3.310	2.745	3.108	2.437	5.545
3315	1.332	1.162	1.251	1.032	2.283
3336	1.285	1.481	1.206	1.315	2.521
3372	1.023	1.068	0.960	0.948	1.909
3373	1.751	1.373	1.645	1.220	2.864
3381	1.413	1.477	1.327	1.312	2.639
3383	0.611	0.584	0.573	0.518	1.092
3385	0.395	0.406	0.371	0.361	0.732
3400	1.658	2.051	1.557	1.821	3.378
3507	1.644	1.714	1.544	1.522	3.066
3515	1.189	1.299	1.117	1.154	2.270
3548	0.791	0.874	0.743	0.776	1.519
3558	0.348	0.482	0.326	0.428	0.755
3559	0.791	0.874	0.743	0.776	1.519
3571	0.541	0.522	0.508	0.464	0.972
3574	0.791	0.874	0.743	0.776	1.519
3612	0.855	0.824	0.803	0.732	1.535
3620	2.050	2.173	1.925	1.930	3.855
3629	0.791	0.874	0.743	0.776	1.519
3632	0.791	0.874	0.743	0.776	1.519
3634	0.899	0.726	0.844	0.645	1.489
3635	1.588	2.035	1.491	1.807	3.298
3638	0.791	0.874	0.743	0.776	1.519
3642	0.540	0.375	0.507	0.333	0.840
3643	0.798	0.641	0.750	0.569	1.319
3647	1.215	1.195	1.141	1.061	2.202
3648	0.671	0.836	0.630	0.742	1.372
3681	0.344	0.355	0.323	0.315	0.638
3685	0.344	0.355	0.323	0.315	0.638
3807	1.658	2.051	1.557	1.821	3.378
3808	1.631	1.816	1.532	1.612	3.144
3826	2.020	2.174	1.897	1.931	3.827

**IX 000055**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 1

Calculation of Pure Premiums Underlying Present Rate  
 Manufacturing Industry Group, Industry Code 1

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
3830	0.791	0.874	0.743	0.776	1.519
3841	0.782	0.784	0.734	0.696	1.430
4021	2.051	2.251	1.926	1.999	3.925
4024	1.624	1.073	1.525	0.953	2.477
4034	2.378	2.479	2.233	2.201	4.434
4036	1.534	1.078	1.441	0.957	2.398
4038	1.156	0.891	1.085	0.792	1.877
4053	0.989	0.825	0.929	0.733	1.661
4061	1.234	2.192	1.159	1.946	3.105
4062	1.234	2.192	1.159	1.946	3.105
4112	0.308	0.244	0.289	0.216	0.506
4113	0.989	0.825	0.929	0.733	1.661
4114	1.252	1.037	1.176	0.921	2.097
4130	2.232	2.474	2.096	2.197	4.293
4133	0.803	0.926	0.754	0.822	1.576
4150	0.490	0.382	0.461	0.339	0.799
4239	1.583	1.360	1.487	1.208	2.694
4243	1.404	1.190	1.319	1.056	2.375
4244	1.520	1.801	1.427	1.600	3.027
4250	0.869	0.664	0.816	0.589	1.405
4251	0.869	0.758	0.816	0.673	1.490
4273	1.187	1.501	1.115	1.333	2.448
4279	1.432	1.737	1.345	1.543	2.887
4282	0.292	0.314	0.274	0.279	0.553
4283	1.363	1.197	1.280	1.063	2.343
4299	0.969	0.896	0.910	0.795	1.705
4301	2.806	2.421	2.634	2.150	4.784
4304	1.691	1.708	1.588	1.517	3.105
4307	0.606	0.607	0.569	0.539	1.107
4308	1.654	0.393	1.553	0.349	1.902
4350	0.305	0.243	0.286	0.216	0.502
4351	0.535	0.389	0.503	0.346	0.848
4352	0.414	0.561	0.389	0.498	0.886
4360	0.559	0.447	0.525	0.397	0.922
4410	1.951	1.999	1.832	1.775	3.607
4417	2.338	2.250	2.196	1.998	4.194
4432	0.523	0.580	0.491	0.515	1.006
4439	1.091	1.142	1.025	1.014	2.039
4452	1.247	1.329	1.171	1.180	2.351
4459	1.216	1.445	1.141	1.283	2.425
4470	1.247	1.251	1.171	1.111	2.282
4484	1.002	1.134	0.940	1.007	1.948
4493	1.281	1.609	1.203	1.429	2.632
4557	0.670	0.618	0.629	0.549	1.178
4558	0.808	0.723	0.759	0.642	1.401
4561	1.091	1.142	1.025	1.014	2.039
4583	1.649	1.192	1.549	1.058	2.607
4611	0.751	0.674	0.706	0.598	1.304

**IX 000056**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 1

Calculation of Pure Premiums Underlying Present Rate  
 Manufacturing Industry Group, Industry Code 1

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
4635	1.498	1.570	1.407	1.394	2.800
4653	0.674	0.532	0.633	0.473	1.106
4665	3.558	4.002	3.341	3.553	6.894
4692	0.275	0.244	0.259	0.216	0.475
4693	0.468	0.511	0.440	0.453	0.893
4720	0.784	0.873	0.736	0.775	1.511
4740	0.485	0.387	0.455	0.344	0.799
4741	1.839	1.247	1.727	1.107	2.834
4770	8.218	1.259	7.717	1.118	8.834
4773	16.714	2.363	15.695	2.098	17.793
4774	13.713	2.195	12.876	1.949	14.826
4775	41.651	40.258	39.111	35.750	74.860
4776	12.339	1.207	11.586	1.072	12.658
4777	1.649	1.192	1.549	1.058	2.607
4779	9.934	2.420	9.328	2.149	11.477
4799	30.264	4.641	28.418	4.121	32.539
4825	0.308	0.279	0.289	0.248	0.537
4828	0.562	0.467	0.528	0.414	0.942
4829	0.562	0.467	0.528	0.414	0.942
4902	0.937	1.311	0.880	1.164	2.044
4923	0.559	0.447	0.525	0.397	0.922
6504	1.116	1.028	1.048	0.913	1.961
9501	1.158	1.462	1.087	1.298	2.386
9505	1.158	1.462	1.087	1.298	2.386
9521	2.052	1.702	1.927	1.512	3.439
9522	0.939	0.814	0.881	0.723	1.604

## Notes:

(2), (3): Section IX - I of 09/01/2010 stipulation.

(4) = (2) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1

(5) = (3) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1  
 (Indemnity = 0.939, Medical = 0.888).

**IX 000057**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 2

Calculation of Pure Premiums Underlying Present Rate  
 Construction Industry Group, Industry Code 2

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
0050	1.111	1.017	2.516	1.956	4.472
3365	1.695	1.747	3.839	3.362	7.200
3724	0.881	0.903	1.996	1.738	3.734
3726	3.248	2.289	7.357	4.405	11.762
5020	1.074	1.154	2.433	2.220	4.653
5022	2.033	1.690	4.604	3.251	7.855
5037	5.244	2.917	11.878	5.613	17.491
5040	11.309	8.482	25.615	16.319	41.934
5057	6.403	5.225	14.504	10.054	24.557
5059	6.403	5.225	14.504	10.054	24.557
5069	6.403	5.225	14.504	10.054	24.557
5102	1.355	1.070	3.070	2.059	5.129
5146	0.993	0.897	2.248	1.725	3.973
5160	0.767	0.736	1.738	1.416	3.154
5183	0.605	0.642	1.369	1.235	2.604
5188	0.790	0.669	1.788	1.288	3.076
5190	0.483	0.531	1.094	1.021	2.115
5213	3.744	2.884	8.481	5.549	14.030
5215	0.909	0.995	2.058	1.914	3.972
5221	1.145	1.066	2.593	2.051	4.644
5222	1.604	1.477	3.634	2.842	6.476
5223	0.909	0.995	2.058	1.914	3.972
5348	1.046	1.017	2.368	1.957	4.326
5402	1.517	2.069	3.437	3.980	7.417
5403	1.679	1.694	3.804	3.260	7.064
5437	1.021	0.822	2.313	1.582	3.895
5443	0.871	0.886	1.974	1.704	3.678
5445	1.457	1.086	3.300	2.090	5.391
5462	1.688	1.719	3.823	3.307	7.130
5472	2.155	2.187	4.881	4.207	9.088
5473	2.421	2.025	5.484	3.895	9.380
5474	0.884	0.928	2.003	1.786	3.789
5478	0.976	0.661	2.210	1.271	3.481
5479	1.354	1.416	3.067	2.724	5.791
5480	0.927	0.719	2.100	1.384	3.484
5506	1.260	1.245	2.855	2.395	5.250
5507	1.300	1.198	2.944	2.306	5.249
5508	1.111	1.017	2.516	1.956	4.472
5509	0.578	0.615	1.308	1.183	2.491
5538	0.992	1.044	2.247	2.010	4.256
5545	4.570	6.615	10.351	12.728	23.079
5547	2.613	3.549	5.918	6.829	12.746
5606	0.275	0.304	0.622	0.585	1.207
5610	1.072	0.837	2.428	1.610	4.038
5645	1.403	1.708	3.178	3.286	6.465
5651	1.403	1.708	3.178	3.286	6.465
5701	3.058	4.485	6.927	8.630	15.556
5703	5.904	3.379	13.373	6.502	19.875

**IX 000058**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 2

Calculation of Pure Premiums Underlying Present Rate  
 Construction Industry Group, Industry Code 2

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
5705	2.119	1.821	4.799	3.503	8.302
6003	2.707	1.810	6.131	3.482	9.613
6005	1.111	1.017	2.516	1.956	4.472
6204	1.733	1.699	3.926	3.270	7.196
6217	0.761	0.786	1.723	1.513	3.236
6229	0.761	0.786	1.723	1.513	3.236
6233	0.750	0.572	1.700	1.101	2.801
6251	1.318	0.764	2.984	1.469	4.453
6252	1.522	1.236	3.447	2.377	5.824
6306	1.493	1.421	3.382	2.734	6.116
6319	0.910	0.810	2.060	1.559	3.619
6325	0.825	0.933	1.870	1.795	3.664
6400	1.127	1.402	2.553	2.698	5.251
7538	1.124	1.065	2.546	2.050	4.596
7601	1.124	1.065	2.546	2.050	4.596
7855	1.241	0.740	2.810	1.425	4.235
8227	0.696	0.918	1.576	1.767	3.342
9533	3.642	2.093	8.249	4.026	12.276
9534	1.141	0.701	2.584	1.349	3.933
9545	0.765	0.686	1.732	1.320	3.052
9549	0.814	1.124	1.843	2.163	4.006
9552	1.595	1.532	3.613	2.948	6.561
9553	1.595	1.532	3.613	2.948	6.561

## Notes:

(2), (3): Section IX - I of 09/01/2010 stipulation.

(4) = (2) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1

(5) = (3) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1  
 (Indemnity = 2.265, Medical = 1.924).

# IX 000059

Section IX - Classification Pricing  
Subsection F - Underlying Pure Premiums  
9/1/2011

Section IX - F  
Exhibit 3

## Calculation of Pure Premiums Underlying Present Rate Office and Clerical Industry Group, Industry Code 3

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
4361	3.233	3.013	0.184	0.196	0.380
7610	1.250	1.102	0.071	0.072	0.143
8601	1.655	1.719	0.094	0.112	0.206
8721	1.093	1.064	0.062	0.069	0.131
8742	0.976	0.944	0.056	0.061	0.117
8748	2.938	2.853	0.167	0.185	0.353
8800	5.380	5.200	0.307	0.338	0.645
8803	0.282	0.217	0.016	0.014	0.030
8810	0.549	0.556	0.031	0.036	0.067
8820	0.592	0.524	0.034	0.034	0.068
8832	1.474	1.351	0.084	0.088	0.172
8833	7.695	6.281	0.439	0.408	0.847
8868	3.700	4.453	0.211	0.289	0.500
8901	0.549	0.556	0.031	0.036	0.067
9156	5.753	8.274	0.328	0.538	0.866

Notes:

(2), (3): Section IX - I of 09/01/2010 stipulation.

(4) = (2) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1

(5) = (3) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1  
(Indemnity = 0.057, Medical = 0.065).

**IX 000060**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 4

Calculation of Pure Premiums Underlying Present Rate  
 Goods and Services Industry Group, Industry Code 9

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
0005	1.445	1.699	1.004	1.223	2.228
0008	1.309	1.308	0.910	0.942	1.852
0016	1.686	2.216	1.172	1.596	2.767
0034	1.470	2.582	1.022	1.859	2.881
0035	1.150	1.163	0.799	0.837	1.636
0036	1.470	2.582	1.022	1.859	2.881
0037	1.309	1.308	0.910	0.942	1.852
0042	2.229	2.268	1.549	1.633	3.182
0079	1.079	0.804	0.750	0.579	1.329
0083	2.625	3.160	1.824	2.275	4.100
0113	1.470	2.582	1.022	1.859	2.881
0170	1.470	2.582	1.022	1.859	2.881
0908	54.978	50.139	38.209	36.100	74.310
0909	52.456	97.031	36.457	69.863	106.320
0912	104.913	194.063	72.914	139.725	212.640
0913	109.955	100.279	76.419	72.201	148.619
0917	1.394	1.440	0.969	1.037	2.006
0918	0.407	0.199	0.283	0.143	0.426
2587	1.425	1.337	0.990	0.963	1.953
3821	2.461	2.044	1.711	1.472	3.183
4362	0.369	0.356	0.256	0.256	0.513
4511	0.190	0.201	0.132	0.145	0.277
4512	0.081	0.081	0.056	0.058	0.115
5191	0.562	0.528	0.390	0.380	0.770
5192	2.322	1.849	1.613	1.331	2.944
8001	0.855	0.966	0.594	0.695	1.289
8002	1.131	1.396	0.786	1.005	1.791
8006	0.716	0.980	0.497	0.706	1.203
8008	0.346	0.359	0.240	0.258	0.499
8010	0.788	0.916	0.548	0.659	1.207
8013	0.256	0.247	0.178	0.178	0.356
8017	0.577	0.701	0.401	0.505	0.906
8018	1.767	1.735	1.228	1.249	2.477
8021	1.489	1.481	1.035	1.066	2.101
8031	1.495	1.439	1.039	1.036	2.075
8032	0.816	0.868	0.567	0.625	1.192
8033	1.018	1.095	0.707	0.789	1.496
8034	2.238	2.087	1.555	1.503	3.058
8039	0.795	1.005	0.552	0.723	1.276
8044	1.707	1.862	1.187	1.341	2.527
8046	1.164	1.472	0.809	1.060	1.869
8048	1.957	1.689	1.360	1.216	2.576
8050	0.873	0.998	0.607	0.719	1.325
8058	1.331	1.634	0.925	1.177	2.101
8103	1.737	1.597	1.207	1.150	2.357
8105	2.586	2.495	1.798	1.797	3.594

**IX 000061**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 4

Calculation of Pure Premiums Underlying Present Rate  
 Goods and Services Industry Group, Industry Code 9

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
8106	3.462	4.754	2.406	3.423	5.829
8107	1.995	2.430	1.387	1.750	3.136
8111	1.898	1.820	1.319	1.311	2.630
8116	1.995	2.430	1.387	1.750	3.136
8203	3.449	2.972	2.397	2.140	4.537
8204	3.293	1.955	2.289	1.408	3.697
8215	1.878	1.539	1.305	1.108	2.414
8232	2.440	2.499	1.696	1.799	3.495
8233	4.222	5.543	2.934	3.991	6.926
8235	2.168	2.069	1.506	1.490	2.996
8263	4.541	3.893	3.156	2.803	5.960
8264	2.675	2.532	1.859	1.823	3.682
8265	4.222	5.543	2.934	3.991	6.926
8279	2.260	2.039	1.571	1.468	3.039
8291	2.274	2.347	1.580	1.690	3.270
8292	2.078	2.215	1.444	1.595	3.039
8293	4.727	4.504	3.286	3.243	6.528
8350	3.415	3.005	2.374	2.163	4.537
8380	1.436	1.296	0.998	0.933	1.931
8381	0.979	0.897	0.680	0.646	1.326
8385	1.983	1.711	1.378	1.232	2.611
8392	0.765	0.613	0.532	0.441	0.973
8393	1.216	0.887	0.845	0.639	1.484
8500	4.222	5.543	2.934	3.991	6.926
8710	1.221	1.208	0.848	0.870	1.718
8719	1.221	1.208	0.848	0.870	1.718
8720	0.655	0.477	0.455	0.343	0.798
8745	1.822	1.836	1.267	1.322	2.588
8829	1.197	1.097	0.832	0.790	1.622
8831	0.415	0.867	0.288	0.625	0.913
8835	1.204	1.066	0.837	0.768	1.605
9014	1.398	1.223	0.972	0.880	1.852
9015	1.584	1.455	1.101	1.047	2.148
9016	0.857	0.900	0.596	0.648	1.244
9033	3.018	2.193	2.098	1.579	3.677
9040	1.677	1.603	1.166	1.154	2.320
9052	0.793	0.866	0.551	0.624	1.175
9058	0.793	0.866	0.551	0.624	1.175
9060	0.558	0.697	0.388	0.502	0.889
9061	0.510	0.562	0.355	0.405	0.760
9063	0.301	0.445	0.209	0.320	0.529
9079	0.549	0.642	0.381	0.463	0.844
9089	0.651	0.719	0.452	0.518	0.970
9093	0.461	0.643	0.321	0.463	0.784
9101	1.741	1.793	1.210	1.291	2.501
9220	2.048	1.842	1.423	1.326	2.750

**IX 000062**

Section IX - Classification Pricing  
Subsection F - Underlying Pure Premiums  
9/1/2011

Section IX - F  
Exhibit 4

Calculation of Pure Premiums Underlying Present Rate  
Goods and Services Industry Group, Industry Code 9

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
9410	0.960	1.205	0.667	0.868	1.535
9519	1.442	1.372	1.002	0.988	1.990
9586	0.269	0.238	0.187	0.171	0.359
9620	0.470	0.388	0.327	0.280	0.607

Notes:

(2), (3): Section IX - I of 09/01/2010 stipulation.

(4) = (2) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1

(5) = (3) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1  
(Indemnity = 0.695, Medical = 0.72).

**IX 000063**

Section IX - Classification Pricing  
 Subsection F - Underlying Pure Premiums  
 9/1/2011

Section IX - F  
 Exhibit 5

Calculation of Pure Premiums Underlying Present Rate  
 Miscellaneous Industry Group, Industry Code 0

Class (1)	Adopted Relativities		Pure Premiums Underlying Present Rate		
	Indemnity (2)	Medical (3)	Indemnity (4)	Medical (5)	Total (6) = (4) + (5)
0106	2.503	3.455	4.876	6.630	11.506
0251	0.677	0.601	1.319	1.154	2.473
1624	1.146	1.019	2.232	1.956	4.188
1655	1.032	1.459	2.010	2.800	4.810
1710	1.146	1.019	2.232	1.956	4.188
2702	3.146	2.939	6.128	5.639	11.767
4000	1.060	0.896	2.065	1.719	3.785
6834	0.592	0.615	1.153	1.181	2.334
6836	0.478	0.511	0.931	0.981	1.912
7219	1.776	1.587	3.459	3.045	6.504
7230	1.304	1.148	2.540	2.204	4.744
7231	1.345	1.364	2.620	2.618	5.238
7360	1.109	1.129	2.160	2.166	4.325
7370	0.791	1.083	1.541	2.078	3.619
7380	1.201	1.121	2.339	2.150	4.489
7382	0.806	0.857	1.571	1.644	3.215
7403	0.787	1.138	1.532	2.184	3.716
7405	0.327	0.311	0.636	0.597	1.233
7420	1.629	0.746	3.173	1.431	4.604
7421	0.545	0.272	1.061	0.522	1.583
7422	0.545	0.272	1.061	0.522	1.583
7425	1.025	0.568	1.996	1.090	3.086
7431	0.545	0.272	1.061	0.522	1.583
7502	0.696	0.862	1.356	1.654	3.010
7515	0.463	0.462	0.902	0.886	1.788
7520	0.677	0.601	1.319	1.154	2.473
7539	0.266	0.214	0.517	0.410	0.927
7580	0.473	0.532	0.922	1.020	1.942
7590	1.453	1.116	2.830	2.141	4.971
7600	0.686	0.625	1.335	1.199	2.534
7704	0.285	0.324	0.555	0.622	1.178
7720	0.344	0.358	0.670	0.686	1.356
9019	0.427	0.240	0.832	0.461	1.292
9102	0.440	0.472	0.858	0.905	1.763
9154	0.233	0.256	0.454	0.491	0.945
9178	0.889	3.426	1.732	6.575	8.307
9179	5.082	4.640	9.900	8.903	18.803
9180	0.536	1.088	1.044	2.088	3.132
9182	0.535	0.842	1.042	1.615	2.657
9186	0.536	1.088	1.044	2.088	3.132
9402	0.988	1.011	1.924	1.941	3.865
9403	1.626	1.647	3.167	3.160	6.326

**Notes:**

(2), (3): Section IX - I of 09/01/2010 stipulation.

(4) = (2) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1

(5) = (3) x Pure Premium Underlying Present Rate Factors from Section IX - E, Exhibit 1  
 (Indemnity = 1.948, Medical = 1.919).

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G

## A-Sheet Table of Contents

Class	To find the A-Sheet for: Description	Class	Look at the A-Sheet for: Exhibit
0005	FARM: NURSERY EMP & DRIVERS	0005	Section IX - G, Exhibit 1
0008	FARM: GARDENING-MARKET OR TRUCK & DRIVERS	0008	Section IX - G, Exhibit 1
0016	FARM: ORCHARDS & DRIVERS	0016	Section IX - G, Exhibit 2
0034	FARM: POULTRY OR EGG PRODUCERS & DRIVERS	0034	Section IX - G, Exhibit 2
0035	FARM: FLORIST & DRIVERS	0035	Section IX - G, Exhibit 3
0036	FARM: DAIRY & DRIVERS	0034	Section IX - G, Exhibit 2
0037	FARM: FIELD CROPS & DRIVERS	0008	Section IX - G, Exhibit 1
0042	LANDSCAPE GARDENING & DRIVERS	0042	Section IX - G, Exhibit 3
0050	FARM MACHINERY OPERATION-BY CONTRACTOR & DRIVERS	0050	Section IX - G, Exhibit 4
0079	FARM: BERRY OR VINEYARD & DRIVERS	0079	Section IX - G, Exhibit 4
0083	FARM: CATTLE OR LIVESTOCK RAISING NOC & DRIVERS	0083	Section IX - G, Exhibit 5
0106	TREE PRUNING, SPRAYING, REPAIRING & DRIVERS	0106	Section IX - G, Exhibit 5
0113	FARM: FISH HATCHERY & DRIVERS	0034	Section IX - G, Exhibit 2
0170	FARM: ANIMAL RAISING & DRIVERS	0034	Section IX - G, Exhibit 2
0251	IRRIGATION WORKS OPERATION & DRIVERS	0251	Section IX - G, Exhibit 6
0908	DOMESTIC WORKERS-INSIDE-OCCASIONAL-NOC	0908	Section IX - G, Exhibit 6
0909	DOMESTIC WORKERS-OUTSIDE-OCCASIONAL-INCL OCCASNL PRIV CHAUFF	0909	Section IX - G, Exhibit 7
0912	DOMESTIC WORKERS-OUTSIDE-INCL PRIVATE CHAUFFERS	0909	Section IX - G, Exhibit 7
0913	DOMESTIC WORKERS-INSIDE-NOC	0908	Section IX - G, Exhibit 6
0917	DOMESTIC SERVICE CONTRACTOR-INSIDE	0917	Section IX - G, Exhibit 7
0918	DOMESTIC WORKERS-INSIDE-PHYSICAL ASSISTANCE	0918	Section IX - G, Exhibit 8
1430	SMELTING, SINTERING OR REFINING-LEAD & DRIVERS	1430	Section IX - G, Exhibit 8
1438	SMELTING, SINTERING OR REFINING-METALS-NOT IRON OR LEAD-NOC & D	1438	Section IX - G, Exhibit 9
1463	ASPHALT WORKS & DRIVERS	1463	Section IX - G, Exhibit 9
1624	QUARRY NOC & DRIVERS	1624	Section IX - G, Exhibit 10
1655	LIME MFG-QUARRY-SURFACE & DRIVERS	1655	Section IX - G, Exhibit 10
1701	CEMENT MFG	1701	Section IX - G, Exhibit 11
1710	STONE CRUSHING & DRIVERS	1624	Section IX - G, Exhibit 10
1747	EMERY WORKS & DRIVERS	1747	Section IX - G, Exhibit 11
1748	ABRASIVE WHEEL MFG & DRIVERS	1748	Section IX - G, Exhibit 12
1852	ASBESTOS GOODS MFG	1852	Section IX - G, Exhibit 12
1853	MICA GOODS MFG & MICA PREPARING	1853	Section IX - G, Exhibit 13
1860	ABRASIVE PAPER OR CLOTH PREPARATION	1860	Section IX - G, Exhibit 13
1924	WIRE DRAWING OR CABLE MFG-NOT IRON OR STEEL	1924	Section IX - G, Exhibit 14
1925	DIE CASTING MFG	1925	Section IX - G, Exhibit 14
2001	CRACKER MFG	2001	Section IX - G, Exhibit 15
2002	MACARONI MFG	2002	Section IX - G, Exhibit 15
2003	BAKERY & DRIVERS, ROUTE SUPERVISORS	2001	Section IX - G, Exhibit 15
2014	GRAIN MILLING	2014	Section IX - G, Exhibit 16
2021	SUGAR REFINING-ALL OPERATIONS & DRIVERS	2021	Section IX - G, Exhibit 16
2039	ICE CREAM MFG & DRIVERS	2039	Section IX - G, Exhibit 17
2041	CONFECTION MFG	2041	Section IX - G, Exhibit 17
2070	CREAMERY OR DAIRY & ROUTE SUPERVISORS, DRIVERS	2070	Section IX - G, Exhibit 18
2081	BUTCHERING	2081	Section IX - G, Exhibit 18
2089	PACKING HOUSE- ALL OPERATIONS	2089	Section IX - G, Exhibit 19
2095	MEAT PRODUCTS MFG-NOC	2095	Section IX - G, Exhibit 19
2101	FISH CURING	2089	Section IX - G, Exhibit 19
2111	CANNERY NOC	2111	Section IX - G, Exhibit 20
2114	OYSTERMEN	2089	Section IX - G, Exhibit 19
2115	SEAFOOD PRODUCTS MFG-NOC	2115	Section IX - G, Exhibit 20
2121	BREWERY & DRIVERS	2121	Section IX - G, Exhibit 21
2130	SPIRITUOUS LIQUOR DISTILLERY	2130	Section IX - G, Exhibit 21
2131	SPIRITUOUS LIQUOR BOTTLING	2131	Section IX - G, Exhibit 22
2143	FRUIT JUICE MFG	2143	Section IX - G, Exhibit 22
2150	ICE MFG	2150	Section IX - G, Exhibit 23
2156	BOTTLING-NOT CARBONATED LIQUIDS OR SPIRIT LIQRS & RTE SUP,DR	2156	Section IX - G, Exhibit 23
2157	BOTTLING NOC & ROUTE SUPERVISORS, DRIVERS	2157	Section IX - G, Exhibit 24
2172	CIGARETTE MFG	2172	Section IX - G, Exhibit 24
2174	TOBACCO REHANDLING OR WAREHOUSING	2174	Section IX - G, Exhibit 25
2211	COTTON BATTING,WADDING OR WASTE MFG	2211	Section IX - G, Exhibit 25
2220	YARN OR THREAD MFG-COTTON	2220	Section IX - G, Exhibit 26
2260	WOOL COMBING OR SCOURING	2260	Section IX - G, Exhibit 26
2286	WOOL SPINNING & WEAVING	2220	Section IX - G, Exhibit 26
2288	FELTING MFG	2288	Section IX - G, Exhibit 27
2302	SILK THREAD OR YARN MFG	2220	Section IX - G, Exhibit 26
2305	TEXTILE FIBER MFG-SYNTHETIC	2305	Section IX - G, Exhibit 27
2362	KNIT GOODS MFG NOC	2362	Section IX - G, Exhibit 28

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G

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		To find the A-Sheet for:		
Class		Description	Class	Exhibit
2380	WEBBING MFG		2380	Section IX - G, Exhibit 28
2402	CARPET OR RUG MFG NOC		2402	Section IX - G, Exhibit 29
2413	TEXTILE - BLEACHING, DYEING, MERCERZNG, FINISH		2413	Section IX - G, Exhibit 29
2416	YARN OR THREAD DYEING OR FINISHING		2416	Section IX - G, Exhibit 30
2417	CLOTH PRINTING		2417	Section IX - G, Exhibit 30
2501	CLOTHING MFG		2501	Section IX - G, Exhibit 31
2503	DRESSMAKING OR TAILORING-CUSTOM EXCLUSIVELY		2503	Section IX - G, Exhibit 31
2534	FEATHER OR FLOWER MFG-ARTIFICIAL		2501	Section IX - G, Exhibit 31
2570	MATTRESS OR BOX SPRING MFG		2570	Section IX - G, Exhibit 32
2576	CANVAS GOODS MFG NOC-SHOP		2576	Section IX - G, Exhibit 32
2578	BAG OR SACK MFG-CLOTH		2576	Section IX - G, Exhibit 32
2585	LAUNDRY NOC & ROUTE SUPERVISORS, DRIVERS		2585	Section IX - G, Exhibit 33
2586	CLEANING OR DYEING & ROUTE SUPERVISORS, DRIVERS		2586	Section IX - G, Exhibit 33
2587	TOWEL OR TOILET SUPPLY CO & RTE SUPERVISORS, DR		2587	Section IX - G, Exhibit 34
2623	TANNING		2623	Section IX - G, Exhibit 34
2640	LEATHER EMBOSsing		2640	Section IX - G, Exhibit 35
2651	SHOE STOCK MFG		2640	Section IX - G, Exhibit 35
2660	BOOT OR SHOE MFG NOC		2660	Section IX - G, Exhibit 35
2683	LUGGAGE MFG		2683	Section IX - G, Exhibit 36
2688	LEATHER GOODS MFG NOC		2688	Section IX - G, Exhibit 36
2702	LOGGING OR LUMBERING & DRIVERS		2702	Section IX - G, Exhibit 37
2710	SAWMILLS		2710	Section IX - G, Exhibit 37
2731	PLANING OR MOLDING MILL		2731	Section IX - G, Exhibit 38
2741	COOPERAGE STOCK MFG		2741	Section IX - G, Exhibit 38
2747	COOPERAGE ASSEMBLY		2747	Section IX - G, Exhibit 39
2790	PATTERN MAKING NOC		2790	Section IX - G, Exhibit 39
2802	CARPENTRY-SHOP ONLY & DRIVERS		2802	Section IX - G, Exhibit 40
2835	BRUSH OR BROOM ASSEMBLY		2835	Section IX - G, Exhibit 40
2836	BRUSH OR BROOM MFG NOC		2836	Section IX - G, Exhibit 41
2841	WOODENWARE MFG NOC		2841	Section IX - G, Exhibit 41
2883	FURNITURE MFG-WOOD-NOC		2883	Section IX - G, Exhibit 42
2923	PIANO MFG		2923	Section IX - G, Exhibit 42
2942	PENCIL, PENHOLDER OR CRAYON MFG		2942	Section IX - G, Exhibit 43
3018	IRON OR STEEL: MFG: ROLLING MILL & DRIVERS		3018	Section IX - G, Exhibit 43
3022	PIPE OR TUBE MFG NOC & DRIVERS		3022	Section IX - G, Exhibit 44
3027	ROLLING MILL NOC & DRIVERS		3027	Section IX - G, Exhibit 44
3028	PIPE OR TUBE MFG - IRON OR STEEL & DRIVERS		3028	Section IX - G, Exhibit 45
3030	IRON OR STEEL: FABRICATION: IRON/STEEL WORK-SHOP-STRUCT & DR		3030	Section IX - G, Exhibit 45
3040	IRON OR STEEL: FABRICATION: IRON WORKS-SHOP-ORNAMENTAL & DR		3040	Section IX - G, Exhibit 46
3041	IRON OR STEEL: FABRICATION: IRON WORKS-SHP-DEC/ART &FNDRS,DR		3041	Section IX - G, Exhibit 46
3042	ELEVATOR OR ESCALATOR MFG		3042	Section IX - G, Exhibit 47
3064	SIGN MFG-METAL		3064	Section IX - G, Exhibit 47
3066	SHEET METAL WORK - SHOP		3064	Section IX - G, Exhibit 47
3076	FIREPROOF EQUIPMENT MFG		3076	Section IX - G, Exhibit 48
3081	FOUNDRY-FERROUS-NOC		3081	Section IX - G, Exhibit 48
3082	FOUNDRY-STEEL CASTINGS		3081	Section IX - G, Exhibit 48
3085	FOUNDRY-NON FERROUS		3085	Section IX - G, Exhibit 49
3110	FORGING WORK - DROP OR MACHINE		3110	Section IX - G, Exhibit 49
3111	BLACKSMITH		3111	Section IX - G, Exhibit 50
3113	TOOL MFG-NOT DROP OR MACHINE FORGED-NOC		3113	Section IX - G, Exhibit 50
3114	TOOL MFG-DROP OR MACHINE FORGED-NOC: MACHINING OR FINISHING		3114	Section IX - G, Exhibit 51
3118	SAW MFG		3113	Section IX - G, Exhibit 50
3119	NEEDLE MFG		3119	Section IX - G, Exhibit 51
3120	RAZOR MFG-SAFETY		3120	Section IX - G, Exhibit 52
3122	CUTLERY MFG-NOC		3122	Section IX - G, Exhibit 52
3127	PRECISION MEASURING TOOL MFG-NOC		3127	Section IX - G, Exhibit 53
3131	BUTTON OR FASTENER MFG-METAL		3131	Section IX - G, Exhibit 53
3132	NUT OR BOLT MFG		3132	Section IX - G, Exhibit 54
3145	SCREW MFG		3145	Section IX - G, Exhibit 54
3146	HARDWARE MFG-NOC		3146	Section IX - G, Exhibit 55
3169	STOVE MFG		3169	Section IX - G, Exhibit 55
3179	ELECTRICAL APPARATUS MFG-NOC		3179	Section IX - G, Exhibit 56
3180	ELECTRIC OR GAS LIGHTING FIXTURES MFG		3180	Section IX - G, Exhibit 56
3188	PLUMBERS SUPPLIES MFG-NOC		3188	Section IX - G, Exhibit 57
3200	ARMS MFG-SMALL		3200	Section IX - G, Exhibit 57
3220	CAN MFG		3220	Section IX - G, Exhibit 58
3227	ALUMINUM WARE MFG		3169	Section IX - G, Exhibit 55

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
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Section IX - G

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Class	To find the A-Sheet for: Description	Class	Look at the A-Sheet for: Exhibit
3241	WIRE DRAWING - IRON OR STEEL	1924	Section IX - G, Exhibit 14
3255	WIRE CLOTH MFG	3255	Section IX - G, Exhibit 58
3257	WIRE GOODS MFG - NOC	3257	Section IX - G, Exhibit 59
3270	EYELET MFG	3270	Section IX - G, Exhibit 59
3300	BED SPRING OR WIRE MATTRESS MFG	3300	Section IX - G, Exhibit 60
3315	BRASS OR COPPER GOODS MFG	3315	Section IX - G, Exhibit 60
3336	TYPE FOUNDRY	3336	Section IX - G, Exhibit 61
3365	WELDING OR CUTTING - NOC & DRIVERS	3365	Section IX - G, Exhibit 61
3372	ELECTROPLATING	3372	Section IX - G, Exhibit 62
3373	GALVANIZING OR TINNING - NOT ELECTROLYTIC	3373	Section IX - G, Exhibit 62
3381	SILVERWARE MFG	3381	Section IX - G, Exhibit 63
3383	JEWELRY MFG	3383	Section IX - G, Exhibit 63
3385	WATCH MFG	3385	Section IX - G, Exhibit 64
3400	METAL GOODS MFG-NOC	3169	Section IX - G, Exhibit 55
3507	CONSTRUCTION OR AGRICULTURAL MACHINERY MFG	3507	Section IX - G, Exhibit 64
3515	TEXTILE MACHINERY MFG	3515	Section IX - G, Exhibit 65
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Section IX - Classification Pricing  
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Section IX - G

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 1

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
0005 FARM: NURSERY EMP & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	145,759	3	94	37,041	123,210	47,993	122,139	330,384	1,099	1,167	2,267
2005	140,390	1	82	502	129,354	4,438	139,880	274,173	0,925	1,028	1,953
2006	137,462	1	50	2,114	68,140	5,547	126,203	202,005	0,511	0,958	1,470
2007	137,782	1	54	55,151	215,137	96,211	220,303	586,803	1,962	2,297	4,259
2008	137,119	1	29	63,623	13,581	26,458	33,435	137,097	0,563	0,437	1,000
<b>MA Total:</b>	<b>698,512</b>	<b>7</b>	<b>309</b>	<b>158,432</b>	<b>549,422</b>	<b>180,648</b>	<b>641,960</b>	<b>1,530,462</b>	<b>1,013</b>	<b>1,178</b>	<b>2,191</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.009	1.610	.
(14) Massachusetts Credibility:	0.280	0.490	.
(15) Countrywide Pure Premium:	1.208	1.031	2.239
(16) Countrywide Indicated Relativity:	1.152	1.385	.
(17) Countrywide Credibility:	0.360	0.260	.
(18) Countrywide Lost-Time Claims:	2092.0	.	.
(19) Pure Premium Underlying Present Rate:	1.004	1.223	2.228
(20) Relativity to Underlying Present Rate:	1.468	1.722	.
(21) Credibility to Underlying Relativity:	0.360	0.250	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.226	1.579	.
(24) Balanced Formula Relativity:	1.221	1.574	1.370

Class(es):		Effective: 9/1/2011							Goods and Services		
0008 FARM: GARDENING-MARKET OR TRUCK & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	485,218	2	120	903	20,377	24,810	99,351	145,441	0,088	0,512	0,599
2005	439,050	2	70	14,869	44,789	12,876	88,929	161,463	0,272	0,464	0,736
2006	415,012	4	90	173,739	200,314	1,299,456	350,466	2,023,975	1,803	7,951	9,754
2007	455,018	2	110	76,760	365,949	48,988	433,081	924,778	1,946	2,119	4,065
2008	451,094	0	96	0	239,082	0	415,286	654,368	1,060	1,841	2,901
<b>MA Total:</b>	<b>2,245,391</b>	<b>10</b>	<b>486</b>	<b>266,271</b>	<b>870,512</b>	<b>1,386,129</b>	<b>1,387,113</b>	<b>3,910,025</b>	<b>0,506</b>	<b>1,235</b>	<b>1,741</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.504	1.689	.
(14) Massachusetts Credibility:	0.320	0.530	.
(15) Countrywide Pure Premium:	1.626	1.211	2.837
(16) Countrywide Indicated Relativity:	1.551	1.626	.
(17) Countrywide Credibility:	0.340	0.240	.
(18) Countrywide Lost-Time Claims:	3826.0	.	.
(19) Pure Premium Underlying Present Rate:	0.910	0.942	1.852
(20) Relativity to Underlying Present Rate:	1.330	1.325	.
(21) Credibility to Underlying Relativity:	0.340	0.230	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.141	1.590	.
(24) Balanced Formula Relativity:	1.136	1.585	1.325

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 2

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
0016 FARM: ORCHARDS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	60.716	1	9	60.968	31.350	301.910	21.494	415.722	1.520	5.327	6.847
2005	62.514	1	16	32.206	41.937	155.397	72.262	301.801	1.186	3.642	4.828
2006	57.533	1	12	7.989	61.535	10.019	40.490	120.033	1.208	0.878	2.086
2007	60.686	0	11	0	5.916	0	18.759	24.675	0.097	0.309	0.407
2008	60.378	1	12	19.172	22.351	164.328	44.195	250.046	0.688	3.454	4.141
<b>MA Total:</b>	<b>301.826</b>	<b>4</b>	<b>60</b>	<b>120.336</b>	<b>163.088</b>	<b>631.653</b>	<b>197.200</b>	<b>1,112.277</b>	<b>0.939</b>	<b>2.746</b>	<b>3.685</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.935	3.754	.
(14) Massachusetts Credibility:	0.210	0.390	.
(15) Countrywide Pure Premium:	2.656	1.825	4.481
(16) Countrywide Indicated Relativity:	2.534	2.451	.
(17) Countrywide Credibility:	0.400	0.310	.
(18) Countrywide Lost-Time Claims:	1095.0	.	.
(19) Pure Premium Underlying Present Rate:	1.172	1.596	2.767
(20) Relativity to Underlying Present Rate:	1.712	2.246	.
(21) Credibility to Underlying Relativity:	0.390	0.300	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.878	2.898	.
(24) Balanced Formula Relativity:	1.870	2.889	2.299

Class(es):		Effective: 9/1/2011							Goods and Services		
0034 FARM: POULTRY OR EGG PRODUCERS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	390.061	0	108	0	74.979	0	659.348	734.327	0.769	6.761	7.530
2005	390.704	12	84	846.088	117.205	587.697	162.639	1,713.630	9.862	7.682	17.544
2006	392.102	4	132	689.604	172.141	2,825.138	1,155.791	4,842.674	8.791	40.611	49.402
2007	419.285	4	180	160.723	467.125	8.479	640.264	1,276.590	5.990	6.189	12.179
2008	400.132	8	112	4,076.853	353.340	887.542	380.785	5,698.521	44.287	12.679	56.966
<b>MA Total:</b>	<b>1,992.284</b>	<b>28</b>	<b>616</b>	<b>5,773.269</b>	<b>1,184.790</b>	<b>4,308.857</b>	<b>2,998.827</b>	<b>14265742</b>	<b>3.493</b>	<b>3.668</b>	<b>7.160</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.478	5.015	.
(14) Massachusetts Credibility:	0.250	0.500	.
(15) Countrywide Pure Premium:	1.725	1.308	3.033
(16) Countrywide Indicated Relativity:	1.645	1.757	.
(17) Countrywide Credibility:	0.380	0.250	.
(18) Countrywide Lost-Time Claims:	2471.0	.	.
(19) Pure Premium Underlying Present Rate:	1.022	1.859	2.881
(20) Relativity to Underlying Present Rate:	1.493	2.617	.
(21) Credibility to Underlying Relativity:	0.370	0.250	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.047	3.601	.
(24) Balanced Formula Relativity:	2.039	3.589	2.692

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Section IX - G  
Exhibit 3

## Calculation of Class Relativities

Class(es): 0035 FARM: FLORIST & DRIVERS		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	364,605	0	86	0	461,040	0	283,725	744,765	1,264	0,778	2,043
2005	364,895	2	115	65,136	338,488	54,076	330,367	788,067	1,106	1,054	2,160
2006	353,479	2	114	149,788	335,059	32,043	195,363	712,253	1,372	0,643	2,015
2007	378,779	2	90	179,389	340,322	50,694	202,378	772,783	1,372	0,668	2,040
2008	394,144	3	102	304,000	108,836	147,295	163,085	723,216	1,047	0,787	1,835
<b>MA Total:</b>	<b>1,855,903</b>	<b>9</b>	<b>507</b>	<b>698,312</b>	<b>1,583,745</b>	<b>284,108</b>	<b>1,174,918</b>	<b>3,741,084</b>	<b>1,230</b>	<b>0,786</b>	<b>2,016</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.225	1.075	.
(14) Massachusetts Credibility:	0.380	0.620	.
(15) Countrywide Pure Premium:	1.147	0.845	1.992
(16) Countrywide Indicated Relativity:	1.095	1.134	.
(17) Countrywide Credibility:	0.310	0.190	.
(18) Countrywide Lost-Time Claims:	1426.0	.	.
(19) Pure Premium Underlying Present Rate:	0.799	0.837	1.636
(20) Relativity to Underlying Present Rate:	1.168	1.178	.
(21) Credibility to Underlying Relativity:	0.310	0.190	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.167	1.106	.
(24) Balanced Formula Relativity:	1.162	1.102	1.137

Class(es): 0042 LANDSCAPE GARDENING & DRIVERS		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,985,306	45	882	3,504,019	3,680,327	2,251,039	2,724,741	12160125	2,407	1,667	4,073
2005	3,274,008	29	942	2,386,387	3,964,166	1,492,589	3,026,027	10869170	1,940	1,380	3,320
2006	3,410,287	48	853	4,710,386	3,490,526	2,571,793	3,957,268	14729973	2,405	1,915	4,319
2007	3,588,905	25	796	2,819,609	3,814,687	1,711,588	3,542,286	11888170	1,849	1,464	3,312
2008	3,595,216	35	782	4,484,976	4,307,116	2,965,272	3,717,169	15474533	2,445	1,859	4,304
<b>MA Total:</b>	<b>16853721</b>	<b>182</b>	<b>4,255</b>	<b>17905378</b>	<b>19256822</b>	<b>10992282</b>	<b>16967490</b>	<b>65121972</b>	<b>2,205</b>	<b>1,659</b>	<b>3,864</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.196	2.268	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	2.185	1.653	3.837
(16) Countrywide Indicated Relativity:	2.084	2.219	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	7702.0	.	.
(19) Pure Premium Underlying Present Rate:	1.549	1.633	3.182
(20) Relativity to Underlying Present Rate:	2.264	2.298	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.196	2.268	.
(24) Balanced Formula Relativity:	2.187	2.261	2.218

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
0050 FARM MACHINERY OPERATION-BY CONTRACTOR & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	43,307	6	6	1,525,738	807	950,865	2,216	2,479,626	105.75	66.022	171.77
2005	36,563	0	6	0	17,209	0	19,966	37,175	1.412	1.638	3.050
2006	50,471	0	3	0	19,069	0	28,917	47,985	1.133	1.719	2.852
2007	68,140	0	9	0	13,313	0	11,899	25,213	0.586	0.524	1.110
2008	61,172	0	18	0	0	0	24,063	24,063	0.000	1.180	1.180
<b>MA Total:</b>	<b>259,654</b>	<b>6</b>	<b>42</b>	<b>1,525,738</b>	<b>50,397</b>	<b>950,865</b>	<b>87,061</b>	<b>2,614,062</b>	<b>6.070</b>	<b>3.997</b>	<b>10.067</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.857	2.071	.
(14) Massachusetts Credibility:	0.170	0.250	.
(15) Countrywide Pure Premium:	4.229	2.796	7.025
(16) Countrywide Indicated Relativity:	1.322	1.466	.
(17) Countrywide Credibility:	0.420	0.380	.
(18) Countrywide Lost-Time Claims:	981.00	.	.
(19) Pure Premium Underlying Present Rate:	2.516	1.956	4.472
(20) Relativity to Underlying Present Rate:	1.121	1.021	.
(21) Credibility to Underlying Relativity:	0.410	0.370	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.330	1.453	.
(24) Balanced Formula Relativity:	1.345	1.455	1.386

Class(es):		Effective: 9/1/2011							Goods and Services		
0079 FARM: BERRY OR VINEYARD & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	114,699	1	18	27,313	1,988	1,455	26,634	57,391	0.255	0.245	0.500
2005	196,279	0	17	0	6,434	0	17,563	23,998	0.033	0.089	0.122
2006	136,657	1	18	147,687	6,014	22,012	25,541	201,254	1.125	0.348	1.473
2007	124,016	0	21	0	57,868	0	39,287	97,155	0.467	0.317	0.783
2008	141,264	0	40	0	70,295	0	157,038	227,333	0.498	1.112	1.609
<b>MA Total:</b>	<b>712,916</b>	<b>2</b>	<b>114</b>	<b>175,000</b>	<b>142,600</b>	<b>23,468</b>	<b>266,063</b>	<b>607,131</b>	<b>0.445</b>	<b>0.406</b>	<b>0.852</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.444	0.555	.
(14) Massachusetts Credibility:	0.250	0.360	.
(15) Countrywide Pure Premium:	2.396	1.648	4.044
(16) Countrywide Indicated Relativity:	2.286	2.213	.
(17) Countrywide Credibility:	0.380	0.320	.
(18) Countrywide Lost-Time Claims:	122.00	.	.
(19) Pure Premium Underlying Present Rate:	0.750	0.579	1.329
(20) Relativity to Underlying Present Rate:	1.096	0.814	.
(21) Credibility to Underlying Relativity:	0.370	0.320	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.385	1.169	.
(24) Balanced Formula Relativity:	1.379	1.165	1.289

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
0083 FARM: CATTLE OR LIVESTOCK RAISING NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	52,328	0	18	0	34,123	0	33,864	67,987	0.652	0.647	1,299
2005	48,979	0	19	0	17,096	0	57,337	74,434	0.349	1.171	1,520
2006	48,022	2	11	180,675	44,954	70,669	45,763	342,061	4.698	2.425	7,123
2007	48,919	1	17	126,826	121,083	761,147	127,872	1,136,929	5.068	18.173	23,241
2008	45,677	0	9	0	7,536	0	19,591	27,126	0.165	0.429	0,594
<b>MA Total:</b>	<b>243,925</b>	<b>3</b>	<b>74</b>	<b>307,501</b>	<b>224,792</b>	<b>831,816</b>	<b>284,428</b>	<b>1,648,536</b>	<b>2.182</b>	<b>4.576</b>	<b>6,758</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.173	6.256	.
(14) Massachusetts Credibility:	0.230	0.410	.
(15) Countrywide Pure Premium:	2.487	2.015	4.501
(16) Countrywide Indicated Relativity:	2.372	2.706	.
(17) Countrywide Credibility:	0.390	0.300	.
(18) Countrywide Lost-Time Claims:	3314.0	.	.
(19) Pure Premium Underlying Present Rate:	1.824	2.275	4.100
(20) Relativity to Underlying Present Rate:	2.666	3.202	.
(21) Credibility to Underlying Relativity:	0.380	0.290	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.438	4.305	.
(24) Balanced Formula Relativity:	2.428	4.292	3.214

Class(es):		Effective: 9/1/2011							Miscellaneous		
0106 TREE PRUNING, SPRAYING, REPAIRING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	172,508	2	83	59,978	388,656	166,530	533,049	1,148,213	2.601	4.055	6,656
2005	191,331	5	98	647,902	1,584,084	452,099	935,607	3,619,691	11.666	7.253	18,918
2006	201,507	2	92	168,279	294,551	47,611	427,728	938,169	2.297	2.359	4,656
2007	225,057	4	90	597,822	1,628,879	871,667	1,968,999	5,067,367	9.894	12.622	22,516
2008	271,395	6	108	727,354	1,174,886	336,622	810,113	3,048,975	7.009	4.225	11,234
<b>MA Total:</b>	<b>1,061,799</b>	<b>19</b>	<b>471</b>	<b>2,201,334</b>	<b>5,071,056</b>	<b>1,874,528</b>	<b>4,675,496</b>	<b>13,822,415</b>	<b>6.849</b>	<b>6.169</b>	<b>13,018</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.310	3.130	.
(14) Massachusetts Credibility:	0.620	1.000	.
(15) Countrywide Pure Premium:	7.449	5.421	12.869
(16) Countrywide Indicated Relativity:	2.668	2.959	.
(17) Countrywide Credibility:	0.190	0.000	.
(18) Countrywide Lost-Time Claims:	2774.0	.	.
(19) Pure Premium Underlying Present Rate:	4.876	6.630	11.506
(20) Relativity to Underlying Present Rate:	2.515	3.478	.
(21) Credibility to Underlying Relativity:	0.190	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	2.417	3.130	.
(24) Balanced Formula Relativity:	2.367	3.101	2.660

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
0251 IRRIGATION WORKS OPERATION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	258,467	4	80	671,394	28,478	126,302	70,930	897,105	5,416	1,526	6,942
2005	262,948	2	62	65,066	332,929	73,011	308,290	779,297	3,027	2,900	5,927
2006	263,922	6	54	389,297	74,833	255,311	103,195	822,636	3,517	2,717	6,234
2007	262,609	2	40	115,825	41,322	408,179	49,952	615,277	1,197	3,489	4,686
2008	357,125	6	80	855,299	1,621,402	239,832	779,579	3,496,112	13,870	5,709	19,579
<b>MA Total:</b>	<b>1,405,071</b>	<b>20</b>	<b>316</b>	<b>2,096,881</b>	<b>2,098,964</b>	<b>1,102,635</b>	<b>1,311,947</b>	<b>6,610,426</b>	<b>2,986</b>	<b>1,718</b>	<b>4,705</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.007	0.872	.
(14) Massachusetts Credibility:	0.310	0.480	.
(15) Countrywide Pure Premium:	1.827	1.326	3.153
(16) Countrywide Indicated Relativity:	0.654	0.724	.
(17) Countrywide Credibility:	0.350	0.260	.
(18) Countrywide Lost-Time Claims:	2197.0	.	.
(19) Pure Premium Underlying Present Rate:	1.319	1.154	2.473
(20) Relativity to Underlying Present Rate:	0.680	0.605	.
(21) Credibility to Underlying Relativity:	0.340	0.260	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.773	0.764	.
(24) Balanced Formula Relativity:	0.757	0.757	0.757

Class(es):		Effective: 9/1/2011							Goods and Services		
0908 DOMESTIC WORKERS-INSIDE-NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5,170	0	58	0	337,648	0	377,317	714,965	130.62	145.97	276.59
2005	5,069	10	58	1,876,024	92,136	642,232	75,503	2,685,895	776.62	283.21	1059.8
2006	4,916	2	52	0	508,583	0	402,885	911,468	206.93	163.92	370.85
2007	4,883	4	28	245,870	3,440	260,969	90,255	600,534	102.12	143.86	245.97
2008	5,329	0	32	0	374,635	0	207,377	582,012	140.60	77.828	218.43
<b>MA Total:</b>	<b>25,366</b>	<b>16</b>	<b>228</b>	<b>2,121,895</b>	<b>1,316,442</b>	<b>903,200</b>	<b>1,153,337</b>	<b>5,494,875</b>	<b>135.55</b>	<b>81.075</b>	<b>216.62</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	134.99	110.84	.
(14) Massachusetts Credibility:	0.320	0.500	.
(15) Countrywide Pure Premium:	16.027	10.667	26.694
(16) Countrywide Indicated Relativity:	111.04	101.01	.
(17) Countrywide Credibility:	0.340	0.250	.
(18) Countrywide Lost-Time Claims:	453.00	.	.
(19) Pure Premium Underlying Present Rate:	76.419	72.201	148.62
(20) Relativity to Underlying Present Rate:	111.68	101.61	.
(21) Credibility to Underlying Relativity:	0.340	0.250	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	118.92	106.07	.
(24) Balanced Formula Relativity:	118.44	105.74	113.09

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
0909 DOMESTIC WORKERS-OUTSIDE-OCCASIONAL-INCL OCCASNL PRIV CHAUFF											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	851	4	26	390.563	60.698	148.813	36.793	636.866	1060.8	436.31	1497.1
2005	837	0	36	0	67.208	0	143.627	210.835	160.52	343.03	503.55
2006	859	0	34	0	100.241	0	102.707	202.948	233.39	239.13	472.52
2007	780	2	22	204.907	48.674	228.582	164.433	646.596	650.37	1008.0	1658.4
2008	802	0	24	0	38.111	0	83.758	121.870	95.053	208.90	303.95
<b>MA Total:</b>	<b>4,129</b>	<b>6</b>	<b>142</b>	<b>595,469</b>	<b>314,933</b>	<b>377,395</b>	<b>531,318</b>	<b>1,819,115</b>	<b>220.50</b>	<b>220.09</b>	<b>440.58</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	219.59	300.88	.
(14) Massachusetts Credibility:	0.150	0.310	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	105.95	195.48	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	72.914	139.73	212.64
(20) Relativity to Underlying Present Rate:	106.56	196.63	.
(21) Credibility to Underlying Relativity:	0.850	0.690	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	123.52	228.95	.
(24) Balanced Formula Relativity:	123.02	228.23	167.36

Class(es):		Effective: 9/1/2011							Goods and Services		
0917 DOMESTIC SERVICE CONTRACTOR-INSIDE											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	165.046	2	30	1.158	278.024	835	165.828	445.846	1.692	1.010	2.701
2005	193.162	9	66	139.120	249.037	71.110	216.341	675.607	2.009	1.488	3.498
2006	233.784	4	51	81.238	201.564	16.797	109.616	409.215	1.210	0.541	1.750
2007	225.717	2	45	22.760	44.975	3.211	71.735	142.681	0.300	0.332	0.632
2008	296.037	3	43	97.025	380.482	77.749	255.134	810.390	1.613	1.124	2.737
<b>MA Total:</b>	<b>1,113,745</b>	<b>20</b>	<b>235</b>	<b>341,300</b>	<b>1,154,083</b>	<b>169,703</b>	<b>818,654</b>	<b>2,483,740</b>	<b>1,343</b>	<b>0.887</b>	<b>2,230</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.337	1.213	.
(14) Massachusetts Credibility:	0.330	0.550	.
(15) Countrywide Pure Premium:	1.738	1.519	3.257
(16) Countrywide Indicated Relativity:	1.658	2.039	.
(17) Countrywide Credibility:	0.340	0.230	.
(18) Countrywide Lost-Time Claims:	617.00	.	.
(19) Pure Premium Underlying Present Rate:	0.969	1.037	2.006
(20) Relativity to Underlying Present Rate:	1.416	1.459	.
(21) Credibility to Underlying Relativity:	0.330	0.220	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.472	1.457	.
(24) Balanced Formula Relativity:	1.466	1.453	1.461

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
0918 DOMESTIC WORKERS-INSIDE-PHYSICAL ASSISTANCE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,327,374	5	59	96,665	444,597	66,112	187,885	795,259	0.233	0.109	0.342
2005	2,624,651	11	54	416,184	371,857	236,777	174,860	1,199,678	0.300	0.157	0.457
2006	2,720,539	9	56	462,039	580,834	140,995	214,693	1,398,561	0.383	0.131	0.514
2007	3,347,656	6	60	226,199	524,969	82,957	354,346	1,188,471	0.224	0.131	0.355
2008	3,695,231	9	78	656,807	1,308,443	330,867	541,412	2,837,528	0.532	0.236	0.768
<b>MA Total:</b>	<b>14715452</b>	<b>40</b>	<b>307</b>	<b>1,857,893</b>	<b>3,230,700</b>	<b>857,708</b>	<b>1,473,195</b>	<b>7,419,497</b>	<b>0.346</b>	<b>0.158</b>	<b>0.504</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.344	0.217	.
(14) Massachusetts Credibility:	0.570	0.700	.
(15) Countrywide Pure Premium:	2.598	0.874	3.472
(16) Countrywide Indicated Relativity:	2.479	1.173	.
(17) Countrywide Credibility:	0.060	0.060	.
(18) Countrywide Lost-Time Claims:	1.000	.	.
(19) Pure Premium Underlying Present Rate:	0.283	0.143	0.426
(20) Relativity to Underlying Present Rate:	0.414	0.202	.
(21) Credibility to Underlying Relativity:	0.370	0.240	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.498	0.270	.
(24) Balanced Formula Relativity:	0.496	0.270	0.401

Class(es):		Effective: 9/1/2011							Manufacturing		
1430 SMELTING, SINTERING OR REFINING-LEAD & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	2.840	2.492	5.331
(16) Countrywide Indicated Relativity:	2.447	3.230	.
(17) Countrywide Credibility:	0.390	0.420	.
(18) Countrywide Lost-Time Claims:	111.00	.	.
(19) Pure Premium Underlying Present Rate:	3.825	1.611	5.436
(20) Relativity to Underlying Present Rate:	4.075	1.814	.
(21) Credibility to Underlying Relativity:	0.610	0.580	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.440	2.409	.
(24) Balanced Formula Relativity:	3.438	2.409	3.026

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
1438 SMELTING, SINTERING OR REFINING-METALS-NOT IRON OR LEAD-NOC & D											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	72,436	0	19	0	436,935	0	300,355	737,290	6,032	4,147	10,179
2005	60,855	1	11	71,481	2,176	26,919	11,059	111,634	1,210	0,624	1,834
2006	65,450	0	17	0	25,822	0	57,000	82,822	0,395	0,871	1,265
2007	72,675	0	5	0	20,069	0	27,818	47,886	0,276	0,383	0,659
2008	64,885	0	6	0	26,263	0	19,963	46,226	0,405	0,308	0,712
<b>MA Total:</b>	<b>336,300</b>	<b>1</b>	<b>58</b>	<b>71,481</b>	<b>511,265</b>	<b>26,919</b>	<b>416,195</b>	<b>1,025,859</b>	<b>1,733</b>	<b>1,318</b>	<b>3,050</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.320	1.504	.
(14) Massachusetts Credibility:	0.220	0.360	.
(15) Countrywide Pure Premium:	2.430	1.444	3.874
(16) Countrywide Indicated Relativity:	2.094	1.871	.
(17) Countrywide Credibility:	0.390	0.320	.
(18) Countrywide Lost-Time Claims:	865.00	.	.
(19) Pure Premium Underlying Present Rate:	1.158	1.192	2.351
(20) Relativity to Underlying Present Rate:	1.234	1.343	.
(21) Credibility to Underlying Relativity:	0.390	0.320	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.588	1.570	.
(24) Balanced Formula Relativity:	1.587	1.570	1.581

Class(es):		Effective: 9/1/2011							Manufacturing		
1463 ASPHALT WORKS & DRIVERS											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	58,217	2	18	327,320	40,074	128,666	37,157	533,217	6,311	2,848	9,159
2005	57,120	1	16	0	45,437	0	37,330	82,768	0,795	0,654	1,449
2006	57,847	2	11	525,869	64,344	171,473	59,711	821,397	10,203	3,997	14,200
2007	52,019	1	8	189,537	251,240	255,881	55,420	752,077	8,473	5,984	14,458
2008	64,098	0	14	0	114,828	0	66,762	181,591	1,791	1,042	2,833
<b>MA Total:</b>	<b>289,300</b>	<b>6</b>	<b>67</b>	<b>1,042,726</b>	<b>515,923</b>	<b>556,020</b>	<b>256,381</b>	<b>2,371,050</b>	<b>5,388</b>	<b>2,808</b>	<b>8,196</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.104	3.205	.
(14) Massachusetts Credibility:	0.360	0.510	.
(15) Countrywide Pure Premium:	6.357	3.622	9.979
(16) Countrywide Indicated Relativity:	5.478	4.695	.
(17) Countrywide Credibility:	0.320	0.250	.
(18) Countrywide Lost-Time Claims:	972.00	.	.
(19) Pure Premium Underlying Present Rate:	4.431	3.349	7.780
(20) Relativity to Underlying Present Rate:	4.720	3.771	.
(21) Credibility to Underlying Relativity:	0.320	0.240	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	4.741	3.713	.
(24) Balanced Formula Relativity:	4.738	3.715	4.329

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
1624 STONE CRUSHING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	867,980	10	202	632,863	807,444	286,024	777,803	2,504,134	3,319	2,451	5,770
2005	956,380	12	200	2,142,943	2,081,296	1,002,011	1,453,449	6,679,700	8,834	5,135	13,969
2006	903,582	12	142	1,472,869	1,150,442	840,097	795,457	4,258,865	5,806	3,620	9,427
2007	827,631	8	136	1,645,831	3,512,990	990,496	1,211,505	7,360,821	12,466	5,321	17,788
2008	854,282	4	140	1,127,726	1,292,609	267,484	1,060,007	3,747,827	5,666	3,108	8,774
<b>MA Total:</b>	<b>4,409,854</b>	<b>46</b>	<b>820</b>	<b>7,022,231</b>	<b>8,844,782</b>	<b>3,386,112</b>	<b>5,298,221</b>	<b>24551347</b>	<b>3,598</b>	<b>1,969</b>	<b>5,567</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.214	0.999	.
(14) Massachusetts Credibility:	0.610	0.930	.
(15) Countrywide Pure Premium:	2.501	1.497	3.998
(16) Countrywide Indicated Relativity:	0.896	0.817	.
(17) Countrywide Credibility:	0.200	0.040	.
(18) Countrywide Lost-Time Claims:	1697.0	.	.
(19) Pure Premium Underlying Present Rate:	2.232	1.956	4.188
(20) Relativity to Underlying Present Rate:	1.151	1.026	.
(21) Credibility to Underlying Relativity:	0.190	0.030	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.138	0.993	.
(24) Balanced Formula Relativity:	1.115	0.984	1.062

Class(es):		Effective: 9/1/2011							Miscellaneous		
1655 LIME MFG-QUARRY-SURFACE & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	484	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	441	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	451	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	284	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	540	0	1	0	1,464	0	1,105	2,569	2,710	2,045	4,755
<b>MA Total:</b>	<b>2,200</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1,464</b>	<b>0</b>	<b>1,105</b>	<b>2,569</b>	<b>0.665</b>	<b>0.502</b>	<b>1.167</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.224	0.255	.
(14) Massachusetts Credibility:	0.040	0.070	.
(15) Countrywide Pure Premium:	1.996	1.554	3.550
(16) Countrywide Indicated Relativity:	0.715	0.848	.
(17) Countrywide Credibility:	0.270	0.280	.
(18) Countrywide Lost-Time Claims:	43.000	.	.
(19) Pure Premium Underlying Present Rate:	2.010	2.800	4.810
(20) Relativity to Underlying Present Rate:	1.037	1.469	.
(21) Credibility to Underlying Relativity:	0.690	0.650	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.918	1.210	.
(24) Balanced Formula Relativity:	0.899	1.199	1.019

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## Calculation of Class Relativities

Class(es): 1701 CEMENT MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	706	1	0	51,186	0	6,727	0	57,913	72,469	9,524	81,993
2005	533	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	521	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	664	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	35	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>2,459</b>	<b>1</b>	<b>0</b>	<b>51,186</b>	<b>0</b>	<b>6,727</b>	<b>0</b>	<b>57,913</b>	<b>20,817</b>	<b>2,736</b>	<b>23,553</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	15.858	3.122	.
(14) Massachusetts Credibility:	0.040	0.050	.
(15) Countrywide Pure Premium:	1.932	1.455	3.386
(16) Countrywide Indicated Relativity:	1.664	1.885	.
(17) Countrywide Credibility:	0.480	0.480	.
(18) Countrywide Lost-Time Claims:	610.00	.	.
(19) Pure Premium Underlying Present Rate:	2.513	1.461	3.974
(20) Relativity to Underlying Present Rate:	2.677	1.646	.
(21) Credibility to Underlying Relativity:	0.480	0.470	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.718	1.835	.
(24) Balanced Formula Relativity:	2.717	1.835	2.364

Class(es): 1747 EMERY WORKS & DRIVERS		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	42,467	0	21	0	47,518	0	27,386	74,904	1,119	0,645	1,764
2005	44,397	0	18	0	5,474	0	16,300	21,774	0,123	0,367	0,490
2006	47,442	0	13	0	8,269	0	31,922	40,191	0,174	0,673	0,847
2007	48,472	0	20	0	23,439	0	28,931	52,369	0,484	0,597	1,080
2008	13,761	0	6	0	28,899	0	15,247	44,146	2,100	1,108	3,208
<b>MA Total:</b>	<b>196,540</b>	<b>0</b>	<b>78</b>	<b>0</b>	<b>113,599</b>	<b>0</b>	<b>119,785</b>	<b>233,384</b>	<b>0,578</b>	<b>0,609</b>	<b>1,187</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.440	0.696	.
(14) Massachusetts Credibility:	0.200	0.320	.
(15) Countrywide Pure Premium:	1.201	0.749	1.951
(16) Countrywide Indicated Relativity:	1.035	0.971	.
(17) Countrywide Credibility:	0.310	0.330	.
(18) Countrywide Lost-Time Claims:	61,000	.	.
(19) Pure Premium Underlying Present Rate:	1.578	1.590	3.168
(20) Relativity to Underlying Present Rate:	1.681	1.791	.
(21) Credibility to Underlying Relativity:	0.490	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.233	1.170	.
(24) Balanced Formula Relativity:	1.232	1.170	1.207

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
1748 ABRASIVE WHEEL MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	84,218	0	21	0	22,783	0	33,844	56,627	0.271	0.402	0.672
2005	85,970	0	24	0	123,553	0	49,000	172,553	1.437	0.570	2.007
2006	65,982	0	23	0	23,368	0	62,717	86,086	0.354	0.951	1.305
2007	64,055	0	8	0	239,665	0	182,660	422,324	3.742	2.852	6.593
2008	40,627	0	6	0	10,579	0	13,039	23,618	0.260	0.321	0.581
<b>MA Total:</b>	<b>340,853</b>	<b>0</b>	<b>82</b>	<b>0</b>	<b>419,948</b>	<b>0</b>	<b>341,260</b>	<b>761,208</b>	<b>1.232</b>	<b>1.001</b>	<b>2.233</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.939	1.143	.
(14) Massachusetts Credibility:	0.240	0.360	.
(15) Countrywide Pure Premium:	1.514	1.178	2.692
(16) Countrywide Indicated Relativity:	1.305	1.527	.
(17) Countrywide Credibility:	0.380	0.320	.
(18) Countrywide Lost-Time Claims:	107.00	.	.
(19) Pure Premium Underlying Present Rate:	1.375	1.196	2.571
(20) Relativity to Underlying Present Rate:	1.465	1.347	.
(21) Credibility to Underlying Relativity:	0.380	0.320	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.278	1.331	.
(24) Balanced Formula Relativity:	1.277	1.332	1.299

Class(es):		Effective: 9/1/2011							Manufacturing		
1852 ASBESTOS GOODS MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.786	0.839	1.625
(16) Countrywide Indicated Relativity:	0.677	1.087	.
(17) Countrywide Credibility:	0.170	0.180	.
(18) Countrywide Lost-Time Claims:	13.000	.	.
(19) Pure Premium Underlying Present Rate:	4.180	1.705	5.885
(20) Relativity to Underlying Present Rate:	4.453	1.921	.
(21) Credibility to Underlying Relativity:	0.830	0.820	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.811	1.771	.
(24) Balanced Formula Relativity:	3.809	1.771	2.993

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 Exhibit 13

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
1853 MICA GOODS MFG & MICA PREPARING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,042	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	327	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	462	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	1,230	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	1,447	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>4,508</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.040	0.040	.
(15) Countrywide Pure Premium:	0.388	0.242	0.630
(16) Countrywide Indicated Relativity:	0.334	0.314	.
(17) Countrywide Credibility:	0.130	0.140	.
(18) Countrywide Lost-Time Claims:	7.000	.	.
(19) Pure Premium Underlying Present Rate:	0.899	0.484	1.383
(20) Relativity to Underlying Present Rate:	0.958	0.545	.
(21) Credibility to Underlying Relativity:	0.830	0.820	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.839	0.491	.
(24) Balanced Formula Relativity:	0.838	0.491	0.699

Class(es):		Effective: 9/1/2011							Manufacturing		
1860 ABRASIVE PAPER OR CLOTH PREPARATION											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	16,028	0	6	0	70,997	0	21,304	92,300	4.430	1.329	5.759
2005	994	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	1,414	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	835	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	2,048	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>21,319</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>70,997</b>	<b>0</b>	<b>21,304</b>	<b>92,300</b>	<b>3.330</b>	<b>0.999</b>	<b>4.329</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.537	1.140	.
(14) Massachusetts Credibility:	0.070	0.110	.
(15) Countrywide Pure Premium:	0.729	0.705	1.434
(16) Countrywide Indicated Relativity:	0.629	0.913	.
(17) Countrywide Credibility:	0.270	0.280	.
(18) Countrywide Lost-Time Claims:	43.000	.	.
(19) Pure Premium Underlying Present Rate:	1.187	1.045	2.232
(20) Relativity to Underlying Present Rate:	1.264	1.177	.
(21) Credibility to Underlying Relativity:	0.660	0.610	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.182	1.099	.
(24) Balanced Formula Relativity:	1.181	1.099	1.148

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Section IX - G  
 Exhibit 14

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
1924 WIRE DRAWING OR CABLE MFG-NOT IRON OR STEEL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	259.301	0	72	0	200.209	0	176.665	376.874	1.544	1.363	2.907
2005	273.382	2	48	20.481	193.954	19.261	138.875	372.571	1.569	1.157	2.726
2006	300.528	2	50	342.205	55.100	207.737	150.148	755.189	2.644	2.382	5.026
2007	295.041	2	44	242.870	72.970	82.960	131.756	530.556	2.141	1.455	3.596
2008	286.297	0	34	0	55.091	0	84.853	139.944	0.385	0.593	0.978
<b>MA Total:</b>	<b>1,414,550</b>	<b>6</b>	<b>248</b>	<b>605,556</b>	<b>577,324</b>	<b>309,957</b>	<b>682,297</b>	<b>2,175,135</b>	<b>0.836</b>	<b>0.701</b>	<b>1.538</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.637	0.801	.
(14) Massachusetts Credibility:	0.290	0.440	.
(15) Countrywide Pure Premium:	1.575	1.009	2.584
(16) Countrywide Indicated Relativity:	1.357	1.308	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	680.00	.	.
(19) Pure Premium Underlying Present Rate:	1.106	0.942	2.048
(20) Relativity to Underlying Present Rate:	1.178	1.061	.
(21) Credibility to Underlying Relativity:	0.350	0.280	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.086	1.016	.
(24) Balanced Formula Relativity:	1.085	1.016	1.057

Class(es):		Effective: 9/1/2011							Manufacturing		
1925 DIE CASTING MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	25.112	1	2	27.408	16.144	8.951	9.634	62.137	1.734	0.740	2.474
2005	2.456	0	1	0	0	0	904	904	0.000	0.368	0.368
2006	2.631	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	3.667	0	1	0	0	0	91	91	0.000	0.025	0.025
2008	3.396	0	1	0	0	0	1.112	1.112	0.000	0.327	0.327
<b>MA Total:</b>	<b>37,261</b>	<b>1</b>	<b>5</b>	<b>27,408</b>	<b>16,144</b>	<b>8,951</b>	<b>11,741</b>	<b>64,244</b>	<b>1.169</b>	<b>0.555</b>	<b>1.724</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.890	0.634	.
(14) Massachusetts Credibility:	0.110	0.170	.
(15) Countrywide Pure Premium:	1.755	1.387	3.142
(16) Countrywide Indicated Relativity:	1.512	1.798	.
(17) Countrywide Credibility:	0.450	0.420	.
(18) Countrywide Lost-Time Claims:	852.00	.	.
(19) Pure Premium Underlying Present Rate:	1.772	1.637	3.410
(20) Relativity to Underlying Present Rate:	1.888	1.844	.
(21) Credibility to Underlying Relativity:	0.440	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.609	1.619	.
(24) Balanced Formula Relativity:	1.608	1.619	1.613

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2001 BAKERY & DRIVERS, ROUTE SUPERVISORS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,570,312	42	680	2,488,110	2,805,975	1,237,221	2,147,934	8,679,240	4,119	2,634	6,753
2005	2,746,106	18	672	1,739,562	2,831,744	1,067,617	2,083,988	7,722,912	3,329	2,295	5,625
2006	3,119,139	22	708	1,721,867	3,806,385	536,271	2,499,927	8,564,450	3,545	1,947	5,492
2007	3,104,431	34	718	2,429,387	3,919,966	2,999,429	2,560,132	11,908,914	4,091	3,582	7,672
2008	3,104,159	30	806	2,219,943	4,056,032	3,355,860	3,024,832	12,656,666	4,044	4,111	8,155
<b>MA Total:</b>	<b>14644147</b>	<b>146</b>	<b>3,584</b>	<b>10598870</b>	<b>17420102</b>	<b>9,196,397</b>	<b>12316812</b>	<b>49532182</b>	<b>1,913</b>	<b>1,469</b>	<b>3,382</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.458	1.677	.
(14) Massachusetts Credibility:	0.790	1.000	.
(15) Countrywide Pure Premium:	1.947	1.233	3.181
(16) Countrywide Indicated Relativity:	1.678	1.599	.
(17) Countrywide Credibility:	0.110	0.000	.
(18) Countrywide Lost-Time Claims:	5865.0	.	.
(19) Pure Premium Underlying Present Rate:	1.292	1.237	2.528
(20) Relativity to Underlying Present Rate:	1.376	1.393	.
(21) Credibility to Underlying Relativity:	0.100	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.474	1.677	.
(24) Balanced Formula Relativity:	1.473	1.677	1.555

Class(es):		Effective: 9/1/2011							Manufacturing		
2002 MACARONI MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	8,810	2	1	116,251	0	25,510	175	141,936	13,196	2,915	16,111
2005	6,955	1	3	292,600	1,135	105,751	4,174	403,660	42,232	15,805	58,037
2006	6,627	0	1	0	228,611	0	239,800	468,411	34,499	36,187	70,686
2007	12,017	0	1	0	0	0	1,108	1,108	0,000	0,092	0,092
2008	9,075	0	2	0	71,993	0	58,127	130,121	7,933	6,405	14,338
<b>MA Total:</b>	<b>43,484</b>	<b>3</b>	<b>8</b>	<b>408,851</b>	<b>301,739</b>	<b>131,260</b>	<b>303,384</b>	<b>1,145,235</b>	<b>16,341</b>	<b>9,995</b>	<b>26,337</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	12.449	11.408	.
(14) Massachusetts Credibility:	0.120	0.210	.
(15) Countrywide Pure Premium:	1.423	1.163	2.586
(16) Countrywide Indicated Relativity:	1.227	1.508	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	145.00	.	.
(19) Pure Premium Underlying Present Rate:	2.051	2.485	4.537
(20) Relativity to Underlying Present Rate:	2.186	2.799	.
(21) Credibility to Underlying Relativity:	0.440	0.390	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.995	4.090	.
(24) Balanced Formula Relativity:	2.993	4.092	3.433

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 Exhibit 16

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2014 GRAIN MILLING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,710	0	2	0	0	0	592	592	0.000	0.126	0.126
2005	5,673	0	2	0	0	0	4,515	4,515	0.000	0.796	0.796
2006	6,568	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	5,890	0	1	0	18,813	0	16,704	35,516	3.194	2.836	6.030
2008	4,500	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>27,340</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>18,813</b>	<b>0</b>	<b>21,811</b>	<b>40,623</b>	<b>0.688</b>	<b>0.798</b>	<b>1.486</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.524	0.911	.
(14) Massachusetts Credibility:	0.090	0.140	.
(15) Countrywide Pure Premium:	2.440	1.640	4.080
(16) Countrywide Indicated Relativity:	2.103	2.126	.
(17) Countrywide Credibility:	0.460	0.430	.
(18) Countrywide Lost-Time Claims:	1169.0	.	.
(19) Pure Premium Underlying Present Rate:	1.574	1.402	2.976
(20) Relativity to Underlying Present Rate:	1.677	1.579	.
(21) Credibility to Underlying Relativity:	0.450	0.430	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.769	1.720	.
(24) Balanced Formula Relativity:	1.768	1.721	1.749

Class(es):		Effective: 9/1/2011							Manufacturing		
2021 SUGAR REFINING-ALL OPERATIONS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,216	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,456	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	1,746	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	1,953	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	1,897	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>8,268</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.060	0.080	.
(15) Countrywide Pure Premium:	2.119	1.551	3.670
(16) Countrywide Indicated Relativity:	1.826	2.011	.
(17) Countrywide Credibility:	0.470	0.460	.
(18) Countrywide Lost-Time Claims:	292.00	.	.
(19) Pure Premium Underlying Present Rate:	1.817	1.291	3.108
(20) Relativity to Underlying Present Rate:	1.936	1.453	.
(21) Credibility to Underlying Relativity:	0.470	0.460	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.768	1.594	.
(24) Balanced Formula Relativity:	1.767	1.594	1.698

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Section IX - G  
 Exhibit 17

## Calculation of Class Relativities

Class(es): 2039 ICE CREAM MFG & DRIVERS		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	44.994	0	14	0	99.352	0	20.767	120.119	2.208	0.462	2.670
2005	66.032	1	32	8.156	98.492	3.270	77.734	187.652	1.615	1.227	2.842
2006	57.039	0	19	0	16.050	0	25.971	42.021	0.281	0.455	0.737
2007	54.557	0	14	0	106.606	0	52.799	159.406	1.954	0.968	2.922
2008	30.268	1	12	101.405	32.050	46.665	31.097	211.217	4.409	2.569	6.978
<b>MA Total:</b>	<b>252.890</b>	<b>2</b>	<b>91</b>	<b>109.561</b>	<b>352.551</b>	<b>49.935</b>	<b>208.367</b>	<b>720.414</b>	<b>1.827</b>	<b>1.021</b>	<b>2.849</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.392	1.166	.
(14) Massachusetts Credibility:	0.200	0.290	.
(15) Countrywide Pure Premium:	1.127	0.705	1.832
(16) Countrywide Indicated Relativity:	0.971	0.913	.
(17) Countrywide Credibility:	0.400	0.360	.
(18) Countrywide Lost-Time Claims:	378.00	.	.
(19) Pure Premium Underlying Present Rate:	1.269	0.920	2.188
(20) Relativity to Underlying Present Rate:	1.352	1.036	.
(21) Credibility to Underlying Relativity:	0.400	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.208	1.029	.
(24) Balanced Formula Relativity:	1.207	1.030	1.136

Class(es): 2041 CONFECTION MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	187.114	3	52	50.971	94.233	52.799	66.692	264.696	0.776	0.639	1.415
2005	186.784	3	30	171.947	251.099	65.396	125.252	613.695	2.265	1.021	3.286
2006	194.233	2	39	70.400	52.315	29.508	73.201	225.423	0.632	0.529	1.161
2007	308.887	3	69	216.038	382.640	86.802	215.316	900.796	1.938	0.978	2.916
2008	200.530	2	27	100.508	91.005	96.448	115.464	403.426	0.955	1.057	2.012
<b>MA Total:</b>	<b>1,077.549</b>	<b>13</b>	<b>217</b>	<b>609.864</b>	<b>871.293</b>	<b>330.953</b>	<b>595.925</b>	<b>2,408.036</b>	<b>1.375</b>	<b>0.860</b>	<b>2.235</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.047	0.982	.
(14) Massachusetts Credibility:	0.340	0.520	.
(15) Countrywide Pure Premium:	1.732	1.093	2.825
(16) Countrywide Indicated Relativity:	1.492	1.417	.
(17) Countrywide Credibility:	0.330	0.240	.
(18) Countrywide Lost-Time Claims:	1133.0	.	.
(19) Pure Premium Underlying Present Rate:	1.065	0.924	1.989
(20) Relativity to Underlying Present Rate:	1.135	1.041	.
(21) Credibility to Underlying Relativity:	0.330	0.240	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.223	1.100	.
(24) Balanced Formula Relativity:	1.222	1.101	1.174

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2070 CREAMERY OR DAIRY & ROUTE SUPERVISORS, DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	177,405	0	32	0	23,176	0	61,178	84,355	0.131	0.345	0.475
2005	152,710	2	22	392,646	45,447	483,526	31,076	952,695	2.869	3.370	6.239
2006	147,316	2	35	118,959	196,608	31,648	182,623	529,838	2.142	1.454	3.597
2007	125,323	0	20	0	48,171	0	108,202	156,373	0.384	0.863	1.248
2008	125,572	1	19	57,271	248,220	58,133	142,759	506,382	2.433	1.600	4.033
<b>MA Total:</b>	<b>728,325</b>	<b>5</b>	<b>128</b>	<b>568,876</b>	<b>561,622</b>	<b>573,307</b>	<b>525,838</b>	<b>2,229,643</b>	<b>1.552</b>	<b>1.509</b>	<b>3.061</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.182	1.722	.
(14) Massachusetts Credibility:	0.350	0.550	.
(15) Countrywide Pure Premium:	2.628	1.467	4.095
(16) Countrywide Indicated Relativity:	2.265	1.901	.
(17) Countrywide Credibility:	0.330	0.230	.
(18) Countrywide Lost-Time Claims:	2795.0	.	.
(19) Pure Premium Underlying Present Rate:	1.713	1.586	3.300
(20) Relativity to Underlying Present Rate:	1.825	1.787	.
(21) Credibility to Underlying Relativity:	0.320	0.220	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.745	1.778	.
(24) Balanced Formula Relativity:	1.744	1.778	1.758

Class(es):		Effective: 9/1/2011							Manufacturing		
2081 BUTCHERING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,462	0	5	0	8,122	0	15,387	23,510	1.820	3.448	5.268
2005	3,870	0	3	0	140	0	5,580	5,720	0.036	1.442	1.478
2006	3,915	0	1	0	0	0	1,316	1,316	0.000	0.336	0.336
2007	4,399	0	2	0	0	0	1,214	1,214	0.000	0.276	0.276
2008	9,485	0	4	0	0	0	2,873	2,873	0.000	0.303	0.303
<b>MA Total:</b>	<b>26,131</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>8,262</b>	<b>0</b>	<b>26,371</b>	<b>34,633</b>	<b>0.316</b>	<b>1.009</b>	<b>1.325</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.241	1.152	.
(14) Massachusetts Credibility:	0.090	0.150	.
(15) Countrywide Pure Premium:	2.152	1.866	4.018
(16) Countrywide Indicated Relativity:	1.855	2.419	.
(17) Countrywide Credibility:	0.460	0.430	.
(18) Countrywide Lost-Time Claims:	546.00	.	.
(19) Pure Premium Underlying Present Rate:	1.454	1.603	3.057
(20) Relativity to Underlying Present Rate:	1.549	1.805	.
(21) Credibility to Underlying Relativity:	0.450	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.572	1.971	.
(24) Balanced Formula Relativity:	1.571	1.972	1.731

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## Calculation of Class Relativities

Class(es): 2089 OYSTERMEN		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,451,942	8	656	669,826	1,960,550	276,131	1,322,733	4,229,239	4,291	2,608	6,899
2005	2,782,761	28	860	1,571,010	3,051,808	615,929	2,130,429	7,369,176	6,645	3,948	10,593
2006	3,084,247	12	896	1,040,806	2,732,339	969,531	2,356,522	7,099,197	4,893	4,314	9,207
2007	3,475,778	12	940	432,227	2,424,899	310,429	2,046,285	5,213,840	3,288	2,712	6,000
2008	3,347,998	20	836	1,900,011	4,086,556	999,249	2,750,800	9,736,617	7,152	4,480	11,633
<b>MA Total:</b>	<b>15142726</b>	<b>80</b>	<b>4,188</b>	<b>5,613,880</b>	<b>14256152</b>	<b>3,171,269</b>	<b>10606769</b>	<b>33648069</b>	<b>1,312</b>	<b>0,910</b>	<b>2,222</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.000	1.038	.
(14) Massachusetts Credibility:	0.560	0.850	.
(15) Countrywide Pure Premium:	1.398	1.005	2.403
(16) Countrywide Indicated Relativity:	1.205	1.303	.
(17) Countrywide Credibility:	0.220	0.080	.
(18) Countrywide Lost-Time Claims:	8275.0	.	.
(19) Pure Premium Underlying Present Rate:	1.048	0.913	1.961
(20) Relativity to Underlying Present Rate:	1.117	1.028	.
(21) Credibility to Underlying Relativity:	0.220	0.070	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.070	1.059	.
(24) Balanced Formula Relativity:	1.070	1.059	1.066

Class(es): 2095 MEAT PRODUCTS MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	302,343	3	111	732,260	640,228	177,619	355,549	1,905,657	4,540	1,763	6,303
2005	325,624	1	88	37,680	398,956	18,361	227,596	682,593	1,341	0,755	2,096
2006	334,751	1	77	77,682	549,689	61,387	383,430	1,072,187	1,874	1,329	3,203
2007	380,864	3	92	388,382	244,951	231,896	211,996	1,077,225	1,663	1,165	2,828
2008	376,384	3	70	386,572	436,823	125,737	206,933	1,156,065	2,188	0,884	3,072
<b>MA Total:</b>	<b>1,719,967</b>	<b>11</b>	<b>438</b>	<b>1,622,576</b>	<b>2,270,647</b>	<b>614,999</b>	<b>1,385,505</b>	<b>5,893,727</b>	<b>2,264</b>	<b>1,163</b>	<b>3,427</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.724	1.327	.
(14) Massachusetts Credibility:	0.510	0.750	.
(15) Countrywide Pure Premium:	1.586	1.267	2.853
(16) Countrywide Indicated Relativity:	1.367	1.642	.
(17) Countrywide Credibility:	0.250	0.130	.
(18) Countrywide Lost-Time Claims:	2762.0	.	.
(19) Pure Premium Underlying Present Rate:	1.818	1.496	3.314
(20) Relativity to Underlying Present Rate:	1.936	1.685	.
(21) Credibility to Underlying Relativity:	0.240	0.120	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.686	1.411	.
(24) Balanced Formula Relativity:	1.685	1.412	1.576

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## Calculation of Class Relativities

Class(es): 2111 CANNERY NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	35,563	0	4	0	2,228	0	1,151	3,379	0.063	0.032	0.095
2005	16,559	0	8	0	1,938	0	5,228	7,165	0.117	0.316	0.433
2006	11,781	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	6,657	0	1	0	76,035	0	11,463	87,498	11.421	1.722	13.143
2008	8,421	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>78,981</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>80,200</b>	<b>0</b>	<b>17,841</b>	<b>98,042</b>	<b>1.015</b>	<b>0.226</b>	<b>1.241</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.774	0.258	.
(14) Massachusetts Credibility:	0.120	0.190	.
(15) Countrywide Pure Premium:	1.094	0.864	1.958
(16) Countrywide Indicated Relativity:	0.943	1.120	.
(17) Countrywide Credibility:	0.440	0.410	.
(18) Countrywide Lost-Time Claims:	858.00	.	.
(19) Pure Premium Underlying Present Rate:	1.106	0.977	2.083
(20) Relativity to Underlying Present Rate:	1.178	1.101	.
(21) Credibility to Underlying Relativity:	0.440	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.026	0.949	.
(24) Balanced Formula Relativity:	1.025	0.949	0.995

Class(es): 2115 SEAFOOD PRODUCTS MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	226,006	3	45	478,609	194,949	205,013	137,067	1,015,639	2,980	1,514	4,494
2005	228,710	5	60	176,182	145,070	36,223	159,483	516,959	1,405	0,856	2,260
2006	228,657	3	50	236,040	192,696	126,757	134,896	690,389	1,875	1,144	3,019
2007	246,373	1	41	128,906	337,843	101,514	188,210	756,474	1,894	1,176	3,070
2008	255,183	2	55	89,416	404,683	26,957	419,990	941,046	1,936	1,751	3,688
<b>MA Total:</b>	<b>1,184,929</b>	<b>14</b>	<b>251</b>	<b>1,109,153</b>	<b>1,275,242</b>	<b>496,464</b>	<b>1,039,647</b>	<b>3,920,507</b>	<b>2,012</b>	<b>1,296</b>	<b>3,309</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.533	1.480	.
(14) Massachusetts Credibility:	0.390	0.580	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	1.465	1.266	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.400	1.144	2.545
(20) Relativity to Underlying Present Rate:	1.492	1.289	.
(21) Credibility to Underlying Relativity:	0.610	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.508	1.399	.
(24) Balanced Formula Relativity:	1.507	1.400	1.464

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Section IX - G  
 Exhibit 21

## Calculation of Class Relativities

Class(es): 2121 BREWERY & DRIVERS		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	31,777	0	5	0	449	0	4,025	4,474	0.014	0.127	0.141
2005	40,017	0	6	0	0	0	5,187	5,187	0.000	0.130	0.130
2006	39,300	0	4	0	8,145	0	21,828	29,973	0.207	0.555	0.763
2007	50,270	0	4	0	49,866	0	22,158	72,024	0.992	0.441	1.433
2008	50,950	0	3	0	710	0	7,487	8,197	0.014	0.147	0.161
<b>MA Total:</b>	<b>212,315</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>59,170</b>	<b>0</b>	<b>60,685</b>	<b>119,855</b>	<b>0.279</b>	<b>0.286</b>	<b>0.565</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.212	0.326	.
(14) Massachusetts Credibility:	0.160	0.250	.
(15) Countrywide Pure Premium:	1.144	0.550	1.694
(16) Countrywide Indicated Relativity:	0.986	0.713	.
(17) Countrywide Credibility:	0.420	0.380	.
(18) Countrywide Lost-Time Claims:	335.00	.	.
(19) Pure Premium Underlying Present Rate:	0.858	0.754	1.612
(20) Relativity to Underlying Present Rate:	0.914	0.849	.
(21) Credibility to Underlying Relativity:	0.420	0.370	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.832	0.666	.
(24) Balanced Formula Relativity:	0.832	0.667	0.766

Class(es): 2130 SPIRITUOUS LIQUOR DISTILLERY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,150	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,295	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	4,905	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	4,756	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	2,510	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>14,616</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.060	0.090	.
(15) Countrywide Pure Premium:	1.229	0.868	2.097
(16) Countrywide Indicated Relativity:	1.059	1.125	.
(17) Countrywide Credibility:	0.470	0.460	.
(18) Countrywide Lost-Time Claims:	198.00	.	.
(19) Pure Premium Underlying Present Rate:	1.216	0.881	2.097
(20) Relativity to Underlying Present Rate:	1.295	0.992	.
(21) Credibility to Underlying Relativity:	0.470	0.450	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.107	0.964	.
(24) Balanced Formula Relativity:	1.106	0.964	1.049

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 Exhibit 22

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2131 SPIRITUOUS LIQUOR BOTTLING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	33,370	0	4	0	438	0	6,542	6,981	0.013	0.196	0.209
2005	35,656	0	18	0	15,101	0	33,656	48,757	0.424	0.944	1.367
2006	39,658	0	12	0	5,736	0	11,535	17,270	0.145	0.291	0.435
2007	39,188	0	13	0	1,127	0	35,417	36,544	0.029	0.904	0.933
2008	37,476	0	8	0	50,683	0	43,067	93,751	1.352	1.149	2.502
<b>MA Total:</b>	<b>185,349</b>	<b>0</b>	<b>55</b>	<b>0</b>	<b>73,086</b>	<b>0</b>	<b>130,217</b>	<b>203,303</b>	<b>0.394</b>	<b>0.703</b>	<b>1.097</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.300	0.802	.
(14) Massachusetts Credibility:	0.160	0.250	.
(15) Countrywide Pure Premium:	1.614	1.059	2.673
(16) Countrywide Indicated Relativity:	1.391	1.373	.
(17) Countrywide Credibility:	0.420	0.380	.
(18) Countrywide Lost-Time Claims:	175.00	.	.
(19) Pure Premium Underlying Present Rate:	0.940	0.904	1.844
(20) Relativity to Underlying Present Rate:	1.001	1.019	.
(21) Credibility to Underlying Relativity:	0.420	0.370	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.053	1.099	.
(24) Balanced Formula Relativity:	1.052	1.100	1.071

Class(es):		Effective: 9/1/2011							Manufacturing		
2143 FRUIT JUICE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	89,768	0	24	0	3,386	0	22,101	25,487	0.038	0.246	0.284
2005	50,899	0	15	0	41,334	0	20,951	62,285	0.812	0.412	1.224
2006	52,333	0	10	0	632	0	6,312	6,943	0.012	0.121	0.133
2007	42,266	0	8	0	0	0	10,379	10,379	0.000	0.246	0.246
2008	33,441	0	7	0	11,587	0	20,011	31,598	0.347	0.598	0.945
<b>MA Total:</b>	<b>268,707</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>56,939</b>	<b>0</b>	<b>79,754</b>	<b>136,693</b>	<b>0.212</b>	<b>0.297</b>	<b>0.509</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.161	0.339	.
(14) Massachusetts Credibility:	0.220	0.310	.
(15) Countrywide Pure Premium:	1.788	1.140	2.928
(16) Countrywide Indicated Relativity:	1.541	1.478	.
(17) Countrywide Credibility:	0.390	0.350	.
(18) Countrywide Lost-Time Claims:	163.00	.	.
(19) Pure Premium Underlying Present Rate:	1.391	1.014	2.405
(20) Relativity to Underlying Present Rate:	1.482	1.142	.
(21) Credibility to Underlying Relativity:	0.390	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.215	1.010	.
(24) Balanced Formula Relativity:	1.214	1.011	1.133

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## Calculation of Class Relativities

Class(es): 2150 ICE MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4.772	0	4	0	169	0	4.259	4.428	0.035	0.892	0.928
2005	6.835	0	5	0	22.891	0	6.061	28.952	3.349	0.887	4.236
2006	5.564	0	2	0	67.955	0	36.508	104.464	12.214	6.562	18.776
2007	8.394	0	3	0	258.024	0	128.956	386.981	30.738	15.363	46.101
2008	7.593	0	4	0	8.061	0	11.853	19.914	1.062	1.561	2.623
<b>MA Total:</b>	<b>33,159</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>357,100</b>	<b>0</b>	<b>187,639</b>	<b>544,739</b>	<b>10,769</b>	<b>5,659</b>	<b>16,428</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	8.204	6.458	.
(14) Massachusetts Credibility:	0.120	0.180	.
(15) Countrywide Pure Premium:	7.913	4.029	11.942
(16) Countrywide Indicated Relativity:	6.819	5.222	.
(17) Countrywide Credibility:	0.100	0.110	.
(18) Countrywide Lost-Time Claims:	4.000	.	.
(19) Pure Premium Underlying Present Rate:	2.465	2.171	4.635
(20) Relativity to Underlying Present Rate:	2.626	2.445	.
(21) Credibility to Underlying Relativity:	0.780	0.710	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.715	3.473	.
(24) Balanced Formula Relativity:	3.712	3.474	3.617

Class(es): 2156 BOTTLING-NOT CARBONATED LIQUIDS OR SPIRIT LIQRS & RTE SUP,DR		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	59.002	1	9	3.050	145.848	112	23.821	172.832	2.524	0.406	2.929
2005	66.083	5	49	606.617	1,078.317	262.707	678.287	2,625.928	25.497	14.240	39.737
2006	75.748	2	16	286.147	220.243	102.976	71.209	680.575	6.685	2.300	8.985
2007	76.562	1	18	26.939	179.306	20.172	76.578	302.995	2.694	1.264	3.958
2008	65.672	1	8	105.986	161.770	21.916	103.089	392.762	4.077	1.903	5.981
<b>MA Total:</b>	<b>343,067</b>	<b>10</b>	<b>100</b>	<b>1,028,740</b>	<b>1,785,484</b>	<b>407,883</b>	<b>952,984</b>	<b>4,175,091</b>	<b>8,203</b>	<b>3,967</b>	<b>12,170</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	6.249	4.527	.
(14) Massachusetts Credibility:	0.370	0.580	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	4.283	4.340	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	4.093	3.923	8.016
(20) Relativity to Underlying Present Rate:	4.360	4.418	.
(21) Credibility to Underlying Relativity:	0.630	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	5.059	4.481	.
(24) Balanced Formula Relativity:	5.056	4.483	4.827

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2157 BOTTLING NOC & ROUTE SUPERVISORS, DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	92.128	1	37	486.765	90.218	92.243	75.574	744.799	6.263	1.822	8.084
2005	193.355	1	50	147.594	456.128	100.082	225.724	929.528	3.122	1.685	4.807
2006	353.965	10	219	553.625	497.745	342.106	563.162	1,956.637	2.970	2.558	5.528
2007	255.032	2	151	125.790	969.753	33.465	497.628	1,626.636	4.296	2.082	6.378
2008	266.526	3	114	525.620	590.357	163.844	479.438	1,759.258	4.187	2.414	6.601
<b>MA Total:</b>	<b>1,161,007</b>	<b>17</b>	<b>571</b>	<b>1,839,393</b>	<b>2,604,201</b>	<b>731,740</b>	<b>1,841,525</b>	<b>7,016,859</b>	<b>3.827</b>	<b>2.216</b>	<b>6.044</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.916	2.530	.
(14) Massachusetts Credibility:	0.500	0.710	.
(15) Countrywide Pure Premium:	3.279	1.690	4.969
(16) Countrywide Indicated Relativity:	2.826	2.190	.
(17) Countrywide Credibility:	0.250	0.150	.
(18) Countrywide Lost-Time Claims:	5799.0	.	.
(19) Pure Premium Underlying Present Rate:	2.561	1.900	4.461
(20) Relativity to Underlying Present Rate:	2.728	2.140	.
(21) Credibility to Underlying Relativity:	0.250	0.140	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.846	2.424	.
(24) Balanced Formula Relativity:	2.845	2.425	2.677

Class(es):		Effective: 9/1/2011							Manufacturing		
2172 CIGARETTE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	48	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.010	0.010	.
(15) Countrywide Pure Premium:	1.502	0.594	2.096
(16) Countrywide Indicated Relativity:	1.294	0.770	.
(17) Countrywide Credibility:	0.500	0.500	.
(18) Countrywide Lost-Time Claims:	459.00	.	.
(19) Pure Premium Underlying Present Rate:	0.981	0.647	1.628
(20) Relativity to Underlying Present Rate:	1.045	0.729	.
(21) Credibility to Underlying Relativity:	0.490	0.490	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.159	0.742	.
(24) Balanced Formula Relativity:	1.159	0.742	0.992

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 Exhibit 25

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2174 TOBACCO REHANDLING OR WAREHOUSING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,649	0	1	0	0	0	487	487	0.000	0.295	0.295
2005	1	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>1,650</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>487</b>	<b>487</b>	<b>0.000</b>	<b>0.295</b>	<b>0.295</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.337	.
(14) Massachusetts Credibility:	0.030	0.040	.
(15) Countrywide Pure Premium:	1.635	0.998	2.633
(16) Countrywide Indicated Relativity:	1.409	1.293	.
(17) Countrywide Credibility:	0.330	0.350	.
(18) Countrywide Lost-Time Claims:	74.000	.	.
(19) Pure Premium Underlying Present Rate:	1.733	1.050	2.784
(20) Relativity to Underlying Present Rate:	1.846	1.183	.
(21) Credibility to Underlying Relativity:	0.640	0.610	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.647	1.188	.
(24) Balanced Formula Relativity:	1.646	1.188	1.463

Class(es):		Effective: 9/1/2011							Manufacturing		
2211 COTTON BATTING, WADDING OR WASTE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	223	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	276	0	1	0	0	0	587	587	0.000	2.124	2.124
<b>MA Total:</b>	<b>499</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>587</b>	<b>587</b>	<b>0.000</b>	<b>1.176</b>	<b>1.176</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	1.342	.
(14) Massachusetts Credibility:	0.020	0.030	.
(15) Countrywide Pure Premium:	2.395	3.193	5.587
(16) Countrywide Indicated Relativity:	2.064	4.139	.
(17) Countrywide Credibility:	0.290	0.310	.
(18) Countrywide Lost-Time Claims:	52.000	.	.
(19) Pure Premium Underlying Present Rate:	2.285	2.372	4.657
(20) Relativity to Underlying Present Rate:	2.434	2.671	.
(21) Credibility to Underlying Relativity:	0.690	0.660	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.278	3.086	.
(24) Balanced Formula Relativity:	2.277	3.087	2.601

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Section IX - G  
Exhibit 26

## Calculation of Class Relativities

Class(es): 2220 WOOL SPINNING & WEAVING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	407,908	3	150	334,471	300,983	62,724	319,516	1,017,694	4,674	2,811	7,485
2005	437,898	0	165	0	1,104,180	0	741,441	1,845,621	7,565	5,080	12,644
2006	325,399	3	114	356,251	902,067	177,374	456,734	1,892,426	11,601	5,846	17,447
2007	298,217	3	105	583,373	48,231	149,940	117,991	899,535	6,354	2,695	9,049
2008	310,733	3	96	18,277	599,682	51,094	577,601	1,246,653	5,966	6,070	12,036
<b>MA Total:</b>	<b>1,780,155</b>	<b>12</b>	<b>630</b>	<b>1,292,372</b>	<b>2,955,142</b>	<b>441,132</b>	<b>2,213,283</b>	<b>6,901,929</b>	<b>2,386</b>	<b>1,491</b>	<b>3,877</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.818	1.702	.
(14) Massachusetts Credibility:	0.300	0.480	.
(15) Countrywide Pure Premium:	1.198	0.844	2.042
(16) Countrywide Indicated Relativity:	1.032	1.094	.
(17) Countrywide Credibility:	0.350	0.260	.
(18) Countrywide Lost-Time Claims:	1321.0	.	.
(19) Pure Premium Underlying Present Rate:	1.375	1.407	2.783
(20) Relativity to Underlying Present Rate:	1.465	1.585	.
(21) Credibility to Underlying Relativity:	0.350	0.260	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.419	1.513	.
(24) Balanced Formula Relativity:	1.419	1.514	1.457

Class(es): 2260 WOOL COMBING OR SCOURING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,604	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,511	0	1	0	0	0	881	881	0.000	0.583	0.583
2006	2,871	0	1	0	769	0	614	1,382	0.268	0.214	0.481
2007	3,249	1	1	83,667	0	45,596	218	129,482	25,751	14,101	39,851
2008	2,619	0	2	0	182	0	2,070	2,252	0.069	0.790	0.860
<b>MA Total:</b>	<b>11,855</b>	<b>1</b>	<b>5</b>	<b>83,667</b>	<b>951</b>	<b>45,596</b>	<b>3,784</b>	<b>133,998</b>	<b>7.138</b>	<b>4.165</b>	<b>11.303</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.437	4.754	.
(14) Massachusetts Credibility:	0.080	0.110	.
(15) Countrywide Pure Premium:	10.801	4.479	15.280
(16) Countrywide Indicated Relativity:	9.308	5.806	.
(17) Countrywide Credibility:	0.090	0.100	.
(18) Countrywide Lost-Time Claims:	3.000	.	.
(19) Pure Premium Underlying Present Rate:	2.922	1.639	4.560
(20) Relativity to Underlying Present Rate:	3.113	1.845	.
(21) Credibility to Underlying Relativity:	0.830	0.790	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.856	2.561	.
(24) Balanced Formula Relativity:	3.854	2.562	3.337

# IX 000097

## Calculation of Class Relativities

Class(es): 2288 FELTING MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	110.171	2	15	188.981	20.558	397.197	15.350	622.087	1.902	3.745	5.647
2005	117.406	0	24	0	10.845	0	52.686	63.531	0.092	0.449	0.541
2006	114.050	0	21	0	16.145	0	38.718	54.864	0.142	0.339	0.481
2007	101.597	0	20	0	180.035	0	67.344	247.380	1.772	0.663	2.435
2008	74.914	1	19	10.821	20.984	33.078	34.862	99.745	0.425	0.907	1.331
<b>MA Total:</b>	<b>518,138</b>	<b>3</b>	<b>99</b>	<b>199.802</b>	<b>248.568</b>	<b>430.275</b>	<b>208.960</b>	<b>1,087.605</b>	<b>0.865</b>	<b>1.234</b>	<b>2.099</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.659	1.408	.
(14) Massachusetts Credibility:	0.230	0.370	.
(15) Countrywide Pure Premium:	1.654	0.931	2.585
(16) Countrywide Indicated Relativity:	1.425	1.207	.
(17) Countrywide Credibility:	0.390	0.320	.
(18) Countrywide Lost-Time Claims:	164.00	.	.
(19) Pure Premium Underlying Present Rate:	0.829	0.838	1.667
(20) Relativity to Underlying Present Rate:	0.883	0.944	.
(21) Credibility to Underlying Relativity:	0.380	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.043	1.200	.
(24) Balanced Formula Relativity:	1.042	1.200	1.106

Class(es): 2305 TEXTILE FIBER MFG-SYNTHETIC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	18.520	0	2	0	0	0	2.597	2.597	0.000	0.140	0.140
2005	18.790	0	5	0	0	0	2.315	2.315	0.000	0.123	0.123
2006	2.130	1	0	56.575	0	13.062	0	69.636	26.561	6.132	32.694
2007	23.960	0	3	0	0	0	2.904	2.904	0.000	0.121	0.121
2008	34.166	2	9	62.669	0	68.624	11.249	142.542	1.834	2.338	4.172
<b>MA Total:</b>	<b>97.567</b>	<b>3</b>	<b>19</b>	<b>119.243</b>	<b>0</b>	<b>81.686</b>	<b>19.065</b>	<b>219.994</b>	<b>1.222</b>	<b>1.033</b>	<b>2.255</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.931	1.179	.
(14) Massachusetts Credibility:	0.120	0.170	.
(15) Countrywide Pure Premium:	1.323	0.814	2.137
(16) Countrywide Indicated Relativity:	1.140	1.056	.
(17) Countrywide Credibility:	0.440	0.420	.
(18) Countrywide Lost-Time Claims:	911.00	.	.
(19) Pure Premium Underlying Present Rate:	0.895	0.610	1.505
(20) Relativity to Underlying Present Rate:	0.953	0.688	.
(21) Credibility to Underlying Relativity:	0.440	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.033	0.926	.
(24) Balanced Formula Relativity:	1.032	0.926	0.990

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Section IX - G  
 Exhibit 28

## Calculation of Class Relativities

Class(es): 2362 KNIT GOODS MFG NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	29,547	0	4	0	7,342	0	21,433	28,775	0.248	0.725	0.974
2005	26,679	0	5	0	0	0	4,494	4,494	0.000	0.168	0.168
2006	29,202	0	8	0	15,359	0	43,889	59,248	0.526	1.503	2.029
2007	22,978	1	5	74,239	11,583	24,202	16,915	126,939	3.735	1.789	5.524
2008	12,800	0	5	0	4,997	0	5,920	10,917	0.390	0.462	0.853
<b>MA Total:</b>	<b>121,206</b>	<b>1</b>	<b>27</b>	<b>74,239</b>	<b>39,281</b>	<b>24,202</b>	<b>92,651</b>	<b>230,374</b>	<b>0.937</b>	<b>0.964</b>	<b>1.901</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.713	1.100	.
(14) Massachusetts Credibility:	0.130	0.210	.
(15) Countrywide Pure Premium:	0.849	0.680	1.529
(16) Countrywide Indicated Relativity:	0.732	0.882	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	235.00	.	.
(19) Pure Premium Underlying Present Rate:	0.930	0.919	1.849
(20) Relativity to Underlying Present Rate:	0.991	1.035	.
(21) Credibility to Underlying Relativity:	0.430	0.390	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.841	0.987	.
(24) Balanced Formula Relativity:	0.840	0.988	0.899

Class(es): 2380 WEBBING MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	84,716	2	37	245,068	32,524	271,321	93,984	642,898	3.277	4.312	7.589
2005	78,464	1	17	61,684	75,236	16,250	59,027	212,197	1.745	0.959	2.704
2006	70,392	0	20	0	23,816	0	25,453	49,269	0.338	0.362	0.700
2007	65,280	0	17	0	14,284	0	22,168	36,452	0.219	0.340	0.558
2008	62,716	0	7	0	73,828	0	38,341	112,168	1.177	0.611	1.788
<b>MA Total:</b>	<b>361,569</b>	<b>3</b>	<b>98</b>	<b>306,752</b>	<b>219,688</b>	<b>287,571</b>	<b>238,973</b>	<b>1,052,984</b>	<b>1.456</b>	<b>1.456</b>	<b>2.912</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.109	1.662	.
(14) Massachusetts Credibility:	0.220	0.380	.
(15) Countrywide Pure Premium:	1.129	0.928	2.057
(16) Countrywide Indicated Relativity:	0.973	1.203	.
(17) Countrywide Credibility:	0.390	0.310	.
(18) Countrywide Lost-Time Claims:	262.00	.	.
(19) Pure Premium Underlying Present Rate:	1.015	1.244	2.259
(20) Relativity to Underlying Present Rate:	1.081	1.401	.
(21) Credibility to Underlying Relativity:	0.390	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.045	1.439	.
(24) Balanced Formula Relativity:	1.044	1.439	1.203

# IX 000099

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2402 CARPET OR RUG MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5.300	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	4.323	0	1	0	824	0	597	1.421	0.191	0.138	0.329
2006	4.735	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	6.978	0	3	0	0	0	1.308	1.308	0.000	0.187	0.187
2008	3.027	0	1	0	0	0	652	652	0.000	0.215	0.215
<b>MA Total:</b>	<b>24,363</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>824</b>	<b>0</b>	<b>2,557</b>	<b>3,381</b>	<b>0.034</b>	<b>0.105</b>	<b>0.139</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.026	0.120	.
(14) Massachusetts Credibility:	0.080	0.120	.
(15) Countrywide Pure Premium:	1.519	1.018	2.537
(16) Countrywide Indicated Relativity:	1.309	1.320	.
(17) Countrywide Credibility:	0.460	0.440	.
(18) Countrywide Lost-Time Claims:	437.00	.	.
(19) Pure Premium Underlying Present Rate:	1.378	1.011	2.388
(20) Relativity to Underlying Present Rate:	1.468	1.138	.
(21) Credibility to Underlying Relativity:	0.460	0.440	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.279	1.096	.
(24) Balanced Formula Relativity:	1.279	1.096	1.206

Class(es):		Effective: 9/1/2011							Manufacturing		
2413 TEXTILE - BLEACHING, DYEING, MERCERZNG, FINISH											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	215.841	3	57	244.185	727.984	96.015	314.275	1,382.460	4.504	1.901	6.405
2005	149.270	2	68	120.811	527.082	36.814	252.612	937.320	4.340	1.939	6.279
2006	107.672	0	26	0	1.025	0	49.389	50.414	0.010	0.459	0.468
2007	291.206	2	67	172.568	281.146	46.716	201.033	701.463	1.558	0.851	2.409
2008	233.225	2	55	92.150	138.323	76.890	225.373	532.735	0.988	1.296	2.284
<b>MA Total:</b>	<b>997.214</b>	<b>9</b>	<b>273</b>	<b>629.714</b>	<b>1,675.560</b>	<b>256.436</b>	<b>1,042.682</b>	<b>3,604.392</b>	<b>2.312</b>	<b>1.303</b>	<b>3.614</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.761	1.487	.
(14) Massachusetts Credibility:	0.390	0.550	.
(15) Countrywide Pure Premium:	1.151	0.824	1.975
(16) Countrywide Indicated Relativity:	0.992	1.068	.
(17) Countrywide Credibility:	0.310	0.230	.
(18) Countrywide Lost-Time Claims:	471.00	.	.
(19) Pure Premium Underlying Present Rate:	1.586	1.186	2.772
(20) Relativity to Underlying Present Rate:	1.690	1.335	.
(21) Credibility to Underlying Relativity:	0.300	0.220	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.501	1.357	.
(24) Balanced Formula Relativity:	1.500	1.358	1.443

# IX 000100

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2416 YARN OR THREAD DYEING OR FINISHING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	27,442	1	20	115,912	2,021	193,425	18,145	329,504	4,298	7,710	12,007
2005	16,714	0	6	0	10,407	0	6,477	16,884	0,623	0,388	1,010
2006	15,798	0	7	0	9,629	0	7,424	17,054	0,610	0,470	1,079
2007	17,300	0	4	0	62,258	0	21,934	84,193	3,599	1,268	4,867
2008	17,162	0	1	0	51,335	0	41,345	92,679	2,991	2,409	5,400
<b>MA Total:</b>	<b>94,416</b>	<b>1</b>	<b>38</b>	<b>115,912</b>	<b>135,651</b>	<b>193,425</b>	<b>95,326</b>	<b>540,315</b>	<b>2,664</b>	<b>3,058</b>	<b>5,723</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.030	3.491	.
(14) Massachusetts Credibility:	0.140	0.220	.
(15) Countrywide Pure Premium:	0.967	0.724	1.691
(16) Countrywide Indicated Relativity:	0.833	0.938	.
(17) Countrywide Credibility:	0.310	0.320	.
(18) Countrywide Lost-Time Claims:	60.000	.	.
(19) Pure Premium Underlying Present Rate:	1.273	1.262	2.534
(20) Relativity to Underlying Present Rate:	1.356	1.421	.
(21) Credibility to Underlying Relativity:	0.550	0.460	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.288	1.722	.
(24) Balanced Formula Relativity:	1.287	1.722	1.461

Class(es):		Effective: 9/1/2011							Manufacturing		
2417 CLOTH PRINTING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	126,570	0	48	0	172,286	0	226,308	398,593	1,361	1,788	3,149
2005	133,518	0	28	0	417,705	0	123,275	540,981	3,128	0,923	4,052
2006	124,530	0	38	0	44,689	0	73,124	117,812	0,359	0,587	0,946
2007	107,184	2	20	363,902	98,486	142,133	72,944	677,466	4,314	2,007	6,321
2008	52,081	1	10	533,019	51,289	88,519	25,019	697,846	11,219	2,180	13,399
<b>MA Total:</b>	<b>543,882</b>	<b>3</b>	<b>144</b>	<b>896,921</b>	<b>784,455</b>	<b>230,652</b>	<b>520,670</b>	<b>2,432,698</b>	<b>3,091</b>	<b>1,381</b>	<b>4,473</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.355	1.577	.
(14) Massachusetts Credibility:	0.280	0.420	.
(15) Countrywide Pure Premium:	1.134	0.626	1.760
(16) Countrywide Indicated Relativity:	0.977	0.812	.
(17) Countrywide Credibility:	0.310	0.290	.
(18) Countrywide Lost-Time Claims:	60.000	.	.
(19) Pure Premium Underlying Present Rate:	1.277	1.100	2.377
(20) Relativity to Underlying Present Rate:	1.361	1.238	.
(21) Credibility to Underlying Relativity:	0.410	0.290	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.520	1.257	.
(24) Balanced Formula Relativity:	1.519	1.257	1.414

# IX 000101

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2501 FEATHER OR FLOWER MFG-ARTIFICIAL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,896,935	30	544	1,368,121	2,205,564	705,802	1,296,511	5,575,997	2,467	1,382	3,850
2005	2,410,858	10	488	432,651	2,285,092	271,409	1,415,753	4,404,906	2,255	1,400	3,654
2006	2,188,978	12	402	994,504	2,228,450	334,139	1,407,841	4,964,935	2,945	1,592	4,536
2007	1,971,256	8	326	728,702	2,085,422	157,286	1,140,239	4,111,649	2,855	1,316	4,172
2008	2,087,943	16	284	1,181,940	988,562	825,261	882,297	3,878,059	2,079	1,636	3,715
<b>MA Total:</b>	<b>11555969</b>	<b>76</b>	<b>2,044</b>	<b>4,705,918</b>	<b>9,793,089</b>	<b>2,293,897</b>	<b>6,142,642</b>	<b>22935546</b>	<b>1,255</b>	<b>0,730</b>	<b>1,985</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.956	0.833	.
(14) Massachusetts Credibility:	0.650	0.980	.
(15) Countrywide Pure Premium:	1.133	0.859	1.992
(16) Countrywide Indicated Relativity:	0.976	1.114	.
(17) Countrywide Credibility:	0.180	0.010	.
(18) Countrywide Lost-Time Claims:	3510.0	.	.
(19) Pure Premium Underlying Present Rate:	0.998	0.856	1.854
(20) Relativity to Underlying Present Rate:	1.063	0.964	.
(21) Credibility to Underlying Relativity:	0.170	0.010	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.978	0.837	.
(24) Balanced Formula Relativity:	0.977	0.838	0.921

Class(es):		Effective: 9/1/2011							Manufacturing		
2503 DRESSMAKING OR TAILORING-CUSTOM EXCLUSIVELY											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	74,145	0	4	0	3,350	0	12,466	15,815	0.045	0.168	0.213
2005	65,089	0	4	0	144,564	0	192,471	337,035	2.221	2.957	5.178
2006	65,561	0	1	0	0	0	560	560	0.000	0.009	0.009
2007	62,087	0	5	0	2,425	0	10,164	12,589	0.039	0.164	0.203
2008	52,947	0	3	0	0	0	1,992	1,992	0.000	0.038	0.038
<b>MA Total:</b>	<b>319,830</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>150,339</b>	<b>0</b>	<b>217,653</b>	<b>367,991</b>	<b>0.470</b>	<b>0.681</b>	<b>1.151</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.358	0.777	.
(14) Massachusetts Credibility:	0.140	0.240	.
(15) Countrywide Pure Premium:	0.496	0.344	0.840
(16) Countrywide Indicated Relativity:	0.428	0.445	.
(17) Countrywide Credibility:	0.300	0.320	.
(18) Countrywide Lost-Time Claims:	57.000	.	.
(19) Pure Premium Underlying Present Rate:	0.405	0.464	0.869
(20) Relativity to Underlying Present Rate:	0.432	0.522	.
(21) Credibility to Underlying Relativity:	0.560	0.440	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.420	0.559	.
(24) Balanced Formula Relativity:	0.420	0.559	0.476

# IX 000102

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2570 MATTRESS OR BOX SPRING MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	16,419	0	14	0	47,449	0	24,760	72,209	2,890	1,508	4,398
2005	12,852	0	2	0	393	0	341	734	0.031	0.027	0.057
2006	30,740	0	9	0	224,670	0	178,363	403,033	7,309	5,802	13,111
2007	25,939	0	5	0	8,340	0	43,011	51,352	0.322	1,658	1,980
2008	69,673	0	20	0	78,142	0	49,889	128,030	1.122	0.716	1,838
<b>MA Total:</b>	<b>155,623</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>358,995</b>	<b>0</b>	<b>296,363</b>	<b>655,358</b>	<b>2.307</b>	<b>1.904</b>	<b>4.211</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.757	2.173	.
(14) Massachusetts Credibility:	0.190	0.320	.
(15) Countrywide Pure Premium:	2.075	1.167	3.243
(16) Countrywide Indicated Relativity:	1.788	1.513	.
(17) Countrywide Credibility:	0.410	0.340	.
(18) Countrywide Lost-Time Claims:	549.00	.	.
(19) Pure Premium Underlying Present Rate:	1.829	1.918	3.747
(20) Relativity to Underlying Present Rate:	1.949	2.160	.
(21) Credibility to Underlying Relativity:	0.400	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.847	1.944	.
(24) Balanced Formula Relativity:	1.845	1.945	1.885

Class(es):		Effective: 9/1/2011							Manufacturing		
2576 BAG OR SACK MFG-CLOTH											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	142,310	2	52	180,758	53,987	80,903	64,764	380,413	3,299	2,047	5,346
2005	140,407	4	32	662,444	6,579	126,132	33,656	828,812	9,530	2,276	11,806
2006	155,005	0	32	0	1,269	0	39,910	41,179	0.016	0.515	0.531
2007	227,423	4	60	311,056	294,949	150,818	198,375	955,197	5,329	3,071	8,400
2008	151,050	0	24	0	16,891	0	20,963	37,853	0.224	0.278	0.501
<b>MA Total:</b>	<b>816,195</b>	<b>10</b>	<b>200</b>	<b>1,154,259</b>	<b>373,674</b>	<b>357,853</b>	<b>357,668</b>	<b>2,243,454</b>	<b>1.872</b>	<b>0.877</b>	<b>2.749</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.426	1.001	.
(14) Massachusetts Credibility:	0.260	0.380	.
(15) Countrywide Pure Premium:	1.014	0.457	1.471
(16) Countrywide Indicated Relativity:	0.874	0.593	.
(17) Countrywide Credibility:	0.140	0.140	.
(18) Countrywide Lost-Time Claims:	8.000	.	.
(19) Pure Premium Underlying Present Rate:	1.375	1.144	2.520
(20) Relativity to Underlying Present Rate:	1.465	1.289	.
(21) Credibility to Underlying Relativity:	0.600	0.480	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.372	1.082	.
(24) Balanced Formula Relativity:	1.371	1.082	1.256

# IX 000103

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing			
2585 LAUNDRY NOC & ROUTE SUPERVISORS, DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	559,552	4	149	601,223	357,870	105,145	269,337	1,333,575	1,714	0,669	2,383	
2005	478,253	4	140	154,576	258,778	185,301	346,139	944,793	0,864	1,111	1,976	
2006	517,891	6	104	576,021	732,031	311,808	613,535	2,233,394	2,526	1,787	4,312	
2007	512,158	5	114	595,236	258,696	482,487	194,364	1,530,783	1,667	1,322	2,989	
2008	512,637	2	128	29,316	824,260	46,464	1,033,159	1,933,199	1,665	2,106	3,771	
<b>MA Total:</b>	<b>2,580,491</b>	<b>21</b>	<b>635</b>	<b>1,956,372</b>	<b>2,431,635</b>	<b>1,131,204</b>	<b>2,456,534</b>	<b>7,975,745</b>	<b>1,700</b>	<b>1,390</b>	<b>3,091</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.295	1.587	.
(14) Massachusetts Credibility:	0.500	0.770	.
(15) Countrywide Pure Premium:	1.825	1.237	3.062
(16) Countrywide Indicated Relativity:	1.573	1.603	.
(17) Countrywide Credibility:	0.250	0.120	.
(18) Countrywide Lost-Time Claims:	3396.0	.	.
(19) Pure Premium Underlying Present Rate:	1.149	1.040	2.189
(20) Relativity to Underlying Present Rate:	1.224	1.171	.
(21) Credibility to Underlying Relativity:	0.250	0.110	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.347	1.543	.
(24) Balanced Formula Relativity:	1.346	1.544	1.425

Class(es):		Effective: 9/1/2011							Manufacturing			
2586 CLEANING OR DYEING & ROUTE SUPERVISORS, DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	480,076	1	36	12,495	275,418	9,312	122,277	419,502	0,600	0,274	0,874	
2005	457,057	3	32	135,874	153,354	135,577	259,073	683,877	0,633	0,863	1,496	
2006	453,133	2	34	44,144	296,782	8,945	178,963	528,834	0,752	0,415	1,167	
2007	455,460	2	36	6,936	197,233	7,395	92,439	304,003	0,448	0,219	0,667	
2008	472,410	1	35	328	200,282	3,037	174,356	378,003	0,425	0,376	0,800	
<b>MA Total:</b>	<b>2,318,136</b>	<b>9</b>	<b>173</b>	<b>199,777</b>	<b>1,123,069</b>	<b>164,266</b>	<b>827,107</b>	<b>2,314,219</b>	<b>0,571</b>	<b>0,428</b>	<b>0,998</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.435	0.488	.
(14) Massachusetts Credibility:	0.390	0.580	.
(15) Countrywide Pure Premium:	1.333	0.920	2.253
(16) Countrywide Indicated Relativity:	1.149	1.193	.
(17) Countrywide Credibility:	0.310	0.210	.
(18) Countrywide Lost-Time Claims:	315.00	.	.
(19) Pure Premium Underlying Present Rate:	0.687	0.574	1.261
(20) Relativity to Underlying Present Rate:	0.732	0.646	.
(21) Credibility to Underlying Relativity:	0.300	0.210	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.745	0.669	.
(24) Balanced Formula Relativity:	0.745	0.670	0.715

# IX 000104

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
2587 TOWEL OR TOILET SUPPLY CO & RTE SUPERVISORS, DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	10.821	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	23.520	0	2	0	0	0	4.122	4.122	0.000	0.175	0.175
2006	17.163	0	3	0	0	0	2.324	2.324	0.000	0.135	0.135
2007	25.142	0	1	0	79	0	647	726	0.003	0.026	0.029
2008	29.441	0	1	0	145	0	452	597	0.005	0.015	0.020
<b>MA Total:</b>	<b>106.088</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>224</b>	<b>0</b>	<b>7,545</b>	<b>7,769</b>	<b>0.002</b>	<b>0.071</b>	<b>0.073</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.002	0.097	.
(14) Massachusetts Credibility:	0.130	0.210	.
(15) Countrywide Pure Premium:	2.460	1.608	4.067
(16) Countrywide Indicated Relativity:	2.346	2.159	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	150.00	.	.
(19) Pure Premium Underlying Present Rate:	0.990	0.963	1.953
(20) Relativity to Underlying Present Rate:	1.447	1.355	.
(21) Credibility to Underlying Relativity:	0.430	0.390	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.655	1.412	.
(24) Balanced Formula Relativity:	1.648	1.408	1.547

Class(es):		Effective: 9/1/2011							Manufacturing		
2623 TANNING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5.648	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	4.763	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	5.966	0	1	0	10.616	0	10.722	21.338	1.779	1.797	3.577
2007	6.472	0	2	0	11.607	0	12.836	24.443	1.793	1.983	3.777
2008	4.002	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>26.851</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>22.223</b>	<b>0</b>	<b>23.558</b>	<b>45.781</b>	<b>0.828</b>	<b>0.877</b>	<b>1.705</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.630	1.001	.
(14) Massachusetts Credibility:	0.090	0.140	.
(15) Countrywide Pure Premium:	1.885	1.426	3.311
(16) Countrywide Indicated Relativity:	1.624	1.848	.
(17) Countrywide Credibility:	0.280	0.300	.
(18) Countrywide Lost-Time Claims:	48.000	.	.
(19) Pure Premium Underlying Present Rate:	1.692	1.310	3.001
(20) Relativity to Underlying Present Rate:	1.802	1.475	.
(21) Credibility to Underlying Relativity:	0.630	0.560	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.647	1.521	.
(24) Balanced Formula Relativity:	1.646	1.521	1.596

# IX 000105

Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 35

## Calculation of Class Relativities

Class(es): 2640 SHOE STOCK MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	130.578	0	22	0	124.621	0	84.739	209.360	1.909	1.298	3.207
2005	136.152	2	14	82.860	545.715	21.833	90.225	740.633	9.233	1.646	10.879
2006	142.481	0	30	0	162.788	0	77.633	240.421	2.285	1.090	3.375
2007	117.373	0	10	0	2.213	0	11.534	13.747	0.038	0.197	0.234
2008	113.485	0	10	0	0	0	5.424	5.424	0.000	0.096	0.096
<b>MA Total:</b>	<b>640.069</b>	<b>2</b>	<b>86</b>	<b>82.860</b>	<b>835.336</b>	<b>21.833</b>	<b>269.555</b>	<b>1,209.584</b>	<b>1.435</b>	<b>0.455</b>	<b>1.890</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.093	0.520	.
(14) Massachusetts Credibility:	0.210	0.310	.
(15) Countrywide Pure Premium:	0.832	0.665	1.497
(16) Countrywide Indicated Relativity:	0.717	0.863	.
(17) Countrywide Credibility:	0.360	0.350	.
(18) Countrywide Lost-Time Claims:	92.000	.	.
(19) Pure Premium Underlying Present Rate:	1.050	0.862	1.912
(20) Relativity to Underlying Present Rate:	1.118	0.971	.
(21) Credibility to Underlying Relativity:	0.430	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.968	0.793	.
(24) Balanced Formula Relativity:	0.968	0.793	0.898

Class(es): 2660 BOOT OR SHOE MFG NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	182.603	0	59	0	117.872	0	150.360	268.232	0.646	0.823	1.469
2005	200.279	0	76	0	59.333	0	145.564	204.897	0.296	0.727	1.023
2006	199.073	2	62	307.726	68.319	205.659	103.355	685.059	1.889	1.552	3.441
2007	35.000	0	7	0	0	0	2.804	2.804	0.000	0.080	0.080
2008	34.856	0	11	0	117.488	0	50.512	168.000	3.371	1.449	4.820
<b>MA Total:</b>	<b>651.811</b>	<b>2</b>	<b>215</b>	<b>307.726</b>	<b>363.013</b>	<b>205.659</b>	<b>452.595</b>	<b>1,328.992</b>	<b>1.029</b>	<b>1.010</b>	<b>2.039</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.784	1.153	.
(14) Massachusetts Credibility:	0.240	0.420	.
(15) Countrywide Pure Premium:	1.077	0.757	1.834
(16) Countrywide Indicated Relativity:	0.928	0.981	.
(17) Countrywide Credibility:	0.380	0.290	.
(18) Countrywide Lost-Time Claims:	213.00	.	.
(19) Pure Premium Underlying Present Rate:	0.714	0.906	1.620
(20) Relativity to Underlying Present Rate:	0.761	1.020	.
(21) Credibility to Underlying Relativity:	0.380	0.290	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.830	1.065	.
(24) Balanced Formula Relativity:	0.829	1.065	0.924

# IX 000106

## Calculation of Class Relativities

Class(es): 2683 LUGGAGE MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,503	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	60,295	0	12	0	2,349	0	15,049	17,399	0.039	0.250	0.289
2006	82,290	0	18	0	160,437	0	42,974	203,411	1.950	0.522	2.472
2007	65,343	0	20	0	46,222	0	89,191	135,413	0.707	1.365	2.072
2008	30,111	0	3	0	43,092	0	47,437	90,529	1.431	1.575	3.007
<b>MA Total:</b>	<b>241,542</b>	<b>0</b>	<b>53</b>	<b>0</b>	<b>252,101</b>	<b>0</b>	<b>194,651</b>	<b>446,752</b>	<b>1.044</b>	<b>0.806</b>	<b>1.850</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.795	0.920	.
(14) Massachusetts Credibility:	0.170	0.270	.
(15) Countrywide Pure Premium:	0.578	0.649	1.228
(16) Countrywide Indicated Relativity:	0.498	0.842	.
(17) Countrywide Credibility:	0.240	0.250	.
(18) Countrywide Lost-Time Claims:	32.000	.	.
(19) Pure Premium Underlying Present Rate:	0.881	0.792	1.673
(20) Relativity to Underlying Present Rate:	0.939	0.892	.
(21) Credibility to Underlying Relativity:	0.590	0.480	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.809	0.887	.
(24) Balanced Formula Relativity:	0.808	0.887	0.840

Class(es): 2688 LEATHER GOODS MFG NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	114,758	0	18	0	72,749	0	38,601	111,350	0.634	0.336	0.970
2005	89,915	0	33	0	10,946	0	33,288	44,234	0.122	0.370	0.492
2006	82,433	0	10	0	33,761	0	14,581	48,342	0.410	0.177	0.586
2007	62,121	0	6	0	11,483	0	23,255	34,738	0.185	0.374	0.559
2008	100,240	4	12	347,870	155,538	196,513	96,048	795,968	5.022	2.919	7.941
<b>MA Total:</b>	<b>449,467</b>	<b>4</b>	<b>79</b>	<b>347,870</b>	<b>284,477</b>	<b>196,513</b>	<b>205,773</b>	<b>1,034,633</b>	<b>1.407</b>	<b>0.895</b>	<b>2.302</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.072	1.022	.
(14) Massachusetts Credibility:	0.250	0.370	.
(15) Countrywide Pure Premium:	1.198	0.892	2.090
(16) Countrywide Indicated Relativity:	1.032	1.157	.
(17) Countrywide Credibility:	0.380	0.320	.
(18) Countrywide Lost-Time Claims:	169.00	.	.
(19) Pure Premium Underlying Present Rate:	1.126	0.937	2.063
(20) Relativity to Underlying Present Rate:	1.199	1.056	.
(21) Credibility to Underlying Relativity:	0.370	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.104	1.075	.
(24) Balanced Formula Relativity:	1.103	1.076	1.092

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
2702 LOGGING OR LUMBERING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	38,138	0	9	0	290,497	0	104,939	395,435	7,617	2,752	10,368
2005	44,907	1	7	62,882	93,341	87,737	84,545	328,505	3,479	3,836	7,315
2006	40,751	1	9	10,741	48,753	1,090	37,628	98,212	1,460	0,950	2,410
2007	29,859	0	3	0	4,272	0	150,127	154,399	0,143	5,028	5,171
2008	25,322	1	9	445,071	3,607	206,184	9,788	664,650	17,719	8,529	26,248
<b>MA Total:</b>	<b>178,977</b>	<b>3</b>	<b>37</b>	<b>518,693</b>	<b>440,471</b>	<b>295,010</b>	<b>387,027</b>	<b>1,641,201</b>	<b>5,359</b>	<b>3,811</b>	<b>9,170</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.808	1.934	.
(14) Massachusetts Credibility:	0.330	0.520	.
(15) Countrywide Pure Premium:	12.039	7.478	19.517
(16) Countrywide Indicated Relativity:	4.311	4.083	.
(17) Countrywide Credibility:	0.340	0.240	.
(18) Countrywide Lost-Time Claims:	2579.0	.	.
(19) Pure Premium Underlying Present Rate:	6.128	5.639	11.767
(20) Relativity to Underlying Present Rate:	3.162	2.958	.
(21) Credibility to Underlying Relativity:	0.330	0.240	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	3.106	2.695	.
(24) Balanced Formula Relativity:	3.042	2.670	2.894

Class(es):		Effective: 9/1/2011							Manufacturing		
2710 SAWMILLS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	26,698	0	9	0	6,628	0	20,978	27,607	0,248	0,786	1,034
2005	26,654	0	15	0	8,093	0	41,934	50,027	0,304	1,573	1,877
2006	27,806	0	12	0	6,857	0	12,370	19,228	0,247	0,445	0,691
2007	27,991	0	10	0	211,966	0	154,586	366,552	7,573	5,523	13,095
2008	24,538	0	11	0	24,357	0	72,785	97,141	0,993	2,966	3,959
<b>MA Total:</b>	<b>133,687</b>	<b>0</b>	<b>57</b>	<b>0</b>	<b>257,902</b>	<b>0</b>	<b>302,653</b>	<b>560,554</b>	<b>1,929</b>	<b>2,264</b>	<b>4,193</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.470	2.584	.
(14) Massachusetts Credibility:	0.210	0.330	.
(15) Countrywide Pure Premium:	4.026	2.868	6.894
(16) Countrywide Indicated Relativity:	3.470	3.718	.
(17) Countrywide Credibility:	0.400	0.340	.
(18) Countrywide Lost-Time Claims:	2178.0	.	.
(19) Pure Premium Underlying Present Rate:	2.631	2.379	5.009
(20) Relativity to Underlying Present Rate:	2.803	2.679	.
(21) Credibility to Underlying Relativity:	0.390	0.330	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.789	3.001	.
(24) Balanced Formula Relativity:	2.788	3.002	2.873

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2731 PLANING OR MOLDING MILL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	52,499	0	22	0	14,201	0	31,492	45,693	0.271	0.600	0.870
2005	55,029	0	23	0	161,805	0	119,957	281,762	2.940	2.180	5.120
2006	57,970	2	22	35,165	21,672	33,669	48,124	138,630	0.980	1.411	2.391
2007	54,681	0	21	0	229,877	0	79,398	309,274	4.204	1.452	5.656
2008	46,727	0	17	0	206,792	0	71,634	278,426	4.426	1.533	5.959
<b>MA Total:</b>	<b>266,906</b>	<b>2</b>	<b>105</b>	<b>35,165</b>	<b>634,346</b>	<b>33,669</b>	<b>350,605</b>	<b>1,053,785</b>	<b>2.508</b>	<b>1.440</b>	<b>3.948</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.911	1.643	.
(14) Massachusetts Credibility:	0.240	0.380	.
(15) Countrywide Pure Premium:	2.097	1.547	3.644
(16) Countrywide Indicated Relativity:	1.807	2.005	.
(17) Countrywide Credibility:	0.380	0.310	.
(18) Countrywide Lost-Time Claims:	1819.0	.	.
(19) Pure Premium Underlying Present Rate:	1.890	1.765	3.655
(20) Relativity to Underlying Present Rate:	2.013	1.987	.
(21) Credibility to Underlying Relativity:	0.380	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.910	1.862	.
(24) Balanced Formula Relativity:	1.909	1.863	1.891

Class(es):		Effective: 9/1/2011							Manufacturing		
2741 COOPERAGE STOCK MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.777	1.319	2.096
(16) Countrywide Indicated Relativity:	0.670	1.710	.
(17) Countrywide Credibility:	0.140	0.140	.
(18) Countrywide Lost-Time Claims:	8.000	.	.
(19) Pure Premium Underlying Present Rate:	2.836	1.878	4.714
(20) Relativity to Underlying Present Rate:	3.022	2.115	.
(21) Credibility to Underlying Relativity:	0.860	0.860	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.693	2.058	.
(24) Balanced Formula Relativity:	2.691	2.059	2.438

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## Calculation of Class Relativities

Class(es): 2747 COOPERAGE ASSEMBLY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	38	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	176	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	174	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	34	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>422</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.020	0.030	.
(15) Countrywide Pure Premium:	0.413	0.415	0.828
(16) Countrywide Indicated Relativity:	0.356	0.538	.
(17) Countrywide Credibility:	0.090	0.100	.
(18) Countrywide Lost-Time Claims:	3.000	.	.
(19) Pure Premium Underlying Present Rate:	3.233	2.803	6.036
(20) Relativity to Underlying Present Rate:	3.444	3.157	.
(21) Credibility to Underlying Relativity:	0.890	0.870	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.098	2.800	.
(24) Balanced Formula Relativity:	3.096	2.801	2.978

Class(es): 2790 PATTERN MAKING NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	63.990	1	18	19.889	14.873	38.292	37.019	110.073	0.543	1.177	1.720
2005	51.781	0	10	0	189.177	0	137.423	326.600	3.653	2.654	6.307
2006	49.247	0	4	0	5.047	0	7.244	12.292	0.102	0.147	0.250
2007	51.618	0	6	0	0	0	5.923	5.923	0.000	0.115	0.115
2008	40.181	0	7	0	148.065	0	88.488	236.553	3.685	2.202	5.887
<b>MA Total:</b>	<b>256.816</b>	<b>1</b>	<b>45</b>	<b>19.889</b>	<b>357.161</b>	<b>38.292</b>	<b>276.097</b>	<b>691.440</b>	<b>1.468</b>	<b>1.224</b>	<b>2.692</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.118	1.397	.
(14) Massachusetts Credibility:	0.170	0.290	.
(15) Countrywide Pure Premium:	0.789	0.530	1.319
(16) Countrywide Indicated Relativity:	0.680	0.686	.
(17) Countrywide Credibility:	0.420	0.360	.
(18) Countrywide Lost-Time Claims:	196.00	.	.
(19) Pure Premium Underlying Present Rate:	0.828	0.931	1.758
(20) Relativity to Underlying Present Rate:	0.882	1.048	.
(21) Credibility to Underlying Relativity:	0.410	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.837	1.019	.
(24) Balanced Formula Relativity:	0.837	1.019	0.910

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2802 CARPENTRY-SHOP ONLY & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,107,823	17	393	966,788	2,036,969	285,724	1,167,130	4,456,611	2,711	1,311	4,023
2005	1,108,200	10	404	1,093,081	1,619,261	724,732	1,256,478	4,693,552	2,448	1,788	4,235
2006	1,171,627	11	360	1,706,131	1,602,398	725,566	1,185,385	5,219,480	2,824	1,631	4,455
2007	1,216,030	10	316	855,329	1,898,761	818,273	1,208,373	4,780,736	2,265	1,667	3,931
2008	1,097,306	6	284	1,079,606	2,259,114	819,240	1,270,020	5,427,980	3,043	1,904	4,947
<b>MA Total:</b>	<b>5,700,985</b>	<b>54</b>	<b>1,757</b>	<b>5,700,935</b>	<b>9,416,503</b>	<b>3,373,535</b>	<b>6,087,385</b>	<b>24,578,358</b>	<b>2,652</b>	<b>1,660</b>	<b>4,311</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.020	1.894	.
(14) Massachusetts Credibility:	0.820	1.000	.
(15) Countrywide Pure Premium:	2.552	1.759	4,312
(16) Countrywide Indicated Relativity:	2.200	2.280	.
(17) Countrywide Credibility:	0.090	0.000	.
(18) Countrywide Lost-Time Claims:	6893.0	.	.
(19) Pure Premium Underlying Present Rate:	1.806	1.709	3,516
(20) Relativity to Underlying Present Rate:	1.925	1.925	.
(21) Credibility to Underlying Relativity:	0.090	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2,189
(23) Formula Relativity:	2.028	1.894	.
(24) Balanced Formula Relativity:	2.026	1.895	1,974

Class(es):		Effective: 9/1/2011							Manufacturing		
2835 BRUSH OR BROOM ASSEMBLY											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	13,856	0	2	0	28,982	0	10,440	39,422	2,092	0,753	2,845
2005	15,591	0	1	0	0	0	114	114	0,000	0,007	0,007
2006	16,713	0	4	0	6,080	0	5,584	11,664	0,364	0,334	0,698
2007	16,707	0	4	0	0	0	1,613	1,613	0,000	0,097	0,097
2008	16,860	0	1	0	0	0	108	108	0,000	0,006	0,006
<b>MA Total:</b>	<b>79,726</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>35,062</b>	<b>0</b>	<b>17,858</b>	<b>52,921</b>	<b>0,440</b>	<b>0,224</b>	<b>0,664</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.335	0.256	.
(14) Massachusetts Credibility:	0.110	0.180	.
(15) Countrywide Pure Premium:	1.250	0.898	2,149
(16) Countrywide Indicated Relativity:	1.077	1.165	.
(17) Countrywide Credibility:	0.400	0.410	.
(18) Countrywide Lost-Time Claims:	119.00	.	.
(19) Pure Premium Underlying Present Rate:	0.832	0.909	1,741
(20) Relativity to Underlying Present Rate:	0.886	1.023	.
(21) Credibility to Underlying Relativity:	0.490	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2,189
(23) Formula Relativity:	0.902	0.943	.
(24) Balanced Formula Relativity:	0.902	0.943	0,918

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2836 BRUSH OR BROOM MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9.769	0	1	0	1.400	0	1.896	3.296	0.143	0.194	0.337
2005	10.051	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	9.112	0	2	0	0	0	359	359	0.000	0.039	0.039
2007	7.828	0	4	0	8.790	0	6.786	15.576	1.123	0.867	1.990
2008	6.613	0	1	0	0	0	358	358	0.000	0.054	0.054
<b>MA Total:</b>	<b>43,373</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>10,190</b>	<b>0</b>	<b>9,399</b>	<b>19,589</b>	<b>0.235</b>	<b>0.217</b>	<b>0.452</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.179	0.247	.
(14) Massachusetts Credibility:	0.110	0.140	.
(15) Countrywide Pure Premium:	1.279	1.041	2.320
(16) Countrywide Indicated Relativity:	1.102	1.350	.
(17) Countrywide Credibility:	0.330	0.350	.
(18) Countrywide Lost-Time Claims:	71.000	.	.
(19) Pure Premium Underlying Present Rate:	1.552	0.951	2.502
(20) Relativity to Underlying Present Rate:	1.653	1.070	.
(21) Credibility to Underlying Relativity:	0.560	0.510	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.309	1.053	.
(24) Balanced Formula Relativity:	1.308	1.053	1.206

Class(es):		Effective: 9/1/2011							Manufacturing		
2841 WOODENWARE MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	14.353	0	3	0	0	0	738	738	0.000	0.051	0.051
2005	13.993	0	5	0	19.988	0	18.899	38.887	1.428	1.351	2.779
2006	19.875	1	6	168.400	16.623	83.144	21.344	289.510	9.309	5.257	14.566
2007	16.578	0	4	0	450	0	4.061	4.511	0.027	0.245	0.272
2008	16.559	0	4	0	11.480	0	9.821	21.301	0.693	0.593	1.286
<b>MA Total:</b>	<b>81,357</b>	<b>1</b>	<b>22</b>	<b>168,400</b>	<b>48,541</b>	<b>83,144</b>	<b>54,862</b>	<b>354,947</b>	<b>2.667</b>	<b>1.696</b>	<b>4.363</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.031	1.936	.
(14) Massachusetts Credibility:	0.140	0.230	.
(15) Countrywide Pure Premium:	1.534	1.478	3.012
(16) Countrywide Indicated Relativity:	1.322	1.916	.
(17) Countrywide Credibility:	0.430	0.390	.
(18) Countrywide Lost-Time Claims:	230.00	.	.
(19) Pure Premium Underlying Present Rate:	1.480	1.608	3.088
(20) Relativity to Underlying Present Rate:	1.576	1.811	.
(21) Credibility to Underlying Relativity:	0.430	0.380	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.531	1.881	.
(24) Balanced Formula Relativity:	1.530	1.881	1.671

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## Calculation of Class Relativities

Class(es): 2883 FURNITURE MFG-WOOD-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	502,506	4	162	703,864	851,172	330,466	756,784	2,642,286	3,095	2,164	5,258
2005	535,563	3	190	238,356	698,904	84,652	564,334	1,586,246	1,750	1,212	2,962
2006	514,197	3	140	201,836	814,280	82,501	634,139	1,732,757	1,976	1,394	3,370
2007	517,056	5	148	370,716	657,964	220,744	463,030	1,712,454	1,989	1,322	3,312
2008	429,846	2	118	394,754	572,759	173,488	524,001	1,665,003	2,251	1,623	3,873
<b>MA Total:</b>	<b>2,499,168</b>	<b>17</b>	<b>758</b>	<b>1,909,527</b>	<b>3,595,080</b>	<b>891,852</b>	<b>2,942,287</b>	<b>9,338,746</b>	<b>2,203</b>	<b>1,534</b>	<b>3,737</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.678	1.751	.
(14) Massachusetts Credibility:	0.540	0.860	.
(15) Countrywide Pure Premium:	1.753	1.325	3.078
(16) Countrywide Indicated Relativity:	1.511	1.717	.
(17) Countrywide Credibility:	0.230	0.070	.
(18) Countrywide Lost-Time Claims:	2176.0	.	.
(19) Pure Premium Underlying Present Rate:	1.426	1.430	2.856
(20) Relativity to Underlying Present Rate:	1.519	1.610	.
(21) Credibility to Underlying Relativity:	0.230	0.070	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.603	1.739	.
(24) Balanced Formula Relativity:	1.602	1.739	1.657

Class(es): 2923 PIANO MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	62,880	0	18	0	20,591	0	20,582	41,173	0.327	0.327	0.655
2005	59,741	0	23	0	916	0	10,157	11,073	0.015	0.170	0.185
2006	66,976	0	12	0	27,329	0	19,895	47,224	0.408	0.297	0.705
2007	75,826	0	13	0	1,020	0	10,317	11,337	0.013	0.136	0.150
2008	66,534	0	4	0	0	0	2,200	2,200	0.000	0.033	0.033
<b>MA Total:</b>	<b>331,957</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>49,856</b>	<b>0</b>	<b>63,151</b>	<b>113,007</b>	<b>0.150</b>	<b>0.190</b>	<b>0.340</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.114	0.217	.
(14) Massachusetts Credibility:	0.190	0.290	.
(15) Countrywide Pure Premium:	1.093	0.854	1.947
(16) Countrywide Indicated Relativity:	0.942	1.107	.
(17) Countrywide Credibility:	0.410	0.360	.
(18) Countrywide Lost-Time Claims:	169.00	.	.
(19) Pure Premium Underlying Present Rate:	0.859	0.689	1.548
(20) Relativity to Underlying Present Rate:	0.915	0.776	.
(21) Credibility to Underlying Relativity:	0.400	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.774	0.733	.
(24) Balanced Formula Relativity:	0.774	0.733	0.758

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 43

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
2942 PENCIL, PENHOLDER OR CRAYON MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	473.295	8	188	737.965	391.990	130.632	522.071	1.782.657	4.775	2.758	7.533
2005	513.624	4	182	24.005	676.532	149.836	874.864	1.725.238	2.728	3.990	6.718
2006	547.249	12	176	1.201.764	394.840	382.804	719.194	2.698.602	5.835	4.027	9.862
2007	432.920	2	110	162.794	563.903	60.194	409.198	1.196.089	3.357	2.168	5.526
2008	476.385	6	100	192.844	457.604	463.182	485.349	1.598.980	2.731	3.982	6.713
<b>MA Total:</b>	<b>2,443.473</b>	<b>32</b>	<b>756</b>	<b>2,319.372</b>	<b>2,484.869</b>	<b>1,186.647</b>	<b>3,010.677</b>	<b>9,001.566</b>	<b>1.966</b>	<b>1.718</b>	<b>3.684</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.498	1.961	.
(14) Massachusetts Credibility:	0.330	0.600	.
(15) Countrywide Pure Premium:	1.375	0.928	2.303
(16) Countrywide Indicated Relativity:	1.185	1.203	.
(17) Countrywide Credibility:	0.340	0.200	.
(18) Countrywide Lost-Time Claims:	733.00	.	.
(19) Pure Premium Underlying Present Rate:	0.880	1.164	2.044
(20) Relativity to Underlying Present Rate:	0.937	1.311	.
(21) Credibility to Underlying Relativity:	0.330	0.200	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.206	1.679	.
(24) Balanced Formula Relativity:	1.206	1.680	1.395

Class(es):		Effective: 9/1/2011							Manufacturing		
3018 IRON OR STEEL: MFG: ROLLING MILL & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	101.330	0	14	0	186.327	0	31.735	218.062	1.839	0.313	2.152
2005	132.405	0	15	0	0	0	11.601	11.601	0.000	0.088	0.088
2006	143.144	0	32	0	17.127	0	39.881	57.008	0.120	0.279	0.398
2007	167.563	0	26	0	340.694	0	233.716	574.410	2.033	1.395	3.428
2008	114.691	0	13	0	30.202	0	39.746	69.949	0.263	0.347	0.610
<b>MA Total:</b>	<b>659.132</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>574.351</b>	<b>0</b>	<b>356.679</b>	<b>931.030</b>	<b>0.871</b>	<b>0.541</b>	<b>1.413</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.664	0.618	.
(14) Massachusetts Credibility:	0.280	0.450	.
(15) Countrywide Pure Premium:	1.812	1.099	2.911
(16) Countrywide Indicated Relativity:	1.561	1.424	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	515.00	.	.
(19) Pure Premium Underlying Present Rate:	1.116	1.093	2.209
(20) Relativity to Underlying Present Rate:	1.189	1.231	.
(21) Credibility to Underlying Relativity:	0.360	0.270	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.176	1.009	.
(24) Balanced Formula Relativity:	1.175	1.009	1.109

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3022 PIPE OR TUBE MFG NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	7,477	0	4	0	1,424	0	2,179	3,603	0.190	0.291	0.482
2005	6,787	0	1	0	0	0	974	974	0.000	0.144	0.144
2006	8,157	0	1	0	0	0	277	277	0.000	0.034	0.034
2007	9,141	0	4	0	14,153	0	30,979	45,132	1.548	3.389	4.938
2008	8,575	0	5	0	0	0	8,683	8,683	0.000	1.013	1.013
<b>MA Total:</b>	<b>40,136</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>15,577</b>	<b>0</b>	<b>43,092</b>	<b>58,669</b>	<b>0.388</b>	<b>1.074</b>	<b>1.462</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.296	1.225	.
(14) Massachusetts Credibility:	0.110	0.170	.
(15) Countrywide Pure Premium:	1.802	1.307	3.108
(16) Countrywide Indicated Relativity:	1.552	1.694	.
(17) Countrywide Credibility:	0.450	0.420	.
(18) Countrywide Lost-Time Claims:	547.00	.	.
(19) Pure Premium Underlying Present Rate:	1.532	1.526	3.059
(20) Relativity to Underlying Present Rate:	1.632	1.719	.
(21) Credibility to Underlying Relativity:	0.440	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.449	1.625	.
(24) Balanced Formula Relativity:	1.449	1.625	1.519

Class(es):		Effective: 9/1/2011							Manufacturing		
3027 ROLLING MILL NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	71,856	0	37	0	70,384	0	64,857	135,241	0.980	0.903	1.882
2005	69,925	1	32	125,645	87,579	62,084	73,369	348,677	3.049	1.937	4.986
2006	65,241	2	34	222,385	515,276	99,402	205,444	1,042,506	11.307	4.673	15.979
2007	47,110	0	12	0	19,423	0	19,398	38,821	0.412	0.412	0.824
2008	10,893	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>265,026</b>	<b>3</b>	<b>115</b>	<b>348,030</b>	<b>692,662</b>	<b>161,486</b>	<b>363,068</b>	<b>1,565,246</b>	<b>3.927</b>	<b>1.979</b>	<b>5.906</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.991	2.259	.
(14) Massachusetts Credibility:	0.240	0.400	.
(15) Countrywide Pure Premium:	1.560	0.899	2.459
(16) Countrywide Indicated Relativity:	1.344	1.166	.
(17) Countrywide Credibility:	0.380	0.300	.
(18) Countrywide Lost-Time Claims:	410.00	.	.
(19) Pure Premium Underlying Present Rate:	1.770	1.944	3.714
(20) Relativity to Underlying Present Rate:	1.886	2.189	.
(21) Credibility to Underlying Relativity:	0.380	0.300	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.945	1.910	.
(24) Balanced Formula Relativity:	1.944	1.911	1.931

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3028 PIPE OR TUBE MFG - IRON OR STEEL & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	13,163	0	4	0	1,990	0	12,124	14,113	0.151	0.921	1.072
2005	13,032	0	1	0	1,860	0	9,245	11,105	0.143	0.709	0.852
2006	9,157	1	1	23,357	0	36,411	530	60,297	2.551	4.034	6.585
2007	11,730	0	4	0	4,112	0	13,607	17,720	0.351	1.160	1.511
2008	9,846	0	3	0	3,395	0	3,567	6,962	0.345	0.362	0.707
<b>MA Total:</b>	<b>56,929</b>	<b>1</b>	<b>13</b>	<b>23,357</b>	<b>11,357</b>	<b>36,411</b>	<b>39,074</b>	<b>110,197</b>	<b>0.610</b>	<b>1.326</b>	<b>1.936</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.465	1.513	.
(14) Massachusetts Credibility:	0.120	0.210	.
(15) Countrywide Pure Premium:	1.482	0.963	2.445
(16) Countrywide Indicated Relativity:	1.277	1.249	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	689.00	.	.
(19) Pure Premium Underlying Present Rate:	1.509	1.870	3.379
(20) Relativity to Underlying Present Rate:	1.608	2.106	.
(21) Credibility to Underlying Relativity:	0.440	0.390	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.325	1.638	.
(24) Balanced Formula Relativity:	1.324	1.639	1.450

Class(es):		Effective: 9/1/2011							Manufacturing		
3030 IRON OR STEEL: FABRICATION: IRON/STEEL WORK-SHOP-STRUCT & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	103,555	0	54	0	36,917	0	91,788	128,704	0.356	0.886	1.243
2005	105,863	1	59	211,841	543,683	266,054	279,532	1,301,110	7.137	5.154	12,291
2006	126,636	2	51	372,836	111,737	123,726	196,051	804,350	3.826	2.525	6.352
2007	135,298	1	62	99,368	334,022	39,766	460,548	933,703	3.203	3.698	6.901
2008	138,575	1	57	78,922	248,360	37,208	249,472	613,962	2.362	2.069	4.431
<b>MA Total:</b>	<b>609,928</b>	<b>5</b>	<b>283</b>	<b>762,966</b>	<b>1,274,719</b>	<b>466,754</b>	<b>1,277,390</b>	<b>3,781,829</b>	<b>3.341</b>	<b>2.860</b>	<b>6.200</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.545	3.264	.
(14) Massachusetts Credibility:	0.410	0.690	.
(15) Countrywide Pure Premium:	3.205	2.117	5.322
(16) Countrywide Indicated Relativity:	2.762	2.744	.
(17) Countrywide Credibility:	0.300	0.160	.
(18) Countrywide Lost-Time Claims:	3212.0	.	.
(19) Pure Premium Underlying Present Rate:	3.082	3.393	6.475
(20) Relativity to Underlying Present Rate:	3.283	3.822	.
(21) Credibility to Underlying Relativity:	0.290	0.150	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.824	3.264	.
(24) Balanced Formula Relativity:	2.822	3.265	3.000

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## Calculation of Class Relativities

Class(es): 3040 IRON OR STEEL: FABRICATION: IRON WORKS-SHOP-ORNAMENTAL & DR									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	137,864	5	65	571,851	497,306	200,046	322,149	1,591,351	7,755	3,788	11,543
2005	139,026	2	55	71,174	74,627	72,773	211,346	429,921	1,049	2,044	3,092
2006	138,373	2	49	357,352	550,813	188,565	174,311	1,271,042	6,563	2,622	9,186
2007	147,444	4	37	302,627	577,661	139,125	200,562	1,219,976	5,970	2,304	8,274
2008	138,411	3	34	1,133,395	456,456	361,354	297,701	2,248,905	11,486	4,762	16,248
<b>MA Total:</b>	<b>701,118</b>	<b>16</b>	<b>240</b>	<b>2,436,399</b>	<b>2,156,864</b>	<b>961,863</b>	<b>1,206,069</b>	<b>6,761,195</b>	<b>6,551</b>	<b>3,092</b>	<b>9,643</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.991	3.529	.
(14) Massachusetts Credibility:	0.450	0.650	.
(15) Countrywide Pure Premium:	3.333	2.134	5.468
(16) Countrywide Indicated Relativity:	2.873	2.767	.
(17) Countrywide Credibility:	0.280	0.180	.
(18) Countrywide Lost-Time Claims:	1939.0	.	.
(19) Pure Premium Underlying Present Rate:	3.368	2.530	5.898
(20) Relativity to Underlying Present Rate:	3.588	2.850	.
(21) Credibility to Underlying Relativity:	0.270	0.170	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	4.019	3.276	.
(24) Balanced Formula Relativity:	4.016	3.278	3.721

Class(es): 3041 IRON OR STEEL: FABRICATION: IRON WORKS-SHP-DEC/ART &FNDRS,DR									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	34,837	0	14	0	5,021	0	16,027	21,048	0.144	0.460	0.604
2005	36,850	1	14	67,542	70,172	23,240	50,291	211,245	3.737	1.995	5.733
2006	33,371	0	10	0	24,381	0	17,816	42,197	0.731	0.534	1.265
2007	40,898	0	9	0	22,236	0	23,611	45,846	0.544	0.577	1.121
2008	39,573	1	10	147,725	11,209	94,532	27,073	280,540	4.016	3.073	7.089
<b>MA Total:</b>	<b>185,528</b>	<b>2</b>	<b>57</b>	<b>215,267</b>	<b>133,019</b>	<b>117,773</b>	<b>134,818</b>	<b>600,876</b>	<b>1.877</b>	<b>1.361</b>	<b>3.239</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.430	1.554	.
(14) Massachusetts Credibility:	0.220	0.300	.
(15) Countrywide Pure Premium:	2.073	1.297	3.369
(16) Countrywide Indicated Relativity:	1.786	1.681	.
(17) Countrywide Credibility:	0.390	0.350	.
(18) Countrywide Lost-Time Claims:	359.00	.	.
(19) Pure Premium Underlying Present Rate:	2.143	1.426	3.569
(20) Relativity to Underlying Present Rate:	2.283	1.606	.
(21) Credibility to Underlying Relativity:	0.390	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.902	1.617	.
(24) Balanced Formula Relativity:	1.900	1.617	1.787

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3042 ELEVATOR OR ESCALATOR MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	6.556	0	4	0	520.739	0	42.864	563.603	79.425	6.538	85.963
2005	6.455	1	0	112.907	0	49.522	0	162.429	17.491	7.672	25.163
2006	6.356	0	1	0	557	0	1.134	1.691	0.088	0.178	0.266
2007	6.951	0	4	0	4.109	0	10.681	14.790	0.591	1.537	2.128
2008	8.638	0	7	0	55.444	0	44.776	100.220	6.419	5.184	11.603
<b>MA Total:</b>	<b>34.956</b>	<b>1</b>	<b>16</b>	<b>112.907</b>	<b>580.849</b>	<b>49.522</b>	<b>99.455</b>	<b>842.734</b>	<b>19.847</b>	<b>4.262</b>	<b>24.109</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	15.119	4.864	.
(14) Massachusetts Credibility:	0.160	0.190	.
(15) Countrywide Pure Premium:	2.485	1.412	3.898
(16) Countrywide Indicated Relativity:	2.142	1.831	.
(17) Countrywide Credibility:	0.420	0.410	.
(18) Countrywide Lost-Time Claims:	218.00	.	.
(19) Pure Premium Underlying Present Rate:	4.712	2.266	6.978
(20) Relativity to Underlying Present Rate:	5.020	2.552	.
(21) Credibility to Underlying Relativity:	0.420	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	5.427	2.695	.
(24) Balanced Formula Relativity:	5.424	2.696	4.332

Class(es):		Effective: 9/1/2011							Manufacturing		
3064 SHEET METAL WORK - SHOP											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2.289.665	20	820	1,370.116	3,593.352	443.606	2,668.615	8,075.689	4.336	2.718	7.054
2005	2.586.528	16	666	1,263.114	1,819.953	746.935	1,800.047	5,630.049	2.384	1.969	4.353
2006	2.097.664	14	552	771.632	969.400	431.799	1,451.466	3,624.297	1.660	1.796	3.456
2007	2.137.570	4	522	44.626	3,031.064	8.710	1,572.138	4,656.537	2.878	1.479	4.357
2008	1.875.052	8	432	903.014	1,807.047	358.643	1,463.372	4,532.077	2.891	1.943	4.834
<b>MA Total:</b>	<b>10986479</b>	<b>62</b>	<b>2,992</b>	<b>4,352,503</b>	<b>11,220,816</b>	<b>1,989,693</b>	<b>8,955,639</b>	<b>26,518,650</b>	<b>1,417</b>	<b>0,996</b>	<b>2,414</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.080	1.137	.
(14) Massachusetts Credibility:	0.690	1.000	.
(15) Countrywide Pure Premium:	2.355	1.429	3.784
(16) Countrywide Indicated Relativity:	2.029	1.852	.
(17) Countrywide Credibility:	0.160	0.000	.
(18) Countrywide Lost-Time Claims:	661.00	.	.
(19) Pure Premium Underlying Present Rate:	1.229	1.108	2.337
(20) Relativity to Underlying Present Rate:	1.309	1.248	.
(21) Credibility to Underlying Relativity:	0.150	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.266	1.137	.
(24) Balanced Formula Relativity:	1.265	1.137	1.214

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Section IX - Classification Pricing  
Subsection G - Class Relativities  
9/1/2011

Section IX - G  
Exhibit 48

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3076 FIREPROOF EQUIPMENT MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	363,271	3	151	85,757	285,165	11,423	223,276	605,621	1,021	0,646	1,667
2005	376,777	2	119	315,665	61,141	116,921	151,434	645,160	1,000	0,712	1,712
2006	407,542	3	83	167,101	384,686	251,145	271,139	1,074,071	1,354	1,282	2,635
2007	412,419	6	113	551,771	218,150	430,798	245,168	1,445,885	1,867	1,639	3,506
2008	431,853	0	110	0	372,170	0	274,497	646,667	0,862	0,636	1,497
<b>MA Total:</b>	<b>1,991,862</b>	<b>14</b>	<b>576</b>	<b>1,120,293</b>	<b>1,321,312</b>	<b>810,287</b>	<b>1,165,513</b>	<b>4,417,404</b>	<b>1,226</b>	<b>0,992</b>	<b>2,218</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.934	1.132	.
(14) Massachusetts Credibility:	0.440	0.670	.
(15) Countrywide Pure Premium:	1.643	1.107	2.750
(16) Countrywide Indicated Relativity:	1.416	1.435	.
(17) Countrywide Credibility:	0.280	0.170	.
(18) Countrywide Lost-Time Claims:	9534.0	.	.
(19) Pure Premium Underlying Present Rate:	1.109	0.968	2.077
(20) Relativity to Underlying Present Rate:	1.182	1.090	.
(21) Credibility to Underlying Relativity:	0.280	0.160	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.138	1.177	.
(24) Balanced Formula Relativity:	1.137	1.177	1.153

Class(es):		Effective: 9/1/2011							Manufacturing		
3081 FOUNDRY-STEEL CASTINGS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	223,169	0	158	0	1,067,161	0	396,361	1,463,521	9,564	3,552	13,116
2005	204,057	6	144	742,232	1,389,674	281,492	590,458	3,003,857	20,895	8,546	29,441
2006	181,380	4	102	925,506	1,183,074	602,910	488,465	3,199,955	23,250	12,034	35,285
2007	149,629	0	58	0	296,922	0	139,177	436,099	3,969	1,860	5,829
2008	193,728	8	98	592,747	375,671	595,204	256,630	1,820,251	9,998	8,794	18,792
<b>MA Total:</b>	<b>951,963</b>	<b>18</b>	<b>560</b>	<b>2,260,485</b>	<b>4,312,502</b>	<b>1,479,606</b>	<b>1,871,090</b>	<b>9,923,683</b>	<b>6,905</b>	<b>3,520</b>	<b>10,424</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.260	4.017	.
(14) Massachusetts Credibility:	0.380	0.620	.
(15) Countrywide Pure Premium:	2.218	1.556	3.774
(16) Countrywide Indicated Relativity:	1.912	2.016	.
(17) Countrywide Credibility:	0.310	0.190	.
(18) Countrywide Lost-Time Claims:	1689.0	.	.
(19) Pure Premium Underlying Present Rate:	3.119	3.304	6.422
(20) Relativity to Underlying Present Rate:	3.322	3.720	.
(21) Credibility to Underlying Relativity:	0.310	0.190	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.621	3.581	.
(24) Balanced Formula Relativity:	3.619	3.582	3.604

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## Calculation of Class Relativities

Class(es): 3085 FOUNDRY-NON FERROUS		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	120.571	2	51	113.743	290.077	100.572	215.324	719.715	3.349	2.620	5.969
2005	139.032	2	55	8.170	5.967	3.401	48.722	66.261	0.102	0.375	0.477
2006	144.903	5	61	212.805	66.805	99.962	117.504	497.076	1.930	1.501	3.430
2007	158.062	1	45	165.325	310.041	26.964	253.816	756.146	3.007	1.776	4.784
2008	126.578	1	24	77.425	81.826	74.932	50.719	284.902	1.258	0.993	2.251
<b>MA Total:</b>	<b>689,146</b>	<b>11</b>	<b>236</b>	<b>577.467</b>	<b>754,717</b>	<b>305.831</b>	<b>686,085</b>	<b>2,324.100</b>	<b>1.933</b>	<b>1.439</b>	<b>3.372</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.473	1.643	.
(14) Massachusetts Credibility:	0.360	0.580	.
(15) Countrywide Pure Premium:	2.035	1.499	3.534
(16) Countrywide Indicated Relativity:	1.754	1.943	.
(17) Countrywide Credibility:	0.320	0.210	.
(18) Countrywide Lost-Time Claims:	1049.0	.	.
(19) Pure Premium Underlying Present Rate:	1.915	1.922	3.837
(20) Relativity to Underlying Present Rate:	2.040	2.165	.
(21) Credibility to Underlying Relativity:	0.320	0.210	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.744	1.815	.
(24) Balanced Formula Relativity:	1.743	1.816	1.772

Class(es): 3110 FORGING WORK - DROP OR MACHINE		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	10.686	0	8	0	0	0	10.241	10.241	0.000	0.958	0.958
2005	9.109	1	4	6.623	5.507	10.370	8.525	31.025	1.332	2.074	3.406
2006	13.869	2	18	34.103	24.345	25.803	33.624	117.875	4.214	4.285	8.499
2007	18.489	1	17	44.044	195.175	19.502	78.343	337.064	12.939	5.292	18.231
2008	23.969	0	10	0	30.595	0	30.373	60.968	1.276	1.267	2.544
<b>MA Total:</b>	<b>76.122</b>	<b>4</b>	<b>57</b>	<b>84.770</b>	<b>255.622</b>	<b>55.675</b>	<b>161.106</b>	<b>557.173</b>	<b>4.472</b>	<b>2.848</b>	<b>7.320</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.406	3.250	.
(14) Massachusetts Credibility:	0.180	0.300	.
(15) Countrywide Pure Premium:	2.082	1.221	3.303
(16) Countrywide Indicated Relativity:	1.794	1.583	.
(17) Countrywide Credibility:	0.410	0.350	.
(18) Countrywide Lost-Time Claims:	397.00	.	.
(19) Pure Premium Underlying Present Rate:	3.124	3.415	6.539
(20) Relativity to Underlying Present Rate:	3.328	3.846	.
(21) Credibility to Underlying Relativity:	0.410	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.713	2.875	.
(24) Balanced Formula Relativity:	2.712	2.876	2.778

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## Calculation of Class Relativities

Class(es): 3111 BLACKSMITH		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	66,443	0	26	0	173,744	0	88,726	262,470	2,615	1,335	3,950
2005	78,270	0	25	0	130,886	0	155,639	286,525	1,672	1,988	3,661
2006	83,937	0	28	0	260,427	0	146,882	407,309	3,103	1,750	4,853
2007	107,029	2	15	158,011	1,263	50,561	11,775	221,611	1,488	0,582	2,071
2008	85,991	0	9	0	10,775	0	20,348	31,123	0,125	0,237	0,362
<b>MA Total:</b>	<b>421,671</b>	<b>2</b>	<b>103</b>	<b>158,011</b>	<b>577,096</b>	<b>50,561</b>	<b>423,370</b>	<b>1,209,039</b>	<b>1,743</b>	<b>1,124</b>	<b>2,867</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.328	1.283	.
(14) Massachusetts Credibility:	0.240	0.390	.
(15) Countrywide Pure Premium:	1.441	1.002	2.443
(16) Countrywide Indicated Relativity:	1.242	1.299	.
(17) Countrywide Credibility:	0.380	0.310	.
(18) Countrywide Lost-Time Claims:	278.00	.	.
(19) Pure Premium Underlying Present Rate:	1.119	1.166	2.285
(20) Relativity to Underlying Present Rate:	1.193	1.313	.
(21) Credibility to Underlying Relativity:	0.380	0.300	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.244	1.297	.
(24) Balanced Formula Relativity:	1.243	1.297	1.265

Class(es): 3113 SAW MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,285,478	10	546	897,996	4,138,869	640,607	1,608,973	7,286,445	4,408	1,969	6,376
2005	2,033,726	14	390	1,760,507	638,208	524,337	861,286	3,784,337	2,359	1,363	3,722
2006	2,307,630	8	470	534,036	899,407	93,949	998,411	2,525,804	1,242	0,947	2,189
2007	2,531,472	10	506	1,056,815	2,234,841	509,255	1,209,456	5,010,367	2,601	1,358	3,958
2008	2,452,145	14	380	1,200,874	957,861	735,400	1,105,469	3,999,605	1,761	1,501	3,262
<b>MA Total:</b>	<b>11610451</b>	<b>56</b>	<b>2,292</b>	<b>5,450,228</b>	<b>8,869,186</b>	<b>2,503,549</b>	<b>5,783,596</b>	<b>22606558</b>	<b>1,233</b>	<b>0,714</b>	<b>1,947</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.940	0.815	.
(14) Massachusetts Credibility:	0.620	0.970	.
(15) Countrywide Pure Premium:	1.055	0.733	1.788
(16) Countrywide Indicated Relativity:	0.909	0.951	.
(17) Countrywide Credibility:	0.190	0.020	.
(18) Countrywide Lost-Time Claims:	2378.0	.	.
(19) Pure Premium Underlying Present Rate:	0.875	0.836	1.710
(20) Relativity to Underlying Present Rate:	0.932	0.941	.
(21) Credibility to Underlying Relativity:	0.190	0.010	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.932	0.819	.
(24) Balanced Formula Relativity:	0.932	0.819	0.887

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3114 TOOL MFG-DROP OR MACHINE FORGED-NOC: MACHINING OR FINISHING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	27,221	0	9	0	13,575	0	6,154	19,729	0.499	0.226	0.725
2005	24,325	1	1	126,250	0	100,244	1,830	228,325	5.190	4.196	9.386
2006	24,093	1	5	18,251	82,577	2,900	43,334	147,062	4.185	1.919	6.104
2007	62,462	1	7	56,376	72,023	36,706	31,272	196,377	2.056	1.088	3.144
2008	63,864	0	13	0	145,890	0	68,044	213,933	2.284	1.065	3.350
<b>MA Total:</b>	<b>201,965</b>	<b>3</b>	<b>35</b>	<b>200,877</b>	<b>314,064</b>	<b>139,851</b>	<b>150,634</b>	<b>805,426</b>	<b>2.550</b>	<b>1.438</b>	<b>3.988</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.942	1.642	.
(14) Massachusetts Credibility:	0.200	0.310	.
(15) Countrywide Pure Premium:	1.427	0.849	2.276
(16) Countrywide Indicated Relativity:	1.229	1.101	.
(17) Countrywide Credibility:	0.400	0.350	.
(18) Countrywide Lost-Time Claims:	316.00	.	.
(19) Pure Premium Underlying Present Rate:	1.449	1.373	2.822
(20) Relativity to Underlying Present Rate:	1.544	1.546	.
(21) Credibility to Underlying Relativity:	0.400	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.498	1.420	.
(24) Balanced Formula Relativity:	1.497	1.420	1.466

Class(es):		Effective: 9/1/2011							Manufacturing		
3119 NEEDLE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	52,555	0	18	0	4,687	0	34,978	39,665	0.089	0.666	0.755
2005	56,378	0	15	0	0	0	6,940	6,940	0.000	0.123	0.123
2006	56,231	0	11	0	1,702	0	6,882	8,584	0.030	0.122	0.153
2007	48,166	1	8	121,919	1,835	36,384	8,284	168,421	2.569	0.927	3.497
2008	62,801	0	13	0	4,603	0	10,643	15,245	0.073	0.169	0.243
<b>MA Total:</b>	<b>276,131</b>	<b>1</b>	<b>65</b>	<b>121,919</b>	<b>12,826</b>	<b>36,384</b>	<b>67,726</b>	<b>238,855</b>	<b>0.488</b>	<b>0.377</b>	<b>0.865</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.372	0.430	.
(14) Massachusetts Credibility:	0.140	0.220	.
(15) Countrywide Pure Premium:	0.344	0.230	0.574
(16) Countrywide Indicated Relativity:	0.296	0.298	.
(17) Countrywide Credibility:	0.180	0.190	.
(18) Countrywide Lost-Time Claims:	16.000	.	.
(19) Pure Premium Underlying Present Rate:	0.431	0.436	0.867
(20) Relativity to Underlying Present Rate:	0.459	0.491	.
(21) Credibility to Underlying Relativity:	0.680	0.590	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.417	0.441	.
(24) Balanced Formula Relativity:	0.417	0.441	0.427

# IX 000122

Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 52

## Calculation of Class Relativities

Class(es): 3120 RAZOR MFG-SAFETY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	3,526	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	150	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	2,192	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>5,868</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.040	0.050	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.977	0.646	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.934	0.584	1.518
(20) Relativity to Underlying Present Rate:	0.995	0.658	.
(21) Credibility to Underlying Relativity:	0.960	0.950	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.955	0.625	.
(24) Balanced Formula Relativity:	0.954	0.625	0.822

Class(es): 3122 CUTLERY MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	71,819	0	8	0	65,346	0	20,512	85,859	0.910	0.286	1.195
2005	139,727	0	30	0	77,101	0	104,576	181,677	0.552	0.748	1.300
2006	78,039	1	21	11,719	18,359	79,119	36,874	146,071	0.385	1.486	1.872
2007	75,412	0	8	0	7,473	0	19,035	26,508	0.099	0.252	0.352
2008	69,635	0	6	0	0	0	3,098	3,098	0.000	0.044	0.044
<b>MA Total:</b>	<b>434,630</b>	<b>1</b>	<b>73</b>	<b>11,719</b>	<b>168,279</b>	<b>79,119</b>	<b>184,095</b>	<b>443,213</b>	<b>0.414</b>	<b>0.606</b>	<b>1.020</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.315	0.691	.
(14) Massachusetts Credibility:	0.240	0.370	.
(15) Countrywide Pure Premium:	0.919	0.914	1.833
(16) Countrywide Indicated Relativity:	0.792	1.185	.
(17) Countrywide Credibility:	0.330	0.320	.
(18) Countrywide Lost-Time Claims:	70.000	.	.
(19) Pure Premium Underlying Present Rate:	1.071	0.979	2.050
(20) Relativity to Underlying Present Rate:	1.140	1.103	.
(21) Credibility to Underlying Relativity:	0.430	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.827	0.977	.
(24) Balanced Formula Relativity:	0.827	0.977	0.887

# IX 000123

Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 53

## Calculation of Class Relativities

Class(es): 3127 PRECISION MEASURING TOOL MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2.898	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	2.044	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	171.570	1	38	395.272	26.459	17.727	44.604	484.062	2.458	0.363	2.821
2007	205.872	1	36	4.438	18.148	5.712	29.990	58.287	0.110	0.173	0.283
2008	162.931	2	41	243.396	32.042	138.251	61.040	474.729	1.691	1.223	2.914
<b>MA Total:</b>	<b>545.314</b>	<b>4</b>	<b>115</b>	<b>643.107</b>	<b>76.648</b>	<b>161.690</b>	<b>135.634</b>	<b>1,017.079</b>	<b>1.320</b>	<b>0.545</b>	<b>1.865</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.005	0.622	.
(14) Massachusetts Credibility:	0.170	0.270	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.361	0.416	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.345	0.376	0.721
(20) Relativity to Underlying Present Rate:	0.367	0.423	.
(21) Credibility to Underlying Relativity:	0.830	0.730	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.476	0.477	.
(24) Balanced Formula Relativity:	0.476	0.477	0.476

Class(es): 3131 BUTTON OR FASTENER MFG-METAL		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	11.138	0	2	0	9.728	0	1.164	10.892	0.873	0.105	0.978
2005	11.390	0	4	0	2.330	0	5.424	7.754	0.205	0.476	0.681
2006	9.632	0	2	0	1.988	0	1.200	3.187	0.206	0.125	0.331
2007	8.918	0	3	0	5.459	0	13.766	19.225	0.612	1.544	2.156
2008	6.522	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>47.600</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>19.505</b>	<b>0</b>	<b>21.554</b>	<b>41.059</b>	<b>0.410</b>	<b>0.453</b>	<b>0.863</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.312	0.517	.
(14) Massachusetts Credibility:	0.090	0.130	.
(15) Countrywide Pure Premium:	0.660	0.547	1.207
(16) Countrywide Indicated Relativity:	0.569	0.709	.
(17) Countrywide Credibility:	0.400	0.420	.
(18) Countrywide Lost-Time Claims:	115.00	.	.
(19) Pure Premium Underlying Present Rate:	0.943	0.723	1.666
(20) Relativity to Underlying Present Rate:	1.005	0.814	.
(21) Credibility to Underlying Relativity:	0.510	0.450	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.768	0.731	.
(24) Balanced Formula Relativity:	0.768	0.731	0.753

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## Calculation of Class Relativities

Class(es): 3132 NUT OR BOLT MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,370	0	1	0	0	0	603	603	0.000	0.254	0.254
2005	8,073	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	4,223	0	1	0	0	0	539	539	0.000	0.128	0.128
2007	2,786	0	1	0	0	0	407	407	0.000	0.146	0.146
2008	2,811	0	3	0	103,394	0	48,188	151,582	36.781	17.142	53.923
<b>MA Total:</b>	<b>20,262</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>103,394</b>	<b>0</b>	<b>49,736</b>	<b>153,130</b>	<b>5.103</b>	<b>2.455</b>	<b>7.557</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.887	2.802	.
(14) Massachusetts Credibility:	0.070	0.110	.
(15) Countrywide Pure Premium:	1.568	0.990	2.559
(16) Countrywide Indicated Relativity:	1.351	1.284	.
(17) Countrywide Credibility:	0.470	0.450	.
(18) Countrywide Lost-Time Claims:	221.00	.	.
(19) Pure Premium Underlying Present Rate:	0.983	1.063	2.046
(20) Relativity to Underlying Present Rate:	1.047	1.197	.
(21) Credibility to Underlying Relativity:	0.460	0.440	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.389	1.413	.
(24) Balanced Formula Relativity:	1.388	1.413	1.398

Class(es): 3145 SCREW MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	205,873	1	43	38,262	133,768	4,210	63,901	240,142	0.836	0.331	1.166
2005	202,812	1	51	56,083	72,898	65,125	77,475	271,581	0.636	0.703	1.339
2006	209,754	2	38	239,571	67,077	197,804	75,140	579,592	1.462	1.301	2.763
2007	210,311	1	51	0	337,759	0	150,447	488,207	1.606	0.715	2.321
2008	193,166	0	31	0	89,031	0	51,837	140,868	0.461	0.268	0.729
<b>MA Total:</b>	<b>1,021,916</b>	<b>5</b>	<b>214</b>	<b>333,916</b>	<b>700,533</b>	<b>267,139</b>	<b>418,801</b>	<b>1,720,389</b>	<b>1.012</b>	<b>0.671</b>	<b>1.683</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.771	0.766	.
(14) Massachusetts Credibility:	0.300	0.480	.
(15) Countrywide Pure Premium:	0.993	0.747	1.740
(16) Countrywide Indicated Relativity:	0.856	0.968	.
(17) Countrywide Credibility:	0.350	0.260	.
(18) Countrywide Lost-Time Claims:	722.00	.	.
(19) Pure Premium Underlying Present Rate:	0.787	0.814	1.601
(20) Relativity to Underlying Present Rate:	0.838	0.917	.
(21) Credibility to Underlying Relativity:	0.350	0.260	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.824	0.858	.
(24) Balanced Formula Relativity:	0.824	0.858	0.838

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## Calculation of Class Relativities

Class(es): 3146 HARDWARE MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	164,635	0	41	0	158,209	0	73,617	231,826	0.961	0.447	1.408
2005	134,318	1	36	104,940	4,771	22,537	24,754	157,003	0.817	0.352	1.169
2006	153,554	1	33	5,896	13,833	39,916	36,112	95,758	0.128	0.495	0.624
2007	113,562	0	24	0	31,984	0	49,916	81,900	0.282	0.440	0.721
2008	90,741	0	22	0	81,893	0	91,459	173,352	0.902	1.008	1.910
<b>MA Total:</b>	<b>656,810</b>	<b>2</b>	<b>156</b>	<b>110,836</b>	<b>290,691</b>	<b>62,453</b>	<b>275,858</b>	<b>739,838</b>	<b>0.611</b>	<b>0.515</b>	<b>1.126</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.466	0.588	.
(14) Massachusetts Credibility:	0.270	0.380	.
(15) Countrywide Pure Premium:	1.379	0.876	2.255
(16) Countrywide Indicated Relativity:	1.188	1.135	.
(17) Countrywide Credibility:	0.370	0.310	.
(18) Countrywide Lost-Time Claims:	1649.0	.	.
(19) Pure Premium Underlying Present Rate:	0.941	0.702	1.643
(20) Relativity to Underlying Present Rate:	1.002	0.791	.
(21) Credibility to Underlying Relativity:	0.360	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.926	0.821	.
(24) Balanced Formula Relativity:	0.926	0.821	0.884

Class(es): 3169 AUTOMOBILE RADIATOR MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,577,599	20	568	2,881,834	1,309,754	2,705,686	909,981	7,807,254	10.628	9.168	19.795
2005	1,603,743	8	616	83,817	1,425,042	28,651	1,291,991	2,829,501	3.763	3.294	7.057
2006	1,557,152	16	476	2,199,140	3,773,772	667,330	3,180,919	9,821,161	15.343	9.885	25.229
2007	1,494,147	12	396	946,015	2,295,423	729,651	1,635,718	5,606,807	8.678	6.332	15.010
2008	1,617,726	8	380	62,764	1,584,284	152,146	1,478,253	3,277,446	4.072	4.031	8.104
<b>MA Total:</b>	<b>7,850,366</b>	<b>64</b>	<b>2,436</b>	<b>6,173,570</b>	<b>10,388,275</b>	<b>4,283,463</b>	<b>8,496,862</b>	<b>29,342,170</b>	<b>2.110</b>	<b>1.628</b>	<b>3.738</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.607	1.858	.
(14) Massachusetts Credibility:	0.500	0.860	.
(15) Countrywide Pure Premium:	1.688	1.142	2.830
(16) Countrywide Indicated Relativity:	1.454	1.480	.
(17) Countrywide Credibility:	0.250	0.070	.
(18) Countrywide Lost-Time Claims:	6914.0	.	.
(19) Pure Premium Underlying Present Rate:	1.557	1.821	3.378
(20) Relativity to Underlying Present Rate:	1.659	2.051	.
(21) Credibility to Underlying Relativity:	0.250	0.070	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.582	1.845	.
(24) Balanced Formula Relativity:	1.581	1.846	1.687

# IX 000126

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3179 ELECTRIC POWER OR TRANSMISSION EQUIP MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,620,355	18	714	1,981,878	2,560,688	541,308	1,386,777	6,470,652	2,509	1,065	3,575
2005	3,290,450	26	448	2,381,814	1,128,356	1,659,489	937,594	6,107,253	2,134	1,579	3,712
2006	4,242,719	22	408	2,446,936	2,189,677	1,272,459	1,570,469	7,479,541	2,186	1,340	3,526
2007	4,062,352	10	444	1,177,173	2,655,127	620,696	1,280,497	5,733,493	1,887	0,936	2,823
2008	3,442,749	2	318	103,056	972,941	68,554	863,101	2,007,653	0,625	0,541	1,166
<b>MA Total:</b>	<b>18658625</b>	<b>78</b>	<b>2,332</b>	<b>8,090,858</b>	<b>9,506,789</b>	<b>4,162,506</b>	<b>6,038,438</b>	<b>27798592</b>	<b>0.943</b>	<b>0.547</b>	<b>1.490</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.718	0.624	.
(14) Massachusetts Credibility:	0.700	1.000	.
(15) Countrywide Pure Premium:	1.165	0.739	1.904
(16) Countrywide Indicated Relativity:	1.004	0.957	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	7194.0	.	.
(19) Pure Premium Underlying Present Rate:	0.750	0.569	1.319
(20) Relativity to Underlying Present Rate:	0.799	0.641	.
(21) Credibility to Underlying Relativity:	0.150	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.773	0.624	.
(24) Balanced Formula Relativity:	0.773	0.624	0.713

Class(es):		Effective: 9/1/2011							Manufacturing		
3180 ELECTRIC OR GAS LIGHTING FIXTURES MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	324,133	1	78	4,743	234,518	13,468	224,237	476,965	0,738	0,733	1,472
2005	326,720	4	76	581,931	288,509	385,823	171,494	1,427,756	2,664	1,706	4,370
2006	345,670	4	69	535,078	282,049	356,724	165,927	1,339,777	2,364	1,512	3,876
2007	353,810	0	68	0	752,522	0	293,676	1,046,198	2,127	0,830	2,957
2008	157,279	1	30	294,999	292,099	61,972	85,352	734,422	3,733	0,937	4,670
<b>MA Total:</b>	<b>1,507,611</b>	<b>10</b>	<b>321</b>	<b>1,416,750</b>	<b>1,849,697</b>	<b>817,986</b>	<b>940,685</b>	<b>5,025,118</b>	<b>2.167</b>	<b>1.167</b>	<b>3.333</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.651	1.331	.
(14) Massachusetts Credibility:	0.410	0.630	.
(15) Countrywide Pure Premium:	1.269	1.092	2.362
(16) Countrywide Indicated Relativity:	1.094	1.416	.
(17) Countrywide Credibility:	0.300	0.190	.
(18) Countrywide Lost-Time Claims:	433.00	.	.
(19) Pure Premium Underlying Present Rate:	1.178	1.077	2.255
(20) Relativity to Underlying Present Rate:	1.255	1.213	.
(21) Credibility to Underlying Relativity:	0.290	0.180	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.369	1.326	.
(24) Balanced Formula Relativity:	1.368	1.327	1.351

# IX 000127

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3188 PLUMBERS SUPPLIES MFG-NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	13.411	0	6	0	386.336	0	122.272	508.608	28.807	9.117	37.924
2005	10.812	1	2	39.098	106.885	4.403	22.481	172.867	13.502	2.486	15.988
2006	12.879	0	1	0	0	0	295	295	0.000	0.023	0.023
2007	16.132	0	3	0	0	0	1.976	1.976	0.000	0.122	0.122
2008	14.764	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>67,998</b>	<b>1</b>	<b>12</b>	<b>39,098</b>	<b>493,221</b>	<b>4,403</b>	<b>147,024</b>	<b>683,746</b>	<b>7.828</b>	<b>2.227</b>	<b>10.055</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.964	2.542	.
(14) Massachusetts Credibility:	0.130	0.200	.
(15) Countrywide Pure Premium:	1.166	0.705	1.871
(16) Countrywide Indicated Relativity:	1.005	0.913	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	455.00	.	.
(19) Pure Premium Underlying Present Rate:	1.647	1.436	3.083
(20) Relativity to Underlying Present Rate:	1.754	1.617	.
(21) Credibility to Underlying Relativity:	0.430	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.972	1.521	.
(24) Balanced Formula Relativity:	1.971	1.521	1.791

Class(es):		Effective: 9/1/2011							Manufacturing		
3200 ARMS MFG-SMALL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	93.578	1	38	23.232	26.674	23.109	71.511	144.526	0.533	1.011	1.544
2005	104.016	0	25	0	18.495	0	46.819	65.315	0.178	0.450	0.628
2006	133.299	1	22	43.470	143.482	12.573	109.935	309.460	1.403	0.919	2.322
2007	131.311	3	39	48.733	1.254	59.138	36.579	145.703	0.381	0.729	1.110
2008	107.681	0	41	0	88.957	0	169.009	257.966	0.826	1.570	2.396
<b>MA Total:</b>	<b>569,885</b>	<b>5</b>	<b>165</b>	<b>115,435</b>	<b>278,862</b>	<b>94,820</b>	<b>433,853</b>	<b>922,970</b>	<b>0.692</b>	<b>0.928</b>	<b>1.620</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.527	1.059	.
(14) Massachusetts Credibility:	0.270	0.460	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	1.218	1.461	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.164	1.320	2.485
(20) Relativity to Underlying Present Rate:	1.241	1.487	.
(21) Credibility to Underlying Relativity:	0.730	0.540	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.048	1.290	.
(24) Balanced Formula Relativity:	1.047	1.291	1.145

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 Exhibit 58

## Calculation of Class Relativities

Class(es): 3220 CAN MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	1.395	0.834	2.229
(16) Countrywide Indicated Relativity:	1.202	1.081	.
(17) Countrywide Credibility:	0.500	0.500	.
(18) Countrywide Lost-Time Claims:	410.00	.	.
(19) Pure Premium Underlying Present Rate:	0.800	0.720	1.520
(20) Relativity to Underlying Present Rate:	0.852	0.811	.
(21) Credibility to Underlying Relativity:	0.500	0.500	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.027	0.946	.
(24) Balanced Formula Relativity:	1.027	0.946	0.994

Class(es): 3255 WIRE CLOTH MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	28.198	0	10	0	105.431	0	71.092	176.522	3.739	2.521	6.260
2005	29.409	0	8	0	39.833	0	28.494	68.327	1.354	0.969	2.323
2006	26.353	0	15	0	130.845	0	81.797	212.641	4.965	3.104	8.069
2007	31.692	0	20	0	25.782	0	27.749	53.531	0.814	0.876	1.689
2008	24.679	0	5	0	150.040	0	46.977	197.017	6.080	1.903	7.983
<b>MA Total:</b>	140.331	0	58	0	451.932	0	256.108	708.039	3.220	1.825	5.046

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.453	2.083	.
(14) Massachusetts Credibility:	0.160	0.270	.
(15) Countrywide Pure Premium:	0.637	0.465	1.102
(16) Countrywide Indicated Relativity:	0.549	0.603	.
(17) Countrywide Credibility:	0.270	0.290	.
(18) Countrywide Lost-Time Claims:	44.000	.	.
(19) Pure Premium Underlying Present Rate:	1.331	1.375	2.706
(20) Relativity to Underlying Present Rate:	1.418	1.548	.
(21) Credibility to Underlying Relativity:	0.570	0.440	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.349	1.418	.
(24) Balanced Formula Relativity:	1.348	1.419	1.377

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## Calculation of Class Relativities

Class(es): 3257 WIRE GOODS MFG - NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	96.927	0	34	0	31.204	0	42.914	74.119	0.322	0.443	0.765
2005	96.164	2	26	269.320	196.963	483.516	53.741	1,003.539	4.849	5.587	10.436
2006	110.269	2	43	60.948	17.763	6.815	49.195	134.722	0.714	0.508	1.222
2007	148.064	1	34	74.456	243.298	61.646	82.598	461.998	2.146	0.974	3.120
2008	133.749	2	22	69.518	15.329	56.276	60.719	201.842	0.634	0.875	1.509
<b>MA Total:</b>	<b>585.174</b>	<b>7</b>	<b>159</b>	<b>474.241</b>	<b>504.557</b>	<b>608.253</b>	<b>289.168</b>	<b>1,876.219</b>	<b>1.673</b>	<b>1.534</b>	<b>3.206</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.274	1.750	.
(14) Massachusetts Credibility:	0.280	0.470	.
(15) Countrywide Pure Premium:	1.509	1.048	2.557
(16) Countrywide Indicated Relativity:	1.300	1.358	.
(17) Countrywide Credibility:	0.360	0.270	.
(18) Countrywide Lost-Time Claims:	1314.0	.	.
(19) Pure Premium Underlying Present Rate:	1.226	1.351	2.577
(20) Relativity to Underlying Present Rate:	1.306	1.522	.
(21) Credibility to Underlying Relativity:	0.360	0.260	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.295	1.585	.
(24) Balanced Formula Relativity:	1.294	1.586	1.411

Class(es): 3270 EYELET MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	26.363	1	8	127.784	288	20.822	3.823	152.717	4.858	0.935	5.793
2005	17.190	1	8	95.917	9.489	12.667	16.012	134.085	6.132	1.668	7.800
2006	15.528	0	12	0	4.820	0	9.296	14.116	0.310	0.599	0.909
2007	14.547	0	9	0	10.135	0	12.215	22.350	0.697	0.840	1.536
2008	12.521	1	3	21.660	84.265	8.948	140.524	255.397	8.460	11.937	20.397
<b>MA Total:</b>	<b>86.149</b>	<b>3</b>	<b>40</b>	<b>245.361</b>	<b>108.997</b>	<b>42.437</b>	<b>181.870</b>	<b>578.665</b>	<b>4.113</b>	<b>2.604</b>	<b>6.717</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.133	2.972	.
(14) Massachusetts Credibility:	0.110	0.160	.
(15) Countrywide Pure Premium:	1.037	0.732	1.769
(16) Countrywide Indicated Relativity:	0.894	0.948	.
(17) Countrywide Credibility:	0.450	0.420	.
(18) Countrywide Lost-Time Claims:	220.00	.	.
(19) Pure Premium Underlying Present Rate:	0.864	0.654	1.518
(20) Relativity to Underlying Present Rate:	0.920	0.736	.
(21) Credibility to Underlying Relativity:	0.440	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.152	1.183	.
(24) Balanced Formula Relativity:	1.151	1.183	1.164

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3300 BED SPRING OR WIRE MATTRESS MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	35	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.010	0.010	.
(15) Countrywide Pure Premium:	2.240	1.545	3.786
(16) Countrywide Indicated Relativity:	1.931	2.003	.
(17) Countrywide Credibility:	0.500	0.500	.
(18) Countrywide Lost-Time Claims:	347.00	.	.
(19) Pure Premium Underlying Present Rate:	3.108	2.437	5.545
(20) Relativity to Underlying Present Rate:	3.311	2.745	.
(21) Credibility to Underlying Relativity:	0.490	0.490	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.588	2.346	.
(24) Balanced Formula Relativity:	2.586	2.347	2.491

Class(es):		Effective: 9/1/2011							Manufacturing		
3315 BRASS OR COPPER GOODS MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	183.806	1	61	3.917	128.801	11.922	78.198	222.838	0.722	0.490	1.212
2005	191.080	1	49	225.049	54.972	236.462	63.922	580.406	1.465	1.572	3.038
2006	189.664	2	62	536.379	68.245	214.534	100.344	919.502	3.188	1.660	4.848
2007	202.484	1	62	18.739	188.115	18.195	161.138	386.187	1.022	0.886	1.907
2008	194.736	0	53	0	40.052	0	99.030	139.082	0.206	0.509	0.714
<b>MA Total:</b>	<b>961.770</b>	<b>5</b>	<b>287</b>	<b>784.084</b>	<b>480.186</b>	<b>481.113</b>	<b>502.633</b>	<b>2,248.016</b>	<b>1.315</b>	<b>1.023</b>	<b>2.337</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.001	1.167	.
(14) Massachusetts Credibility:	0.350	0.520	.
(15) Countrywide Pure Premium:	2.407	1.666	4.073
(16) Countrywide Indicated Relativity:	2.074	2.160	.
(17) Countrywide Credibility:	0.330	0.240	.
(18) Countrywide Lost-Time Claims:	260.00	.	.
(19) Pure Premium Underlying Present Rate:	1.251	1.032	2.283
(20) Relativity to Underlying Present Rate:	1.332	1.162	.
(21) Credibility to Underlying Relativity:	0.320	0.240	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.461	1.404	.
(24) Balanced Formula Relativity:	1.460	1.405	1.438

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## Calculation of Class Relativities

Class(es): 3336 TYPE FOUNDRY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	6.439	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	6.111	0	1	0	0	0	312	312	0.000	0.051	0.051
2006	6.237	0	3	0	19,752	0	22,939	42,691	3.167	3.678	6.844
2007	5.509	0	2	0	201	0	2,248	2,449	0.036	0.408	0.445
2008	5.105	0	2	0	0	0	1,001	1,001	0.000	0.196	0.196
<b>MA Total:</b>	<b>29,400</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>19,953</b>	<b>0</b>	<b>26,500</b>	<b>46,453</b>	<b>0.679</b>	<b>0.901</b>	<b>1.580</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.517	1.029	.
(14) Massachusetts Credibility:	0.080	0.140	.
(15) Countrywide Pure Premium:	1.471	1.033	2.504
(16) Countrywide Indicated Relativity:	1.268	1.339	.
(17) Countrywide Credibility:	0.460	0.430	.
(18) Countrywide Lost-Time Claims:	343.00	.	.
(19) Pure Premium Underlying Present Rate:	1.206	1.315	2.521
(20) Relativity to Underlying Present Rate:	1.285	1.481	.
(21) Credibility to Underlying Relativity:	0.460	0.430	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.216	1.357	.
(24) Balanced Formula Relativity:	1.215	1.357	1.272

Class(es): 3365 WELDING OR CUTTING - NOC & DRIVERS		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	114,582	2	52	302,968	391,340	40,526	222,081	956,916	6,059	2,292	8,351
2005	119,517	3	49	276,988	258,696	86,033	164,315	786,032	4,482	2,095	6,577
2006	119,208	5	37	527,148	149,539	199,925	93,433	970,044	5,677	2,461	8,137
2007	116,443	3	58	298,220	237,837	128,623	192,671	857,351	4,604	2,759	7,363
2008	107,689	1	34	34,863	529,522	63,214	208,523	836,122	5,241	2,523	7,764
<b>MA Total:</b>	<b>577,440</b>	<b>14</b>	<b>230</b>	<b>1,440,187</b>	<b>1,566,935</b>	<b>518,321</b>	<b>881,023</b>	<b>4,406,465</b>	<b>5,208</b>	<b>2,423</b>	<b>7,631</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.593	1.255	.
(14) Massachusetts Credibility:	0.440	0.670	.
(15) Countrywide Pure Premium:	3.823	2.375	6.198
(16) Countrywide Indicated Relativity:	1.195	1.245	.
(17) Countrywide Credibility:	0.280	0.170	.
(18) Countrywide Lost-Time Claims:	1283.0	.	.
(19) Pure Premium Underlying Present Rate:	3.839	3.362	7.200
(20) Relativity to Underlying Present Rate:	1.710	1.755	.
(21) Credibility to Underlying Relativity:	0.280	0.160	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.515	1.334	.
(24) Balanced Formula Relativity:	1.532	1.335	1.459

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Section IX - G  
 Exhibit 62

## Calculation of Class Relativities

Class(es): 3372 ELECTROPLATING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	442.014	6	100	653.689	81.988	725.562	175.613	1,636.853	1.664	2.039	3.703
2005	466.290	2	112	258.980	552.768	67.682	294.530	1,173.959	1.741	0.777	2.518
2006	488.909	1	112	25.791	730.987	3.564	611.781	1,372.123	1.548	1.259	2.807
2007	534.074	1	90	46.533	328.212	33.496	202.985	611.226	0.702	0.443	1.144
2008	526.584	3	64	521.265	101.342	163.760	151.116	937.483	1.182	0.598	1.780
<b>MA Total:</b>	<b>2,457,870</b>	<b>13</b>	<b>478</b>	<b>1,506,258</b>	<b>1,795,296</b>	<b>994,065</b>	<b>1,436,024</b>	<b>5,731,644</b>	<b>1.343</b>	<b>0.989</b>	<b>2.332</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.023	1.128	.
(14) Massachusetts Credibility:	0.450	0.730	.
(15) Countrywide Pure Premium:	1.465	1.027	2.492
(16) Countrywide Indicated Relativity:	1.263	1.331	.
(17) Countrywide Credibility:	0.280	0.140	.
(18) Countrywide Lost-Time Claims:	1029.0	.	.
(19) Pure Premium Underlying Present Rate:	0.960	0.948	1.909
(20) Relativity to Underlying Present Rate:	1.023	1.068	.
(21) Credibility to Underlying Relativity:	0.270	0.130	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.090	1.149	.
(24) Balanced Formula Relativity:	1.090	1.149	1.114

Class(es): 3373 GALVANIZING OR TINNING - NOT ELECTROLYTIC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4.168	0	2	0	3.409	0	6.170	9.579	0.818	1.480	2.298
2005	6.029	0	1	0	2.648	0	3.079	5.727	0.439	0.511	0.950
2006	9.546	0	6	0	25.888	0	5.450	31.338	2.712	0.571	3.283
2007	9.698	1	1	27.794	0	16.720	954	45.468	2.866	1.822	4.689
2008	13.271	1	4	110.358	0	52.842	2.890	166.090	8.315	4.199	12.515
<b>MA Total:</b>	<b>42,713</b>	<b>2</b>	<b>14</b>	<b>138,152</b>	<b>31,945</b>	<b>69,562</b>	<b>18,543</b>	<b>258,202</b>	<b>3.982</b>	<b>2.063</b>	<b>6.045</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.034	2.354	.
(14) Massachusetts Credibility:	0.110	0.160	.
(15) Countrywide Pure Premium:	3.123	2.027	5.150
(16) Countrywide Indicated Relativity:	2.691	2.627	.
(17) Countrywide Credibility:	0.430	0.420	.
(18) Countrywide Lost-Time Claims:	137.00	.	.
(19) Pure Premium Underlying Present Rate:	1.645	1.220	2.864
(20) Relativity to Underlying Present Rate:	1.752	1.373	.
(21) Credibility to Underlying Relativity:	0.460	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.297	2.057	.
(24) Balanced Formula Relativity:	2.295	2.058	2.200

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## Calculation of Class Relativities

Class(es): 3381 SILVERWARE MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	67,753	0	21	0	58,148	0	23,182	81,329	0.858	0.342	1,200
2005	68,237	0	14	0	101,895	0	106,180	208,075	1.493	1.556	3,049
2006	59,783	0	18	0	165,216	0	51,664	216,880	2.764	0.864	3,628
2007	44,590	0	7	0	0	0	7,858	7,858	0.000	0.176	0,176
2008	40,669	0	9	0	205,215	0	72,174	277,389	5.046	1.775	6,821
<b>MA Total:</b>	<b>281,033</b>	<b>0</b>	<b>69</b>	<b>0</b>	<b>530,474</b>	<b>0</b>	<b>261,057</b>	<b>791,532</b>	<b>1.888</b>	<b>0.929</b>	<b>2,817</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.438	1.060	.
(14) Massachusetts Credibility:	0.220	0.350	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	1.389	1.451	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.327	1.312	2.639
(20) Relativity to Underlying Present Rate:	1.414	1.477	.
(21) Credibility to Underlying Relativity:	0.780	0.650	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.419	1.331	.
(24) Balanced Formula Relativity:	1.418	1.332	1.384

Class(es): 3383 JEWELRY MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	610,958	6	104	72,284	363,678	69,541	244,835	750,339	0.714	0.515	1,228
2005	610,126	1	109	8,332	172,676	39,892	214,552	435,452	0.297	0.417	0,714
2006	582,775	4	93	40,510	403,167	38,744	293,555	775,976	0.761	0.570	1,332
2007	471,571	4	80	93,966	533,890	68,942	256,357	953,155	1.331	0.690	2,021
2008	422,756	0	61	0	66,804	0	184,607	251,411	0.158	0.437	0,595
<b>MA Total:</b>	<b>2,698,186</b>	<b>15</b>	<b>447</b>	<b>215,093</b>	<b>1,540,216</b>	<b>217,120</b>	<b>1,193,905</b>	<b>3,166,334</b>	<b>0.651</b>	<b>0.523</b>	<b>1,174</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.496	0.597	.
(14) Massachusetts Credibility:	0.380	0.590	.
(15) Countrywide Pure Premium:	0.608	0.394	1.002
(16) Countrywide Indicated Relativity:	0.524	0.511	.
(17) Countrywide Credibility:	0.310	0.210	.
(18) Countrywide Lost-Time Claims:	543.00	.	.
(19) Pure Premium Underlying Present Rate:	0.573	0.518	1.092
(20) Relativity to Underlying Present Rate:	0.611	0.584	.
(21) Credibility to Underlying Relativity:	0.310	0.200	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.540	0.576	.
(24) Balanced Formula Relativity:	0.540	0.576	0.554

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## Calculation of Class Relativities

Class(es): 3385 WATCH MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	28,367	0	1	0	3,158	0	551	3,709	0.111	0.019	0.131
2005	27,084	0	4	0	2,711	0	3,622	6,333	0.100	0.134	0.234
2006	33,264	0	1	0	0	0	86	86	0.000	0.003	0.003
2007	36,363	0	2	0	64,452	0	40,223	104,675	1.772	1.106	2.879
2008	35,744	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>160,822</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>70,321</b>	<b>0</b>	<b>44,482</b>	<b>114,803</b>	<b>0.437</b>	<b>0.277</b>	<b>0.714</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.333	0.316	.
(14) Massachusetts Credibility:	0.100	0.170	.
(15) Countrywide Pure Premium:	0.346	0.305	0.651
(16) Countrywide Indicated Relativity:	0.298	0.395	.
(17) Countrywide Credibility:	0.250	0.270	.
(18) Countrywide Lost-Time Claims:	37,000	.	.
(19) Pure Premium Underlying Present Rate:	0.371	0.361	0.732
(20) Relativity to Underlying Present Rate:	0.395	0.406	.
(21) Credibility to Underlying Relativity:	0.650	0.560	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.365	0.388	.
(24) Balanced Formula Relativity:	0.365	0.388	0.374

Class(es): 3507 CONSTRUCTION OR AGRICULTURAL MACHINERY MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	57,649	1	12	60,803	837	12,109	12,232	85,981	1.069	0.422	1.491
2005	67,590	1	34	313,503	229,386	464,904	170,613	1,178,407	8.032	9.403	17,435
2006	59,081	1	25	184,972	22,926	111,070	44,935	363,903	3.519	2.641	6.159
2007	47,695	0	19	0	71,147	0	74,774	145,921	1.492	1.568	3.059
2008	40,212	0	5	0	0	0	4,408	4,408	0.000	0.110	0.110
<b>MA Total:</b>	<b>272,226</b>	<b>3</b>	<b>95</b>	<b>559,278</b>	<b>324,295</b>	<b>588,084</b>	<b>306,962</b>	<b>1,778,620</b>	<b>3.246</b>	<b>3.288</b>	<b>6.534</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.473	3.753	.
(14) Massachusetts Credibility:	0.230	0.360	.
(15) Countrywide Pure Premium:	1.864	1.181	3.045
(16) Countrywide Indicated Relativity:	1.606	1.531	.
(17) Countrywide Credibility:	0.390	0.320	.
(18) Countrywide Lost-Time Claims:	5372.0	.	.
(19) Pure Premium Underlying Present Rate:	1.544	1.522	3.066
(20) Relativity to Underlying Present Rate:	1.644	1.714	.
(21) Credibility to Underlying Relativity:	0.380	0.320	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.820	2.389	.
(24) Balanced Formula Relativity:	1.819	2.390	2.048

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3515 TEXTILE MACHINERY MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	22,513	0	12	0	131,525	0	49,651	181,175	5,842	2,205	8,048
2005	27,275	0	12	0	6,153	0	7,273	13,426	0,226	0,267	0,492
2006	27,331	0	16	0	29,824	0	50,625	80,449	1,091	1,852	2,943
2007	27,395	0	11	0	38,886	0	29,087	67,973	1,419	1,062	2,481
2008	28,650	0	13	0	39,310	0	38,514	77,824	1,372	1,344	2,716
<b>MA Total:</b>	<b>133,164</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>245,697</b>	<b>0</b>	<b>175,149</b>	<b>420,846</b>	<b>1,845</b>	<b>1,315</b>	<b>3,160</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.406	1.501	.
(14) Massachusetts Credibility:	0.150	0.240	.
(15) Countrywide Pure Premium:	1.312	0.707	2.019
(16) Countrywide Indicated Relativity:	1.130	0.917	.
(17) Countrywide Credibility:	0.330	0.350	.
(18) Countrywide Lost-Time Claims:	71.000	.	.
(19) Pure Premium Underlying Present Rate:	1.117	1.154	2.270
(20) Relativity to Underlying Present Rate:	1.190	1.299	.
(21) Credibility to Underlying Relativity:	0.520	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.202	1.214	.
(24) Balanced Formula Relativity:	1.202	1.214	1.207

Class(es):		Effective: 9/1/2011							Manufacturing		
3548 AIRPLANE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	33619435	210	7,357	10690717	25162438	9,537,008	20802006	66192169	7,465	6,317	13,782
2005	34828987	161	7,154	18748932	19778582	10211801	16864089	65603404	7,743	5,442	13,185
2006	34739088	175	6,090	19296852	15224889	11113241	18171674	63806656	6,956	5,901	12,857
2007	36543155	105	5,509	12319365	19054462	5,754,027	15906473	53034326	6,010	4,149	10,159
2008	35526882	168	4,403	16649775	20017822	8,552,548	16276526	61496672	7,225	4,892	12,117
<b>MA Total:</b>	<b>175257546</b>	<b>819</b>	<b>30,513</b>	<b>77705640</b>	<b>99238193</b>	<b>45168625</b>	<b>88020768</b>	<b>310133227</b>	<b>1,010</b>	<b>0,760</b>	<b>1,770</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.769	0.867	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	1.067	0.710	1.777
(16) Countrywide Indicated Relativity:	0.919	0.920	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	20266	.	.
(19) Pure Premium Underlying Present Rate:	0.743	0.776	1.519
(20) Relativity to Underlying Present Rate:	0.791	0.874	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.769	0.867	.
(24) Balanced Formula Relativity:	0.769	0.868	0.808

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3558 BOOT OR SHOE MACHINERY MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	13,054	0	1	0	1,687	0	1,190	2,877	0.129	0.091	0.220
2005	10,887	0	1	0	0	0	615	615	0.000	0.056	0.056
2006	11,768	0	3	0	195,645	0	88,127	283,772	16.625	7.489	24.114
2007	15,352	0	1	0	0	0	294	294	0.000	0.019	0.019
2008	11,008	0	2	0	0	0	899	899	0.000	0.082	0.082
<b>MA Total:</b>	<b>62,068</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>197,332</b>	<b>0</b>	<b>91,125</b>	<b>288,457</b>	<b>3.179</b>	<b>1.468</b>	<b>4.647</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.422	1.676	.
(14) Massachusetts Credibility:	0.070	0.120	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.342	0.474	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.326	0.428	0.755
(20) Relativity to Underlying Present Rate:	0.348	0.482	.
(21) Credibility to Underlying Relativity:	0.930	0.880	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.493	0.625	.
(24) Balanced Formula Relativity:	0.493	0.626	0.546

Class(es):		Effective: 9/1/2011							Manufacturing		
3571 STEAM OR AIR PRESSURE GAUGE MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	7,840	0	1	0	0	0	668	668	0.000	0.085	0.085
2005	8,326	0	1	0	0	0	2,471	2,471	0.000	0.297	0.297
2006	8,092	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	5,239	0	1	0	0	0	774	774	0.000	0.148	0.148
2008	5,082	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>34,579</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,913</b>	<b>3,913</b>	<b>0.000</b>	<b>0.113</b>	<b>0.113</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.129	.
(14) Massachusetts Credibility:	0.060	0.100	.
(15) Countrywide Pure Premium:	0.000	0.016	0.016
(16) Countrywide Indicated Relativity:	0.000	0.021	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.508	0.464	0.972
(20) Relativity to Underlying Present Rate:	0.542	0.522	.
(21) Credibility to Underlying Relativity:	0.940	0.900	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.509	0.483	.
(24) Balanced Formula Relativity:	0.509	0.483	0.498

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## Calculation of Class Relativities

Class(es): 3612 PUMP MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	151.001	0	28	0	95.466	0	106.677	202.143	0.632	0.706	1.339
2005	170.008	0	19	0	459.333	0	164.677	624.010	2.702	0.969	3.670
2006	173.395	1	34	208.626	55.877	65.664	70.222	400.389	1.525	0.784	2.309
2007	202.130	0	35	0	191.123	0	92.045	283.169	0.946	0.455	1.401
2008	221.707	1	23	51.932	170.088	26.273	142.321	390.613	1.001	0.760	1.762
<b>MA Total:</b>	<b>918,242</b>	<b>2</b>	<b>139</b>	<b>260,558</b>	<b>971,886</b>	<b>91,937</b>	<b>575,942</b>	<b>1,900,323</b>	<b>1.342</b>	<b>0.727</b>	<b>2.070</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.022	0.830	.
(14) Massachusetts Credibility:	0.280	0.440	.
(15) Countrywide Pure Premium:	1.251	0.786	2.038
(16) Countrywide Indicated Relativity:	1.078	1.019	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	1665.0	.	.
(19) Pure Premium Underlying Present Rate:	0.803	0.732	1.535
(20) Relativity to Underlying Present Rate:	0.855	0.824	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.982	0.881	.
(24) Balanced Formula Relativity:	0.982	0.882	0.942

Class(es): 3620 BOILERMAKING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	127.535	1	52	3.247	93.229	3.238	90.780	190.493	0.756	0.737	1.494
2005	119.070	2	49	267.530	460.340	203.606	206.727	1,138.204	6.113	3.446	9.559
2006	130.656	0	54	0	118.015	0	123.208	241.223	0.903	0.943	1.846
2007	114.189	1	36	166.933	326.685	33.608	244.322	771.548	4.323	2.434	6.757
2008	117.612	0	41	0	739.610	0	507.259	1,246.870	6.289	4.313	10.602
<b>MA Total:</b>	<b>609,062</b>	<b>4</b>	<b>232</b>	<b>437,710</b>	<b>1,737,879</b>	<b>240,452</b>	<b>1,172,297</b>	<b>3,588,338</b>	<b>3.572</b>	<b>2.320</b>	<b>5.892</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.721	2.647	.
(14) Massachusetts Credibility:	0.340	0.550	.
(15) Countrywide Pure Premium:	2.165	1.288	3.453
(16) Countrywide Indicated Relativity:	1.865	1.670	.
(17) Countrywide Credibility:	0.330	0.230	.
(18) Countrywide Lost-Time Claims:	1698.0	.	.
(19) Pure Premium Underlying Present Rate:	1.925	1.930	3.855
(20) Relativity to Underlying Present Rate:	2.051	2.174	.
(21) Credibility to Underlying Relativity:	0.330	0.220	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.218	2.318	.
(24) Balanced Formula Relativity:	2.216	2.319	2.257

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## Calculation of Class Relativities

Class(es): 3634 VALVE MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	194.168	2	41	69.325	111.278	15.252	46.716	242.571	0.930	0.319	1.249
2005	240.350	0	44	0	135.229	0	135.953	271.182	0.563	0.566	1.128
2006	248.814	2	46	117.835	20.237	16.408	59.065	213.545	0.555	0.303	0.858
2007	241.420	3	55	101.607	282.272	51.080	105.178	540.137	1.590	0.647	2.237
2008	231.025	2	28	33.460	45.972	34.367	53.792	167.591	0.344	0.382	0.725
<b>MA Total:</b>	<b>1,155.777</b>	<b>9</b>	<b>214</b>	<b>322.227</b>	<b>594.988</b>	<b>117.108</b>	<b>400.704</b>	<b>1,435.027</b>	<b>0.794</b>	<b>0.448</b>	<b>1.242</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.605	0.511	.
(14) Massachusetts Credibility:	0.320	0.460	.
(15) Countrywide Pure Premium:	1.013	0.653	1.666
(16) Countrywide Indicated Relativity:	0.873	0.846	.
(17) Countrywide Credibility:	0.340	0.270	.
(18) Countrywide Lost-Time Claims:	900.00	.	.
(19) Pure Premium Underlying Present Rate:	0.844	0.645	1.489
(20) Relativity to Underlying Present Rate:	0.899	0.726	.
(21) Credibility to Underlying Relativity:	0.340	0.270	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.796	0.660	.
(24) Balanced Formula Relativity:	0.796	0.660	0.741

Class(es): 3635 GEAR MFG OR GRINDING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	178.079	0	75	0	274.366	0	232.774	507.140	1.541	1.307	2.848
2005	190.631	2	91	9.825	374.472	55.769	423.841	863.906	2.016	2.516	4.532
2006	192.832	5	65	471.413	164.542	210.546	219.458	1,065.958	3.298	2.230	5.528
2007	225.603	2	59	421.495	255.501	498.128	143.954	1,319.078	3.001	2.846	5.847
2008	214.142	1	33	473	191.135	1.958	299.806	493.372	0.895	1.409	2.304
<b>MA Total:</b>	<b>1,001.286</b>	<b>10</b>	<b>323</b>	<b>903.206</b>	<b>1,260.016</b>	<b>766.400</b>	<b>1,319.832</b>	<b>4,249.454</b>	<b>2.160</b>	<b>2.084</b>	<b>4.244</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.646	2.378	.
(14) Massachusetts Credibility:	0.380	0.660	.
(15) Countrywide Pure Premium:	1.387	0.930	2.316
(16) Countrywide Indicated Relativity:	1.195	1.205	.
(17) Countrywide Credibility:	0.310	0.170	.
(18) Countrywide Lost-Time Claims:	645.00	.	.
(19) Pure Premium Underlying Present Rate:	1.491	1.807	3.298
(20) Relativity to Underlying Present Rate:	1.588	2.035	.
(21) Credibility to Underlying Relativity:	0.310	0.170	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.488	2.120	.
(24) Balanced Formula Relativity:	1.487	2.121	1.741

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## Calculation of Class Relativities

Class(es): 3642 BATTERY MFG-DRY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	48.961	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	60.120	2	4	184.185	990	64.321	5.032	254.528	3.080	1.154	4.234
2006	77.422	1	10	48.760	729	14.822	11.402	75.713	0.639	0.339	0.978
2007	139.062	0	8	0	25.589	0	16.377	41.966	0.184	0.118	0.302
2008	138.486	0	5	0	74.868	0	29.927	104.795	0.541	0.216	0.757
<b>MA Total:</b>	<b>464.051</b>	<b>3</b>	<b>27</b>	<b>232.945</b>	<b>102.176</b>	<b>79.143</b>	<b>62.739</b>	<b>477.002</b>	<b>0.722</b>	<b>0.306</b>	<b>1.028</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.550	0.349	.
(14) Massachusetts Credibility:	0.180	0.250	.
(15) Countrywide Pure Premium:	0.484	0.381	0.866
(16) Countrywide Indicated Relativity:	0.417	0.494	.
(17) Countrywide Credibility:	0.350	0.370	.
(18) Countrywide Lost-Time Claims:	86.000	.	.
(19) Pure Premium Underlying Present Rate:	0.507	0.333	0.840
(20) Relativity to Underlying Present Rate:	0.540	0.375	.
(21) Credibility to Underlying Relativity:	0.470	0.380	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.499	0.413	.
(24) Balanced Formula Relativity:	0.499	0.413	0.464

Class(es): 3647 BATTERY MFG-STORAGE		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	4.103	0	1	0	1.003	0	247	1.250	0.244	0.060	0.305
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	839	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>4.942</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1.003</b>	<b>0</b>	<b>247</b>	<b>1.250</b>	<b>0.203</b>	<b>0.050</b>	<b>0.253</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.155	0.057	.
(14) Massachusetts Credibility:	0.040	0.060	.
(15) Countrywide Pure Premium:	1.390	0.837	2.227
(16) Countrywide Indicated Relativity:	1.198	1.085	.
(17) Countrywide Credibility:	0.480	0.470	.
(18) Countrywide Lost-Time Claims:	501.00	.	.
(19) Pure Premium Underlying Present Rate:	1.141	1.061	2.202
(20) Relativity to Underlying Present Rate:	1.215	1.195	.
(21) Credibility to Underlying Relativity:	0.480	0.470	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.164	1.075	.
(24) Balanced Formula Relativity:	1.164	1.075	1.128

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
3648 AUTOMOTIVE LIGHTING, IGNITION APPARATUS MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,200	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,720	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	2,479	0	1	0	0	0	1,347	1,347	0.000	0.543	0.543
2007	848	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	257	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>8,504</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,347</b>	<b>1,347</b>	<b>0.000</b>	<b>0.158</b>	<b>0.158</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.181	.
(14) Massachusetts Credibility:	0.040	0.070	.
(15) Countrywide Pure Premium:	0.698	0.452	1.150
(16) Countrywide Indicated Relativity:	0.602	0.586	.
(17) Countrywide Credibility:	0.480	0.470	.
(18) Countrywide Lost-Time Claims:	524.00	.	.
(19) Pure Premium Underlying Present Rate:	0.630	0.742	1.372
(20) Relativity to Underlying Present Rate:	0.672	0.836	.
(21) Credibility to Underlying Relativity:	0.480	0.460	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.611	0.672	.
(24) Balanced Formula Relativity:	0.611	0.673	0.636

Class(es):		Effective: 9/1/2011							Manufacturing		
3681 INSTRUMENT MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	17300318	60	1,680	4,692,461	5,302,642	3,324,010	4,295,935	17615048	1.155	0.881	2.036
2005	17911024	52	1,504	3,118,809	4,470,982	2,835,618	3,524,324	13949733	0.847	0.710	1.558
2006	18256897	52	1,474	3,753,422	4,626,463	2,271,234	3,958,362	14609481	0.918	0.682	1.600
2007	19800626	36	1,318	4,580,074	5,524,381	2,707,499	3,811,368	16623323	1.021	0.658	1.679
2008	19955124	28	1,134	2,176,450	4,340,728	1,231,366	3,427,215	11175759	0.653	0.467	1.120
<b>MA Total:</b>	<b>93223987</b>	<b>228</b>	<b>7,110</b>	<b>18321216</b>	<b>24265196</b>	<b>12369727</b>	<b>19017204</b>	<b>73973343</b>	<b>0.457</b>	<b>0.337</b>	<b>0.794</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.348	0.384	.
(14) Massachusetts Credibility:	0.950	1.000	.
(15) Countrywide Pure Premium:	0.483	0.348	0.832
(16) Countrywide Indicated Relativity:	0.416	0.452	.
(17) Countrywide Credibility:	0.030	0.000	.
(18) Countrywide Lost-Time Claims:	5757.0	.	.
(19) Pure Premium Underlying Present Rate:	0.323	0.315	0.638
(20) Relativity to Underlying Present Rate:	0.344	0.355	.
(21) Credibility to Underlying Relativity:	0.020	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.350	0.384	.
(24) Balanced Formula Relativity:	0.350	0.384	0.364

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
3724 MACHINERY OR EQUIPMENT ERECT OR REPAIR NOC &DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,829,518	30	539	3,845,467	2,268,302	2,131,542	1,819,808	10065120	3,342	2,160	5,502
2005	1,939,949	22	621	2,148,530	2,459,309	777,431	2,338,788	7,724,058	2,375	1,606	3,982
2006	2,005,259	17	455	1,582,067	3,043,447	1,759,065	1,685,656	8,070,235	2,307	1,718	4,025
2007	2,122,551	20	430	3,210,395	2,052,230	1,784,098	1,597,478	8,644,202	2,479	1,593	4,073
2008	2,064,554	13	326	2,035,854	2,523,413	823,057	1,991,528	7,373,851	2,208	1,363	3,572
<b>MA Total:</b>	<b>9,961,830</b>	<b>102</b>	<b>2,371</b>	<b>12822313</b>	<b>12346701</b>	<b>7,275,194</b>	<b>9,433,258</b>	<b>41877466</b>	<b>2,527</b>	<b>1,677</b>	<b>4,204</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.773	0.869	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	2.740	1.573	4.313
(16) Countrywide Indicated Relativity:	0.856	0.825	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	9338.0	.	.
(19) Pure Premium Underlying Present Rate:	1.996	1.738	3.734
(20) Relativity to Underlying Present Rate:	0.889	0.908	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.773	0.869	.
(24) Balanced Formula Relativity:	0.782	0.870	0.815

Class(es):		Effective: 9/1/2011							Construction		
3726 BOILER INSTALLATION OR REPAIR-STEAM											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	36,603	3	10	225,946	103,616	129,648	78,135	537,345	9,004	5,677	14,680
2005	55,440	2	8	548,548	24,684	123,737	14,120	711,089	10,340	2,487	12,826
2006	75,635	1	24	499,942	410,972	200,173	240,233	1,351,320	12,044	5,823	17,866
2007	143,043	4	92	1,368,062	1,029,796	919,159	366,947	3,683,964	16,763	8,991	25,754
2008	36,369	0	16	0	171,360	0	117,985	289,344	4,712	3,244	7,956
<b>MA Total:</b>	<b>347,090</b>	<b>10</b>	<b>150</b>	<b>2,642,499</b>	<b>1,740,428</b>	<b>1,372,716</b>	<b>817,420</b>	<b>6,573,063</b>	<b>12,628</b>	<b>6,310</b>	<b>18,938</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.864	3.269	.
(14) Massachusetts Credibility:	0.470	0.610	.
(15) Countrywide Pure Premium:	3.737	1.838	5.574
(16) Countrywide Indicated Relativity:	1.168	0.963	.
(17) Countrywide Credibility:	0.270	0.200	.
(18) Countrywide Lost-Time Claims:	843.00	.	.
(19) Pure Premium Underlying Present Rate:	7.357	4.405	11.762
(20) Relativity to Underlying Present Rate:	3.278	2.300	.
(21) Credibility to Underlying Relativity:	0.260	0.190	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	2.984	2.624	.
(24) Balanced Formula Relativity:	3.017	2.627	2.872

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## Calculation of Class Relativities

Class(es): 3808 AUTOMOBILE MFG OR ASSEMBLY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	111.400	1	46	71.119	55.335	6.414	72.973	205.841	1.135	0.713	1.848
2005	99.525	2	40	154.193	204.544	175.150	85.364	619.251	3.604	2.618	6.222
2006	124.212	1	64	65.729	72.125	136.084	142.333	416.271	1.110	2.241	3.351
2007	166.326	1	42	111.606	392.811	16.178	183.617	704.211	3.033	1.201	4.234
2008	144.117	0	43	0	34.758	0	81.016	115.773	0.241	0.562	0.803
<b>MA Total:</b>	<b>645.580</b>	<b>5</b>	<b>235</b>	<b>402.648</b>	<b>759.572</b>	<b>333.825</b>	<b>565.303</b>	<b>2,061,347</b>	<b>1.800</b>	<b>1.393</b>	<b>3.193</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.371	1.590	.
(14) Massachusetts Credibility:	0.320	0.530	.
(15) Countrywide Pure Premium:	2.017	1.052	3.069
(16) Countrywide Indicated Relativity:	1.738	1.364	.
(17) Countrywide Credibility:	0.340	0.240	.
(18) Countrywide Lost-Time Claims:	3895.0	.	.
(19) Pure Premium Underlying Present Rate:	1.532	1.612	3.144
(20) Relativity to Underlying Present Rate:	1.632	1.816	.
(21) Credibility to Underlying Relativity:	0.340	0.230	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.585	1.587	.
(24) Balanced Formula Relativity:	1.584	1.588	1.585

Class(es): 3821 AUTOMOBILE DISMANTLING & DRIVERS		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	179.094	4	50	237.411	283.162	142.973	137.792	801.339	2.907	1.568	4.474
2005	186.711	4	45	210.007	163.566	106.085	143.522	623.180	2.001	1.337	3.338
2006	179.321	1	21	39.800	76.682	18.719	125.014	260.215	0.650	0.802	1.451
2007	189.715	4	47	163.582	305.027	84.884	168.309	721.802	2.470	1.335	3.805
2008	157.743	2	47	788.670	161.115	330.441	228.599	1,508.825	6.021	3.544	9.565
<b>MA Total:</b>	<b>892.584</b>	<b>15</b>	<b>210</b>	<b>1,439,471</b>	<b>989,552</b>	<b>683,102</b>	<b>803,235</b>	<b>3,915,361</b>	<b>2.721</b>	<b>1.665</b>	<b>4.387</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.710	2.277	.
(14) Massachusetts Credibility:	0.380	0.580	.
(15) Countrywide Pure Premium:	2.934	2.075	5.009
(16) Countrywide Indicated Relativity:	2.799	2.787	.
(17) Countrywide Credibility:	0.310	0.210	.
(18) Countrywide Lost-Time Claims:	889.00	.	.
(19) Pure Premium Underlying Present Rate:	1.711	1.472	3.183
(20) Relativity to Underlying Present Rate:	2.500	2.071	.
(21) Credibility to Underlying Relativity:	0.310	0.210	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.673	2.341	.
(24) Balanced Formula Relativity:	2.662	2.333	2.523

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## Calculation of Class Relativities

Class(es): 3826 AIRCRAFT ENGINE MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,260,117	6	137	924,672	3,296,431	125,846	1,531,857	5,878,805	3,350	1,316	4,665
2005	1,200,915	13	165	787,316	3,058,569	358,249	2,297,581	6,501,716	3,202	2,212	5,414
2006	1,847,358	19	290	1,916,953	2,788,416	1,233,387	2,029,083	7,967,839	2,547	1,766	4,313
2007	1,695,927	23	273	2,253,552	2,681,476	1,067,166	1,654,035	7,656,229	2,910	1,605	4,514
2008	1,737,983	18	293	1,629,654	3,545,385	1,185,776	2,135,634	8,496,450	2,978	1,911	4,889
<b>MA Total:</b>	<b>7,742,299</b>	<b>79</b>	<b>1,158</b>	<b>7,512,147</b>	<b>15,370,278</b>	<b>3,970,425</b>	<b>9,648,190</b>	<b>36,501,039</b>	<b>2,956</b>	<b>1,759</b>	<b>4,714</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.251	2.008	.
(14) Massachusetts Credibility:	0.940	1.000	.
(15) Countrywide Pure Premium:	0.602	0.298	0.899
(16) Countrywide Indicated Relativity:	0.518	0.386	.
(17) Countrywide Credibility:	0.030	0.000	.
(18) Countrywide Lost-Time Claims:	409.00	.	.
(19) Pure Premium Underlying Present Rate:	1.897	1.931	3.827
(20) Relativity to Underlying Present Rate:	2.020	2.174	.
(21) Credibility to Underlying Relativity:	0.030	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.193	2.008	.
(24) Balanced Formula Relativity:	2.191	2.008	2.118

Class(es): 3841 TUBULAR METAL PRODUCTS MFG OR ASSEMBLY		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	74,170	0	19	0	56,118	0	43,834	99,952	0.757	0.591	1,348
2005	81,180	0	13	0	12,432	0	58,316	70,748	0.153	0.718	0.871
2006	83,346	2	21	200,236	41,473	57,103	53,190	352,002	2,900	1,323	4,223
2007	86,218	1	14	34,046	4,726	31,318	17,335	87,425	0.450	0.564	1,014
2008	69,215	2	10	124,996	58,911	156,614	57,047	397,568	2,657	3,087	5,744
<b>MA Total:</b>	<b>394,129</b>	<b>5</b>	<b>77</b>	<b>359,278</b>	<b>173,660</b>	<b>245,035</b>	<b>229,721</b>	<b>1,007,694</b>	<b>1,352</b>	<b>1,205</b>	<b>2,557</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.030	1.375	.
(14) Massachusetts Credibility:	0.200	0.310	.
(15) Countrywide Pure Premium:	0.889	0.632	1.521
(16) Countrywide Indicated Relativity:	0.766	0.820	.
(17) Countrywide Credibility:	0.280	0.290	.
(18) Countrywide Lost-Time Claims:	46.000	.	.
(19) Pure Premium Underlying Present Rate:	0.734	0.696	1.430
(20) Relativity to Underlying Present Rate:	0.782	0.784	.
(21) Credibility to Underlying Relativity:	0.520	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.827	0.977	.
(24) Balanced Formula Relativity:	0.827	0.978	0.887

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous			
4000 SAND OR GRAVEL DIGGING & DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	391.164	7	88	782.302	1,281.039	497.422	515.084	3,075.847	5.275	2.588	7.863	
2005	407.617	1	58	1.125	482.296	737	229.081	713.240	1.186	0.564	1.750	
2006	358.742	6	62	485.110	429.463	150.093	240.587	1,305.253	2.549	1.089	3.638	
2007	335.881	3	43	408.094	57.063	99.067	71.892	636.117	1.385	0.509	1.894	
2008	301.941	1	34	46.222	402.836	34.101	390.371	873.530	1.487	1.406	2.893	
<b>MA Total:</b>	<b>1,795,346</b>	<b>18</b>	<b>285</b>	<b>1,722,854</b>	<b>2,652,697</b>	<b>781,420</b>	<b>1,447,016</b>	<b>6,603,987</b>	<b>2.437</b>	<b>1.241</b>	<b>3.678</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.822	0.630	.
(14) Massachusetts Credibility:	0.540	0.810	.
(15) Countrywide Pure Premium:	3.611	2.365	5.975
(16) Countrywide Indicated Relativity:	1.293	1.291	.
(17) Countrywide Credibility:	0.230	0.100	.
(18) Countrywide Lost-Time Claims:	1324.0	.	.
(19) Pure Premium Underlying Present Rate:	2.065	1.719	3.785
(20) Relativity to Underlying Present Rate:	1.066	0.902	.
(21) Credibility to Underlying Relativity:	0.230	0.090	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.986	0.720	.
(24) Balanced Formula Relativity:	0.966	0.714	0.865

Class(es):		Effective: 9/1/2011							Manufacturing			
4021 BRICK OR CLAY PRODUCTS MFG NOC & DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	15.946	1	3	117.207	0	49.882	2.108	169.196	7.350	3.260	10.611	
2005	13.886	0	6	0	10.872	0	9.179	20.051	0.783	0.661	1.444	
2006	13.618	1	7	8.413	200.179	6.839	107.485	322.916	15.317	8.395	23.712	
2007	12.941	0	5	0	3.440	0	6.168	9.608	0.266	0.477	0.742	
2008	12.088	0	4	0	7.904	0	22.643	30.547	0.654	1.873	2.527	
<b>MA Total:</b>	<b>68,479</b>	<b>2</b>	<b>25</b>	<b>125,619</b>	<b>222,395</b>	<b>56,721</b>	<b>147,583</b>	<b>552,318</b>	<b>5.082</b>	<b>2.983</b>	<b>8.066</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.871	3.405	.
(14) Massachusetts Credibility:	0.140	0.230	.
(15) Countrywide Pure Premium:	2.407	1.645	4.052
(16) Countrywide Indicated Relativity:	2.074	2.132	.
(17) Countrywide Credibility:	0.430	0.390	.
(18) Countrywide Lost-Time Claims:	536.00	.	.
(19) Pure Premium Underlying Present Rate:	1.926	1.999	3.925
(20) Relativity to Underlying Present Rate:	2.051	2.251	.
(21) Credibility to Underlying Relativity:	0.430	0.380	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.316	2.470	.
(24) Balanced Formula Relativity:	2.315	2.471	2.377

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4024 REFRACTORY PRODUCTS MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	262	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,142	0	1	0	0	0	368	368	0.000	0.322	0.322
2006	1,066	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	6,851	0	1	0	756	0	2,028	2,784	0.110	0.296	0.406
2008	7,098	0	2	0	0	0	2,740	2,740	0.000	0.386	0.386
<b>MA Total:</b>	<b>16,419</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>756</b>	<b>0</b>	<b>5,135</b>	<b>5,892</b>	<b>0.046</b>	<b>0.313</b>	<b>0.359</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.035	0.357	.
(14) Massachusetts Credibility:	0.070	0.100	.
(15) Countrywide Pure Premium:	2.799	1.122	3.922
(16) Countrywide Indicated Relativity:	2.412	1.455	.
(17) Countrywide Credibility:	0.470	0.450	.
(18) Countrywide Lost-Time Claims:	171.00	.	.
(19) Pure Premium Underlying Present Rate:	1.525	0.953	2.477
(20) Relativity to Underlying Present Rate:	1.624	1.073	.
(21) Credibility to Underlying Relativity:	0.460	0.450	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.883	1.173	.
(24) Balanced Formula Relativity:	1.882	1.174	1.599

Class(es):		Effective: 9/1/2011							Manufacturing		
4034 CONCRETE PRODUCTS MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	266,686	7	126	560,201	258,264	529,797	277,880	1,626,142	3,069	3,029	6,098
2005	266,009	2	123	76,531	262,289	14,703	195,104	548,626	1,274	0,789	2,062
2006	279,101	1	128	98,291	189,886	135,870	394,615	818,662	1,033	1,901	2,933
2007	273,304	4	101	579,278	740,447	637,826	537,418	2,494,969	4,829	4,300	9,129
2008	272,949	1	128	29,642	246,706	4,109	284,593	565,051	1,012	1,058	2,070
<b>MA Total:</b>	<b>1,358,049</b>	<b>15</b>	<b>606</b>	<b>1,343,943</b>	<b>1,697,592</b>	<b>1,322,306</b>	<b>1,689,610</b>	<b>6,053,450</b>	<b>2,240</b>	<b>2,218</b>	<b>4,457</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.706	2.531	.
(14) Massachusetts Credibility:	0.500	0.800	.
(15) Countrywide Pure Premium:	3.351	2.222	5.573
(16) Countrywide Indicated Relativity:	2.888	2.880	.
(17) Countrywide Credibility:	0.250	0.100	.
(18) Countrywide Lost-Time Claims:	3901.0	.	.
(19) Pure Premium Underlying Present Rate:	2.233	2.201	4.434
(20) Relativity to Underlying Present Rate:	2.379	2.479	.
(21) Credibility to Underlying Relativity:	0.250	0.100	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.170	2.561	.
(24) Balanced Formula Relativity:	2.168	2.562	2.326

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## Calculation of Class Relativities

Class(es): 4036 PLASTERBOARD OR PLASTER BLOCK MFG & DRIVERS									Effective: 9/1/2011			Manufacturing		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	60.919	1	11	58.653	30.491	11.403	27.750	128.297	1.463	0.643	2.106			
2005	60.810	0	4	0	2.918	0	3.374	6.292	0.048	0.055	0.103			
2006	61.315	1	6	347.078	23.609	159.460	39.968	570.115	6.046	3.253	9.298			
2007	58.662	1	3	219.234	361.256	17.364	55.666	653.519	9.896	1.245	11.140			
2008	21.901	0	1	0	0	0	1.908	1.908	0.000	0.087	0.087			
<b>MA Total:</b>	<b>263.607</b>	<b>3</b>	<b>25</b>	<b>624.965</b>	<b>418.273</b>	<b>188.227</b>	<b>128.666</b>	<b>1,360.131</b>	<b>3.958</b>	<b>1.202</b>	<b>5.160</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.015	1.372	.
(14) Massachusetts Credibility:	0.220	0.300	.
(15) Countrywide Pure Premium:	1.460	0.868	2.328
(16) Countrywide Indicated Relativity:	1.258	1.125	.
(17) Countrywide Credibility:	0.390	0.350	.
(18) Countrywide Lost-Time Claims:	452.00	.	.
(19) Pure Premium Underlying Present Rate:	1.441	0.957	2.398
(20) Relativity to Underlying Present Rate:	1.535	1.078	.
(21) Credibility to Underlying Relativity:	0.390	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.752	1.183	.
(24) Balanced Formula Relativity:	1.751	1.183	1.524

Class(es): 4038 PLASTER STATUARY OR ORNAMENT MFG									Effective: 9/1/2011			Manufacturing		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	27.683	0	2	0	2.647	0	5.442	8.089	0.096	0.197	0.292			
2005	30.722	0	3	0	0	0	1.643	1.643	0.000	0.053	0.053			
2006	27.784	0	2	0	496	0	1.085	1.581	0.018	0.039	0.057			
2007	27.978	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	24.290	0	4	0	44.980	0	25.077	70.057	1.852	1.032	2.884			
<b>MA Total:</b>	<b>138.457</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>48.124</b>	<b>0</b>	<b>33.247</b>	<b>81.371</b>	<b>0.348</b>	<b>0.240</b>	<b>0.588</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.265	0.274	.
(14) Massachusetts Credibility:	0.150	0.210	.
(15) Countrywide Pure Premium:	1.452	0.993	2.446
(16) Countrywide Indicated Relativity:	1.252	1.288	.
(17) Countrywide Credibility:	0.360	0.380	.
(18) Countrywide Lost-Time Claims:	87.000	.	.
(19) Pure Premium Underlying Present Rate:	1.085	0.792	1.877
(20) Relativity to Underlying Present Rate:	1.156	0.891	.
(21) Credibility to Underlying Relativity:	0.490	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.057	0.912	.
(24) Balanced Formula Relativity:	1.056	0.913	0.999

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## Calculation of Class Relativities

Class(es): 4053 GLASS MFG-CUT		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	96,272	0	4	0	5,855	0	2,462	8,318	0.122	0.051	0.173
2005	91,460	0	14	0	411	0	15,361	15,772	0.009	0.336	0.345
2006	80,529	0	4	0	0	0	18,070	18,070	0.000	0.449	0.449
2007	82,304	0	8	0	25,988	0	57,829	83,817	0.632	1.405	2.037
2008	74,863	0	10	0	122,735	0	48,008	170,743	3.279	1.283	4.561
<b>MA Total:</b>	<b>425,428</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>154,989</b>	<b>0</b>	<b>141,731</b>	<b>296,720</b>	<b>0.364</b>	<b>0.333</b>	<b>0.697</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.278	0.380	.
(14) Massachusetts Credibility:	0.170	0.250	.
(15) Countrywide Pure Premium:	1.311	0.861	2.172
(16) Countrywide Indicated Relativity:	1.130	1.115	.
(17) Countrywide Credibility:	0.320	0.340	.
(18) Countrywide Lost-Time Claims:	69.000	.	.
(19) Pure Premium Underlying Present Rate:	0.929	0.733	1.661
(20) Relativity to Underlying Present Rate:	0.990	0.825	.
(21) Credibility to Underlying Relativity:	0.510	0.410	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.913	0.813	.
(24) Balanced Formula Relativity:	0.913	0.813	0.873

Class(es): 4061 POTTERY MFG: PORCELAIN WARE-MECHANICAL PRESS FORMING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	20,044	0	6	0	0	0	1,977	1,977	0.000	0.197	0.197
2005	27,411	0	4	0	0	0	1,827	1,827	0.000	0.133	0.133
2006	26,180	0	6	0	6,160	0	4,783	10,943	0.471	0.365	0.836
2007	24,482	0	10	0	0	0	14,823	14,823	0.000	1.211	1.211
2008	27,189	0	4	0	31,049	0	8,903	39,952	2.284	0.655	2.939
<b>MA Total:</b>	<b>125,305</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>37,209</b>	<b>0</b>	<b>32,314</b>	<b>69,523</b>	<b>0.297</b>	<b>0.258</b>	<b>0.555</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.226	0.294	.
(14) Massachusetts Credibility:	0.110	0.220	.
(15) Countrywide Pure Premium:	1.053	0.816	1.869
(16) Countrywide Indicated Relativity:	0.907	1.058	.
(17) Countrywide Credibility:	0.450	0.390	.
(18) Countrywide Lost-Time Claims:	377.00	.	.
(19) Pure Premium Underlying Present Rate:	1.159	1.946	3.105
(20) Relativity to Underlying Present Rate:	1.234	2.192	.
(21) Credibility to Underlying Relativity:	0.440	0.390	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.976	1.332	.
(24) Balanced Formula Relativity:	0.976	1.333	1.119

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4112 INCANDESCENT LAMP MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	66,624	0	11	0	0	0	8,748	8,748	0.000	0.131	0.131
2005	57,419	0	4	0	4,343	0	6,923	11,266	0.076	0.121	0.196
2006	126,191	1	16	635	0	23	4,404	5,062	0.005	0.035	0.040
2007	86,406	0	11	0	7,848	0	14,809	22,657	0.091	0.171	0.262
2008	106,386	0	9	0	23,955	0	41,813	65,768	0.225	0.393	0.618
<b>MA Total:</b>	<b>443,026</b>	<b>1</b>	<b>51</b>	<b>635</b>	<b>36,146</b>	<b>23</b>	<b>76,697</b>	<b>113,501</b>	<b>0.083</b>	<b>0.173</b>	<b>0.256</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.063	0.198	.
(14) Massachusetts Credibility:	0.140	0.200	.
(15) Countrywide Pure Premium:	0.927	0.434	1.361
(16) Countrywide Indicated Relativity:	0.799	0.563	.
(17) Countrywide Credibility:	0.430	0.400	.
(18) Countrywide Lost-Time Claims:	305.00	.	.
(19) Pure Premium Underlying Present Rate:	0.289	0.216	0.506
(20) Relativity to Underlying Present Rate:	0.308	0.244	.
(21) Credibility to Underlying Relativity:	0.430	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.485	0.362	.
(24) Balanced Formula Relativity:	0.485	0.362	0.436

Class(es):		Effective: 9/1/2011							Manufacturing		
4114 GLASSWARE MFG-NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	8,803	0	1	0	0	0	149	149	0.000	0.017	0.017
2005	8,967	0	1	0	0	0	349	349	0.000	0.039	0.039
2006	6,016	0	1	0	30,054	0	5,285	35,339	4.995	0.878	5.874
2007	4,827	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	4,166	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>32,779</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>30,054</b>	<b>0</b>	<b>5,783</b>	<b>35,837</b>	<b>0.917</b>	<b>0.176</b>	<b>1.093</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.698	0.201	.
(14) Massachusetts Credibility:	0.090	0.130	.
(15) Countrywide Pure Premium:	1.700	1.010	2.710
(16) Countrywide Indicated Relativity:	1.465	1.309	.
(17) Countrywide Credibility:	0.460	0.440	.
(18) Countrywide Lost-Time Claims:	388.00	.	.
(19) Pure Premium Underlying Present Rate:	1.176	0.921	2.097
(20) Relativity to Underlying Present Rate:	1.253	1.038	.
(21) Credibility to Underlying Relativity:	0.450	0.430	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.301	1.048	.
(24) Balanced Formula Relativity:	1.300	1.049	1.199

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## Calculation of Class Relativities

Class(es): 4130 GLASS MERCHANT		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	189.436	3	106	133.920	174.732	140.429	198.791	647.872	1.629	1.791	3.420
2005	197.177	5	94	395.820	658.300	277.443	513.177	1,844.740	5.346	4.010	9.356
2006	203.377	5	91	368.053	441.470	194.906	290.742	1,295.172	3.980	2.388	6.368
2007	200.902	4	71	189.173	350.157	114.857	264.769	918.955	2.685	1.890	4.574
2008	201.577	3	84	621.371	365.279	251.816	299.625	1,538.091	4.895	2.736	7.630
<b>MA Total:</b>	<b>992.468</b>	<b>20</b>	<b>446</b>	<b>1,708,337</b>	<b>1,989,938</b>	<b>979,451</b>	<b>1,567,104</b>	<b>6,244,830</b>	<b>3.726</b>	<b>2.566</b>	<b>6.292</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.839	2.928	.
(14) Massachusetts Credibility:	0.430	0.710	.
(15) Countrywide Pure Premium:	2.007	1.325	3.332
(16) Countrywide Indicated Relativity:	1.729	1.718	.
(17) Countrywide Credibility:	0.290	0.150	.
(18) Countrywide Lost-Time Claims:	972.00	.	.
(19) Pure Premium Underlying Present Rate:	2.096	2.197	4.293
(20) Relativity to Underlying Present Rate:	2.233	2.475	.
(21) Credibility to Underlying Relativity:	0.280	0.140	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.347	2.683	.
(24) Balanced Formula Relativity:	2.346	2.684	2.481

Class(es): 4133 CATHEDRAL OR ART GLASS WINDOW MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	14.931	0	3	0	0	0	10.072	10.072	0.000	0.675	0.675
2005	15.390	0	5	0	0	0	2.013	2.013	0.000	0.131	0.131
2006	13.619	0	6	0	599	0	7.145	7.744	0.044	0.525	0.569
2007	11.416	0	1	0	0	0	395	395	0.000	0.035	0.035
2008	14.112	0	4	0	5.423	0	6.287	11.710	0.384	0.446	0.830
<b>MA Total:</b>	<b>69.468</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>6,022</b>	<b>0</b>	<b>25,913</b>	<b>31,935</b>	<b>0.087</b>	<b>0.373</b>	<b>0.460</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.066	0.426	.
(14) Massachusetts Credibility:	0.100	0.160	.
(15) Countrywide Pure Premium:	0.859	1.193	2.052
(16) Countrywide Indicated Relativity:	0.740	1.547	.
(17) Countrywide Credibility:	0.250	0.260	.
(18) Countrywide Lost-Time Claims:	36.000	.	.
(19) Pure Premium Underlying Present Rate:	0.754	0.822	1.576
(20) Relativity to Underlying Present Rate:	0.803	0.926	.
(21) Credibility to Underlying Relativity:	0.650	0.580	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.714	1.007	.
(24) Balanced Formula Relativity:	0.713	1.008	0.831

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## Calculation of Class Relativities

Class(es): 4150 OPTICAL GOODS MFG-NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,702,082	4	139	884,498	425,065	207,177	204,861	1,721,602	0.769	0.242	1.011
2005	1,228,000	6	108	619,426	485,524	175,233	209,164	1,489,346	0.900	0.313	1.213
2006	1,352,219	1	128	64,442	761,717	20,545	398,851	1,245,554	0.611	0.310	0.921
2007	1,568,674	2	131	216,228	563,672	71,974	295,912	1,147,786	0.497	0.235	0.732
2008	1,554,103	3	132	506,285	100,637	129,496	217,584	954,002	0.391	0.223	0.614
<b>MA Total:</b>	<b>7,405,078</b>	<b>16</b>	<b>638</b>	<b>2,290,879</b>	<b>2,336,615</b>	<b>604,425</b>	<b>1,326,372</b>	<b>6,558,291</b>	<b>0.625</b>	<b>0.261</b>	<b>0.886</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.476	0.298	.
(14) Massachusetts Credibility:	0.530	0.750	.
(15) Countrywide Pure Premium:	0.373	0.242	0.615
(16) Countrywide Indicated Relativity:	0.321	0.314	.
(17) Countrywide Credibility:	0.240	0.130	.
(18) Countrywide Lost-Time Claims:	701.00	.	.
(19) Pure Premium Underlying Present Rate:	0.461	0.339	0.799
(20) Relativity to Underlying Present Rate:	0.491	0.382	.
(21) Credibility to Underlying Relativity:	0.230	0.120	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.442	0.310	.
(24) Balanced Formula Relativity:	0.442	0.310	0.389

Class(es): 4239 PAPER MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	555,972	4	137	694,759	638,081	133,666	424,541	1,891,047	2.397	1.004	3.401
2005	482,817	2	111	137,525	283,356	231,592	258,216	910,689	0.872	1.014	1.886
2006	424,314	0	108	0	309,745	0	365,746	675,492	0.730	0.862	1.592
2007	423,674	3	105	713,012	499,393	107,754	329,438	1,649,596	2.862	1.032	3.894
2008	418,453	1	84	819	480,652	34,273	359,308	875,053	1.151	0.941	2.091
<b>MA Total:</b>	<b>2,305,230</b>	<b>10</b>	<b>545</b>	<b>1,546,115</b>	<b>2,211,228</b>	<b>507,285</b>	<b>1,737,249</b>	<b>6,001,877</b>	<b>1.630</b>	<b>0.974</b>	<b>2.604</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.242	1.111	.
(14) Massachusetts Credibility:	0.530	0.780	.
(15) Countrywide Pure Premium:	1.445	0.697	2.142
(16) Countrywide Indicated Relativity:	1.245	0.903	.
(17) Countrywide Credibility:	0.240	0.110	.
(18) Countrywide Lost-Time Claims:	1656.0	.	.
(19) Pure Premium Underlying Present Rate:	1.487	1.208	2.694
(20) Relativity to Underlying Present Rate:	1.584	1.360	.
(21) Credibility to Underlying Relativity:	0.230	0.110	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.321	1.116	.
(24) Balanced Formula Relativity:	1.320	1.116	1.239

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4243 BOX MFG-FOLDING PAPER-NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	357,852	4	86	339,807	345,776	85,023	239,928	1,010,534	1,916	0,908	2,824
2005	377,546	6	62	377,257	168,060	127,191	145,683	818,191	1,444	0,723	2,167
2006	326,223	2	83	11,301	347,307	12,978	229,344	600,930	1,099	0,743	1,842
2007	324,961	7	95	1,233,726	551,652	565,510	368,731	2,719,618	5,494	2,875	8,369
2008	322,308	0	66	0	529,332	0	326,461	855,793	1,642	1,013	2,655
<b>MA Total:</b>	<b>1,708,890</b>	<b>19</b>	<b>392</b>	<b>1,962,091</b>	<b>1,942,126</b>	<b>790,702</b>	<b>1,310,147</b>	<b>6,005,067</b>	<b>2,285</b>	<b>1,229</b>	<b>3,514</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.740	1.403	.
(14) Massachusetts Credibility:	0.450	0.650	.
(15) Countrywide Pure Premium:	1.126	0.724	1.850
(16) Countrywide Indicated Relativity:	0.971	0.939	.
(17) Countrywide Credibility:	0.280	0.180	.
(18) Countrywide Lost-Time Claims:	1205.0	.	.
(19) Pure Premium Underlying Present Rate:	1.319	1.056	2.375
(20) Relativity to Underlying Present Rate:	1.405	1.190	.
(21) Credibility to Underlying Relativity:	0.270	0.170	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.434	1.283	.
(24) Balanced Formula Relativity:	1.433	1.284	1.374

Class(es):		Effective: 9/1/2011							Manufacturing		
4244 CORRUGATED OR FIBERBOARD CONTAINER MFG											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	159,249	3	60	240,961	78,042	67,941	105,661	492,605	2,003	1,090	3,093
2005	180,188	3	53	317,916	127,022	198,723	205,395	849,056	2,469	2,243	4,712
2006	157,124	1	44	11,333	149,567	72,784	169,794	403,479	1,024	1,544	2,568
2007	143,184	0	47	0	216,227	0	214,386	430,614	1,510	1,497	3,007
2008	181,660	2	53	276,735	67,176	620,102	93,689	1,057,701	1,893	3,929	5,822
<b>MA Total:</b>	<b>821,405</b>	<b>9</b>	<b>257</b>	<b>846,945</b>	<b>638,034</b>	<b>959,549</b>	<b>788,926</b>	<b>3,233,454</b>	<b>1,808</b>	<b>2,129</b>	<b>3,936</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.377	2.429	.
(14) Massachusetts Credibility:	0.340	0.580	.
(15) Countrywide Pure Premium:	1.277	0.855	2.132
(16) Countrywide Indicated Relativity:	1.101	1.108	.
(17) Countrywide Credibility:	0.330	0.210	.
(18) Countrywide Lost-Time Claims:	1024.0	.	.
(19) Pure Premium Underlying Present Rate:	1.427	1.600	3.027
(20) Relativity to Underlying Present Rate:	1.520	1.801	.
(21) Credibility to Underlying Relativity:	0.330	0.210	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.333	2.020	.
(24) Balanced Formula Relativity:	1.332	2.021	1.608

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## Calculation of Class Relativities

Class(es): 4250 PAPER COATING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	818,217	4	139	764,636	846,764	106,856	298,610	2,016,866	1,969	0,496	2,465
2005	657,482	2	108	381,736	265,244	144,728	205,814	997,522	0,984	0,533	1,517
2006	746,829	1	118	12,312	208,255	48,892	284,180	553,638	0,295	0,446	0,741
2007	769,298	4	104	586,370	700,036	165,692	486,622	1,938,720	1,672	0,848	2,520
2008	746,487	0	100	0	181,397	0	215,711	397,108	0,243	0,289	0,532
<b>MA Total:</b>	<b>3,738,313</b>	<b>11</b>	<b>569</b>	<b>1,745,054</b>	<b>2,201,696</b>	<b>466,168</b>	<b>1,490,937</b>	<b>5,903,855</b>	<b>1,056</b>	<b>0,524</b>	<b>1,579</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.804	0.598	.
(14) Massachusetts Credibility:	0.500	0.710	.
(15) Countrywide Pure Premium:	0.980	0.582	1.561
(16) Countrywide Indicated Relativity:	0.844	0.754	.
(17) Countrywide Credibility:	0.250	0.150	.
(18) Countrywide Lost-Time Claims:	551.00	.	.
(19) Pure Premium Underlying Present Rate:	0.816	0.589	1.405
(20) Relativity to Underlying Present Rate:	0.869	0.664	.
(21) Credibility to Underlying Relativity:	0.250	0.140	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.830	0.630	.
(24) Balanced Formula Relativity:	0.830	0.631	0.750

Class(es): 4251 STATIONERY MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	247,311	1	50	28,333	166,243	17,113	94,582	306,271	0,787	0,452	1,238
2005	177,941	0	36	0	68,152	0	70,515	138,666	0,383	0,396	0,779
2006	164,745	0	31	0	181,660	0	72,992	254,653	1,103	0,443	1,546
2007	188,026	0	19	0	106,742	0	56,059	162,801	0,568	0,298	0,866
2008	222,104	0	20	0	57,301	0	89,290	146,591	0,258	0,402	0,660
<b>MA Total:</b>	<b>1,000,126</b>	<b>1</b>	<b>156</b>	<b>28,333</b>	<b>580,098</b>	<b>17,113</b>	<b>383,437</b>	<b>1,008,982</b>	<b>0,608</b>	<b>0,400</b>	<b>1,009</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.463	0.457	.
(14) Massachusetts Credibility:	0.300	0.440	.
(15) Countrywide Pure Premium:	1.242	0.876	2.117
(16) Countrywide Indicated Relativity:	1.070	1.135	.
(17) Countrywide Credibility:	0.350	0.280	.
(18) Countrywide Lost-Time Claims:	532.00	.	.
(19) Pure Premium Underlying Present Rate:	0.816	0.673	1.490
(20) Relativity to Underlying Present Rate:	0.870	0.758	.
(21) Credibility to Underlying Relativity:	0.350	0.280	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.818	0.731	.
(24) Balanced Formula Relativity:	0.817	0.732	0.783

# IX 000153

## Calculation of Class Relativities

Class(es): 4273 BAG MFG-PAPER OR PLASTIC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	75,004	1	25	63,100	38,734	7,950	48,706	158,489	1,358	0,755	2,113
2005	62,695	0	20	0	180,954	0	94,940	275,894	2,886	1,514	4,401
2006	53,805	0	12	0	28,794	0	42,693	71,487	0,535	0,793	1,329
2007	48,086	0	16	0	6,552	0	15,325	21,877	0,136	0,319	0,455
2008	39,375	0	7	0	11,244	0	32,047	43,291	0,286	0,814	1,099
<b>MA Total:</b>	<b>278,965</b>	<b>1</b>	<b>80</b>	<b>63,100</b>	<b>266,278</b>	<b>7,950</b>	<b>233,711</b>	<b>571,038</b>	<b>1,181</b>	<b>0,866</b>	<b>2,047</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.899	0.989	.
(14) Massachusetts Credibility:	0.200	0.350	.
(15) Countrywide Pure Premium:	1.410	0.941	2,351
(16) Countrywide Indicated Relativity:	1.215	1,220	.
(17) Countrywide Credibility:	0.400	0,330	.
(18) Countrywide Lost-Time Claims:	786.00	.	.
(19) Pure Premium Underlying Present Rate:	1.115	1,333	2,448
(20) Relativity to Underlying Present Rate:	1.188	1,501	.
(21) Credibility to Underlying Relativity:	0.400	0,320	.
(22) Industry Group Converted Pure Premium:	1.313	0,876	2,189
(23) Formula Relativity:	1.141	1,229	.
(24) Balanced Formula Relativity:	1.140	1,229	1,176

Class(es): 4279 PAPER GOODS MFG NOC		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	377,984	5	145	213,392	382,017	166,731	329,209	1,091,350	1,575	1,312	2,887
2005	342,255	3	149	35,207	894,779	38,624	397,905	1,366,515	2,717	1,275	3,993
2006	330,606	1	124	21,841	693,128	10,905	513,679	1,239,554	2,163	1,587	3,749
2007	323,633	3	84	273,504	226,746	182,665	182,991	865,906	1,546	1,130	2,676
2008	285,344	0	61	0	455,291	0	704,110	1,159,401	1,596	2,468	4,063
<b>MA Total:</b>	<b>1,659,822</b>	<b>12</b>	<b>563</b>	<b>543,945</b>	<b>2,651,961</b>	<b>398,926</b>	<b>2,127,895</b>	<b>5,722,727</b>	<b>1,925</b>	<b>1,522</b>	<b>3,448</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.467	1,737	.
(14) Massachusetts Credibility:	0.440	0,750	.
(15) Countrywide Pure Premium:	1.241	0,901	2,142
(16) Countrywide Indicated Relativity:	1.070	1,167	.
(17) Countrywide Credibility:	0.280	0,130	.
(18) Countrywide Lost-Time Claims:	1093.0	.	.
(19) Pure Premium Underlying Present Rate:	1.345	1,543	2,887
(20) Relativity to Underlying Present Rate:	1.432	1,737	.
(21) Credibility to Underlying Relativity:	0.280	0,120	.
(22) Industry Group Converted Pure Premium:	1.313	0,876	2,189
(23) Formula Relativity:	1.346	1,663	.
(24) Balanced Formula Relativity:	1.345	1,664	1,473

# IX 000154

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4282 DRESS PATTERN MFG-PAPER											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	58	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	165	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	71	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	500	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	26,556	0	5	0	0	0	4,363	4,363	0.000	0.164	0.164
<b>MA Total:</b>	<b>27,350</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,363</b>	<b>4,363</b>	<b>0.000</b>	<b>0.160</b>	<b>0.160</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.182	.
(14) Massachusetts Credibility:	0.050	0.070	.
(15) Countrywide Pure Premium:	2.481	0.965	3.446
(16) Countrywide Indicated Relativity:	2.138	1.250	.
(17) Countrywide Credibility:	0.190	0.200	.
(18) Countrywide Lost-Time Claims:	17.000	.	.
(19) Pure Premium Underlying Present Rate:	0.274	0.279	0.553
(20) Relativity to Underlying Present Rate:	0.292	0.314	.
(21) Credibility to Underlying Relativity:	0.760	0.730	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.628	0.492	.
(24) Balanced Formula Relativity:	0.628	0.492	0.574

Class(es):		Effective: 9/1/2011							Manufacturing		
4283 BUILDING OR ROOFING PAPER OR FELT PREPARATION-NO INSTALLATION											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	13	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	86	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	507	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>605</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.020	0.030	.
(15) Countrywide Pure Premium:	1.799	1.295	3.094
(16) Countrywide Indicated Relativity:	1.550	1.679	.
(17) Countrywide Credibility:	0.440	0.470	.
(18) Countrywide Lost-Time Claims:	149.00	.	.
(19) Pure Premium Underlying Present Rate:	1.280	1.063	2.343
(20) Relativity to Underlying Present Rate:	1.364	1.197	.
(21) Credibility to Underlying Relativity:	0.540	0.500	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.418	1.388	.
(24) Balanced Formula Relativity:	1.418	1.388	1.406

# IX 000155

Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 85

## Calculation of Class Relativities

Class(es): 4299 PRINTING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,300,210	13	471	1,617,782	1,057,728	523,421	1,152,489	4,351,419	1,163	0,729	1,892
2005	2,469,442	15	569	2,027,554	2,290,968	1,009,820	1,755,460	7,083,801	1,749	1,120	2,869
2006	2,483,977	13	449	1,502,873	2,612,634	661,724	1,538,585	6,315,815	1,657	0,886	2,543
2007	2,686,038	5	356	427,966	1,759,928	175,315	1,269,237	3,632,445	0,815	0,538	1,352
2008	2,487,517	6	274	322,462	2,205,166	158,284	1,112,246	3,798,158	1,016	0,511	1,527
<b>MA Total:</b>	<b>12427184</b>	<b>52</b>	<b>2,119</b>	<b>5,898,635</b>	<b>9,926,423</b>	<b>2,528,564</b>	<b>6,828,016</b>	<b>25181639</b>	<b>1,273</b>	<b>0,753</b>	<b>2,026</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.970	0.859	.
(14) Massachusetts Credibility:	0.850	1.000	.
(15) Countrywide Pure Premium:	1.069	0.687	1.757
(16) Countrywide Indicated Relativity:	0.921	0.891	.
(17) Countrywide Credibility:	0.080	0.000	.
(18) Countrywide Lost-Time Claims:	6911.0	.	.
(19) Pure Premium Underlying Present Rate:	0.910	0.795	1.705
(20) Relativity to Underlying Present Rate:	0.969	0.896	.
(21) Credibility to Underlying Relativity:	0.070	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.966	0.859	.
(24) Balanced Formula Relativity:	0.966	0.860	0.923

Class(es): 4301 WALLPAPER MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	6,719	1	2	493,298	2,643	53,825	8,700	558,467	73,817	9,306	83,123
2006	212	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	21	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>6,951</b>	<b>1</b>	<b>2</b>	<b>493,298</b>	<b>2,643</b>	<b>53,825</b>	<b>8,700</b>	<b>558,467</b>	<b>71,344</b>	<b>8,995</b>	<b>80,339</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	54.349	10.266	.
(14) Massachusetts Credibility:	0.070	0.100	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	2.757	2.378	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	2.634	2.150	4.784
(20) Relativity to Underlying Present Rate:	2.807	2.421	.
(21) Credibility to Underlying Relativity:	0.930	0.900	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	6.415	3.205	.
(24) Balanced Formula Relativity:	6.411	3.206	5.128

# IX 000156

## Calculation of Class Relativities

Class(es): 4304 NEWSPAPER PUBLISHING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	166.594	3	75	109.739	348.836	46.897	216.327	721.798	2.753	1.580	4.333
2005	134.312	2	55	117.047	109.541	35.915	141.357	403.860	1.687	1.320	3.007
2006	224.669	3	64	374.751	627.889	102.928	266.137	1,371.705	4.463	1.643	6.105
2007	156.118	1	29	100.357	78.443	17.667	117.951	314.419	1.145	0.869	2.014
2008	254.615	1	38	265.018	166.877	160.137	179.076	771.108	1.696	1.332	3.029
<b>MA Total:</b>	<b>936.308</b>	<b>10</b>	<b>261</b>	<b>966.911</b>	<b>1,331.585</b>	<b>363.545</b>	<b>920.848</b>	<b>3,582.890</b>	<b>2.455</b>	<b>1.372</b>	<b>3.827</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.870	1.566	.
(14) Massachusetts Credibility:	0.380	0.600	.
(15) Countrywide Pure Premium:	1.955	1.442	3.398
(16) Countrywide Indicated Relativity:	1.685	1.870	.
(17) Countrywide Credibility:	0.310	0.200	.
(18) Countrywide Lost-Time Claims:	2453.0	.	.
(19) Pure Premium Underlying Present Rate:	1.588	1.517	3.105
(20) Relativity to Underlying Present Rate:	1.691	1.709	.
(21) Credibility to Underlying Relativity:	0.310	0.200	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.757	1.655	.
(24) Balanced Formula Relativity:	1.756	1.656	1.716

Class(es): 4307 BOOKBINDING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	234.559	2	28	2.855	36.732	13.800	46.125	99.511	0.169	0.255	0.424
2005	227.731	2	23	236.621	63.792	66.947	26.144	393.504	1.319	0.409	1.728
2006	240.682	0	24	0	31.567	0	40.545	72.112	0.131	0.168	0.300
2007	217.312	0	19	0	103.997	0	91.158	195.155	0.479	0.419	0.898
2008	220.700	2	32	81.300	91.688	55.650	97.217	325.856	0.784	0.693	1.476
<b>MA Total:</b>	<b>1,140.985</b>	<b>6</b>	<b>126</b>	<b>320.777</b>	<b>327.775</b>	<b>136.398</b>	<b>301.189</b>	<b>1,086.138</b>	<b>0.568</b>	<b>0.384</b>	<b>0.952</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.433	0.438	.
(14) Massachusetts Credibility:	0.270	0.430	.
(15) Countrywide Pure Premium:	0.782	0.532	1.314
(16) Countrywide Indicated Relativity:	0.674	0.690	.
(17) Countrywide Credibility:	0.370	0.290	.
(18) Countrywide Lost-Time Claims:	416.00	.	.
(19) Pure Premium Underlying Present Rate:	0.569	0.539	1.107
(20) Relativity to Underlying Present Rate:	0.606	0.607	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.584	0.558	.
(24) Balanced Formula Relativity:	0.584	0.558	0.574

# IX 000157

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4308 LINOTYPE OR HAND COMPOSITION											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	104	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>104</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.010	0.010	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	1.625	0.386	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.553	0.349	1.902
(20) Relativity to Underlying Present Rate:	1.655	0.393	.
(21) Credibility to Underlying Relativity:	0.990	0.990	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.638	0.389	.
(24) Balanced Formula Relativity:	1.637	0.389	1.138

Class(es):		Effective: 9/1/2011							Manufacturing		
4350 ELECTROTYPING											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.299	0.238	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.286	0.216	0.502
(20) Relativity to Underlying Present Rate:	0.305	0.243	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.305	0.243	.
(24) Balanced Formula Relativity:	0.305	0.243	0.280

# IX 000158

## Calculation of Class Relativities

Class(es): 4351 PHOTOENGRAVING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	338,916	1	35	11,329	16,375	20,530	41,423	89,658	0.082	0.183	0.265
2005	316,606	2	24	94,543	82,809	30,037	40,933	248,322	0.560	0.224	0.784
2006	294,111	1	26	3,715	114,669	13,023	78,151	209,558	0.403	0.310	0.713
2007	257,810	1	30	616,338	398,813	121,140	135,398	1,271,690	3.938	0.995	4.933
2008	262,276	1	20	28,348	64,628	18,299	26,513	137,788	0.354	0.171	0.525
<b>MA Total:</b>	<b>1,469,718</b>	<b>6</b>	<b>135</b>	<b>754,272</b>	<b>677,295</b>	<b>203,029</b>	<b>322,418</b>	<b>1,957,015</b>	<b>0.974</b>	<b>0.358</b>	<b>1.332</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.742	0.408	.
(14) Massachusetts Credibility:	0.290	0.390	.
(15) Countrywide Pure Premium:	0.446	0.357	0.804
(16) Countrywide Indicated Relativity:	0.385	0.463	.
(17) Countrywide Credibility:	0.280	0.300	.
(18) Countrywide Lost-Time Claims:	48,000	.	.
(19) Pure Premium Underlying Present Rate:	0.503	0.346	0.848
(20) Relativity to Underlying Present Rate:	0.535	0.389	.
(21) Credibility to Underlying Relativity:	0.430	0.310	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.553	0.419	.
(24) Balanced Formula Relativity:	0.553	0.419	0.499

Class(es): 4352 ENGRAVING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	66,621	1	1	4,741	8,964	19,098	2,671	35,474	0.206	0.327	0.532
2005	77,586	0	6	0	203,769	0	75,805	279,574	2.626	0.977	3.603
2006	84,967	0	8	0	17,061	0	25,945	43,006	0.201	0.305	0.506
2007	81,469	0	6	0	0	0	4,879	4,879	0.000	0.060	0.060
2008	76,739	0	5	0	0	0	5,090	5,090	0.000	0.066	0.066
<b>MA Total:</b>	<b>387,382</b>	<b>1</b>	<b>26</b>	<b>4,741</b>	<b>229,793</b>	<b>19,098</b>	<b>114,391</b>	<b>368,023</b>	<b>0.605</b>	<b>0.345</b>	<b>0.950</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.461	0.393	.
(14) Massachusetts Credibility:	0.150	0.270	.
(15) Countrywide Pure Premium:	0.775	0.565	1.340
(16) Countrywide Indicated Relativity:	0.668	0.732	.
(17) Countrywide Credibility:	0.390	0.370	.
(18) Countrywide Lost-Time Claims:	107.00	.	.
(19) Pure Premium Underlying Present Rate:	0.389	0.498	0.886
(20) Relativity to Underlying Present Rate:	0.414	0.561	.
(21) Credibility to Underlying Relativity:	0.460	0.360	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.520	0.579	.
(24) Balanced Formula Relativity:	0.520	0.579	0.544

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing			
4360 MOTION PICTURE: DEVLPMNT OF NEGATIVES, PRINTING & ALL SUB OP												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	386.059	2	22	7.589	27.142	2.655	37.782	75.169	0.180	0.209	0.389	
2005	441.744	2	8	93.798	475	52.274	1.193	147.740	0.427	0.242	0.669	
2006	389.395	0	18	0	5.617	0	10.524	16.141	0.029	0.054	0.083	
2007	335.023	4	16	188.136	121.804	114.422	23.113	447.475	1.850	0.821	2.671	
2008	338.060	6	26	459.476	609.022	199.994	403.654	1,672.146	6.321	3.571	9.893	
MA Total:	1,890,281	14	90	749,000	764,060	369,345	476,266	2,358,671	0.800	0.447	1.248	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.610	0.511	.
(14) Massachusetts Credibility:	0.240	0.350	.
(15) Countrywide Pure Premium:	0.697	0.565	1.262
(16) Countrywide Indicated Relativity:	0.601	0.732	.
(17) Countrywide Credibility:	0.380	0.330	.
(18) Countrywide Lost-Time Claims:	261.00	.	.
(19) Pure Premium Underlying Present Rate:	0.525	0.397	0.922
(20) Relativity to Underlying Present Rate:	0.559	0.447	.
(21) Credibility to Underlying Relativity:	0.380	0.320	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.587	0.564	.
(24) Balanced Formula Relativity:	0.587	0.564	0.577

Class(es):		Effective: 9/1/2011							Office and Clerical			
4361 PHOTOGRAPHER - ALL EMP & CLERICAL, SALES, DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	987.742	2	55	38,444	52,590	13,941	124,790	229,764	0.092	0.140	0.233	
2005	1,151,529	3	50	211,045	205,619	55,947	292,541	765,152	0.362	0.303	0.664	
2006	1,205,196	0	50	0	114,542	0	182,054	296,597	0.095	0.151	0.246	
2007	915,309	1	37	172,883	237,660	172,002	222,987	805,532	0.449	0.432	0.880	
2008	708,264	2	37	100,578	97,062	56,836	100,423	354,898	0.279	0.222	0.501	
MA Total:	4,968,040	8	229	522,951	707,473	298,725	922,796	2,451,944	0.248	0.246	0.494	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.848	3.519	.
(14) Massachusetts Credibility:	0.310	0.510	.
(15) Countrywide Pure Premium:	0.386	0.360	0.746
(16) Countrywide Indicated Relativity:	4.720	5.445	.
(17) Countrywide Credibility:	0.350	0.250	.
(18) Countrywide Lost-Time Claims:	868.00	.	.
(19) Pure Premium Underlying Present Rate:	0.184	0.196	0.380
(20) Relativity to Underlying Present Rate:	3.296	3.064	.
(21) Credibility to Underlying Relativity:	0.340	0.240	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	3.656	3.891	.
(24) Balanced Formula Relativity:	3.628	3.887	3.744

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
4362 MOTION PICTURE: FILM EXCH & PROJECTION RMS, CL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5,910	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	6,454	0	1	0	0	0	12,386	12,386	0.000	1.919	1.919
2006	6,107	0	1	0	0	0	601	601	0.000	0.098	0.098
2007	12,323	0	3	0	0	0	3,048	3,048	0.000	0.247	0.247
2008	6,366	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>37,161</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16,034</b>	<b>16,034</b>	<b>0.000</b>	<b>0.431</b>	<b>0.431</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.590	.
(14) Massachusetts Credibility:	0.050	0.080	.
(15) Countrywide Pure Premium:	0.388	0.310	0.698
(16) Countrywide Indicated Relativity:	0.370	0.416	.
(17) Countrywide Credibility:	0.090	0.100	.
(18) Countrywide Lost-Time Claims:	3.000	.	.
(19) Pure Premium Underlying Present Rate:	0.256	0.256	0.513
(20) Relativity to Underlying Present Rate:	0.374	0.361	.
(21) Credibility to Underlying Relativity:	0.860	0.820	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.355	0.385	.
(24) Balanced Formula Relativity:	0.354	0.383	0.366

Class(es):		Effective: 9/1/2011							Manufacturing		
4410 RUBBER GOODS MFG NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	341,709	14	144	1,106,620	329,650	656,986	220,544	2,313,800	4,203	2,568	6,771
2005	328,989	5	103	1,053,109	254,708	266,230	234,457	1,808,504	3,975	1,522	5,497
2006	308,144	3	107	429,013	938,192	97,709	571,522	2,036,435	4,437	2,172	6,609
2007	323,171	5	106	436,203	144,494	214,944	160,188	955,829	1,797	1,161	2,958
2008	370,167	6	98	517,003	461,439	236,269	516,734	1,731,445	2,643	2,034	4,677
<b>MA Total:</b>	<b>1,672,179</b>	<b>33</b>	<b>558</b>	<b>3,541,948</b>	<b>2,128,483</b>	<b>1,472,138</b>	<b>1,703,445</b>	<b>8,846,013</b>	<b>3,391</b>	<b>1,899</b>	<b>5,290</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.583	2.167	.
(14) Massachusetts Credibility:	0.500	0.800	.
(15) Countrywide Pure Premium:	1.617	1.077	2.694
(16) Countrywide Indicated Relativity:	1.393	1.396	.
(17) Countrywide Credibility:	0.250	0.100	.
(18) Countrywide Lost-Time Claims:	2962.0	.	.
(19) Pure Premium Underlying Present Rate:	1.832	1.775	3.607
(20) Relativity to Underlying Present Rate:	1.952	1.999	.
(21) Credibility to Underlying Relativity:	0.250	0.100	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.128	2.073	.
(24) Balanced Formula Relativity:	2.127	2.074	2.106

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## Calculation of Class Relativities

Class(es): 4417 BOOT OR SHOE MFG-RUBBER		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	1.083	0.516	1.598
(16) Countrywide Indicated Relativity:	0.933	0.669	.
(17) Countrywide Credibility:	0.140	0.140	.
(18) Countrywide Lost-Time Claims:	8.000	.	.
(19) Pure Premium Underlying Present Rate:	2.196	1.998	4.194
(20) Relativity to Underlying Present Rate:	2.339	2.250	.
(21) Credibility to Underlying Relativity:	0.860	0.860	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	2.142	2.029	.
(24) Balanced Formula Relativity:	2.141	2.029	2.096

Class(es): 4432 FOUNTAIN PEN MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	30.565	0	3	0	0	0	2.308	2.308	0.000	0.076	0.076
2005	33.695	0	4	0	720	0	3.717	4.437	0.021	0.110	0.132
2006	37.997	0	9	0	23.737	0	26.725	50.463	0.625	0.703	1.328
2007	42.203	0	8	0	20.018	0	27.055	47.073	0.474	0.641	1.115
2008	42.825	0	7	0	3.787	0	10.283	14.069	0.088	0.240	0.329
<b>MA Total:</b>	187.286	0	31	0	48.263	0	70.089	118.351	0.258	0.374	0.632

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.196	0.427	.
(14) Massachusetts Credibility:	0.120	0.200	.
(15) Countrywide Pure Premium:	0.903	0.583	1.485
(16) Countrywide Indicated Relativity:	0.778	0.755	.
(17) Countrywide Credibility:	0.410	0.400	.
(18) Countrywide Lost-Time Claims:	123.00	.	.
(19) Pure Premium Underlying Present Rate:	0.491	0.515	1.006
(20) Relativity to Underlying Present Rate:	0.523	0.580	.
(21) Credibility to Underlying Relativity:	0.470	0.400	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.588	0.620	.
(24) Balanced Formula Relativity:	0.588	0.620	0.601

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4439 VARNISH MFG - OLEO RESINOUS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	90.453	0	10	0	1,377	0	10,739	12,116	0.030	0.237	0.268
2005	78.854	4	16	567,693	2,098	181,308	18,705	769,804	14.452	5.073	19.525
2006	84.119	0	26	0	29,796	0	43,386	73,182	0.708	1.032	1.740
2007	86.956	0	6	0	15,242	0	30,413	45,655	0.351	0.700	1.050
2008	82.563	2	8	319,090	34,258	750,717	41,808	1,145,873	8.559	19.198	27.758
<b>MA Total:</b>	<b>422,946</b>	<b>6</b>	<b>66</b>	<b>886,783</b>	<b>82,771</b>	<b>932,025</b>	<b>145,051</b>	<b>2,046,630</b>	<b>2.292</b>	<b>2.547</b>	<b>4.839</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.746	2.906	.
(14) Massachusetts Credibility:	0.170	0.280	.
(15) Countrywide Pure Premium:	0.708	0.647	1.355
(16) Countrywide Indicated Relativity:	0.610	0.839	.
(17) Countrywide Credibility:	0.230	0.250	.
(18) Countrywide Lost-Time Claims:	30.000	.	.
(19) Pure Premium Underlying Present Rate:	1.025	1.014	2.039
(20) Relativity to Underlying Present Rate:	1.092	1.142	.
(21) Credibility to Underlying Relativity:	0.600	0.470	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.092	1.560	.
(24) Balanced Formula Relativity:	1.092	1.561	1.279

Class(es):		Effective: 9/1/2011							Manufacturing		
4452 PLASTICS MFG: FABRICATED PRODUCTS NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	500.817	3	133	44,266	453,368	71,187	406,048	974,869	0.994	0.953	1.947
2005	520.914	7	124	515,369	692,518	230,897	565,129	2,003,912	2.319	1.528	3.847
2006	484.951	0	105	0	439,330	0	506,679	946,009	0.906	1.045	1.951
2007	543.788	5	134	443,845	311,071	435,727	267,594	1,458,238	1.388	1.293	2.682
2008	498.552	2	135	62,066	672,935	46,950	562,222	1,344,174	1.474	1.222	2.696
<b>MA Total:</b>	<b>2,549,021</b>	<b>17</b>	<b>631</b>	<b>1,065,547</b>	<b>2,569,222</b>	<b>784,761</b>	<b>2,307,671</b>	<b>6,727,201</b>	<b>1.426</b>	<b>1.213</b>	<b>2.639</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.086	1.385	.
(14) Massachusetts Credibility:	0.500	0.800	.
(15) Countrywide Pure Premium:	1.552	1.064	2.615
(16) Countrywide Indicated Relativity:	1.337	1.379	.
(17) Countrywide Credibility:	0.250	0.100	.
(18) Countrywide Lost-Time Claims:	2048.0	.	.
(19) Pure Premium Underlying Present Rate:	1.171	1.180	2.351
(20) Relativity to Underlying Present Rate:	1.247	1.329	.
(21) Credibility to Underlying Relativity:	0.250	0.100	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.189	1.379	.
(24) Balanced Formula Relativity:	1.189	1.379	1.265

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4459 PLASTICS MFG: SHEETS, RODS OR TUBES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	686.632	3	214	307.745	588.143	117.970	957.513	1,971.371	1.305	1.566	2.871
2005	675.305	6	182	633.817	380.734	443.591	418.016	1,876.158	1.502	1.276	2.778
2006	559.523	5	107	466.850	321.925	611.909	293.264	1,693.948	1.410	1.618	3.027
2007	646.022	5	175	666.194	734.182	475.311	467.459	2,343.146	2.168	1.459	3.627
2008	641.333	7	129	805.941	654.955	304.173	438.245	2,203.314	2.278	1.158	3.436
<b>MA Total:</b>	<b>3,208,815</b>	<b>26</b>	<b>807</b>	<b>2,880,547</b>	<b>2,679,938</b>	<b>1,952,954</b>	<b>2,574,499</b>	<b>10087938</b>	<b>1.733</b>	<b>1.411</b>	<b>3.144</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.320	1.610	.
(14) Massachusetts Credibility:	0.540	0.910	.
(15) Countrywide Pure Premium:	1.232	0.843	2.075
(16) Countrywide Indicated Relativity:	1.062	1.092	.
(17) Countrywide Credibility:	0.230	0.050	.
(18) Countrywide Lost-Time Claims:	2375.0	.	.
(19) Pure Premium Underlying Present Rate:	1.141	1.283	2.425
(20) Relativity to Underlying Present Rate:	1.216	1.445	.
(21) Credibility to Underlying Relativity:	0.230	0.040	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.237	1.578	.
(24) Balanced Formula Relativity:	1.236	1.578	1.373

Class(es):		Effective: 9/1/2011							Manufacturing		
4470 CABLE MFG - INSULATED ELECTRICAL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	465.978	2	110	24.682	510.956	24.330	305.760	865.728	1.149	0.708	1.858
2005	403.499	0	89	0	360.206	0	289.739	649.945	0.893	0.718	1.611
2006	284.815	4	93	307.914	804.001	172.970	298.007	1,582.893	3.904	1.654	5.558
2007	266.205	2	95	84.598	608.129	186.668	453.508	1,332.903	2.602	2.405	5.007
2008	345.185	2	43	258.196	42.700	36.089	78.814	415.799	0.872	0.333	1.205
<b>MA Total:</b>	<b>1,765,682</b>	<b>10</b>	<b>430</b>	<b>675.391</b>	<b>2,325.992</b>	<b>420.056</b>	<b>1,425.827</b>	<b>4,847.267</b>	<b>1.700</b>	<b>1.045</b>	<b>2.745</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.295	1.193	.
(14) Massachusetts Credibility:	0.430	0.680	.
(15) Countrywide Pure Premium:	1.142	0.714	1.856
(16) Countrywide Indicated Relativity:	0.984	0.926	.
(17) Countrywide Credibility:	0.290	0.160	.
(18) Countrywide Lost-Time Claims:	652.00	.	.
(19) Pure Premium Underlying Present Rate:	1.171	1.111	2.282
(20) Relativity to Underlying Present Rate:	1.247	1.251	.
(21) Credibility to Underlying Relativity:	0.280	0.160	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.191	1.160	.
(24) Balanced Formula Relativity:	1.191	1.160	1.178

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4484 PLASTICS MFG: MOLDED PRODUCTS NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,011,004	23	537	715,842	3,370,582	463,427	1,449,494	5,999,345	2,032	0,951	2,983
2005	1,830,455	11	500	794,536	1,156,415	713,255	1,050,560	3,714,766	1,066	0,964	2,029
2006	2,006,287	9	442	341,620	1,883,235	440,883	1,835,419	4,501,156	1,109	1,135	2,244
2007	2,002,565	13	343	1,085,533	915,122	457,614	897,867	3,356,135	0,999	0,677	1,676
2008	1,874,026	7	322	475,112	1,618,396	332,783	1,575,666	4,001,956	1,117	1,018	2,135
<b>MA Total:</b>	<b>9,724,337</b>	<b>63</b>	<b>2,144</b>	<b>3,412,641</b>	<b>8,943,749</b>	<b>2,407,962</b>	<b>6,809,006</b>	<b>21573358</b>	<b>1,271</b>	<b>0,948</b>	<b>2,218</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.968	1.082	.
(14) Massachusetts Credibility:	0.780	1.000	.
(15) Countrywide Pure Premium:	1.366	0.961	2.328
(16) Countrywide Indicated Relativity:	1.178	1.246	.
(17) Countrywide Credibility:	0.110	0.000	.
(18) Countrywide Lost-Time Claims:	9791.0	.	.
(19) Pure Premium Underlying Present Rate:	0.940	1.007	1.948
(20) Relativity to Underlying Present Rate:	1.002	1.134	.
(21) Credibility to Underlying Relativity:	0.110	0.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.995	1.082	.
(24) Balanced Formula Relativity:	0.994	1.082	1.029

Class(es):		Effective: 9/1/2011							Manufacturing		
4493 FABRIC COATING OR IMPREGNATING NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	399,656	4	143	326,894	216,058	316,595	273,724	1,133,271	1,359	1,477	2,836
2005	420,650	2	127	199,413	378,949	59,647	333,041	971,051	1,375	0,934	2,308
2006	471,269	2	147	42,696	364,454	19,444	386,669	813,262	0,864	0,862	1,726
2007	418,466	6	115	1,160,920	649,568	372,462	541,325	2,724,275	4,326	2,184	6,510
2008	382,335	4	92	447,962	430,689	234,151	391,929	1,504,730	2,298	1,638	3,936
<b>MA Total:</b>	<b>2,092,376</b>	<b>18</b>	<b>624</b>	<b>2,177,885</b>	<b>2,039,718</b>	<b>1,002,299</b>	<b>1,926,688</b>	<b>7,146,589</b>	<b>2,016</b>	<b>1,400</b>	<b>3,416</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.536	1.598	.
(14) Massachusetts Credibility:	0.470	0.800	.
(15) Countrywide Pure Premium:	1.476	0.735	2.211
(16) Countrywide Indicated Relativity:	1.272	0.953	.
(17) Countrywide Credibility:	0.270	0.100	.
(18) Countrywide Lost-Time Claims:	213.00	.	.
(19) Pure Premium Underlying Present Rate:	1.203	1.429	2.632
(20) Relativity to Underlying Present Rate:	1.282	1.609	.
(21) Credibility to Underlying Relativity:	0.260	0.100	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.398	1.534	.
(24) Balanced Formula Relativity:	1.398	1.535	1.453

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Section IX - Classification Pricing  
Subsection G - Class Relativities  
9/1/2011

Section IX - G  
Exhibit 95

## Calculation of Class Relativities

Class(es): 4511 ANALYTICAL CHEMIST		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,758,845	4	108	223,064	150,835	49,350	194,795	618,045	0.136	0.088	0.224
2005	2,300,851	3	96	266,861	79,515	219,487	223,642	789,505	0.151	0.193	0.343
2006	2,571,644	0	90	0	81,525	0	267,425	348,950	0.032	0.104	0.136
2007	3,810,277	6	98	136,084	201,404	107,974	376,000	821,461	0.089	0.127	0.216
2008	3,807,907	2	76	31,388	264,261	80,668	191,230	567,548	0.078	0.071	0.149
<b>MA Total:</b>	<b>15249523</b>	<b>15</b>	<b>468</b>	<b>657,397</b>	<b>777,541</b>	<b>457,478</b>	<b>1,253,092</b>	<b>3,145,508</b>	<b>0.094</b>	<b>0.112</b>	<b>0.206</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.094	0.153	.
(14) Massachusetts Credibility:	0.430	0.710	.
(15) Countrywide Pure Premium:	0.295	0.200	0.495
(16) Countrywide Indicated Relativity:	0.281	0.269	.
(17) Countrywide Credibility:	0.290	0.150	.
(18) Countrywide Lost-Time Claims:	1347.0	.	.
(19) Pure Premium Underlying Present Rate:	0.132	0.145	0.277
(20) Relativity to Underlying Present Rate:	0.193	0.203	.
(21) Credibility to Underlying Relativity:	0.280	0.140	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.176	0.178	.
(24) Balanced Formula Relativity:	0.175	0.177	0.176

Class(es): 4512 BIOMEDICAL RESEARCH LABS-INCL OUTSIDE OPERATNS		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,201,227	0	98	0	53,029	0	108,882	161,911	0.013	0.026	0.039
2005	4,989,321	7	103	942,550	82,271	276,323	246,455	1,547,600	0.205	0.105	0.310
2006	4,465,523	2	105	122,560	315,711	14,482	175,144	627,897	0.098	0.042	0.141
2007	5,212,411	2	93	96,988	18,352	8,850	125,111	249,300	0.022	0.026	0.048
2008	5,465,883	0	95	0	230,048	0	141,895	371,943	0.042	0.026	0.068
<b>MA Total:</b>	<b>24334366</b>	<b>11</b>	<b>494</b>	<b>1,162,098</b>	<b>699,411</b>	<b>299,655</b>	<b>797,487</b>	<b>2,958,652</b>	<b>0.076</b>	<b>0.045</b>	<b>0.122</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.076	0.062	.
(14) Massachusetts Credibility:	0.370	0.590	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.082	0.082	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.056	0.058	0.115
(20) Relativity to Underlying Present Rate:	0.082	0.082	.
(21) Credibility to Underlying Relativity:	0.630	0.410	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.080	0.070	.
(24) Balanced Formula Relativity:	0.080	0.070	0.076

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## Calculation of Class Relativities

Class(es): 4557 INK MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	505.731	4	119	138.120	236.145	37.975	135.876	548.116	0.740	0.344	1.084
2005	543.386	4	107	171.864	109.374	204.140	142.401	627.779	0.518	0.638	1.155
2006	557.358	2	76	89.746	225.140	73.031	198.893	586.809	0.565	0.488	1.053
2007	554.980	2	100	437.307	403.076	87.182	428.240	1,355.805	1.514	0.929	2.443
2008	265.064	2	30	79.285	11.260	17.066	35.991	143.602	0.342	0.200	0.542
<b>MA Total:</b>	<b>2,426,519</b>	<b>14</b>	<b>432</b>	<b>916,322</b>	<b>984,994</b>	<b>419,394</b>	<b>941,401</b>	<b>3,262,112</b>	<b>0.784</b>	<b>0.561</b>	<b>1.344</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.597	0.640	.
(14) Massachusetts Credibility:	0.380	0.580	.
(15) Countrywide Pure Premium:	0.921	0.649	1.570
(16) Countrywide Indicated Relativity:	0.794	0.841	.
(17) Countrywide Credibility:	0.310	0.210	.
(18) Countrywide Lost-Time Claims:	529.00	.	.
(19) Pure Premium Underlying Present Rate:	0.629	0.549	1.178
(20) Relativity to Underlying Present Rate:	0.670	0.618	.
(21) Credibility to Underlying Relativity:	0.310	0.210	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.681	0.678	.
(24) Balanced Formula Relativity:	0.680	0.678	0.679

Class(es): 4558 PAINT MFG		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	123.883	0	30	0	11.977	0	19.383	31.360	0.097	0.156	0.253
2005	84.911	1	12	22.146	40.624	816	17.011	80.596	0.739	0.210	0.949
2006	79.959	0	10	0	9.545	0	10.413	19.958	0.119	0.130	0.250
2007	80.584	0	5	0	5.040	0	22.151	27.191	0.063	0.275	0.337
2008	72.498	0	9	0	99.026	0	56.143	155.169	1.366	0.774	2.140
<b>MA Total:</b>	<b>441.835</b>	<b>1</b>	<b>66</b>	<b>22.146</b>	<b>166.212</b>	<b>816</b>	<b>125.101</b>	<b>314.274</b>	<b>0.426</b>	<b>0.285</b>	<b>0.711</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.325	0.325	.
(14) Massachusetts Credibility:	0.210	0.310	.
(15) Countrywide Pure Premium:	1.067	0.697	1.764
(16) Countrywide Indicated Relativity:	0.919	0.904	.
(17) Countrywide Credibility:	0.400	0.350	.
(18) Countrywide Lost-Time Claims:	608.00	.	.
(19) Pure Premium Underlying Present Rate:	0.759	0.642	1.401
(20) Relativity to Underlying Present Rate:	0.808	0.723	.
(21) Credibility to Underlying Relativity:	0.390	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.751	0.663	.
(24) Balanced Formula Relativity:	0.751	0.663	0.716

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4583 FERTILIZER MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	71.456	6	6	0	24.858	0	42.043	66.900	0.696	1.177	1.872
2005	116.307	0	6	0	380	0	11.615	11.995	0.007	0.200	0.206
2006	107.080	0	8	0	4.210	0	9.031	13.241	0.079	0.169	0.247
2007	107.033	2	14	81.479	7.526	22.712	26.685	138.401	1.663	0.923	2.586
2008	98.627	0	8	0	0	0	12.315	12.315	0.000	0.250	0.250
<b>MA Total:</b>	<b>500.503</b>	<b>8</b>	<b>42</b>	<b>81,479</b>	<b>36,974</b>	<b>22,712</b>	<b>101,688</b>	<b>242,852</b>	<b>0.237</b>	<b>0.249</b>	<b>0.485</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.180	0.284	.
(14) Massachusetts Credibility:	0.220	0.300	.
(15) Countrywide Pure Premium:	2.392	1.631	4.023
(16) Countrywide Indicated Relativity:	2.062	2.114	.
(17) Countrywide Credibility:	0.390	0.350	.
(18) Countrywide Lost-Time Claims:	673.00	.	.
(19) Pure Premium Underlying Present Rate:	1.549	1.058	2.607
(20) Relativity to Underlying Present Rate:	1.650	1.192	.
(21) Credibility to Underlying Relativity:	0.390	0.350	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.487	1.242	.
(24) Balanced Formula Relativity:	1.486	1.243	1.389

Class(es):		Effective: 9/1/2011							Manufacturing		
4611 DRUG MEDICINE OR PHARMACEUTICAL PREP-NO MFG OF INGREDIENTS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	352.412	3	77	259.255	133.699	158.525	149.435	700.913	1.115	0.874	1.989
2005	317.554	3	54	318.883	7.565	159.561	42.200	528.210	1.028	0.635	1.663
2006	296.025	3	48	166.220	351.893	33.240	142.719	694.072	1.750	0.594	2.345
2007	304.832	2	30	210.745	445.310	73.483	139.251	868.790	2.152	0.698	2.850
2008	416.861	1	37	182.539	36.921	60.374	61.710	341.544	0.526	0.293	0.819
<b>MA Total:</b>	<b>1,687.685</b>	<b>12</b>	<b>246</b>	<b>1,137,642</b>	<b>975,389</b>	<b>485,183</b>	<b>535,316</b>	<b>3,133,530</b>	<b>1.252</b>	<b>0.605</b>	<b>1.857</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.954	0.690	.
(14) Massachusetts Credibility:	0.350	0.520	.
(15) Countrywide Pure Premium:	0.542	0.359	0.901
(16) Countrywide Indicated Relativity:	0.467	0.465	.
(17) Countrywide Credibility:	0.330	0.240	.
(18) Countrywide Lost-Time Claims:	1996.0	.	.
(19) Pure Premium Underlying Present Rate:	0.706	0.598	1.304
(20) Relativity to Underlying Present Rate:	0.752	0.674	.
(21) Credibility to Underlying Relativity:	0.320	0.240	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.729	0.632	.
(24) Balanced Formula Relativity:	0.728	0.633	0.690

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4635 OXYGEN OR HYDROGEN MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	110.181	1	22	140.485	26.216	43.402	44.123	254.227	1.513	0.794	2.307
2005	80.823	0	13	0	212.806	0	101.295	314.101	2.633	1.253	3.886
2006	62.429	0	9	0	93.251	0	51.241	144.492	1.494	0.821	2.315
2007	68.903	1	9	1.701	14.447	4.184	41.546	61.878	0.234	0.664	0.898
2008	153.072	2	21	131.756	15.971	49.783	113.070	310.580	0.965	1.064	2.029
<b>MA Total:</b>	<b>475.409</b>	<b>4</b>	<b>74</b>	<b>273.942</b>	<b>362.692</b>	<b>97.370</b>	<b>351.274</b>	<b>1,085.278</b>	<b>1.339</b>	<b>0.944</b>	<b>2.283</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.020	1.077	.
(14) Massachusetts Credibility:	0.270	0.440	.
(15) Countrywide Pure Premium:	1.392	0.916	2.308
(16) Countrywide Indicated Relativity:	1.199	1.187	.
(17) Countrywide Credibility:	0.370	0.280	.
(18) Countrywide Lost-Time Claims:	808.00	.	.
(19) Pure Premium Underlying Present Rate:	1.407	1.394	2.800
(20) Relativity to Underlying Present Rate:	1.499	1.570	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.259	1.246	.
(24) Balanced Formula Relativity:	1.258	1.246	1.253

Class(es):		Effective: 9/1/2011							Manufacturing		
4653 GLUE MFG & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	17.632	0	3	0	0	0	2.640	2.640	0.000	0.150	0.150
2005	26.109	0	2	0	0	0	2.193	2.193	0.000	0.084	0.084
2006	24.333	0	1	0	0	0	1.071	1.071	0.000	0.044	0.044
2007	26.611	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	26.001	0	3	0	3.092	0	8.133	11.225	0.119	0.313	0.432
<b>MA Total:</b>	<b>120.687</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>3.092</b>	<b>0</b>	<b>14.037</b>	<b>17.129</b>	<b>0.026</b>	<b>0.116</b>	<b>0.142</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.020	0.133	.
(14) Massachusetts Credibility:	0.120	0.160	.
(15) Countrywide Pure Premium:	1.497	0.609	2.106
(16) Countrywide Indicated Relativity:	1.290	0.790	.
(17) Countrywide Credibility:	0.310	0.330	.
(18) Countrywide Lost-Time Claims:	61.000	.	.
(19) Pure Premium Underlying Present Rate:	0.633	0.473	1.106
(20) Relativity to Underlying Present Rate:	0.674	0.532	.
(21) Credibility to Underlying Relativity:	0.570	0.510	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.787	0.553	.
(24) Balanced Formula Relativity:	0.786	0.554	0.693

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4665 RENDERING WORKS NOC & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	35.191	1	17	1.068	21.248	2.410	32.046	56.773	0.634	0.979	1.613
2005	38.616	1	13	155.859	392.873	189.512	291.530	1,029.773	14.210	12.457	26.667
2006	37.147	1	13	77.474	2.418	39.753	12.407	132.053	2.151	1.404	3.555
2007	40.903	0	13	0	196.363	0	76.901	273.263	4.801	1.880	6.681
2008	42.606	0	11	0	182.850	0	75.434	258.284	4.292	1.771	6.062
<b>MA Total:</b>	<b>194.462</b>	<b>3</b>	<b>67</b>	<b>234.402</b>	<b>795.751</b>	<b>231.675</b>	<b>488.318</b>	<b>1,750.146</b>	<b>5.297</b>	<b>3.702</b>	<b>9.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.035	4.226	.
(14) Massachusetts Credibility:	0.270	0.450	.
(15) Countrywide Pure Premium:	4.171	2.970	7.142
(16) Countrywide Indicated Relativity:	3.594	3.850	.
(17) Countrywide Credibility:	0.370	0.280	.
(18) Countrywide Lost-Time Claims:	307.00	.	.
(19) Pure Premium Underlying Present Rate:	3.341	3.553	6.894
(20) Relativity to Underlying Present Rate:	3.559	4.002	.
(21) Credibility to Underlying Relativity:	0.360	0.270	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	3.701	4.060	.
(24) Balanced Formula Relativity:	3.699	4.062	3.844

Class(es):		Effective: 9/1/2011							Manufacturing		
4692 DENTAL LABORATORY											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	205.800	0	7	0	539	0	2.470	3.010	0.003	0.012	0.015
2005	230.086	0	12	0	20.181	0	24.466	44.646	0.088	0.106	0.194
2006	264.954	1	8	25.657	27.884	30.143	25.206	108.890	0.202	0.209	0.411
2007	267.184	0	10	0	149.108	0	37.742	186.850	0.558	0.141	0.699
2008	278.923	1	8	197.698	221	45.631	3.855	247.405	0.710	0.177	0.887
<b>MA Total:</b>	<b>1,246.948</b>	<b>2</b>	<b>45</b>	<b>223.355</b>	<b>197.932</b>	<b>75.774</b>	<b>93.738</b>	<b>590.800</b>	<b>0.338</b>	<b>0.136</b>	<b>0.474</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.257	0.155	.
(14) Massachusetts Credibility:	0.200	0.310	.
(15) Countrywide Pure Premium:	0.332	0.207	0.539
(16) Countrywide Indicated Relativity:	0.286	0.268	.
(17) Countrywide Credibility:	0.400	0.350	.
(18) Countrywide Lost-Time Claims:	210.00	.	.
(19) Pure Premium Underlying Present Rate:	0.259	0.216	0.475
(20) Relativity to Underlying Present Rate:	0.275	0.244	.
(21) Credibility to Underlying Relativity:	0.400	0.340	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.276	0.225	.
(24) Balanced Formula Relativity:	0.276	0.225	0.255

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## Calculation of Class Relativities

Class(es): 4693 PHARMACEUTICAL OR SURGICAL GOODS MFG NOC									Effective: 9/1/2011			Manufacturing		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	163.180	0	7	0	2.179	0	9.198	11.377	0.013	0.056	0.070			
2005	205.589	0	11	0	18.759	0	35.542	54.301	0.091	0.173	0.264			
2006	216.982	0	12	0	15.637	0	21.211	36.848	0.072	0.098	0.170			
2007	252.056	3	18	422.164	291.836	132.546	209.687	1,056.233	2.833	1.358	4.190			
2008	688.506	2	15	33.703	17.737	61.087	44.276	156.803	0.075	0.153	0.228			
<b>MA Total:</b>	<b>1,526,312</b>	<b>5</b>	<b>63</b>	<b>455.866</b>	<b>346,148</b>	<b>193,633</b>	<b>319,914</b>	<b>1,315,562</b>	<b>0.525</b>	<b>0.336</b>	<b>0.862</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.400	0.384	.
(14) Massachusetts Credibility:	0.270	0.450	.
(15) Countrywide Pure Premium:	0.449	0.319	0.768
(16) Countrywide Indicated Relativity:	0.387	0.414	.
(17) Countrywide Credibility:	0.370	0.280	.
(18) Countrywide Lost-Time Claims:	781.00	.	.
(19) Pure Premium Underlying Present Rate:	0.440	0.453	0.893
(20) Relativity to Underlying Present Rate:	0.468	0.511	.
(21) Credibility to Underlying Relativity:	0.360	0.270	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.420	0.426	.
(24) Balanced Formula Relativity:	0.420	0.427	0.422

Class(es): 4720 SOAP OR SYNTHETIC DETERGENT MFG									Effective: 9/1/2011			Manufacturing		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	124.830	1	32	74.710	79.694	161.207	51.867	367.478	1.237	1.707	2.944			
2005	142.539	1	33	570.532	42.697	21.875	119.400	754.504	4.302	0.991	5.293			
2006	149.344	1	20	14.074	86.946	35.162	38.254	174.436	0.676	0.492	1.168			
2007	153.071	0	22	0	5.262	0	18.470	23.732	0.034	0.121	0.155			
2008	162.930	0	27	0	90.521	0	108.672	199.193	0.556	0.667	1.223			
<b>MA Total:</b>	<b>732,713</b>	<b>3</b>	<b>134</b>	<b>659,317</b>	<b>305,120</b>	<b>218,243</b>	<b>336,663</b>	<b>1,519,343</b>	<b>1.316</b>	<b>0.757</b>	<b>2.074</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.003	0.864	.
(14) Massachusetts Credibility:	0.250	0.410	.
(15) Countrywide Pure Premium:	1.121	0.755	1.876
(16) Countrywide Indicated Relativity:	0.966	0.979	.
(17) Countrywide Credibility:	0.380	0.300	.
(18) Countrywide Lost-Time Claims:	550.00	.	.
(19) Pure Premium Underlying Present Rate:	0.736	0.775	1.511
(20) Relativity to Underlying Present Rate:	0.784	0.873	.
(21) Credibility to Underlying Relativity:	0.370	0.290	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.908	0.901	.
(24) Balanced Formula Relativity:	0.907	0.901	0.905

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4740 OIL REFINING - PETROLEUM & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9.242	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	12.647	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	15.722	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	4.788	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	14.901	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>57,301</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.070	0.110	.
(15) Countrywide Pure Premium:	0.461	0.352	0.813
(16) Countrywide Indicated Relativity:	0.398	0.456	.
(17) Countrywide Credibility:	0.470	0.450	.
(18) Countrywide Lost-Time Claims:	470.00	.	.
(19) Pure Premium Underlying Present Rate:	0.455	0.344	0.799
(20) Relativity to Underlying Present Rate:	0.485	0.387	.
(21) Credibility to Underlying Relativity:	0.460	0.440	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.410	0.376	.
(24) Balanced Formula Relativity:	0.410	0.376	0.396

Class(es):		Effective: 9/1/2011							Manufacturing		
4741 ASPHALT OR TAR DISTILLING OR REFINING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	748	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1.023	0	1	0	5.701	0	6.680	12.381	5.573	6.530	12.103
2006	2.085	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	36.046	1	2	167.172	13.866	65.210	4.778	251.026	5.022	1.942	6.964
2008	10.781	0	2	0	0	0	1.047	1.047	0.000	0.097	0.097
<b>MA Total:</b>	<b>50,683</b>	<b>1</b>	<b>5</b>	<b>167.172</b>	<b>19,567</b>	<b>65,210</b>	<b>12,505</b>	<b>264,454</b>	<b>3,684</b>	<b>1,533</b>	<b>5,218</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.807	1.750	.
(14) Massachusetts Credibility:	0.120	0.160	.
(15) Countrywide Pure Premium:	1.076	0.815	1.892
(16) Countrywide Indicated Relativity:	0.928	1.057	.
(17) Countrywide Credibility:	0.440	0.420	.
(18) Countrywide Lost-Time Claims:	147.00	.	.
(19) Pure Premium Underlying Present Rate:	1.727	1.107	2.834
(20) Relativity to Underlying Present Rate:	1.840	1.247	.
(21) Credibility to Underlying Relativity:	0.440	0.420	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.554	1.248	.
(24) Balanced Formula Relativity:	1.554	1.248	1.431

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## Calculation of Class Relativities

Class(es):									Effective: 9/1/2011			Manufacturing		
4770 EXPLOSIVES OR AMMUNITION MFG: BAG LOADING-PROPLNT CHRGS &DR														
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
MA Total:	0	0	0	0	0	0	0	0	.	.	.			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	8.075	1.237	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	7.717	1.118	8.834
(20) Relativity to Underlying Present Rate:	8.221	1.259	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	8.221	1.259	.
(24) Balanced Formula Relativity:	8.216	1.259	5.431

Class(es):									Effective: 9/1/2011			Manufacturing		
4773 EXPLOSIVES OR AMMUNITION MFG: HIGH EXPLOSIVES MFG & DRIVERS														
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
MA Total:	0	0	0	0	0	0	0	0	.	.	.			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	16.424	2.321	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	15.695	2.098	17.793
(20) Relativity to Underlying Present Rate:	16.721	2.363	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	16.721	2.363	.
(24) Balanced Formula Relativity:	16.711	2.364	10.968

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## Calculation of Class Relativities

Class(es): 4774 EXPLOSIVES OR AMMUNITION MFG: SMOKELESS PWDR MFG-SNGL BS &DR									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
Claim Count				Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	13.474	2.157	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	12.876	1.949	14.826
(20) Relativity to Underlying Present Rate:	13.718	2.195	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	13.718	2.195	.
(24) Balanced Formula Relativity:	13.710	2.196	9.101

Class(es): 4775 EXPLOSIVES OR AMMUNITION MFG: SHELL CASE LOADING & DRIVERS									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
Claim Count				Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.057	0.057
(16) Countrywide Indicated Relativity:	0.000	0.074	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	39.111	35.750	74.860
(20) Relativity to Underlying Present Rate:	41.667	40.260	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	41.667	40.260	.
(24) Balanced Formula Relativity:	41.643	40.275	41.095

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## Calculation of Class Relativities

Class(es): 4776 EXPLOSIVES OR AMMUNITION MFG: PROJCTL,BOMB, MINE,GRENADE &DR									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
MA Total:	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	12.124	1.186	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	11.586	1.072	12.658
(20) Relativity to Underlying Present Rate:	12.344	1.207	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	12.344	1.207	.
(24) Balanced Formula Relativity:	12.336	1.207	7.882

Class(es): 4779 EXPLOSIVES OR AMMUNITION MFG: CAP,PRIMER,FUSE, ASSEMBLY & DR									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
MA Total:	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.782	1.326	2.109
(16) Countrywide Indicated Relativity:	0.674	1.719	.
(17) Countrywide Credibility:	0.100	0.110	.
(18) Countrywide Lost-Time Claims:	4.000	.	.
(19) Pure Premium Underlying Present Rate:	9.328	2.149	11.477
(20) Relativity to Underlying Present Rate:	9.938	2.420	.
(21) Credibility to Underlying Relativity:	0.900	0.890	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	9.011	2.343	.
(24) Balanced Formula Relativity:	9.006	2.344	6.339

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 105

## Calculation of Class Relativities

Class(es): 4799 EXPLOSIVES OR AMMUNITION MFG: BLACK POWDER MFG & DRIVERS									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	0	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	0	0	0	0	0	0	0	0	.	.	.

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.000	0.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	29.737	4.560	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	28.418	4.121	32.539
(20) Relativity to Underlying Present Rate:	30.275	4.642	.
(21) Credibility to Underlying Relativity:	1.000	1.000	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	30.275	4.642	.
(24) Balanced Formula Relativity:	30.257	4.643	20.004

Class(es): 4825 DRUG, MEDICINE OR PHARM PREP MFG & INCIDENTAL MFG INGREDIENTS									Effective: 9/1/2011 Manufacturing		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	501.171	2	18	409.732	11.968	178.358	50.582	650.640	0.841	0.457	1.298
2005	479.040	2	19	45.004	7.153	11.622	47.054	110.833	0.109	0.122	0.231
2006	542.355	2	32	140.155	212.385	26.019	146.962	525.521	0.650	0.319	0.969
2007	615.343	1	51	10.757	82.820	2.590	117.841	214.008	0.152	0.196	0.348
2008	1,025.569	0	39	0	74.561	0	73.761	148.322	0.073	0.072	0.145
<b>MA Total:</b>	3,163.477	7	159	605.648	388.886	218.589	436.201	1,649.324	0.314	0.207	0.521

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.239	0.236	.
(14) Massachusetts Credibility:	0.310	0.470	.
(15) Countrywide Pure Premium:	0.433	0.283	0.716
(16) Countrywide Indicated Relativity:	0.373	0.367	.
(17) Countrywide Credibility:	0.350	0.270	.
(18) Countrywide Lost-Time Claims:	609.00	.	.
(19) Pure Premium Underlying Present Rate:	0.289	0.248	0.537
(20) Relativity to Underlying Present Rate:	0.308	0.279	.
(21) Credibility to Underlying Relativity:	0.340	0.260	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.309	0.283	.
(24) Balanced Formula Relativity:	0.309	0.283	0.299

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Manufacturing		
4828 CHEMICAL MFG NOC-ALL OPERATIONS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,303,203	2	116	834,324	1,387,151	49,491	955,083	3,226,049	3,409	1,542	4,951
2005	1,387,068	10	92	467,350	135,771	150,787	179,541	933,449	0,870	0,476	1,346
2006	1,616,953	10	116	498,780	391,892	450,475	304,973	1,646,119	1,102	0,934	2,036
2007	1,551,928	4	74	699,702	729,559	538,473	314,408	2,282,143	1,842	1,099	2,941
2008	1,031,584	0	50	0	794,378	0	259,807	1,054,185	1,540	0,504	2,044
<b>MA Total:</b>	<b>6,890,735</b>	<b>26</b>	<b>448</b>	<b>2,500,156</b>	<b>3,438,751</b>	<b>1,189,226</b>	<b>2,013,812</b>	<b>9,141,946</b>	<b>0.862</b>	<b>0.465</b>	<b>1.327</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.657	0.531	.
(14) Massachusetts Credibility:	0.410	0.600	.
(15) Countrywide Pure Premium:	0.784	0.508	1.293
(16) Countrywide Indicated Relativity:	0.676	0.659	.
(17) Countrywide Credibility:	0.300	0.200	.
(18) Countrywide Lost-Time Claims:	2098.0	.	.
(19) Pure Premium Underlying Present Rate:	0.528	0.414	0.942
(20) Relativity to Underlying Present Rate:	0.562	0.467	.
(21) Credibility to Underlying Relativity:	0.290	0.200	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	0.635	0.543	.
(24) Balanced Formula Relativity:	0.635	0.544	0.598

Class(es):		Effective: 9/1/2011							Construction		
5020 CEILING INSTALLATION-SUSPENDED ACOUSTICAL GRID											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	206,157	3	44	292,155	24,722	139,591	54,822	511,289	1,537	0,943	2,480
2005	210,122	0	48	0	1,607,171	0	751,741	2,358,912	7,649	3,578	11,226
2006	210,936	3	46	208,584	707,193	211,183	532,174	1,659,134	4,341	3,524	7,866
2007	220,505	2	27	259,006	865,566	159,513	282,150	1,566,234	5,100	2,003	7,103
2008	215,090	2	32	661,006	536,269	396,830	175,372	1,769,477	5,566	2,660	8,227
<b>MA Total:</b>	<b>1,062,810</b>	<b>10</b>	<b>197</b>	<b>1,420,752</b>	<b>3,740,920</b>	<b>907,117</b>	<b>1,796,259</b>	<b>7,865,047</b>	<b>4,857</b>	<b>2,544</b>	<b>7,400</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.486	1.318	.
(14) Massachusetts Credibility:	0.470	0.730	.
(15) Countrywide Pure Premium:	3.542	1.748	5.291
(16) Countrywide Indicated Relativity:	1.107	0.917	.
(17) Countrywide Credibility:	0.270	0.140	.
(18) Countrywide Lost-Time Claims:	471.00	.	.
(19) Pure Premium Underlying Present Rate:	2.433	2.220	4.653
(20) Relativity to Underlying Present Rate:	1.084	1.159	.
(21) Credibility to Underlying Relativity:	0.260	0.130	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.279	1.241	.
(24) Balanced Formula Relativity:	1.294	1.243	1.275

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## Calculation of Class Relativities

Class(es): 5022 MASONRY NOC		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	966.617	17	202	2,659,127	1,951,332	1,426,462	1,008,751	7,045,672	4,770	2,519	7,289
2005	1,085,470	33	254	6,339,687	3,432,036	3,927,047	1,571,943	15,270,713	9,002	5,066	14,068
2006	1,081,463	27	212	4,958,939	3,976,669	1,694,199	1,757,145	12,386,951	8,263	3,191	11,454
2007	995,053	14	170	2,845,299	3,090,324	795,902	1,168,224	7,899,750	5,965	1,974	7,939
2008	974,738	8	128	1,513,826	2,226,349	1,006,927	1,047,952	5,795,054	3,837	2,108	5,945
<b>MA Total:</b>	<b>5,103,340</b>	<b>99</b>	<b>966</b>	<b>18,316,877</b>	<b>14,676,710</b>	<b>8,850,538</b>	<b>6,554,015</b>	<b>48,398,140</b>	<b>6,465</b>	<b>3,019</b>	<b>9,484</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.978	1.564	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	4.092	2.279	6.371
(16) Countrywide Indicated Relativity:	1.279	1.195	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	9515.0	.	.
(19) Pure Premium Underlying Present Rate:	4.604	3.251	7.855
(20) Relativity to Underlying Present Rate:	2.051	1.697	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.978	1.564	.
(24) Balanced Formula Relativity:	2.001	1.566	1.839

Class(es): 5037 PAINTING: METAL STRUCTURES-OVER 2 STORIES IN HEIGHT & DRIVERS		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	8,942	0	2	0	0	0	1,089	1,089	0.000	0.122	0.122
2005	7,160	3	4	828,653	24,362	250,672	27,003	1,130,691	119.14	38,782	157.92
2006	5,423	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	6,085	0	2	0	0	0	47,334	47,334	0.000	7,778	7,778
2008	11,708	0	1	0	0	0	16,196	16,196	0.000	1,383	1,383
<b>MA Total:</b>	<b>39,317</b>	<b>3</b>	<b>9</b>	<b>828,653</b>	<b>24,362</b>	<b>250,672</b>	<b>91,623</b>	<b>1,195,310</b>	<b>21.696</b>	<b>8,706</b>	<b>30,402</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	6.639	4.510	.
(14) Massachusetts Credibility:	0.240	0.280	.
(15) Countrywide Pure Premium:	25.058	7.001	32.059
(16) Countrywide Indicated Relativity:	7.831	3.671	.
(17) Countrywide Credibility:	0.310	0.330	.
(18) Countrywide Lost-Time Claims:	64.000	.	.
(19) Pure Premium Underlying Present Rate:	11.878	5.613	17.491
(20) Relativity to Underlying Present Rate:	5.292	2.930	.
(21) Credibility to Underlying Relativity:	0.450	0.390	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	6.402	3.617	.
(24) Balanced Formula Relativity:	6.475	3.622	5.415

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5040 IRON OR STEEL: ERECTION: ERECTION-FRAME STRUCTURES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	83.153	2	143	174.365	2,585.911	113.867	1,011.060	3,885.202	33.195	13.528	46.724
2005	95.406	8	141	711.684	3,630.825	224.291	1,196.633	5,763.434	45.516	14.893	60.409
2006	79.577	6	115	916.273	2,417.782	387.828	1,004.536	4,726.419	41.897	17.497	59.394
2007	70.922	5	55	1,547.526	2,604.868	745.480	1,000.910	5,898.783	58.549	24.624	83.173
2008	57.176	2	46	1,107.209	851.820	223.018	398.167	2,580.214	34.263	10.864	45.128
<b>MA Total:</b>	<b>386,233</b>	<b>23</b>	<b>500</b>	<b>4,457,057</b>	<b>12091207</b>	<b>1,694,483</b>	<b>4,611,305</b>	<b>22854053</b>	<b>42.845</b>	<b>16.326</b>	<b>59.172</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	13.110	8.458	.
(14) Massachusetts Credibility:	0.810	1.000	.
(15) Countrywide Pure Premium:	12.824	7.167	19.991
(16) Countrywide Indicated Relativity:	4.008	3.758	.
(17) Countrywide Credibility:	0.100	0.000	.
(18) Countrywide Lost-Time Claims:	1458.0	.	.
(19) Pure Premium Underlying Present Rate:	25.615	16.319	41.934
(20) Relativity to Underlying Present Rate:	11.413	8.520	.
(21) Credibility to Underlying Relativity:	0.090	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	12.047	8.458	.
(24) Balanced Formula Relativity:	12.183	8.469	10.804

Class(es):		Effective: 9/1/2011							Construction		
5057 IRON OR STEEL: ERECTION: FRAME STRUCT NOT OVER 2 STRS IN HGT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	275.911	21	237	3,155.706	4,068.179	1,421.317	1,902.670	10547871	78.546	36.142	114.69
2005	231.043	12	87	1,230.334	3,334.531	1,232.153	1,340.130	7,137.147	59.273	33.400	92.673
2006	223.629	12	114	319.779	1,003.226	93.890	645.290	2,062.185	17.748	9.916	27.664
2007	255.582	9	162	2,753.052	2,532.241	4,303.712	1,447.252	11036256	62.038	67.504	129.54
2008	219.108	3	114	989.358	1,692.205	1,681.002	1,190.493	5,553.057	36.716	39.316	76.032
<b>MA Total:</b>	<b>1,205,273</b>	<b>57</b>	<b>714</b>	<b>8,448,228</b>	<b>12630381</b>	<b>8,732,074</b>	<b>6,525,835</b>	<b>36336517</b>	<b>17.489</b>	<b>12.659</b>	<b>30.148</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.351	6.558	.
(14) Massachusetts Credibility:	0.650	0.900	.
(15) Countrywide Pure Premium:	5.921	3.969	9.890
(16) Countrywide Indicated Relativity:	1.850	2.081	.
(17) Countrywide Credibility:	0.180	0.050	.
(18) Countrywide Lost-Time Claims:	1610.0	.	.
(19) Pure Premium Underlying Present Rate:	14.504	10.054	24.557
(20) Relativity to Underlying Present Rate:	6.462	5.249	.
(21) Credibility to Underlying Relativity:	0.170	0.050	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	4.910	6.269	.
(24) Balanced Formula Relativity:	4.965	6.277	5.452

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5102 DOOR, DOOR FRAME OR SASH ERECTION - METAL OR METAL COVERED											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	370,580	7	84	583,726	425,952	264,674	363,777	1,638,130	2,725	1,696	4,420
2005	320,687	4	52	669,336	943,127	222,131	391,080	2,225,674	5,028	1,912	6,940
2006	386,266	9	100	1,752,192	2,251,064	780,358	637,789	5,421,403	10,364	3,671	14,035
2007	397,245	2	69	964,247	680,209	209,613	391,127	2,245,195	4,140	1,512	5,652
2008	408,946	2	59	654,529	1,021,221	151,510	381,138	2,208,398	4,098	1,302	5,400
<b>MA Total:</b>	<b>1,883,723</b>	<b>24</b>	<b>364</b>	<b>4,624,031</b>	<b>5,321,573</b>	<b>1,628,286</b>	<b>2,164,910</b>	<b>13738800</b>	<b>5,280</b>	<b>2,014</b>	<b>7,293</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.616	1.043	.
(14) Massachusetts Credibility:	0.650	0.890	.
(15) Countrywide Pure Premium:	3.723	2.100	5.823
(16) Countrywide Indicated Relativity:	1.164	1.101	.
(17) Countrywide Credibility:	0.180	0.060	.
(18) Countrywide Lost-Time Claims:	2116.0	.	.
(19) Pure Premium Underlying Present Rate:	3.070	2.059	5.129
(20) Relativity to Underlying Present Rate:	1.368	1.075	.
(21) Credibility to Underlying Relativity:	0.170	0.050	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.492	1.048	.
(24) Balanced Formula Relativity:	1.509	1.050	1.338

Class(es):		Effective: 9/1/2011							Construction		
5146 FURNITURE OR FIXTURES INSTALLATION - PORTABLE - NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	426,699	10	104	857,592	403,069	314,559	258,063	1,833,283	2,954	1,342	4,296
2005	474,118	8	125	596,778	1,119,236	383,406	941,366	3,040,786	3,619	2,794	6,414
2006	513,701	10	163	943,785	1,055,338	558,186	480,371	3,037,680	3,892	2,022	5,913
2007	553,231	4	110	522,045	646,465	170,396	677,346	2,016,251	2,112	1,532	3,644
2008	536,843	7	91	836,015	680,792	282,401	363,036	2,162,244	2,825	1,202	4,028
<b>MA Total:</b>	<b>2,504,593</b>	<b>39</b>	<b>593</b>	<b>3,756,215</b>	<b>3,904,899</b>	<b>1,708,949</b>	<b>2,720,181</b>	<b>12090244</b>	<b>3,059</b>	<b>1,768</b>	<b>4,827</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.936	0.916	.
(14) Massachusetts Credibility:	0.640	0.930	.
(15) Countrywide Pure Premium:	3.126	1.700	4.826
(16) Countrywide Indicated Relativity:	0.977	0.892	.
(17) Countrywide Credibility:	0.180	0.040	.
(18) Countrywide Lost-Time Claims:	2075.0	.	.
(19) Pure Premium Underlying Present Rate:	2.248	1.725	3.973
(20) Relativity to Underlying Present Rate:	1.002	0.901	.
(21) Credibility to Underlying Relativity:	0.180	0.030	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.955	0.915	.
(24) Balanced Formula Relativity:	0.966	0.916	0.947

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5160 ELEVATOR ERECTION OR REPAIR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	351,237	4	49	287,981	418,485	227,171	246,630	1,180,267	2,011	1,349	3,360
2005	310,097	4	47	77,132	288,477	158,312	114,913	638,835	1,179	0,881	2,060
2006	408,804	2	49	174,075	719,985	40,675	338,376	1,273,111	2,187	0,927	3,114
2007	437,287	4	70	496,259	474,821	209,968	405,162	1,586,210	2,221	1,407	3,627
2008	413,618	1	36	349,244	245,470	117,007	173,673	885,393	1,438	0,703	2,141
<b>MA Total:</b>	<b>1,921,043</b>	<b>15</b>	<b>251</b>	<b>1,384,692</b>	<b>2,147,237</b>	<b>753,133</b>	<b>1,278,754</b>	<b>5,563,816</b>	<b>1,839</b>	<b>1,058</b>	<b>2,896</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.563	0.548	.
(14) Massachusetts Credibility:	0.520	0.770	.
(15) Countrywide Pure Premium:	1.933	0.899	2.832
(16) Countrywide Indicated Relativity:	0.604	0.471	.
(17) Countrywide Credibility:	0.240	0.120	.
(18) Countrywide Lost-Time Claims:	753.00	.	.
(19) Pure Premium Underlying Present Rate:	1.738	1.416	3.154
(20) Relativity to Underlying Present Rate:	0.774	0.739	.
(21) Credibility to Underlying Relativity:	0.240	0.110	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.623	0.560	.
(24) Balanced Formula Relativity:	0.630	0.561	0.604

Class(es):		Effective: 9/1/2011							Construction		
5183 PLUMBING NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5,196,728	53	1,184	5,416,472	3,944,099	2,842,446	3,128,867	15331883	1,801	1,149	2,950
2005	5,587,081	41	1,140	4,497,506	5,964,603	2,508,989	3,946,918	16918017	1,873	1,156	3,028
2006	5,390,437	46	1,013	4,744,332	6,551,216	1,969,230	4,411,708	17676485	2,095	1,184	3,279
2007	5,471,215	32	860	4,668,113	5,590,654	2,148,925	3,584,509	15992200	1,875	1,048	2,923
2008	5,260,778	26	703	3,539,308	5,271,441	1,882,461	3,374,934	14068144	1,675	0,999	2,674
<b>MA Total:</b>	<b>26906240</b>	<b>198</b>	<b>4,900</b>	<b>22865731</b>	<b>27322013</b>	<b>11352050</b>	<b>18446936</b>	<b>79986730</b>	<b>1,865</b>	<b>1,108</b>	<b>2,973</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.571	0.574	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	2.366	1.287	3.653
(16) Countrywide Indicated Relativity:	0.739	0.675	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	15438	.	.
(19) Pure Premium Underlying Present Rate:	1.369	1.235	2.604
(20) Relativity to Underlying Present Rate:	0.610	0.645	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.571	0.574	.
(24) Balanced Formula Relativity:	0.577	0.574	0.576

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5188 AUTOMATIC SPRINKLER INSTALLATION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	630.096	5	174	877.386	967.163	284.607	530.676	2.659.832	2.927	1.294	4.221
2005	712.218	2	131	61.363	976.906	269.206	450.774	1.758.249	1.458	1.011	2.469
2006	755.283	10	134	1.553.348	518.450	622.131	360.938	3.054.867	2.743	1.302	4.045
2007	725.002	9	101	859.300	996.399	573.983	549.182	2.978.864	2.560	1.549	4.109
2008	663.030	7	70	1.688.099	1.177.498	707.166	457.334	4.030.096	4.322	1.756	6.078
<b>MA Total:</b>	<b>3,485.629</b>	<b>33</b>	<b>610</b>	<b>5,039,496</b>	<b>4,636,416</b>	<b>2,457,093</b>	<b>2,348,904</b>	<b>14481909</b>	<b>2.776</b>	<b>1.379</b>	<b>4.155</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.849	0.714	.
(14) Massachusetts Credibility:	0.670	0.940	.
(15) Countrywide Pure Premium:	2.376	1.304	3.681
(16) Countrywide Indicated Relativity:	0.743	0.684	.
(17) Countrywide Credibility:	0.170	0.030	.
(18) Countrywide Lost-Time Claims:	1663.0	.	.
(19) Pure Premium Underlying Present Rate:	1.788	1.288	3.076
(20) Relativity to Underlying Present Rate:	0.797	0.673	.
(21) Credibility to Underlying Relativity:	0.160	0.030	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.823	0.712	.
(24) Balanced Formula Relativity:	0.832	0.713	0.788

Class(es):		Effective: 9/1/2011							Construction		
5190 ELECTRICAL WIRING - WITHIN BUILDINGS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	5.925.767	54	1.171	6.656.978	5.120.059	3.936.282	3.423.895	19137214	1.987	1.242	3.229
2005	6.244.722	42	1.145	3.517.910	6.002.624	2.922.896	3.976.877	16420306	1.525	1.105	2.629
2006	6.293.090	33	960	4.646.786	5.390.641	2.474.434	4.768.937	17280798	1.595	1.151	2.746
2007	6.592.486	24	863	3.381.894	6.202.730	2.326.448	3.393.511	15304583	1.454	0.868	2.322
2008	6.181.562	23	678	5.748.560	4.592.939	2.672.105	3.413.179	16426784	1.673	0.984	2.657
<b>MA Total:</b>	<b>31237626</b>	<b>176</b>	<b>4.817</b>	<b>23952128</b>	<b>27308993</b>	<b>14332165</b>	<b>18976399</b>	<b>84569685</b>	<b>1.641</b>	<b>1.066</b>	<b>2.707</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.502	0.552	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	2.038	1.186	3.224
(16) Countrywide Indicated Relativity:	0.637	0.622	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	17386	.	.
(19) Pure Premium Underlying Present Rate:	1.094	1.021	2.115
(20) Relativity to Underlying Present Rate:	0.487	0.533	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.502	0.552	.
(24) Balanced Formula Relativity:	0.508	0.553	0.525

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
5191 OFFICE MACHICE OR APPLIANCE INSTALL, INSP, ADJUSTMT OR REPAIR											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,271,012	13	250	990,074	732,873	593,146	516,608	2,832,701	0.527	0.339	0.866
2005	3,295,337	14	220	1,176,141	969,005	652,396	1,232,243	4,029,786	0.651	0.572	1.223
2006	3,609,890	10	210	865,157	449,900	400,701	606,401	2,322,159	0.364	0.279	0.643
2007	3,911,430	10	252	841,502	1,402,782	372,591	918,301	3,535,176	0.574	0.330	0.904
2008	3,629,857	11	218	1,560,229	1,433,254	606,299	797,739	4,397,521	0.825	0.387	1.211
<b>MA Total:</b>	<b>17717527</b>	<b>58</b>	<b>1,150</b>	<b>5,433,102</b>	<b>4,987,815</b>	<b>2,625,133</b>	<b>4,071,292</b>	<b>17117343</b>	<b>0.588</b>	<b>0.378</b>	<b>0.966</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.586	0.517	.
(14) Massachusetts Credibility:	0.700	1.000	.
(15) Countrywide Pure Premium:	0.447	0.273	0.720
(16) Countrywide Indicated Relativity:	0.426	0.367	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	3947.0	.	.
(19) Pure Premium Underlying Present Rate:	0.390	0.380	0.770
(20) Relativity to Underlying Present Rate:	0.571	0.535	.
(21) Credibility to Underlying Relativity:	0.150	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.560	0.517	.
(24) Balanced Formula Relativity:	0.557	0.515	0.539

Class(es):		Effective: 9/1/2011							Goods and Services		
5192 VENDING OR COIN OPERTD MACHINES-INSTALL, SRVC OR RPR &SALES, DR											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	287,772	8	94	242,964	429,157	101,682	314,625	1,088,429	2.336	1.447	3.782
2005	271,231	6	60	353,632	121,692	87,064	107,448	669,836	1.752	0.717	2.470
2006	301,300	5	38	827,342	32,607	308,800	51,141	1,219,890	2.854	1.195	4.049
2007	344,257	6	64	840,109	121,169	461,338	118,007	1,540,624	2.792	1.683	4.475
2008	317,044	6	46	587,665	443,450	391,775	194,424	1,617,314	3.252	1.849	5.101
<b>MA Total:</b>	<b>1,521,604</b>	<b>31</b>	<b>302</b>	<b>2,851,713</b>	<b>1,148,076</b>	<b>1,350,659</b>	<b>785,645</b>	<b>6,136,093</b>	<b>2.629</b>	<b>1.404</b>	<b>4.033</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.618	1.919	.
(14) Massachusetts Credibility:	0.460	0.690	.
(15) Countrywide Pure Premium:	1.855	1.126	2.981
(16) Countrywide Indicated Relativity:	1.769	1.512	.
(17) Countrywide Credibility:	0.270	0.160	.
(18) Countrywide Lost-Time Claims:	1970.0	.	.
(19) Pure Premium Underlying Present Rate:	1.613	1.331	2.944
(20) Relativity to Underlying Present Rate:	2.358	1.873	.
(21) Credibility to Underlying Relativity:	0.270	0.150	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.319	1.847	.
(24) Balanced Formula Relativity:	2.309	1.841	2.112

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## Calculation of Class Relativities

Class(es): 5213 CONCRETE CONSTRUCTION-NOC		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	505,525	29	427	4,966,326	4,273,720	1,596,006	1,664,784	12500837	18,278	6,450	24,728
2005	403,923	13	254	2,416,086	2,129,908	1,114,992	1,083,225	6,744,212	11,255	5,442	16,697
2006	396,681	6	168	544,812	1,664,612	78,283	1,911,634	4,199,341	5,570	5,016	10,586
2007	453,513	6	197	1,418,435	3,219,811	653,087	1,091,427	6,382,760	10,227	3,847	14,074
2008	369,593	6	137	896,053	1,532,083	231,830	897,079	3,557,045	6,570	3,054	9,624
<b>MA Total:</b>	<b>2,129,234</b>	<b>60</b>	<b>1,183</b>	<b>10241712</b>	<b>12820134</b>	<b>3,674,198</b>	<b>6,648,149</b>	<b>33384193</b>	<b>10,831</b>	<b>4,848</b>	<b>15,679</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.314	2.511	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	4.322	2.499	6.821
(16) Countrywide Indicated Relativity:	1.351	1.310	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	7236.0	.	.
(19) Pure Premium Underlying Present Rate:	8.481	5.549	14.030
(20) Relativity to Underlying Present Rate:	3.779	2.897	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	3.314	2.511	.
(24) Balanced Formula Relativity:	3.352	2.515	3.041

Class(es): 5215 SWIMMING POOL CONSTRUCTN-NOT IRON OR STEEL &DR		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,231,161	26	338	1,309,654	1,296,954	608,610	1,153,785	4,369,003	4,234	2,863	7,097
2005	1,214,495	16	242	1,968,666	2,329,184	942,058	1,255,670	6,495,577	7,078	3,619	10,697
2006	1,120,178	14	206	2,229,274	1,277,261	1,548,032	1,274,786	6,329,354	6,261	5,040	11,301
2007	1,039,769	8	186	519,126	1,303,686	348,044	678,463	2,849,319	3,506	1,974	5,481
2008	851,839	10	112	886,644	1,363,249	540,190	782,580	3,572,662	5,282	3,106	8,388
<b>MA Total:</b>	<b>5,457,442</b>	<b>74</b>	<b>1,084</b>	<b>6,913,363</b>	<b>7,570,334</b>	<b>3,986,934</b>	<b>5,145,284</b>	<b>23615914</b>	<b>2,654</b>	<b>1,673</b>	<b>4,327</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.812	0.867	.
(14) Massachusetts Credibility:	0.640	1.000	.
(15) Countrywide Pure Premium:	3.059	1.596	4.655
(16) Countrywide Indicated Relativity:	0.956	0.837	.
(17) Countrywide Credibility:	0.180	0.000	.
(18) Countrywide Lost-Time Claims:	3518.0	.	.
(19) Pure Premium Underlying Present Rate:	2.058	1.914	3.972
(20) Relativity to Underlying Present Rate:	0.917	0.999	.
(21) Credibility to Underlying Relativity:	0.180	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.857	0.867	.
(24) Balanced Formula Relativity:	0.867	0.868	0.867

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5221 CONCRETE OR CEMENT WORK-FLOORS DRIVEWAYS YRDS OR SIDEWALKS & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	975,358	17	223	3,127,748	1,661,336	1,107,309	1,031,541	6,927,934	4,910	2,193	7,103
2005	1,032,775	14	284	2,041,966	2,359,098	944,034	1,590,498	6,935,595	4,261	2,454	6,715
2006	1,076,022	13	269	1,778,160	3,094,105	786,172	1,403,763	7,062,200	4,528	2,035	6,563
2007	1,022,103	16	206	2,974,303	1,630,019	1,131,337	961,908	6,697,568	4,505	2,048	6,553
2008	1,031,331	11	186	2,469,225	2,012,532	2,016,068	1,240,097	7,737,923	4,346	3,157	7,503
<b>MA Total:</b>	<b>5,137,588</b>	<b>71</b>	<b>1,168</b>	<b>12,391,403</b>	<b>10,757,089</b>	<b>5,984,921</b>	<b>6,227,807</b>	<b>35,361,220</b>	<b>4,506</b>	<b>2,377</b>	<b>6,883</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.379	1.231	.
(14) Massachusetts Credibility:	0.910	1.000	.
(15) Countrywide Pure Premium:	2.604	1.477	4.081
(16) Countrywide Indicated Relativity:	0.814	0.774	.
(17) Countrywide Credibility:	0.050	0.000	.
(18) Countrywide Lost-Time Claims:	10034	.	.
(19) Pure Premium Underlying Present Rate:	2.593	2.051	4.644
(20) Relativity to Underlying Present Rate:	1.155	1.071	.
(21) Credibility to Underlying Relativity:	0.040	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.341	1.231	.
(24) Balanced Formula Relativity:	1.357	1.233	1.311

Class(es):		Effective: 9/1/2011							Construction		
5222 CONCRETE CONSTRUCTION IN CONNECTION WITH BRIDGES OR CULVERTS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	185,434	4	31	741,814	275,589	216,454	201,145	1,435,001	5,487	2,252	7,739
2005	159,458	4	25	1,296,953	360,300	614,313	497,803	2,769,369	10,393	6,974	17,367
2006	205,603	1	48	145,959	1,206,762	55,039	429,083	1,836,842	6,579	2,355	8,934
2007	180,773	2	30	925,718	687,081	358,303	335,646	2,306,747	8,922	3,839	12,760
2008	204,719	1	21	177,257	607,109	46,757	598,744	1,429,867	3,831	3,153	6,985
<b>MA Total:</b>	<b>935,988</b>	<b>12</b>	<b>155</b>	<b>3,287,699</b>	<b>3,136,842</b>	<b>1,290,865</b>	<b>2,062,421</b>	<b>9,777,827</b>	<b>6,864</b>	<b>3,583</b>	<b>10,447</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.100	1.856	.
(14) Massachusetts Credibility:	0.530	0.760	.
(15) Countrywide Pure Premium:	4.569	2.532	7.102
(16) Countrywide Indicated Relativity:	1.428	1.328	.
(17) Countrywide Credibility:	0.240	0.120	.
(18) Countrywide Lost-Time Claims:	1165.0	.	.
(19) Pure Premium Underlying Present Rate:	3.634	2.842	6.476
(20) Relativity to Underlying Present Rate:	1.619	1.484	.
(21) Credibility to Underlying Relativity:	0.230	0.120	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.828	1.748	.
(24) Balanced Formula Relativity:	1.849	1.750	1.812

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5348 STONE, MOSAIC, TERRAZZO OR CERAMIC TILE WORK - INSIDE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	396,129	10	72	858,624	616,614	541,722	250,728	2,267,688	3,724	2,000	5,725
2005	415,495	8	80	1,545,567	473,798	902,510	325,843	3,247,717	4,860	2,956	7,817
2006	437,136	7	57	1,153,425	868,551	274,900	364,863	2,661,740	4,626	1,464	6,089
2007	495,268	6	58	1,098,537	787,800	478,701	322,565	2,687,604	3,809	1,618	5,427
2008	461,550	1	60	336,953	1,099,934	129,409	648,566	2,214,862	3,113	1,686	4,799
<b>MA Total:</b>	<b>2,205,578</b>	<b>32</b>	<b>327</b>	<b>4,993,106</b>	<b>3,846,696</b>	<b>2,327,243</b>	<b>1,912,565</b>	<b>13,079,610</b>	<b>4,008</b>	<b>1,922</b>	<b>5,930</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.226	0.996	.
(14) Massachusetts Credibility:	0.620	0.930	.
(15) Countrywide Pure Premium:	2.398	1.252	3.650
(16) Countrywide Indicated Relativity:	0.750	0.656	.
(17) Countrywide Credibility:	0.190	0.040	.
(18) Countrywide Lost-Time Claims:	2717.0	.	.
(19) Pure Premium Underlying Present Rate:	2.368	1.957	4.326
(20) Relativity to Underlying Present Rate:	1.055	1.022	.
(21) Credibility to Underlying Relativity:	0.190	0.030	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.103	0.983	.
(24) Balanced Formula Relativity:	1.116	0.984	1.067

Class(es):		Effective: 9/1/2011							Construction		
5402 HOTHOUSE ERECTION - ALL OPERATIONS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,917	0	3	0	0	0	7,816	7,816	0.000	2,679	2,679
2005	3,946	0	1	0	0	0	483	483	0.000	0.122	0.122
2006	9,012	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	5,350	0	3	0	146,100	0	43,056	189,156	27,306	8,047	35,353
2008	7,530	0	2	0	0	0	1,341	1,341	0.000	0.178	0.178
<b>MA Total:</b>	<b>28,756</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>146,100</b>	<b>0</b>	<b>52,696</b>	<b>198,796</b>	<b>5,081</b>	<b>1,832</b>	<b>6,913</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.555	0.949	.
(14) Massachusetts Credibility:	0.130	0.220	.
(15) Countrywide Pure Premium:	0.979	0.702	1.681
(16) Countrywide Indicated Relativity:	0.306	0.368	.
(17) Countrywide Credibility:	0.210	0.220	.
(18) Countrywide Lost-Time Claims:	23.000	.	.
(19) Pure Premium Underlying Present Rate:	3.437	3.980	7.417
(20) Relativity to Underlying Present Rate:	1.531	2.078	.
(21) Credibility to Underlying Relativity:	0.660	0.560	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.277	1.454	.
(24) Balanced Formula Relativity:	1.291	1.456	1.352

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5403 CARPENTRY NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	693,187	29	285	2,924,714	2,623,505	2,806,064	1,213,081	9,567,364	8,004	5,798	13,802
2005	739,489	15	225	1,099,792	2,281,942	521,993	1,440,594	5,344,321	4,573	2,654	7,227
2006	782,709	12	210	1,824,925	2,850,740	822,601	1,321,366	6,819,632	5,974	2,739	8,713
2007	889,596	18	240	3,060,102	2,379,779	2,326,581	1,367,633	9,134,095	6,115	4,153	10,268
2008	845,180	14	211	2,332,792	3,515,758	1,550,543	1,645,371	9,044,464	6,920	3,781	10,701
<b>MA Total:</b>	<b>3,950,162</b>	<b>88</b>	<b>1,171</b>	<b>11,242,325</b>	<b>13,651,723</b>	<b>8,027,782</b>	<b>6,988,045</b>	<b>39,909,876</b>	<b>6,302</b>	<b>3,801</b>	<b>10,103</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.928	1.969	.
(14) Massachusetts Credibility:	0.950	1.000	.
(15) Countrywide Pure Premium:	4.700	2.794	7.494
(16) Countrywide Indicated Relativity:	1.469	1.465	.
(17) Countrywide Credibility:	0.030	0.000	.
(18) Countrywide Lost-Time Claims:	10588	.	.
(19) Pure Premium Underlying Present Rate:	3.804	3.260	7.064
(20) Relativity to Underlying Present Rate:	1.695	1.702	.
(21) Credibility to Underlying Relativity:	0.020	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.910	1.969	.
(24) Balanced Formula Relativity:	1.931	1.972	1.946

Class(es):		Effective: 9/1/2011							Construction		
5437 CARPENTRY-INSTALL OF CABINET WORK OR INT TRIM											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,518,297	35	589	3,127,082	4,500,412	1,342,999	3,022,619	11,993,111	3,029	1,734	4,762
2005	2,646,544	32	618	4,989,554	4,911,115	2,315,490	2,554,701	14,770,861	3,741	1,840	5,581
2006	2,587,859	21	465	2,233,448	5,942,151	856,704	2,818,824	11,851,128	3,159	1,420	4,580
2007	2,742,438	21	412	2,965,808	4,258,199	1,098,066	2,102,865	10,424,938	2,634	1,167	3,801
2008	2,386,943	11	318	2,439,792	3,023,908	736,196	2,235,904	8,435,800	2,289	1,245	3,534
<b>MA Total:</b>	<b>12,882,081</b>	<b>120</b>	<b>2,402</b>	<b>15,755,684</b>	<b>22,635,786</b>	<b>6,349,455</b>	<b>12,734,913</b>	<b>57,475,837</b>	<b>2,980</b>	<b>1,481</b>	<b>4,462</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.912	0.767	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.366	1.879	5.244
(16) Countrywide Indicated Relativity:	1.052	0.985	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	7017.0	.	.
(19) Pure Premium Underlying Present Rate:	2.313	1.582	3.895
(20) Relativity to Underlying Present Rate:	1.030	0.826	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.912	0.767	.
(24) Balanced Formula Relativity:	0.922	0.768	0.865

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 117

## Calculation of Class Relativities

Class(es): 5443 LATHING & DRIVERS		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,785	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	2,624	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	447	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	685	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	207	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>7,748</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.060	0.090	.
(15) Countrywide Pure Premium:	1.886	1.288	3.173
(16) Countrywide Indicated Relativity:	0.589	0.675	.
(17) Countrywide Credibility:	0.470	0.460	.
(18) Countrywide Lost-Time Claims:	274.00	.	.
(19) Pure Premium Underlying Present Rate:	1.974	1.704	3.678
(20) Relativity to Underlying Present Rate:	0.879	0.890	.
(21) Credibility to Underlying Relativity:	0.470	0.450	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.690	0.711	.
(24) Balanced Formula Relativity:	0.698	0.712	0.703

Class(es): 5445 WALLBOARD INSTALLATION WITHIN BUILDINGS & DR		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,569,501	24	444	2,813,335	6,274,733	1,328,262	2,680,124	13096453	5,790	2,554	8,344
2005	1,788,538	30	460	6,466,823	3,929,153	2,182,743	2,049,571	14628289	5,813	2,366	8,179
2006	1,760,560	15	353	2,878,376	3,760,597	1,007,884	1,809,630	9,456,487	3,771	1,600	5,371
2007	1,931,699	24	368	3,676,605	4,693,852	2,005,146	2,223,717	12599319	4,333	2,189	6,522
2008	1,729,577	8	279	1,777,304	4,902,549	996,651	2,397,280	10073784	3,862	1,962	5,824
<b>MA Total:</b>	<b>8,779,875</b>	<b>101</b>	<b>1,904</b>	<b>17612442</b>	<b>23560882</b>	<b>7,520,686</b>	<b>11160323</b>	<b>59854333</b>	<b>4,690</b>	<b>2,128</b>	<b>6,817</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.435	1.102	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.392	1.848	5.240
(16) Countrywide Indicated Relativity:	1.060	0.969	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	6844.0	.	.
(19) Pure Premium Underlying Present Rate:	3.300	2.090	5.391
(20) Relativity to Underlying Present Rate:	1.470	1.091	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.435	1.102	.
(24) Balanced Formula Relativity:	1.451	1.104	1.322

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5462 GLAZIER-AWAY FROM SHOP & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	382.976	6	97	804.580	468.644	661.293	303.922	2,238.439	3.325	2.520	5.845
2005	381.482	11	124	962.729	959.849	1,286.798	510.809	3,720.184	5.040	4.712	9.752
2006	410.845	13	155	2,358.954	1,250.523	1,270.646	835.451	5,715.575	8.785	5.126	13.912
2007	457.251	7	149	489.510	1,411.513	216.948	605.414	2,723.386	4.158	1.798	5.956
2008	481.695	2	111	1,157.236	603.666	270.379	497.167	2,528.448	3.656	1.593	5.249
<b>MA Total:</b>	<b>2,114.250</b>	<b>39</b>	<b>636</b>	<b>5,773.009</b>	<b>4,694.194</b>	<b>3,706.065</b>	<b>2,752.763</b>	<b>16926031</b>	<b>4.951</b>	<b>3.055</b>	<b>8.006</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.515	1.583	.
(14) Massachusetts Credibility:	0.740	1.000	.
(15) Countrywide Pure Premium:	3.519	2.088	5.607
(16) Countrywide Indicated Relativity:	1.100	1.095	.
(17) Countrywide Credibility:	0.130	0.000	.
(18) Countrywide Lost-Time Claims:	2066.0	.	.
(19) Pure Premium Underlying Present Rate:	3.823	3.307	7.130
(20) Relativity to Underlying Present Rate:	1.703	1.727	.
(21) Credibility to Underlying Relativity:	0.130	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.485	1.583	.
(24) Balanced Formula Relativity:	1.502	1.585	1.533

Class(es):		Effective: 9/1/2011							Construction		
5472 ASBESTOS REMOVAL OP: ASBESTOS CONTR-PIPE&BOILR WORK EXCL &DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	233.347	6	44	887.946	362.376	651.395	192.823	2,094.540	5.358	3.618	8.976
2005	181.888	5	55	1,885.202	953.674	1,366.373	498.655	4,703.904	15.608	10.254	25.862
2006	188.472	10	37	1,098.706	733.304	505.492	297.165	2,634.667	9.720	4.259	13.979
2007	228.970	5	52	1,020.473	1,000.638	391.811	548.166	2,961.089	8.827	4.105	12.932
2008	151.943	0	21	0	364.895	0	132.284	497.179	2.402	0.871	3.272
<b>MA Total:</b>	<b>984.621</b>	<b>26</b>	<b>209</b>	<b>4,892.327</b>	<b>3,414.887</b>	<b>2,915.072</b>	<b>1,669.093</b>	<b>12891379</b>	<b>8.437</b>	<b>4.656</b>	<b>13.093</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.582	2.412	.
(14) Massachusetts Credibility:	0.600	0.910	.
(15) Countrywide Pure Premium:	3.878	2.113	5.991
(16) Countrywide Indicated Relativity:	1.212	1.108	.
(17) Countrywide Credibility:	0.200	0.050	.
(18) Countrywide Lost-Time Claims:	194.00	.	.
(19) Pure Premium Underlying Present Rate:	4.881	4.207	9.088
(20) Relativity to Underlying Present Rate:	2.175	2.196	.
(21) Credibility to Underlying Relativity:	0.200	0.040	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	2.226	2.338	.
(24) Balanced Formula Relativity:	2.251	2.341	2.285

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction			
5473 ASBESTOS REMOVAL OP: ASBESTOS CONTRCTR-NOC &DR												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	65,737	3	8	287,758	30,607	140,614	37,066	496,045	4,843	2,703	7,546	
2005	76,845	1	10	63,833	226,036	19,298	78,822	387,990	3,772	1,277	5,049	
2006	85,896	0	12	0	308,366	0	77,702	386,067	3,590	0,905	4,495	
2007	93,247	3	18	668,243	326,545	640,765	101,593	1,737,145	10,668	7,961	18,630	
2008	67,522	0	12	0	142,256	0	70,992	213,247	2,107	1,051	3,158	
<b>MA Total:</b>	<b>389,247</b>	<b>7</b>	<b>60</b>	<b>1,019,835</b>	<b>1,033,809</b>	<b>800,677</b>	<b>366,174</b>	<b>3,220,495</b>	<b>5,276</b>	<b>2,998</b>	<b>8,274</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.614	1.553	.
(14) Massachusetts Credibility:	0.440	0.610	.
(15) Countrywide Pure Premium:	5.151	3.117	8.268
(16) Countrywide Indicated Relativity:	1.610	1.634	.
(17) Countrywide Credibility:	0.280	0.200	.
(18) Countrywide Lost-Time Claims:	480.00	.	.
(19) Pure Premium Underlying Present Rate:	5.484	3.895	9.380
(20) Relativity to Underlying Present Rate:	2.444	2.034	.
(21) Credibility to Underlying Relativity:	0.280	0.190	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.845	1.661	.
(24) Balanced Formula Relativity:	1.866	1.663	1.791

Class(es):		Effective: 9/1/2011							Construction			
5474 PAINTING OR PAPERHANGING NOC & SHOP OPERS, DR												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	1,974,664	18	213	2,553,531	1,779,782	1,107,921	1,282,702	6,723,936	2,194	1,211	3,405	
2005	2,169,735	25	258	2,259,679	3,446,487	1,623,125	2,045,871	9,375,163	2,630	1,691	4,321	
2006	2,285,268	29	206	3,637,026	3,039,680	2,160,750	1,678,330	10,515,787	2,922	1,680	4,602	
2007	2,552,400	26	234	3,281,550	4,167,732	3,102,157	2,259,025	12,810,463	2,919	2,100	5,019	
2008	2,348,282	20	198	3,080,864	4,760,650	3,025,979	3,339,281	14,206,774	3,339	2,711	6,050	
<b>MA Total:</b>	<b>11,330,349</b>	<b>118</b>	<b>1,109</b>	<b>14,812,650</b>	<b>17,194,331</b>	<b>11,019,933</b>	<b>10,605,209</b>	<b>53,632,123</b>	<b>2,825</b>	<b>1,909</b>	<b>4,733</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.864	0.989	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.627	2.189	5.816
(16) Countrywide Indicated Relativity:	1.133	1.148	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	7789.0	.	.
(19) Pure Premium Underlying Present Rate:	2.003	1.786	3.789
(20) Relativity to Underlying Present Rate:	0.892	0.933	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.864	0.989	.
(24) Balanced Formula Relativity:	0.874	0.990	0.917

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5478 CARPET, LINOLEUM, VINYL, ASPHALT OR RUBBER FLOOR TILE INSTAL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	388,854	4	47	1,015,654	373,633	316,919	145,724	1,851,931	3,573	1,190	4,763
2005	493,711	3	62	797,886	338,911	263,539	136,104	1,536,440	2,303	0,809	3,112
2006	532,844	4	65	589,856	1,104,796	322,953	497,869	2,515,474	3,180	1,540	4,721
2007	544,676	8	83	1,376,952	1,567,451	333,723	545,232	3,823,358	5,406	1,614	7,020
2008	533,151	2	88	231,744	1,504,851	105,045	462,962	2,304,602	3,257	1,065	4,323
<b>MA Total:</b>	<b>2,493,236</b>	<b>21</b>	<b>345</b>	<b>4,012,091</b>	<b>4,889,642</b>	<b>1,342,179</b>	<b>1,787,891</b>	<b>12,031,804</b>	<b>3,570</b>	<b>1,255</b>	<b>4,826</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.092	0.650	.
(14) Massachusetts Credibility:	0.640	0.820	.
(15) Countrywide Pure Premium:	3.041	1.399	4,440
(16) Countrywide Indicated Relativity:	0.951	0.733	.
(17) Countrywide Credibility:	0.180	0.090	.
(18) Countrywide Lost-Time Claims:	1838.0	.	.
(19) Pure Premium Underlying Present Rate:	2.210	1.271	3,481
(20) Relativity to Underlying Present Rate:	0.985	0.664	.
(21) Credibility to Underlying Relativity:	0.180	0.090	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5,199
(23) Formula Relativity:	1.048	0.659	.
(24) Balanced Formula Relativity:	1.059	0.660	0,911

Class(es):		Effective: 9/1/2011							Construction		
5479 INSULATION WORK NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	164,663	4	59	323,102	438,152	115,515	239,454	1,116,223	4,623	2,156	6,779
2005	212,417	5	45	516,612	156,651	276,675	124,578	1,074,517	3,170	1,889	5,059
2006	234,343	1	58	117	596,894	3,650	504,763	1,105,425	2,548	2,170	4,717
2007	214,335	5	48	1,012,687	460,045	461,265	435,986	2,369,983	6,871	4,186	11,057
2008	214,902	1	56	26,352	357,771	48,135	362,358	794,616	1,787	1,910	3,698
<b>MA Total:</b>	<b>1,040,660</b>	<b>16</b>	<b>266</b>	<b>1,878,870</b>	<b>2,009,513</b>	<b>905,240</b>	<b>1,667,140</b>	<b>6,460,764</b>	<b>3,736</b>	<b>2,472</b>	<b>6,208</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.143	1.281	.
(14) Massachusetts Credibility:	0.510	0.780	.
(15) Countrywide Pure Premium:	3.630	2,174	5,804
(16) Countrywide Indicated Relativity:	1.134	1,140	.
(17) Countrywide Credibility:	0.250	0,110	.
(18) Countrywide Lost-Time Claims:	2046.0	.	.
(19) Pure Premium Underlying Present Rate:	3.067	2,724	5,791
(20) Relativity to Underlying Present Rate:	1.366	1,422	.
(21) Credibility to Underlying Relativity:	0.240	0,110	.
(22) Industry Group Converted Pure Premium:	3.268	1,930	5,199
(23) Formula Relativity:	1.195	1,281	.
(24) Balanced Formula Relativity:	1.208	1,282	1,236

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5480 PLASTERING NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	439,682	4	64	97,349	194,256	42,985	154,014	488,614	0,663	0,448	1,111
2005	459,927	10	45	1,881,682	509,666	582,108	260,088	3,233,544	5,199	1,831	7,031
2006	441,546	6	55	1,310,955	574,366	592,175	361,948	2,839,445	4,270	2,161	6,431
2007	427,022	2	51	162,294	628,407	41,370	561,875	1,393,946	1,852	1,413	3,264
2008	361,550	1	23	25,752	1,093,612	16,519	556,116	1,691,999	3,096	1,584	4,680
<b>MA Total:</b>	<b>2,129,726</b>	<b>23</b>	<b>238</b>	<b>3,478,032</b>	<b>3,000,307</b>	<b>1,275,167</b>	<b>1,894,042</b>	<b>9,647,548</b>	<b>3,042</b>	<b>1,488</b>	<b>4,530</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.931	0.771	.
(14) Massachusetts Credibility:	0.590	0.800	.
(15) Countrywide Pure Premium:	3.761	2.286	6.048
(16) Countrywide Indicated Relativity:	1.176	1.199	.
(17) Countrywide Credibility:	0.210	0.100	.
(18) Countrywide Lost-Time Claims:	262.00	.	.
(19) Pure Premium Underlying Present Rate:	2.100	1.384	3.484
(20) Relativity to Underlying Present Rate:	0.936	0.723	.
(21) Credibility to Underlying Relativity:	0.200	0.100	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.983	0.809	.
(24) Balanced Formula Relativity:	0.994	0.810	0.926

Class(es):		Effective: 9/1/2011							Construction		
5506 STREET OR ROAD CONSTRUCTION: PAVING OR REPAVING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	339,704	8	79	1,195,314	762,742	611,683	342,801	2,912,540	5,764	2,810	8,574
2005	323,340	6	69	928,887	574,173	709,449	496,298	2,708,807	4,649	3,729	8,378
2006	304,306	1	43	179,980	862,065	56,597	410,100	1,508,743	3,424	1,534	4,958
2007	313,785	3	36	592,432	366,541	324,775	199,337	1,483,084	3,056	1,670	4,726
2008	380,518	2	56	544,161	1,770,872	246,985	718,303	3,280,321	6,084	2,537	8,621
<b>MA Total:</b>	<b>1,661,652</b>	<b>20</b>	<b>283</b>	<b>3,440,774</b>	<b>4,336,393</b>	<b>1,949,489</b>	<b>2,166,839</b>	<b>11,893,495</b>	<b>4,680</b>	<b>2,477</b>	<b>7,158</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.432	1.283	.
(14) Massachusetts Credibility:	0.600	0.900	.
(15) Countrywide Pure Premium:	3.892	2.476	6.368
(16) Countrywide Indicated Relativity:	1.216	1.298	.
(17) Countrywide Credibility:	0.200	0.050	.
(18) Countrywide Lost-Time Claims:	4972.0	.	.
(19) Pure Premium Underlying Present Rate:	2.855	2.395	5.250
(20) Relativity to Underlying Present Rate:	1.272	1.250	.
(21) Credibility to Underlying Relativity:	0.200	0.050	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.357	1.282	.
(24) Balanced Formula Relativity:	1.372	1.284	1.340

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5507 STREET OR ROAD CONSTRUCTION: SUB-SURFACE WORK & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	261.836	6	40	463.258	566.309	136.353	271.954	1,437.874	3.932	1.559	5.492
2005	201.494	0	66	0	1,001.475	0	548.975	1,550.450	4.970	2.725	7.695
2006	201.505	4	37	845.421	509.863	347.833	173.880	1,876.998	6.726	2.589	9.315
2007	220.393	3	41	634.850	299.285	486.643	202.924	1,623.702	4.239	3.129	7.367
2008	218.793	1	35	196.328	667.855	66.649	381.677	1,312.510	3.950	2.049	5.999
<b>MA Total:</b>	<b>1,104.021</b>	<b>14</b>	<b>219</b>	<b>2,139,858</b>	<b>3,044,788</b>	<b>1,037,478</b>	<b>1,579,409</b>	<b>7,801,533</b>	<b>4.696</b>	<b>2.370</b>	<b>7.066</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.437	1.228	.
(14) Massachusetts Credibility:	0.520	0.750	.
(15) Countrywide Pure Premium:	2.649	1.434	4.083
(16) Countrywide Indicated Relativity:	0.828	0.752	.
(17) Countrywide Credibility:	0.240	0.130	.
(18) Countrywide Lost-Time Claims:	1574.0	.	.
(19) Pure Premium Underlying Present Rate:	2.944	2.306	5.249
(20) Relativity to Underlying Present Rate:	1.312	1.204	.
(21) Credibility to Underlying Relativity:	0.240	0.120	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.261	1.163	.
(24) Balanced Formula Relativity:	1.275	1.165	1.234

Class(es):		Effective: 9/1/2011							Construction		
5509 STREET OR ROAD MAINTENANCE BY COUNTY OR MUNICIPAL EMP & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	48	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	140	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	91	0	1	0	0	0	1.033	1.033	0.000	11.412	11.412
2007	17.307	0	1	0	0	0	137	137	0.000	0.008	0.008
2008	103.486	2	38	321.176	244.338	101.862	188.259	855.635	5.465	2.803	8.268
<b>MA Total:</b>	<b>121.071</b>	<b>2</b>	<b>40</b>	<b>321,176</b>	<b>244,338</b>	<b>101,862</b>	<b>189,429</b>	<b>856,805</b>	<b>4.671</b>	<b>2.406</b>	<b>7.077</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.429	1.246	.
(14) Massachusetts Credibility:	0.150	0.240	.
(15) Countrywide Pure Premium:	2.117	1.680	3.797
(16) Countrywide Indicated Relativity:	0.662	0.881	.
(17) Countrywide Credibility:	0.430	0.380	.
(18) Countrywide Lost-Time Claims:	452.00	.	.
(19) Pure Premium Underlying Present Rate:	1.308	1.183	2.491
(20) Relativity to Underlying Present Rate:	0.583	0.617	.
(21) Credibility to Underlying Relativity:	0.420	0.380	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.744	0.869	.
(24) Balanced Formula Relativity:	0.752	0.870	0.796

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5538 SHEET METAL WORK-SHOP & OUTSIDE-NOC & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,473,429	18	456	3,207,247	2,593,579	1,780,596	1,674,999	9,256,421	3,937	2,345	6,282
2005	1,531,421	9	416	1,207,188	2,615,966	1,087,086	1,980,016	6,890,256	2,496	2,003	4,499
2006	1,616,525	17	392	2,315,700	2,664,949	1,729,131	1,633,686	8,343,466	3,081	2,080	5,161
2007	1,668,463	26	365	5,291,650	3,065,064	3,547,739	1,871,410	13,775,864	5,009	3,248	8,257
2008	1,572,787	7	296	756,391	2,116,687	579,688	1,730,369	5,183,136	1,827	1,469	3,296
<b>MA Total:</b>	<b>7,862,625</b>	<b>77</b>	<b>1,925</b>	<b>12,778,176</b>	<b>13,056,246</b>	<b>8,724,240</b>	<b>8,890,479</b>	<b>43,449,142</b>	<b>3,286</b>	<b>2,240</b>	<b>5,526</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.005	1.161	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.718	2.280	5.998
(16) Countrywide Indicated Relativity:	1.162	1.196	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	4765.0	.	.
(19) Pure Premium Underlying Present Rate:	2.247	2.010	4.256
(20) Relativity to Underlying Present Rate:	1.001	1.049	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.005	1.161	.
(24) Balanced Formula Relativity:	1.017	1.162	1.071

Class(es):		Effective: 9/1/2011							Construction		
5545 ROOFING NOC & YARD EMP, DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	134,568	9	45	606,270	729,225	686,692	991,598	3,013,784	9,924	12,472	22,396
2005	164,676	12	62	1,657,974	1,205,390	1,878,786	949,353	5,691,503	17,388	17,174	34,562
2006	100,622	7	43	882,220	971,525	317,485	673,949	2,845,179	18,423	9,853	28,276
2007	109,523	6	24	925,364	1,400,395	569,885	826,064	3,721,708	21,235	12,746	33,981
2008	101,466	5	37	630,149	1,825,801	1,014,745	733,555	4,204,251	24,205	17,230	41,435
<b>MA Total:</b>	<b>610,856</b>	<b>39</b>	<b>211</b>	<b>4,701,977</b>	<b>6,132,335</b>	<b>4,467,593</b>	<b>4,174,519</b>	<b>19,476,425</b>	<b>17,736</b>	<b>14,148</b>	<b>31,884</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.427	7.329	.
(14) Massachusetts Credibility:	0.670	1.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	4.423	6.292	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	10.351	12.728	23.079
(20) Relativity to Underlying Present Rate:	4.612	6.645	.
(21) Credibility to Underlying Relativity:	0.330	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	5.158	7.329	.
(24) Balanced Formula Relativity:	5.216	7.339	6.004

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Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

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 Exhibit 124

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5547 ROOFING-BUILT UP - YARD EMP & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	326,693	15	80	1,859,508	579,578	1,188,673	333,625	3,961,384	7,466	4,660	12,126
2005	363,996	11	124	2,605,079	1,368,277	2,001,847	707,757	6,682,959	10,916	7,444	18,360
2006	358,531	15	91	3,243,287	1,240,565	2,849,172	891,513	8,224,536	12,506	10,433	22,940
2007	427,741	17	77	2,847,426	1,563,992	1,894,989	981,832	7,288,240	10,313	6,726	17,039
2008	442,250	11	102	1,831,751	1,913,229	1,617,455	1,055,535	6,417,970	8,468	6,044	14,512
<b>MA Total:</b>	<b>1,919,212</b>	<b>69</b>	<b>474</b>	<b>12387051</b>	<b>6,665,640</b>	<b>9,552,136</b>	<b>3,970,262</b>	<b>32575089</b>	<b>9,927</b>	<b>7,046</b>	<b>16,973</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.038	3.650	.
(14) Massachusetts Credibility:	0.850	1.000	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	2.529	3.376	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	5.918	6.829	12.746
(20) Relativity to Underlying Present Rate:	2.637	3.565	.
(21) Credibility to Underlying Relativity:	0.150	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	2.977	3.650	.
(24) Balanced Formula Relativity:	3.011	3.655	3.250

Class(es):		Effective: 9/1/2011							Construction		
5606 CONTRACTOR-EXECUTIVE SUPERVISOR OR CONSTRUCT SUPERINTENDENT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,730,234	31	371	3,644,724	3,225,840	1,598,397	2,116,002	10,584,964	1,452	0,785	2,238
2005	4,943,470	14	311	1,984,305	3,577,788	1,424,645	2,018,488	9,005,226	1,125	0,697	1,822
2006	4,926,946	4	174	418,321	676,542	669,570	455,332	2,219,764	0,222	0,228	0,451
2007	5,268,306	13	272	2,689,527	3,279,211	1,430,424	2,233,287	9,632,448	1,133	0,695	1,828
2008	5,011,951	7	203	2,100,756	3,565,367	794,438	2,268,810	8,729,372	1,131	0,611	1,742
<b>MA Total:</b>	<b>24,880,907</b>	<b>69</b>	<b>1,331</b>	<b>10,837,633</b>	<b>14,324,749</b>	<b>5,917,474</b>	<b>9,091,919</b>	<b>40,171,775</b>	<b>1,011</b>	<b>0,603</b>	<b>1,615</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.309	0.313	.
(14) Massachusetts Credibility:	0.960	1.000	.
(15) Countrywide Pure Premium:	0.789	0.478	1.267
(16) Countrywide Indicated Relativity:	0.247	0.250	.
(17) Countrywide Credibility:	0.020	0.000	.
(18) Countrywide Lost-Time Claims:	5317.0	.	.
(19) Pure Premium Underlying Present Rate:	0.622	0.585	1.207
(20) Relativity to Underlying Present Rate:	0.277	0.305	.
(21) Credibility to Underlying Relativity:	0.020	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.308	0.313	.
(24) Balanced Formula Relativity:	0.311	0.313	0.312

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## Calculation of Class Relativities

Class(es): 5610 CLEANER - DEBRIS REMOVAL		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	208,892	4	34	603,948	286,418	242,132	118,002	1,250,499	4,262	1,724	5,986
2005	297,118	2	57	140,014	247,116	53,076	171,504	611,710	1,303	0,756	2,059
2006	291,812	5	69	849,577	271,632	273,488	194,748	1,589,446	3,842	1,605	5,447
2007	343,452	2	58	434,786	1,415,533	83,372	360,454	2,294,145	5,387	1,292	6,680
2008	310,749	1	49	359,258	355,894	47,698	227,409	990,258	2,301	0,885	3,187
<b>MA Total:</b>	<b>1,452,022</b>	<b>14</b>	<b>267</b>	<b>2,387,583</b>	<b>2,576,592</b>	<b>699,767</b>	<b>1,072,116</b>	<b>6,736,058</b>	<b>3,419</b>	<b>1,220</b>	<b>4,639</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.046	0.632	.
(14) Massachusetts Credibility:	0.530	0.730	.
(15) Countrywide Pure Premium:	2.629	1.684	4,313
(16) Countrywide Indicated Relativity:	0.822	0.883	.
(17) Countrywide Credibility:	0.240	0.140	.
(18) Countrywide Lost-Time Claims:	1094.0	.	.
(19) Pure Premium Underlying Present Rate:	2.428	1.610	4,038
(20) Relativity to Underlying Present Rate:	1.082	0.841	.
(21) Credibility to Underlying Relativity:	0.230	0.130	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5,199
(23) Formula Relativity:	1.000	0.694	.
(24) Balanced Formula Relativity:	1.012	0.695	0.894

Class(es): 5645 CARPENTRY-DWELLINGS - THREE STORIES OR LESS		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	10087760	174	2,522	17372276	26312896	12696632	17021999	73403802	8,661	5,892	14,553
2005	11252159	218	2,900	21630153	24539629	17888253	19632454	83690489	8,206	6,669	14,875
2006	11041862	188	2,504	23179594	31353654	16918289	21443743	92895280	9,878	6,948	16,826
2007	10502767	124	2,130	17883168	29554035	11988563	20790351	80216117	9,033	6,242	15,275
2008	9,296,111	102	1,682	16758962	24805723	10553553	17895671	70013909	8,942	6,121	15,063
<b>MA Total:</b>	<b>52180659</b>	<b>806</b>	<b>11,738</b>	<b>96824154</b>	<b>136565937</b>	<b>70045290</b>	<b>96784217</b>	<b>400219597</b>	<b>4,473</b>	<b>3,197</b>	<b>7,670</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.369	1.656	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	5.914	3.876	9,790
(16) Countrywide Indicated Relativity:	1.848	2.032	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	24326	.	.
(19) Pure Premium Underlying Present Rate:	3.178	3.286	6,465
(20) Relativity to Underlying Present Rate:	1.416	1.716	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5,199
(23) Formula Relativity:	1.369	1.656	.
(24) Balanced Formula Relativity:	1.384	1.658	1.486

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5701 WRECKING: BUILDING OR STRUCTURES-NOT MARINE- ALL OPERATIONS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	85,831	3	16	971,773	462,950	982,168	184,331	2,601,222	16,716	13,591	30,306
2005	87,220	2	16	130,672	306,697	350,721	758,095	1,546,186	5,015	12,713	17,727
2006	92,192	3	25	479,466	736,661	502,301	384,635	2,103,063	13,191	9,620	22,812
2007	115,514	3	14	590,544	198,021	437,585	267,927	1,494,077	6,827	6,108	12,934
2008	100,526	0	5	0	275,831	0	79,621	355,452	2,744	0,792	3,536
<b>MA Total:</b>	<b>481,283</b>	<b>11</b>	<b>76</b>	<b>2,172,456</b>	<b>1,980,160</b>	<b>2,272,775</b>	<b>1,674,608</b>	<b>8,100,000</b>	<b>8,628</b>	<b>8,202</b>	<b>16,830</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.640	4.249	.
(14) Massachusetts Credibility:	0.520	0.910	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	2.960	4.266	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	6.927	8.630	15.556
(20) Relativity to Underlying Present Rate:	3.086	4.505	.
(21) Credibility to Underlying Relativity:	0.480	0.090	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	2.854	4.272	.
(24) Balanced Formula Relativity:	2.886	4.278	3.403

Class(es):		Effective: 9/1/2011							Construction		
5703 BUILDING RAISING OR MOVING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	11,346	0	4	0	1,670	0	4,727	6,397	0.147	0.417	0.564
2005	11,118	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	14,086	0	2	0	15,052	0	19,913	34,964	1.069	1.414	2.482
2007	13,140	2	0	20,057	0	225,245	0	245,302	1,526	17,142	18,669
2008	8,866	0	2	0	28,751	0	11,595	40,346	3,243	1,308	4,551
<b>MA Total:</b>	<b>58,555</b>	<b>2</b>	<b>8</b>	<b>20,057</b>	<b>45,473</b>	<b>225,245</b>	<b>36,235</b>	<b>327,010</b>	<b>1,119</b>	<b>4,466</b>	<b>5,585</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.342	2.313	.
(14) Massachusetts Credibility:	0.290	0.350	.
(15) Countrywide Pure Premium:	10.262	5.992	16.254
(16) Countrywide Indicated Relativity:	3.207	3.141	.
(17) Countrywide Credibility:	0.320	0.330	.
(18) Countrywide Lost-Time Claims:	67.000	.	.
(19) Pure Premium Underlying Present Rate:	13.373	6.502	19.875
(20) Relativity to Underlying Present Rate:	5.959	3.395	.
(21) Credibility to Underlying Relativity:	0.390	0.320	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	3.449	2.933	.
(24) Balanced Formula Relativity:	3.488	2.936	3.283

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
5705 SALVAGE OPERATION - NO WRECKING OR ANY STRUCTURAL OPERATIONS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	14	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	42	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	744	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	1,491	0	1	0	0	0	967	967	0.000	0.649	0.649
<b>MA Total:</b>	<b>2,290</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>967</b>	<b>967</b>	<b>0.000</b>	<b>0.422</b>	<b>0.422</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.219	.
(14) Massachusetts Credibility:	0.050	0.080	.
(15) Countrywide Pure Premium:	5.455	6.074	11.529
(16) Countrywide Indicated Relativity:	1.705	3.184	.
(17) Countrywide Credibility:	0.240	0.260	.
(18) Countrywide Lost-Time Claims:	34.000	.	.
(19) Pure Premium Underlying Present Rate:	4.799	3.503	8.302
(20) Relativity to Underlying Present Rate:	2.138	1.829	.
(21) Credibility to Underlying Relativity:	0.710	0.660	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.927	2.052	.
(24) Balanced Formula Relativity:	1.949	2.055	1.989

Class(es):		Effective: 9/1/2011							Construction		
6003 PILE DRIVING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	65,138	6	34	999,740	279,464	167,158	100,620	1,546,982	19,638	4,111	23,749
2005	53,613	2	32	222,827	232,724	53,646	115,860	625,057	8,497	3,162	11,659
2006	51,382	0	13	0	143,230	0	75,719	218,949	2,788	1,474	4,261
2007	59,108	1	21	278,251	28,463	69,004	32,326	408,044	5,189	1,714	6,903
2008	59,096	0	9	0	85,014	0	72,290	157,304	1,439	1,223	2,662
<b>MA Total:</b>	<b>288,337</b>	<b>9</b>	<b>109</b>	<b>1,500,818</b>	<b>768,895</b>	<b>289,808</b>	<b>396,815</b>	<b>2,956,336</b>	<b>7,872</b>	<b>2,381</b>	<b>10,253</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.409	1.234	.
(14) Massachusetts Credibility:	0.400	0.520	.
(15) Countrywide Pure Premium:	4.285	2.418	6.703
(16) Countrywide Indicated Relativity:	1.339	1.268	.
(17) Countrywide Credibility:	0.300	0.240	.
(18) Countrywide Lost-Time Claims:	145.00	.	.
(19) Pure Premium Underlying Present Rate:	6.131	3.482	9.613
(20) Relativity to Underlying Present Rate:	2.732	1.818	.
(21) Credibility to Underlying Relativity:	0.300	0.240	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	2.185	1.382	.
(24) Balanced Formula Relativity:	2.209	1.384	1.903

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## Calculation of Class Relativities

Class(es): 6204 DRILLING NOC & DRIVERS		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	172,377	1	44	182,681	112,618	142,068	114,919	552,285	1,713	1,491	3,204
2005	151,513	0	39	0	524,801	0	340,809	865,610	3,464	2,249	5,713
2006	151,001	2	36	522,584	768,188	584,050	503,539	2,378,361	8,548	7,203	15,751
2007	135,575	3	34	564,109	326,695	166,392	208,992	1,266,186	6,571	2,769	9,339
2008	144,898	6	15	937,693	257,221	376,341	77,927	1,649,182	8,247	3,135	11,382
<b>MA Total:</b>	<b>755,365</b>	<b>12</b>	<b>168</b>	<b>2,207,067</b>	<b>1,989,523</b>	<b>1,268,850</b>	<b>1,246,185</b>	<b>6,711,625</b>	<b>5,556</b>	<b>3,330</b>	<b>8,885</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.700	1.725	.
(14) Massachusetts Credibility:	0.500	0.740	.
(15) Countrywide Pure Premium:	5.923	3.536	9.460
(16) Countrywide Indicated Relativity:	1.851	1.854	.
(17) Countrywide Credibility:	0.250	0.130	.
(18) Countrywide Lost-Time Claims:	1595.0	.	.
(19) Pure Premium Underlying Present Rate:	3.926	3.270	7.196
(20) Relativity to Underlying Present Rate:	1.749	1.707	.
(21) Credibility to Underlying Relativity:	0.250	0.130	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.750	1.739	.
(24) Balanced Formula Relativity:	1.770	1.742	1.759

Class(es): 6217 IRRIGATION OR DRAINAGE SYSTEM CONSTRUCTION & DR		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	7,429,957	80	948	9,616,858	10,787,903	5,232,856	7,598,660	33,236,277	5,493	3,454	8,947
2005	7,650,320	84	1,138	10,700,363	9,755,252	5,827,307	5,529,255	31,812,177	5,348	2,969	8,317
2006	7,079,974	62	932	1,387,249	9,706,087	7,274,030	6,300,778	37,153,386	6,661	3,835	10,495
2007	6,849,750	54	756	8,802,380	8,177,127	5,039,330	6,105,645	28,124,482	4,958	3,254	8,212
2008	6,011,921	32	550	5,465,405	9,380,810	2,489,791	5,260,516	22,596,522	4,939	2,578	7,517
<b>MA Total:</b>	<b>35,021,922</b>	<b>312</b>	<b>4,324</b>	<b>48,457,497</b>	<b>47,807,179</b>	<b>25,863,314</b>	<b>30,794,854</b>	<b>152,922,844</b>	<b>2,749</b>	<b>1,618</b>	<b>4,366</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.841	0.838	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.166	1.782	4.948
(16) Countrywide Indicated Relativity:	0.989	0.934	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	11471	.	.
(19) Pure Premium Underlying Present Rate:	1.723	1.513	3.236
(20) Relativity to Underlying Present Rate:	0.768	0.790	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.841	0.838	.
(24) Balanced Formula Relativity:	0.851	0.839	0.846

# IX 000199

Section IX - Classification Pricing  
 Subsection G - Class Relativities  
 9/1/2011

Section IX - G  
 Exhibit 129

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
6233 OIL OR GAS PIPELINE CONSTRUCTION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	375	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	1,234	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	7,986	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	8,736	0	4	0	0	0	5,015	5,015	0.000	0.574	0.574
2008	5,177	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>23,507</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,015</b>	<b>5,015</b>	<b>0.000</b>	<b>0.213</b>	<b>0.213</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.111	.
(14) Massachusetts Credibility:	0.090	0.120	.
(15) Countrywide Pure Premium:	2.673	1.448	4.121
(16) Countrywide Indicated Relativity:	0.835	0.759	.
(17) Countrywide Credibility:	0.460	0.440	.
(18) Countrywide Lost-Time Claims:	654.00	.	.
(19) Pure Premium Underlying Present Rate:	1.700	1.101	2.801
(20) Relativity to Underlying Present Rate:	0.757	0.575	.
(21) Credibility to Underlying Relativity:	0.450	0.440	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.725	0.600	.
(24) Balanced Formula Relativity:	0.733	0.601	0.684

Class(es):		Effective: 9/1/2011							Construction		
6251 TUNNELING - NOT PNEUMATIC - ALL OPERATIONS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	359,066	3	25	777,029	119,498	201,564	49,562	1,147,653	2,497	0,699	3,196
2005	203,421	1	4	610,426	0	182,376	2,712	795,514	3,001	0,910	3,911
2006	121,150	1	22	119,584	1,290,289	21,063	277,824	1,708,759	11,637	2,467	14,104
2007	12,217	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	5,835	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>701,689</b>	<b>5</b>	<b>51</b>	<b>1,507,039</b>	<b>1,409,787</b>	<b>405,003</b>	<b>330,098</b>	<b>3,651,927</b>	<b>4,157</b>	<b>1,048</b>	<b>5,204</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.272	0.543	.
(14) Massachusetts Credibility:	0.430	0.520	.
(15) Countrywide Pure Premium:	4.412	1.757	6.169
(16) Countrywide Indicated Relativity:	1.379	0.921	.
(17) Countrywide Credibility:	0.290	0.240	.
(18) Countrywide Lost-Time Claims:	91.000	.	.
(19) Pure Premium Underlying Present Rate:	2.984	1.469	4.453
(20) Relativity to Underlying Present Rate:	1.330	0.767	.
(21) Credibility to Underlying Relativity:	0.280	0.240	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.319	0.687	.
(24) Balanced Formula Relativity:	1.334	0.688	1.094

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
6252 SHAFT SINKING - ALL OPERATIONS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	31,499	0	12	0	44,523	0	23,469	67,992	1,413	0,745	2,159
2005	21,402	0	3	0	42,819	0	19,255	62,073	2,001	0,900	2,900
2006	22,251	0	1	0	38,869	0	8,750	47,619	1,747	0,393	2,140
2007	27,400	0	1	0	7,516	0	55,451	62,967	0,274	2,024	2,298
2008	18,872	0	1	0	52,401	0	189,413	241,814	2,777	10,037	12,814
<b>MA Total:</b>	<b>121,423</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>186,128</b>	<b>0</b>	<b>296,338</b>	<b>482,466</b>	<b>1,533</b>	<b>2,441</b>	<b>3,973</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.469	1.264	.
(14) Massachusetts Credibility:	0.230	0.310	.
(15) Countrywide Pure Premium:	6.210	2.725	8.935
(16) Countrywide Indicated Relativity:	1.941	1.429	.
(17) Countrywide Credibility:	0.340	0.350	.
(18) Countrywide Lost-Time Claims:	78.000	.	.
(19) Pure Premium Underlying Present Rate:	3.447	2.377	5.824
(20) Relativity to Underlying Present Rate:	1.536	1.241	.
(21) Credibility to Underlying Relativity:	0.430	0.340	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.428	1.314	.
(24) Balanced Formula Relativity:	1.444	1.316	1.397

Class(es):		Effective: 9/1/2011							Construction		
6306 SEWER CONSTRUCTION - ALL OPERATIONS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	250,408	2	26	499,115	832,228	161,254	649,512	2,142,109	5,317	3,238	8,554
2005	256,494	8	40	1,573,880	63,129	816,336	142,079	2,595,423	6,382	3,737	10,119
2006	268,764	6	35	1,263,541	693,654	283,166	351,471	2,591,832	7,282	2,361	9,644
2007	272,510	6	37	1,082,249	1,393,267	297,859	659,121	3,432,497	9,084	3,512	12,596
2008	245,042	6	18	1,444,445	109,493	908,086	176,250	2,638,274	6,342	4,425	10,767
<b>MA Total:</b>	<b>1,293,218</b>	<b>28</b>	<b>156</b>	<b>5,863,230</b>	<b>3,091,773</b>	<b>2,466,699</b>	<b>1,978,432</b>	<b>13,400,135</b>	<b>6,925</b>	<b>3,437</b>	<b>10,362</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.119	1.781	.
(14) Massachusetts Credibility:	0.580	0.860	.
(15) Countrywide Pure Premium:	3.546	1.980	5.526
(16) Countrywide Indicated Relativity:	1.108	1.038	.
(17) Countrywide Credibility:	0.210	0.070	.
(18) Countrywide Lost-Time Claims:	2237.0	.	.
(19) Pure Premium Underlying Present Rate:	3.382	2.734	6.116
(20) Relativity to Underlying Present Rate:	1.507	1.427	.
(21) Credibility to Underlying Relativity:	0.210	0.070	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.778	1.704	.
(24) Balanced Formula Relativity:	1.798	1.706	1.764

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
6319 GAS MAIN OR CONNECTION CONSTRUCTION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	439,834	1	37	10,758	114,516	27,460	122,714	275,448	0.285	0.341	0.626
2005	423,169	7	63	1,555,272	408,487	715,605	310,550	2,989,913	4.641	2.425	7.066
2006	430,558	4	81	718,730	824,474	364,482	474,736	2,382,423	3.584	1.949	5.533
2007	471,071	4	75	968,891	726,022	784,983	391,843	2,871,740	3.598	2.498	6.096
2008	460,438	2	66	264,735	860,833	192,595	406,232	1,724,395	2.445	1.301	3.745
<b>MA Total:</b>	<b>2,225,071</b>	<b>18</b>	<b>322</b>	<b>3,518,386</b>	<b>2,934,332</b>	<b>2,085,126</b>	<b>1,706,075</b>	<b>10,243,919</b>	<b>2.900</b>	<b>1.704</b>	<b>4.604</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.887	0.883	.
(14) Massachusetts Credibility:	0.590	0.850	.
(15) Countrywide Pure Premium:	2.452	1.309	3.761
(16) Countrywide Indicated Relativity:	0.766	0.686	.
(17) Countrywide Credibility:	0.210	0.080	.
(18) Countrywide Lost-Time Claims:	1801.0	.	.
(19) Pure Premium Underlying Present Rate:	2.060	1.559	3.619
(20) Relativity to Underlying Present Rate:	0.918	0.814	.
(21) Credibility to Underlying Relativity:	0.200	0.070	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.868	0.862	.
(24) Balanced Formula Relativity:	0.878	0.863	0.872

Class(es):		Effective: 9/1/2011							Construction		
6325 CONDUIT CONSTRUCTION - FOR CABLES OR WIRES & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	168,397	3	17	462,611	35,195	315,380	38,955	852,141	2.956	2.104	5.060
2005	204,060	3	35	324,852	282,671	458,544	226,240	1,292,307	2.977	3.356	6.333
2006	194,041	3	24	596,737	52,730	511,885	84,162	1,245,514	3.347	3.072	6.419
2007	191,211	1	24	580,315	341,955	275,236	191,000	1,388,505	4.823	2.438	7.262
2008	176,921	0	32	0	1,271,399	0	582,377	1,853,776	7.186	3.292	10.478
<b>MA Total:</b>	<b>934,630</b>	<b>10</b>	<b>132</b>	<b>1,964,515</b>	<b>1,983,950</b>	<b>1,561,045</b>	<b>1,122,734</b>	<b>6,632,244</b>	<b>4.225</b>	<b>2.871</b>	<b>7.096</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.293	1.488	.
(14) Massachusetts Credibility:	0.400	0.640	.
(15) Countrywide Pure Premium:	2.693	1.654	4.347
(16) Countrywide Indicated Relativity:	0.841	0.867	.
(17) Countrywide Credibility:	0.300	0.180	.
(18) Countrywide Lost-Time Claims:	1503.0	.	.
(19) Pure Premium Underlying Present Rate:	1.870	1.795	3.664
(20) Relativity to Underlying Present Rate:	0.833	0.937	.
(21) Credibility to Underlying Relativity:	0.300	0.180	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.019	1.277	.
(24) Balanced Formula Relativity:	1.031	1.278	1.123

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
6400 FENCE ERECTION - ALL TYPES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	219,795	4	85	402,824	378,959	175,022	605,980	1,562,785	3,557	3,553	7,110
2005	243,633	4	65	401,438	82,143	403,478	197,266	1,084,325	1,985	2,466	4,451
2006	260,141	1	67	25,344	297,703	9,806	236,646	569,498	1,242	0,947	2,189
2007	247,891	11	70	967,353	678,544	551,387	408,249	2,605,532	6,640	3,871	10,511
2008	228,561	1	60	344,768	304,544	54,698	209,031	913,041	2,841	1,154	3,995
<b>MA Total:</b>	<b>1,200,021</b>	<b>21</b>	<b>347</b>	<b>2,141,727</b>	<b>1,741,893</b>	<b>1,194,392</b>	<b>1,657,171</b>	<b>6,735,182</b>	<b>3,236</b>	<b>2,376</b>	<b>5,613</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.990	1.231	.
(14) Massachusetts Credibility:	0.500	0.830	.
(15) Countrywide Pure Premium:	3.941	2.316	6.257
(16) Countrywide Indicated Relativity:	1.232	1.214	.
(17) Countrywide Credibility:	0.250	0.090	.
(18) Countrywide Lost-Time Claims:	1066.0	.	.
(19) Pure Premium Underlying Present Rate:	2.553	2.698	5.251
(20) Relativity to Underlying Present Rate:	1.138	1.409	.
(21) Credibility to Underlying Relativity:	0.250	0.080	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.087	1.244	.
(24) Balanced Formula Relativity:	1.100	1.245	1.154

Class(es):		Effective: 9/1/2011							Miscellaneous		
6834 BOAT BUILDING OR REPAIRING & DRIVERS: MA ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	158,818	0	29	0	127,453	0	70,372	197,825	0.803	0.443	1,246
2005	170,180	3	27	41,178	14,101	37,062	30,941	123,281	0.325	0.400	0,724
2006	155,450	1	28	168	403,484	7,443	61,275	472,370	2,597	0,442	3,039
2007	158,656	0	26	0	12,685	0	24,180	36,865	0,080	0,152	0,232
2008	154,310	1	28	5,204	82,827	145,448	93,461	326,939	0,570	1,548	2,119
<b>MA Total:</b>	<b>797,414</b>	<b>5</b>	<b>138</b>	<b>46,549</b>	<b>640,550</b>	<b>189,953</b>	<b>280,228</b>	<b>1,157,281</b>	<b>0,862</b>	<b>0,590</b>	<b>1,451</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.291	0.299	.
(14) Massachusetts Credibility:	0.310	0.500	.
(15) Countrywide Pure Premium:	1.823	1.330	3.154
(16) Countrywide Indicated Relativity:	0.653	0.726	.
(17) Countrywide Credibility:	0.350	0.250	.
(18) Countrywide Lost-Time Claims:	1366.0	.	.
(19) Pure Premium Underlying Present Rate:	1.153	1.181	2.334
(20) Relativity to Underlying Present Rate:	0.595	0.619	.
(21) Credibility to Underlying Relativity:	0.340	0.250	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.521	0.486	.
(24) Balanced Formula Relativity:	0.510	0.482	0.499

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## Calculation of Class Relativities

Class(es): 6836 MARINA & DRIVERS: MA ACT		Effective: 9/1/2011							Miscellaneous		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	369,718	2	92	80,792	212,156	43,334	208,728	545,010	0.792	0.682	1.474
2005	389,896	1	98	51,545	90,502	13,026	203,656	358,729	0.364	0.556	0.920
2006	422,891	4	98	500,486	423,881	287,353	262,335	1,474,056	2.186	1.300	3.486
2007	429,849	3	92	317,924	793,394	77,196	249,478	1,437,992	2.585	0.760	3.345
2008	441,818	1	77	123,268	125,521	65,957	243,668	558,414	0.563	0.701	1.264
<b>MA Total:</b>	<b>2,054,173</b>	<b>11</b>	<b>457</b>	<b>1,074,015</b>	<b>1,645,454</b>	<b>486,867</b>	<b>1,167,864</b>	<b>4,374,201</b>	<b>1.324</b>	<b>0.806</b>	<b>2.129</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.447	0.409	.
(14) Massachusetts Credibility:	0.420	0.680	.
(15) Countrywide Pure Premium:	2.610	1.949	4.559
(16) Countrywide Indicated Relativity:	0.935	1.064	.
(17) Countrywide Credibility:	0.290	0.160	.
(18) Countrywide Lost-Time Claims:	749.00	.	.
(19) Pure Premium Underlying Present Rate:	0.931	0.981	1.912
(20) Relativity to Underlying Present Rate:	0.480	0.515	.
(21) Credibility to Underlying Relativity:	0.290	0.160	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.598	0.531	.
(24) Balanced Formula Relativity:	0.586	0.526	0.562

Class(es): 7219 TRUCKING: NOC - ALL EMP & DRIVERS		Effective: 9/1/2011							Miscellaneous		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,235,178	62	574	7,798,534	4,441,160	3,783,994	3,636,618	19660305	5.476	3.320	8.796
2005	2,409,902	78	555	9,600,112	5,931,132	4,750,622	3,602,236	23884101	6.445	3.466	9.911
2006	2,279,006	39	435	7,233,209	5,235,494	4,161,490	3,035,684	19665876	5.471	3.158	8.629
2007	2,416,050	45	464	8,425,443	6,084,725	4,946,537	3,652,900	23109605	6.006	3.559	9.565
2008	2,213,899	45	369	5,542,325	5,555,503	3,275,715	3,874,933	18248476	5.013	3.230	8.243
<b>MA Total:</b>	<b>11554035</b>	<b>269</b>	<b>2,397</b>	<b>38599622</b>	<b>27248012</b>	<b>20918357</b>	<b>17802371</b>	<b>104568363</b>	<b>5.699</b>	<b>3.351</b>	<b>9.050</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.922	1.701	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	4.924	2.558	7.482
(16) Countrywide Indicated Relativity:	1.763	1.397	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	12820	.	.
(19) Pure Premium Underlying Present Rate:	3.459	3.045	6.504
(20) Relativity to Underlying Present Rate:	1.784	1.597	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.922	1.701	.
(24) Balanced Formula Relativity:	1.883	1.685	1.804

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## Calculation of Class Relativities

Class(es):									Effective: 9/1/2011			Miscellaneous		
7230 TRUCKING: PARCEL OR PACKAGE DELIVERY- ALL EMP & DRIVERS														
Converted Unlimited Losses														
									Amount					
Claim Count				Indemnity		Medical			MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	32,702	1	5	102,479	43,697	22,287	13,204	181,666	4,470	1,085	5,555			
2005	39,842	2	9	245,812	21,491	105,314	15,566	388,183	6,709	3,034	9,743			
2006	30,971	1	4	63,530	303	28,025	2,486	94,344	2,061	0,985	3,046			
2007	31,923	0	4	0	2,030	0	4,949	6,979	0,064	0,155	0,219			
2008	30,168	0	4	0	50,179	0	33,518	83,697	1,663	1,111	2,774			
<b>MA Total:</b>	<b>165,606</b>	<b>4</b>	<b>26</b>	<b>411,821</b>	<b>117,699</b>	<b>155,626</b>	<b>69,723</b>	<b>754,868</b>	<b>3,197</b>	<b>1,361</b>	<b>4,558</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.078	0.690	.
(14) Massachusetts Credibility:	0.230	0.350	.
(15) Countrywide Pure Premium:	3.844	2.813	6.657
(16) Countrywide Indicated Relativity:	1.377	1.536	.
(17) Countrywide Credibility:	0.390	0.330	.
(18) Countrywide Lost-Time Claims:	289.00	.	.
(19) Pure Premium Underlying Present Rate:	2.540	2.204	4.744
(20) Relativity to Underlying Present Rate:	1.310	1.156	.
(21) Credibility to Underlying Relativity:	0.380	0.320	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.283	1.118	.
(24) Balanced Formula Relativity:	1.257	1.108	1.197

Class(es):									Effective: 9/1/2011			Miscellaneous		
7231 TRUCKING: MAIL, PARCEL OR PACKAGE DELIVERY-ALL EMP & DRIVERS														
Converted Unlimited Losses														
									Amount					
Claim Count				Indemnity		Medical			MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	176,743	5	35	144,190	319,436	612,473	114,354	1,190,454	2,623	4,112	6,735			
2005	177,245	3	39	301,907	326,094	184,274	261,235	1,073,509	3,543	2,514	6,057			
2006	168,845	3	25	260,464	243,387	79,858	127,187	710,896	2,984	1,226	4,210			
2007	199,412	6	67	1,019,192	318,634	447,287	194,391	1,979,503	6,709	3,218	9,927			
2008	199,572	3	39	62,822	906,906	62,105	556,330	1,588,164	4,859	3,099	7,958			
<b>MA Total:</b>	<b>921,818</b>	<b>20</b>	<b>205</b>	<b>1,788,575</b>	<b>2,114,457</b>	<b>1,385,997</b>	<b>1,253,497</b>	<b>6,542,525</b>	<b>4,234</b>	<b>2,863</b>	<b>7,097</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.428	1.453	.
(14) Massachusetts Credibility:	0.460	0.740	.
(15) Countrywide Pure Premium:	5.468	3.038	8.506
(16) Countrywide Indicated Relativity:	1.958	1.659	.
(17) Countrywide Credibility:	0.270	0.130	.
(18) Countrywide Lost-Time Claims:	4522.0	.	.
(19) Pure Premium Underlying Present Rate:	2.620	2.618	5.238
(20) Relativity to Underlying Present Rate:	1.352	1.373	.
(21) Credibility to Underlying Relativity:	0.270	0.130	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.551	1.469	.
(24) Balanced Formula Relativity:	1.519	1.456	1.494

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
7360 FREIGHT HANDLING NOC: MA ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	56,936	2	21	322,946	117,810	131,340	106,445	678,541	7,741	4,176	11,918
2005	58,697	0	10	0	3,500	0	13,420	16,920	0,060	0,229	0,288
2006	69,133	0	23	0	22,536	0	45,834	68,370	0,326	0,663	0,989
2007	71,365	2	24	152,628	486,012	48,093	159,725	846,458	8,949	2,912	11,861
2008	66,307	0	12	0	216,856	0	89,021	305,877	3,270	1,343	4,613
<b>MA Total:</b>	<b>322,439</b>	<b>4</b>	<b>90</b>	<b>475,574</b>	<b>846,714</b>	<b>179,433</b>	<b>414,445</b>	<b>1,916,166</b>	<b>4,101</b>	<b>1,842</b>	<b>5,943</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.383	0.935	.
(14) Massachusetts Credibility:	0.280	0.450	.
(15) Countrywide Pure Premium:	2.979	2.219	5.199
(16) Countrywide Indicated Relativity:	1.067	1.212	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	1073.0	.	.
(19) Pure Premium Underlying Present Rate:	2.160	2.166	4.325
(20) Relativity to Underlying Present Rate:	1.114	1.136	.
(21) Credibility to Underlying Relativity:	0.360	0.270	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.173	1.067	.
(24) Balanced Formula Relativity:	1.148	1.057	1.112

Class(es):		Effective: 9/1/2011							Miscellaneous		
7370 TAXICAB CO: ALL OTHER EMP & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	795,912	15	608	390,219	1,101,417	673,640	1,159,531	3,324,808	1,874	2,303	4,177
2005	823,579	13	428	1,186,552	718,045	1,478,047	831,365	4,214,008	2,313	2,804	5,117
2006	934,934	20	475	1,071,603	616,555	650,012	962,264	3,300,434	1,806	1,724	3,530
2007	996,898	22	485	1,515,465	1,152,018	1,114,104	1,364,554	5,146,141	2,676	2,486	5,162
2008	1,091,265	20	431	2,177,825	989,844	933,756	1,091,011	5,192,436	2,903	1,855	4,758
<b>MA Total:</b>	<b>4,642,587</b>	<b>90</b>	<b>2,427</b>	<b>6,341,663</b>	<b>4,577,880</b>	<b>4,849,560</b>	<b>5,408,724</b>	<b>21,177,827</b>	<b>2,352</b>	<b>2,210</b>	<b>4,562</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.793	1.121	.
(14) Massachusetts Credibility:	0.710	1.000	.
(15) Countrywide Pure Premium:	2.548	1.990	4.539
(16) Countrywide Indicated Relativity:	0.913	1.087	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	3745.0	.	.
(19) Pure Premium Underlying Present Rate:	1.541	2.078	3.619
(20) Relativity to Underlying Present Rate:	0.795	1.090	.
(21) Credibility to Underlying Relativity:	0.140	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.811	1.121	.
(24) Balanced Formula Relativity:	0.795	1.111	0.921

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## Calculation of Class Relativities

Class(es): 7380 DRIVERS, CHAUFFEURS AND HELPERS-NOC-COMMERCIAL									Effective: 9/1/2011			Miscellaneous		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	3,157,961	61	1,205	3,749,931	5,217,262	2,249,596	3,548,634	14765423	2,840	1,836	4,676			
2005	3,159,970	57	1,023	3,835,189	4,344,684	2,612,489	3,619,412	14411773	2,589	1,972	4,561			
2006	3,373,756	58	1,011	6,067,127	5,829,468	3,683,636	4,102,371	19682603	3,526	2,308	5,834			
2007	3,197,107	50	998	4,842,318	7,701,521	2,766,022	4,582,802	19892664	3,923	2,299	6,222			
2008	3,089,190	50	946	5,711,644	8,597,379	2,978,296	4,789,875	22077194	4,632	2,515	7,147			
<b>MA Total:</b>	<b>15977985</b>	<b>276</b>	<b>5,183</b>	<b>24206209</b>	<b>31690315</b>	<b>14290039</b>	<b>20643094</b>	<b>90829656</b>	<b>3,498</b>	<b>2,186</b>	<b>5,685</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.180	1.109	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	2.738	1.793	4.531
(16) Countrywide Indicated Relativity:	0.980	0.979	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	23161	.	.
(19) Pure Premium Underlying Present Rate:	2.339	2.150	4.489
(20) Relativity to Underlying Present Rate:	1.207	1.128	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.180	1.109	.
(24) Balanced Formula Relativity:	1.156	1.099	1.133

Class(es): 7382 BUS CO: ALL OTHER EMPLOYEES & DRIVERS									Effective: 9/1/2011			Miscellaneous		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	2,331,877	93	676	3,913,674	1,504,456	2,369,526	1,408,908	9,196,563	2,324	1,620	3,944			
2005	2,280,565	64	683	2,649,096	2,022,677	1,530,053	1,871,039	8,072,864	2,049	1,491	3,540			
2006	2,003,061	51	509	3,297,742	1,606,121	1,450,862	1,499,464	7,854,189	2,448	1,473	3,921			
2007	1,947,297	40	527	2,864,044	2,369,817	2,145,403	1,804,742	9,184,005	2,688	2,029	4,716			
2008	1,978,245	27	479	1,714,864	2,129,637	967,734	1,754,109	6,566,345	1,943	1,376	3,319			
<b>MA Total:</b>	<b>10541045</b>	<b>275</b>	<b>2,874</b>	<b>14439419</b>	<b>9,632,709</b>	<b>8,463,578</b>	<b>8,338,261</b>	<b>40873967</b>	<b>2,284</b>	<b>1,594</b>	<b>3,878</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.770	0.809	.
(14) Massachusetts Credibility:	0.990	1.000	.
(15) Countrywide Pure Premium:	2.252	1.695	3.947
(16) Countrywide Indicated Relativity:	0.806	0.925	.
(17) Countrywide Credibility:	0.010	0.000	.
(18) Countrywide Lost-Time Claims:	5821.0	.	.
(19) Pure Premium Underlying Present Rate:	1.571	1.644	3.215
(20) Relativity to Underlying Present Rate:	0.810	0.863	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.771	0.809	.
(24) Balanced Formula Relativity:	0.755	0.801	0.773

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## Calculation of Class Relativities

Class(es):									Effective: 9/1/2011			Miscellaneous		
7403 AIRCRAFT OR HELICOP OP: AIR CARRIER-SCHD/ SUPPL: A/O EMP &DR														
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	184,493	3	62	282,188	57,340	104,269	137,122	580,919	1,840	1,308	3,149			
2005	427,524	9	169	549,216	583,968	503,407	672,752	2,309,344	2,651	2,751	5,402			
2006	335,327	3	109	36,795	143,404	22,178	242,398	444,774	0,537	0,789	1,326			
2007	273,806	6	110	331,629	374,434	694,358	461,423	1,861,844	2,579	4,221	6,800			
2008	630,276	5	162	373,718	527,190	243,165	747,246	1,891,319	1,429	1,571	3,001			
<b>MA Total:</b>	<b>1,851,425</b>	<b>26</b>	<b>612</b>	<b>1,573,546</b>	<b>1,686,336</b>	<b>1,567,377</b>	<b>2,260,941</b>	<b>7,088,200</b>	<b>1,761</b>	<b>2,068</b>	<b>3,829</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.594	1.049	.
(14) Massachusetts Credibility:	0.490	0.900	.
(15) Countrywide Pure Premium:	2.285	1.679	3.964
(16) Countrywide Indicated Relativity:	0.818	0.917	.
(17) Countrywide Credibility:	0.260	0.050	.
(18) Countrywide Lost-Time Claims:	16453	.	.
(19) Pure Premium Underlying Present Rate:	1.532	2.184	3.716
(20) Relativity to Underlying Present Rate:	0.791	1.145	.
(21) Credibility to Underlying Relativity:	0.250	0.050	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.701	1.047	.
(24) Balanced Formula Relativity:	0.687	1.038	0.827

Class(es):									Effective: 9/1/2011			Miscellaneous		
7405 AIRCRAFT OR HELICOP OP: AIR CARRIER-SCHD/ SUPPL: FLYING CREW														
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	18,893	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	429,139	5	23	263,685	116,758	286,431	63,842	730,716	0.887	0.816	1.703			
2006	175,721	0	10	0	157,768	0	102,850	260,618	0.898	0.585	1.483			
2007	262,561	5	26	934,947	128,516	194,468	94,876	1,352,807	4.050	1.102	5.152			
2008	262,325	1	26	56,690	120,979	36,704	169,045	383,417	0.677	0.784	1.462			
<b>MA Total:</b>	<b>1,148,638</b>	<b>11</b>	<b>85</b>	<b>1,255,321</b>	<b>524,021</b>	<b>517,602</b>	<b>430,613</b>	<b>2,727,558</b>	<b>1.549</b>	<b>0.826</b>	<b>2.375</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.522	0.419	.
(14) Massachusetts Credibility:	0.280	0.440	.
(15) Countrywide Pure Premium:	0.679	0.376	1.055
(16) Countrywide Indicated Relativity:	0.243	0.205	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	3646.0	.	.
(19) Pure Premium Underlying Present Rate:	0.636	0.597	1.233
(20) Relativity to Underlying Present Rate:	0.328	0.313	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.352	0.329	.
(24) Balanced Formula Relativity:	0.345	0.326	0.337

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## Calculation of Class Relativities

Class(es):									Effective: 9/1/2011			Miscellaneous		
7420 AIRCRAFT OR HELICOP OP: PUBLIC EXHIB STUNT FLYING: FLY CREW														
Converted Unlimited Losses														
									Amount					
Claim Count				Indemnity		Medical		MA Indicated Pure Premiums						
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	489	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	1,338	0	0	0	0	0	0	0	0.000	0.000	0.000			
2006	346	0	0	0	0	0	0	0	0.000	0.000	0.000			
2007	456	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	2,036	0	0	0	0	0	0	0	0.000	0.000	0.000			
<b>MA Total:</b>	<b>4,665</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.060	0.070	.
(15) Countrywide Pure Premium:	13.104	3.820	16.924
(16) Countrywide Indicated Relativity:	4.693	2.086	.
(17) Countrywide Credibility:	0.250	0.260	.
(18) Countrywide Lost-Time Claims:	35.000	.	.
(19) Pure Premium Underlying Present Rate:	3.173	1.431	4.604
(20) Relativity to Underlying Present Rate:	1.637	0.751	.
(21) Credibility to Underlying Relativity:	0.690	0.670	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	2.303	1.045	.
(24) Balanced Formula Relativity:	2.256	1.036	1.768

Class(es):									Effective: 9/1/2011			Miscellaneous		
7421 AIRCRAFT OR HELICOP OP: AIR CARRIER-COMMUTER: FLYING CREW														
Converted Unlimited Losses														
									Amount					
Claim Count				Indemnity		Medical		MA Indicated Pure Premiums						
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	699,356	3	21	284,111	94,466	80,515	43,691	502,784	1,624	0,533	2,157			
2005	707,199	0	27	0	38,890	0	94,735	133,624	0,165	0,402	0,567			
2006	773,074	0	42	0	14,250	0	89,921	104,171	0,055	0,349	0,404			
2007	717,754	3	51	3,223,525	311,563	327,092	259,662	4,121,841	14,776	2,452	17,228			
2008	675,302	0	15	0	159,542	0	217,756	377,298	0,709	0,967	1,676			
<b>MA Total:</b>	<b>3,572,685</b>	<b>6</b>	<b>156</b>	<b>3,507,636</b>	<b>618,711</b>	<b>407,607</b>	<b>705,765</b>	<b>5,239,719</b>	<b>1,155</b>	<b>0,312</b>	<b>1,467</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.390	0.158	.
(14) Massachusetts Credibility:	0.350	0.430	.
(15) Countrywide Pure Premium:	1.683	0.555	2,238
(16) Countrywide Indicated Relativity:	0.603	0.303	.
(17) Countrywide Credibility:	0.330	0.290	.
(18) Countrywide Lost-Time Claims:	675.00	.	.
(19) Pure Premium Underlying Present Rate:	1.061	0.522	1,583
(20) Relativity to Underlying Present Rate:	0.547	0.274	.
(21) Credibility to Underlying Relativity:	0.320	0.280	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4,936
(23) Formula Relativity:	0.510	0.233	.
(24) Balanced Formula Relativity:	0.500	0.230	0,392

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## Calculation of Class Relativities

Class(es): 7425 AIRCRAFT OR HELICOP OP: NOC- HELICOPTERS: FLYING CREW									Effective: 9/1/2011			Miscellaneous		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2005	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2006	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2007	0	0	0	0	0	0	0	0	0.000	0.000	0.000			
2008	50.653	0	0	0	0	0	0	0	0.000	0.000	0.000			
<b>MA Total:</b>	<b>50,653</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.130	0.160	.
(15) Countrywide Pure Premium:	3.813	0.852	4.666
(16) Countrywide Indicated Relativity:	1.366	0.465	.
(17) Countrywide Credibility:	0.360	0.380	.
(18) Countrywide Lost-Time Claims:	87.000	.	.
(19) Pure Premium Underlying Present Rate:	1.996	1.090	3.086
(20) Relativity to Underlying Present Rate:	1.030	0.572	.
(21) Credibility to Underlying Relativity:	0.510	0.460	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.017	0.440	.
(24) Balanced Formula Relativity:	0.996	0.436	0.772

Class(es): 7502 GAS COMPANY: GAS CO-NATURAL GAS-LOCAL GAS DISTRIBUTION & DR									Effective: 9/1/2011			Miscellaneous		
Converted Unlimited Losses														
Amount														
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)			
2004	293.693	3	110	351.522	263.251	52.103	324.980	991.855	2.093	1.284	3.377			
2005	109.171	1	45	314.999	20.225	226.852	92.086	654.162	3.071	2.921	5.992			
2006	96.328	2	38	126.582	128.968	122.396	99.561	477.507	2.653	2.304	4.957			
2007	123.411	1	37	419.472	130.267	199.568	74.713	824.019	4.455	2.222	6.677			
2008	129.883	1	36	986	187.841	7.106	197.716	393.649	1.454	1.577	3.031			
<b>MA Total:</b>	<b>752,487</b>	<b>8</b>	<b>266</b>	<b>1,213,560</b>	<b>730,553</b>	<b>608,023</b>	<b>789,057</b>	<b>3,341,193</b>	<b>2,584</b>	<b>1,857</b>	<b>4,440</b>			

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.871	0.942	.
(14) Massachusetts Credibility:	0.320	0.560	.
(15) Countrywide Pure Premium:	1.363	1.042	2.405
(16) Countrywide Indicated Relativity:	0.488	0.569	.
(17) Countrywide Credibility:	0.340	0.220	.
(18) Countrywide Lost-Time Claims:	596.00	.	.
(19) Pure Premium Underlying Present Rate:	1.356	1.654	3.010
(20) Relativity to Underlying Present Rate:	0.700	0.868	.
(21) Credibility to Underlying Relativity:	0.340	0.220	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.683	0.844	.
(24) Balanced Formula Relativity:	0.669	0.836	0.735

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
7515 OIL OR GAS PIPELINE OPERATION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	28,243	0	1	0	0	0	12,703	12,703	0.000	0.450	0.450
2005	24,371	0	6	0	47,923	0	27,336	75,259	1.966	1.122	3.088
2006	12,497	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	22,958	0	2	0	6,578	0	17,468	24,046	0.287	0.761	1.047
2008	36,930	0	2	0	0	0	9,575	9,575	0.000	0.259	0.259
<b>MA Total:</b>	<b>125,000</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>54,501</b>	<b>0</b>	<b>67,083</b>	<b>121,584</b>	<b>0.436</b>	<b>0.537</b>	<b>0.973</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.147	0.272	.
(14) Massachusetts Credibility:	0.130	0.210	.
(15) Countrywide Pure Premium:	0.731	0.613	1.344
(16) Countrywide Indicated Relativity:	0.262	0.335	.
(17) Countrywide Credibility:	0.440	0.400	.
(18) Countrywide Lost-Time Claims:	361.00	.	.
(19) Pure Premium Underlying Present Rate:	0.902	0.886	1.788
(20) Relativity to Underlying Present Rate:	0.465	0.465	.
(21) Credibility to Underlying Relativity:	0.430	0.390	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.334	0.372	.
(24) Balanced Formula Relativity:	0.328	0.369	0.344

Class(es):		Effective: 9/1/2011							Construction		
7538 TELEPHONE, TELEGRAPH OR FIRE ALARM LINE CONSTRUCTION & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	341,582	6	60	1,287,068	478,233	782,936	292,311	2,840,548	10,336	6,296	16,632
2005	394,533	8	46	990,305	10,702	336,166	143,017	1,480,190	5,074	2,429	7,504
2006	433,980	2	72	1,267,654	468,988	550,857	597,300	2,884,798	8,003	5,291	13,295
2007	513,370	4	86	203,027	615,045	571,866	599,297	1,989,235	3,187	4,563	7,750
2008	560,740	0	54	0	292,142	0	423,002	715,144	1,042	1,509	2,551
<b>MA Total:</b>	<b>2,244,205</b>	<b>20</b>	<b>318</b>	<b>3,748,054</b>	<b>1,865,110</b>	<b>2,241,825</b>	<b>2,054,926</b>	<b>9,909,915</b>	<b>2,501</b>	<b>1,915</b>	<b>4,416</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.765	0.992	.
(14) Massachusetts Credibility:	0.490	0.720	.
(15) Countrywide Pure Premium:	5.214	3.329	8.543
(16) Countrywide Indicated Relativity:	1.629	1.745	.
(17) Countrywide Credibility:	0.260	0.140	.
(18) Countrywide Lost-Time Claims:	1511.0	.	.
(19) Pure Premium Underlying Present Rate:	2.546	2.050	4.596
(20) Relativity to Underlying Present Rate:	1.134	1.070	.
(21) Credibility to Underlying Relativity:	0.250	0.140	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.082	1.108	.
(24) Balanced Formula Relativity:	1.094	1.110	1.100

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## Calculation of Class Relativities

Class(es): 7539 ELECTRIC LIGHT OR POWER CO NOC-ALL EMP & DRIVERS									Effective: 9/1/2011			Miscellaneous	
Converted Unlimited Losses													
Amount													
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)		
2004	951,791	2	97	68,855	144,031	7,392	185,823	406,101	0.224	0.203	0.427		
2005	412,235	1	36	12,353	19,863	12,456	89,330	134,003	0.078	0.247	0.325		
2006	496,417	1	49	5,375	542,494	6,926	221,584	776,380	1.104	0.460	1.564		
2007	658,851	1	47	629,442	92,975	354,210	122,603	1,199,229	1.096	0.724	1.820		
2008	667,394	0	48	0	439,755	0	309,889	749,644	0.659	0.464	1.123		
<b>MA Total:</b>	<b>3,186,687</b>	<b>5</b>	<b>277</b>	<b>716,026</b>	<b>1,239,118</b>	<b>380,984</b>	<b>929,230</b>	<b>3,265,357</b>	<b>0.614</b>	<b>0.411</b>	<b>1.025</b>		

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.207	0.209	.
(14) Massachusetts Credibility:	0.390	0.580	.
(15) Countrywide Pure Premium:	1.419	0.866	2.285
(16) Countrywide Indicated Relativity:	0.508	0.473	.
(17) Countrywide Credibility:	0.310	0.210	.
(18) Countrywide Lost-Time Claims:	1659.0	.	.
(19) Pure Premium Underlying Present Rate:	0.517	0.410	0.927
(20) Relativity to Underlying Present Rate:	0.267	0.215	.
(21) Credibility to Underlying Relativity:	0.300	0.210	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.318	0.265	.
(24) Balanced Formula Relativity:	0.312	0.263	0.292

Class(es): 7580 SEWAGE DISPOSAL PLANT OPERATION & DRIVERS									Effective: 9/1/2011			Miscellaneous	
Converted Unlimited Losses													
Amount													
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums					
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)		
2004	120,366	3	23	324,449	170,632	117,248	172,013	784,342	4.113	2.403	6.516		
2005	121,410	0	19	0	30,888	0	71,181	102,069	0.254	0.586	0.841		
2006	135,803	0	18	0	31,436	0	32,056	63,492	0.231	0.236	0.468		
2007	150,962	2	19	38,586	37,250	57,564	24,231	157,630	0.502	0.542	1.044		
2008	204,997	2	26	108,963	284,925	59,681	244,846	698,417	1.921	1.486	3.407		
<b>MA Total:</b>	<b>733,538</b>	<b>7</b>	<b>105</b>	<b>471,998</b>	<b>555,132</b>	<b>234,494</b>	<b>544,327</b>	<b>1,805,950</b>	<b>1.400</b>	<b>1.062</b>	<b>2.462</b>		

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.472	0.539	.
(14) Massachusetts Credibility:	0.280	0.460	.
(15) Countrywide Pure Premium:	1.401	1.008	2.409
(16) Countrywide Indicated Relativity:	0.502	0.550	.
(17) Countrywide Credibility:	0.360	0.270	.
(18) Countrywide Lost-Time Claims:	740.00	.	.
(19) Pure Premium Underlying Present Rate:	0.922	1.020	1.942
(20) Relativity to Underlying Present Rate:	0.476	0.535	.
(21) Credibility to Underlying Relativity:	0.360	0.270	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.484	0.541	.
(24) Balanced Formula Relativity:	0.474	0.536	0.499

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
7590 GARBAGE WORKS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	46,899	2	3	290,287	419,715	107,826	271,747	1,089,575	15,139	8,093	23,233
2005	40,912	0	3	0	159,993	0	18,890	178,883	3,911	0,462	4,372
2006	37,277	1	4	26,265	7,001	1,295	16,668	51,228	0,892	0,482	1,374
2007	42,139	1	3	9,174	0	17,665	3,208	30,047	0,218	0,495	0,713
2008	11,365	0	3	0	38,760	0	37,487	76,247	3,411	3,298	6,709
<b>MA Total:</b>	<b>178,591</b>	<b>4</b>	<b>16</b>	<b>325,725</b>	<b>625,469</b>	<b>126,786</b>	<b>347,999</b>	<b>1,425,980</b>	<b>5,326</b>	<b>2,659</b>	<b>7,985</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.796	1.349	.
(14) Massachusetts Credibility:	0.250	0.350	.
(15) Countrywide Pure Premium:	2.938	2.242	5.180
(16) Countrywide Indicated Relativity:	1.052	1.224	.
(17) Countrywide Credibility:	0.380	0.330	.
(18) Countrywide Lost-Time Claims:	448.00	.	.
(19) Pure Premium Underlying Present Rate:	2.830	2.141	4.971
(20) Relativity to Underlying Present Rate:	1.460	1.123	.
(21) Credibility to Underlying Relativity:	0.370	0.320	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.389	1.236	.
(24) Balanced Formula Relativity:	1.361	1.224	1.306

Class(es):		Effective: 9/1/2011							Miscellaneous		
7600 TELEPHONE OR TELEGRAPH CO: ALL OTHER EMP & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,157,081	13	241	521,484	1,473,016	158,421	816,243	2,969,164	1,724	0,842	2,566
2005	1,168,482	6	180	707,490	1,146,899	152,119	833,283	2,839,791	1,587	0,843	2,430
2006	1,290,853	17	181	1,915,957	1,382,703	1,249,916	940,348	5,488,925	2,555	1,697	4,252
2007	1,388,503	17	244	1,728,941	1,319,690	887,866	853,107	4,789,603	2,196	1,254	3,449
2008	1,307,415	12	244	1,050,399	2,459,720	943,761	1,468,549	5,922,429	2,685	1,845	4,530
<b>MA Total:</b>	<b>6,312,334</b>	<b>65</b>	<b>1,090</b>	<b>5,924,271</b>	<b>7,782,027</b>	<b>3,392,082</b>	<b>4,911,530</b>	<b>22,009,911</b>	<b>2,171</b>	<b>1,315</b>	<b>3,487</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.732	0.668	.
(14) Massachusetts Credibility:	0.760	1.000	.
(15) Countrywide Pure Premium:	1.769	1.166	2.935
(16) Countrywide Indicated Relativity:	0.634	0.636	.
(17) Countrywide Credibility:	0.120	0.000	.
(18) Countrywide Lost-Time Claims:	6301.0	.	.
(19) Pure Premium Underlying Present Rate:	1.335	1.199	2.534
(20) Relativity to Underlying Present Rate:	0.689	0.629	.
(21) Credibility to Underlying Relativity:	0.120	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.715	0.668	.
(24) Balanced Formula Relativity:	0.701	0.661	0.685

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Office and Clerical		
7610 RADIO OR TV BROADCAST STATION-ALL EMP & CL, DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,818,849	0	47	0	9,761	0	45,837	55,598	0.003	0.016	0.020
2005	2,847,695	2	44	375,467	206,199	255,484	242,706	1,079,856	0.204	0.175	0.379
2006	3,173,725	1	40	6,761	108,985	17,054	124,830	257,630	0.036	0.045	0.081
2007	3,603,718	3	89	269,109	126,756	138,845	158,215	692,925	0.110	0.082	0.192
2008	3,562,123	2	75	96,508	655,266	230,506	300,131	1,282,410	0.211	0.149	0.360
<b>MA Total:</b>	<b>16006111</b>	<b>8</b>	<b>295</b>	<b>747,844</b>	<b>1,106,968</b>	<b>641,889</b>	<b>871,718</b>	<b>3,368,419</b>	<b>0.116</b>	<b>0.095</b>	<b>0.210</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.333	1.353	.
(14) Massachusetts Credibility:	0.340	0.550	.
(15) Countrywide Pure Premium:	0.174	0.129	0.303
(16) Countrywide Indicated Relativity:	2.129	1.947	.
(17) Countrywide Credibility:	0.330	0.230	.
(18) Countrywide Lost-Time Claims:	1827.0	.	.
(19) Pure Premium Underlying Present Rate:	0.071	0.072	0.143
(20) Relativity to Underlying Present Rate:	1.275	1.121	.
(21) Credibility to Underlying Relativity:	0.330	0.220	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	1.576	1.439	.
(24) Balanced Formula Relativity:	1.564	1.437	1.508

Class(es):		Effective: 9/1/2011							Miscellaneous		
7704 FIREFIGHTERS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	22,505	0	6	0	42,140	0	49,201	91,341	1.873	2.186	4.059
2005	23,168	0	4	0	0	0	3,611	3,611	0.000	0.156	0.156
2006	30,450	0	2	0	0	0	1,645	1,645	0.000	0.054	0.054
2007	29,626	0	4	0	945	0	1,627	2,572	0.032	0.055	0.087
2008	25,020	0	1	0	0	0	398	398	0.000	0.016	0.016
<b>MA Total:</b>	<b>130,769</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>43,085</b>	<b>0</b>	<b>56,482</b>	<b>99,567</b>	<b>0.329</b>	<b>0.432</b>	<b>0.761</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.111	0.219	.
(14) Massachusetts Credibility:	0.110	0.190	.
(15) Countrywide Pure Premium:	2.526	2.155	4.680
(16) Countrywide Indicated Relativity:	0.905	1.176	.
(17) Countrywide Credibility:	0.450	0.410	.
(18) Countrywide Lost-Time Claims:	2488.0	.	.
(19) Pure Premium Underlying Present Rate:	0.555	0.622	1.178
(20) Relativity to Underlying Present Rate:	0.286	0.326	.
(21) Credibility to Underlying Relativity:	0.440	0.400	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.545	0.654	.
(24) Balanced Formula Relativity:	0.534	0.648	0.580

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
7720 POLICE OFFICERS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,355,762	19	161	683,021	531,451	359,336	511,522	2,085,330	0.896	0.642	1,538
2005	1,370,570	9	130	440,824	1,248,762	432,574	1,496,929	3,619,090	1.233	1.408	2,641
2006	1,278,981	1	97	22,061	514,173	3,170	415,058	954,462	0.419	0.327	0,746
2007	1,379,969	4	99	372,785	520,565	159,065	596,395	1,648,810	0.647	0.547	1,195
2008	1,402,688	8	94	934,178	468,765	464,698	683,830	2,551,471	1.000	0.819	1,819
<b>MA Total:</b>	<b>6,787,971</b>	<b>41</b>	<b>581</b>	<b>2,452,869</b>	<b>3,283,716</b>	<b>1,418,844</b>	<b>3,703,735</b>	<b>10859163</b>	<b>0.845</b>	<b>0.755</b>	<b>1,600</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.285	0.383	.
(14) Massachusetts Credibility:	0.590	0.960	.
(15) Countrywide Pure Premium:	1.409	1.135	2,544
(16) Countrywide Indicated Relativity:	0.505	0.619	.
(17) Countrywide Credibility:	0.210	0.020	.
(18) Countrywide Lost-Time Claims:	11642	.	.
(19) Pure Premium Underlying Present Rate:	0.670	0.686	1,356
(20) Relativity to Underlying Present Rate:	0.346	0.360	.
(21) Credibility to Underlying Relativity:	0.200	0.020	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4,936
(23) Formula Relativity:	0.343	0.387	.
(24) Balanced Formula Relativity:	0.336	0.384	0,355

Class(es):		Effective: 9/1/2011							Construction		
7855 RAILROAD CONSTR: LAYING/RELAYING TRACK OR MAINT BY CONTR & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	12,945	1	0	39,485	0	3,781	0	43,267	3,050	0,292	3,342
2005	18,722	0	2	0	0	0	4,991	4,991	0,000	0,267	0,267
2006	49,756	1	4	276,860	6,277	30,524	9,437	323,098	5,691	0,803	6,494
2007	14,380	0	0	0	0	0	0	0	0,000	0,000	0,000
2008	9,068	0	1	0	4,875	0	7,297	12,172	0,538	0,805	1,342
<b>MA Total:</b>	<b>104,871</b>	<b>2</b>	<b>7</b>	<b>316,345</b>	<b>11,151</b>	<b>34,305</b>	<b>21,725</b>	<b>383,527</b>	<b>3,123</b>	<b>0,534</b>	<b>3,657</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.956	0.277	.
(14) Massachusetts Credibility:	0.200	0.240	.
(15) Countrywide Pure Premium:	2.985	2.015	5,000
(16) Countrywide Indicated Relativity:	0.933	1.056	.
(17) Countrywide Credibility:	0.400	0.380	.
(18) Countrywide Lost-Time Claims:	283.00	.	.
(19) Pure Premium Underlying Present Rate:	2.810	1.425	4,235
(20) Relativity to Underlying Present Rate:	1.252	0.744	.
(21) Credibility to Underlying Relativity:	0.400	0.380	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5,199
(23) Formula Relativity:	1.065	0.750	.
(24) Balanced Formula Relativity:	1.077	0.751	0,956

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8001 STORE: FLORISTS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	701,531	5	105	33,942	271,202	61,215	210,587	576,947	0.435	0.387	0.822
2005	696,716	5	119	155,958	408,491	58,974	358,769	982,192	0.810	0.600	1.410
2006	721,306	4	82	505,092	486,210	194,079	434,430	1,619,811	1.374	0.871	2.246
2007	676,884	4	87	289,158	463,818	83,656	353,419	1,190,052	1.112	0.646	1.758
2008	609,987	1	67	90,174	235,830	35,415	202,295	563,714	0.534	0.390	0.924
<b>MA Total:</b>	<b>3,406,424</b>	<b>19</b>	<b>460</b>	<b>1,074,325</b>	<b>1,865,553</b>	<b>433,339</b>	<b>1,559,499</b>	<b>4,932,715</b>	<b>0.863</b>	<b>0.585</b>	<b>1.448</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.860	0.800	.
(14) Massachusetts Credibility:	0.430	0.730	.
(15) Countrywide Pure Premium:	1.106	0.876	1.982
(16) Countrywide Indicated Relativity:	1.055	1.177	.
(17) Countrywide Credibility:	0.290	0.140	.
(18) Countrywide Lost-Time Claims:	1492.0	.	.
(19) Pure Premium Underlying Present Rate:	0.594	0.695	1.289
(20) Relativity to Underlying Present Rate:	0.868	0.978	.
(21) Credibility to Underlying Relativity:	0.280	0.130	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.918	0.876	.
(24) Balanced Formula Relativity:	0.915	0.873	0.897

Class(es):		Effective: 9/1/2011							Goods and Services		
8002 AUTOMOBILE RENTAL CO: ALL OTHER EMP & COUNTER PERSONNEL, DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	127,030	0	22	0	204,311	0	122,548	326,859	1.608	0.965	2.573
2005	73,435	1	10	79,831	204,082	81,493	130,528	495,934	3.866	2.887	6.753
2006	70,605	0	8	0	9,004	0	10,250	19,254	0.128	0.145	0.273
2007	121,565	3	21	6,056	121,222	9,301	88,711	225,289	1.047	0.806	1.853
2008	131,580	1	13	90,026	6,613	36,930	14,542	148,112	0.734	0.391	1.126
<b>MA Total:</b>	<b>524,216</b>	<b>5</b>	<b>74</b>	<b>175,913</b>	<b>545,232</b>	<b>127,724</b>	<b>366,579</b>	<b>1,215,448</b>	<b>1.376</b>	<b>0.943</b>	<b>2.319</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.370	1.289	.
(14) Massachusetts Credibility:	0.230	0.400	.
(15) Countrywide Pure Premium:	1.010	0.890	1.900
(16) Countrywide Indicated Relativity:	0.963	1.195	.
(17) Countrywide Credibility:	0.390	0.300	.
(18) Countrywide Lost-Time Claims:	1963.0	.	.
(19) Pure Premium Underlying Present Rate:	0.786	1.005	1.791
(20) Relativity to Underlying Present Rate:	1.149	1.415	.
(21) Credibility to Underlying Relativity:	0.380	0.300	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.127	1.299	.
(24) Balanced Formula Relativity:	1.123	1.294	1.195

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8006 STORE: GROCERY STORES-RETAIL-NO HANDLING OF FRESH MEATS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,781,305	13	340	817,574	1,199,202	1,290,012	946,440	4,253,228	1.132	1.256	2.388
2005	1,897,509	11	272	384,582	895,269	777,937	879,616	2,937,404	0.674	0.874	1.548
2006	1,935,071	10	323	713,985	637,644	686,188	661,690	2,699,507	0.698	0.697	1.395
2007	2,049,288	11	277	637,129	635,490	299,575	688,787	2,260,982	0.621	0.482	1.103
2008	2,063,449	14	277	1,208,963	955,983	506,386	805,225	3,476,556	1.049	0.636	1.685
<b>MA Total:</b>	<b>9,726,620</b>	<b>59</b>	<b>1,489</b>	<b>3,762,234</b>	<b>4,323,588</b>	<b>3,560,098</b>	<b>3,981,758</b>	<b>15627677</b>	<b>0.831</b>	<b>0.775</b>	<b>1.607</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.828	1.060	.
(14) Massachusetts Credibility:	0.600	1.000	.
(15) Countrywide Pure Premium:	1.036	0.804	1.840
(16) Countrywide Indicated Relativity:	0.988	1.080	.
(17) Countrywide Credibility:	0.200	0.000	.
(18) Countrywide Lost-Time Claims:	9671.0	.	.
(19) Pure Premium Underlying Present Rate:	0.497	0.706	1.203
(20) Relativity to Underlying Present Rate:	0.727	0.993	.
(21) Credibility to Underlying Relativity:	0.200	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.840	1.060	.
(24) Balanced Formula Relativity:	0.836	1.057	0.929

Class(es):		Effective: 9/1/2011							Goods and Services		
8008 STORE: CLOTHING, WEARING APPAREL OR DRY GOODS - RETAIL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,478,087	14	235	590,122	275,495	355,222	478,812	1,699,650	0.349	0.337	0.686
2005	2,791,822	6	267	268,004	679,599	668,703	566,126	2,182,432	0.339	0.442	0.782
2006	2,677,852	13	236	479,595	208,513	261,761	447,972	1,397,840	0.257	0.265	0.522
2007	3,505,614	5	272	221,429	461,938	80,842	630,782	1,394,990	0.195	0.203	0.398
2008	3,131,064	6	261	625,490	940,664	213,682	724,930	2,504,766	0.500	0.300	0.800
<b>MA Total:</b>	<b>14584439</b>	<b>44</b>	<b>1,271</b>	<b>2,184,640</b>	<b>2,566,208</b>	<b>1,580,210</b>	<b>2,848,621</b>	<b>9,179,678</b>	<b>0.326</b>	<b>0.304</b>	<b>0.629</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.324	0.415	.
(14) Massachusetts Credibility:	0.530	0.880	.
(15) Countrywide Pure Premium:	0.608	0.480	1.087
(16) Countrywide Indicated Relativity:	0.580	0.644	.
(17) Countrywide Credibility:	0.240	0.060	.
(18) Countrywide Lost-Time Claims:	9784.0	.	.
(19) Pure Premium Underlying Present Rate:	0.240	0.258	0.499
(20) Relativity to Underlying Present Rate:	0.351	0.364	.
(21) Credibility to Underlying Relativity:	0.230	0.060	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.392	0.426	.
(24) Balanced Formula Relativity:	0.390	0.424	0.405

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## Calculation of Class Relativities

Class(es): 8010 STORE: HARDWARE		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,898,151	19	330	1,062,550	454,768	502,289	947,025	2,966,632	0.799	0.764	1.563
2005	2,026,525	10	398	993,897	1,300,997	615,478	1,103,926	4,014,298	1.132	0.848	1.981
2006	2,036,011	6	287	622,479	977,921	320,436	725,506	2,646,342	0.786	0.514	1.300
2007	1,885,377	11	258	726,372	873,503	399,377	767,268	2,766,519	0.849	0.619	1.467
2008	1,938,370	7	237	434,933	646,197	678,672	648,162	2,407,964	0.558	0.685	1.242
<b>MA Total:</b>	<b>9,784,434</b>	<b>53</b>	<b>1,510</b>	<b>3,840,231</b>	<b>4,253,387</b>	<b>2,516,251</b>	<b>4,191,886</b>	<b>14801755</b>	<b>0.827</b>	<b>0.686</b>	<b>1.513</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.824	0.937	.
(14) Massachusetts Credibility:	0.630	1.000	.
(15) Countrywide Pure Premium:	0.828	0.635	1.463
(16) Countrywide Indicated Relativity:	0.790	0.853	.
(17) Countrywide Credibility:	0.190	0.000	.
(18) Countrywide Lost-Time Claims:	5719.0	.	.
(19) Pure Premium Underlying Present Rate:	0.548	0.659	1.207
(20) Relativity to Underlying Present Rate:	0.800	0.928	.
(21) Credibility to Underlying Relativity:	0.180	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.813	0.937	.
(24) Balanced Formula Relativity:	0.810	0.934	0.862

Class(es): 8013 STORE: JEWELRY STORES		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,028,960	1	36	69,756	18,560	21,481	49,367	159,165	0.086	0.069	0.155
2005	1,084,134	2	44	261,093	260,047	33,771	262,861	817,772	0.481	0.274	0.754
2006	1,108,518	1	35	30,622	255,877	1,128	130,140	417,768	0.258	0.118	0.377
2007	1,112,572	2	22	135,437	89,622	120,123	62,453	407,635	0.202	0.164	0.366
2008	1,149,251	2	25	32,364	81,860	55,400	138,739	308,363	0.099	0.169	0.268
<b>MA Total:</b>	<b>5,483,435</b>	<b>8</b>	<b>162</b>	<b>529,272</b>	<b>705,966</b>	<b>231,903</b>	<b>643,560</b>	<b>2,110,702</b>	<b>0.225</b>	<b>0.160</b>	<b>0.385</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.224	0.218	.
(14) Massachusetts Credibility:	0.320	0.510	.
(15) Countrywide Pure Premium:	0.208	0.156	0.364
(16) Countrywide Indicated Relativity:	0.198	0.210	.
(17) Countrywide Credibility:	0.340	0.250	.
(18) Countrywide Lost-Time Claims:	841.00	.	.
(19) Pure Premium Underlying Present Rate:	0.178	0.178	0.356
(20) Relativity to Underlying Present Rate:	0.260	0.250	.
(21) Credibility to Underlying Relativity:	0.340	0.240	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.228	0.224	.
(24) Balanced Formula Relativity:	0.227	0.223	0.225

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## Calculation of Class Relativities

Class(es): 8017 STORE: RETAIL NOC		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	10193716	75	1,672	2,664,920	3,159,973	1,769,674	2,871,601	10466167	0.571	0.455	1.027
2005	10567402	62	1,608	3,366,424	3,155,067	2,019,076	3,313,636	11854202	0.617	0.505	1.122
2006	10783037	53	1,745	4,530,256	3,413,931	2,814,354	3,826,868	14585409	0.737	0.616	1.353
2007	14303680	67	2,357	3,728,915	4,630,636	2,579,908	5,281,244	16220704	0.584	0.550	1.134
2008	12862312	48	1,579	3,782,231	4,568,509	3,067,295	4,600,737	16018772	0.649	0.596	1.245
<b>MA Total:</b>	<b>58710147</b>	<b>305</b>	<b>8,961</b>	<b>18072746</b>	<b>18928117</b>	<b>12250306</b>	<b>19894085</b>	<b>69145254</b>	<b>0.630</b>	<b>0.548</b>	<b>1.178</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.628	0.749	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.689	0.586	1.275
(16) Countrywide Indicated Relativity:	0.658	0.787	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	42991	.	.
(19) Pure Premium Underlying Present Rate:	0.401	0.505	0.906
(20) Relativity to Underlying Present Rate:	0.586	0.710	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.628	0.749	.
(24) Balanced Formula Relativity:	0.625	0.746	0.676

Class(es): 8018 STORE: WHOLESALE NOC		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,772,582	43	973	2,812,697	2,377,969	1,511,100	2,303,911	9,005,677	1.872	1.376	3.248
2005	2,523,792	23	813	1,147,239	2,058,349	633,769	2,002,052	5,841,409	1.270	1.044	2.315
2006	2,683,234	32	817	2,685,583	3,196,987	1,033,429	2,167,301	9,083,300	2.192	1.193	3.385
2007	2,817,781	30	753	1,828,317	2,067,907	954,964	1,927,256	6,778,444	1.383	1.023	2.406
2008	2,766,569	15	750	1,095,318	4,637,086	1,120,112	3,419,288	10271804	2.072	1.641	3.713
<b>MA Total:</b>	<b>13563957</b>	<b>143</b>	<b>4,106</b>	<b>9,569,154</b>	<b>14338297</b>	<b>5,253,376</b>	<b>11819808</b>	<b>40980634</b>	<b>1.763</b>	<b>1.259</b>	<b>3.021</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.755	1.721	.
(14) Massachusetts Credibility:	0.990	1.000	.
(15) Countrywide Pure Premium:	1.325	0.938	2.263
(16) Countrywide Indicated Relativity:	1.264	1.260	.
(17) Countrywide Credibility:	0.010	0.000	.
(18) Countrywide Lost-Time Claims:	21348	.	.
(19) Pure Premium Underlying Present Rate:	1.228	1.249	2.477
(20) Relativity to Underlying Present Rate:	1.794	1.758	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.750	1.721	.
(24) Balanced Formula Relativity:	1.743	1.715	1.732

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8021 STORE: MEAT, FISH OR POULTRY DEALER- WHOLESALE											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	593.403	6	145	91.254	660.453	79.938	436.572	1.268.216	1.267	0.870	2.137
2005	610.044	1	140	7.428	237.668	721	325.388	571.205	0.402	0.535	0.936
2006	565.036	5	108	241.425	366.687	59.774	347.549	1.015.435	1.076	0.721	1.797
2007	640.462	4	114	218.464	823.063	51.187	345.864	1.438.578	1.626	0.620	2.246
2008	643.338	5	124	330.942	1.619.854	161.634	1.286.075	3.398.506	3.032	2.250	5.283
<b>MA Total:</b>	<b>3,052,283</b>	<b>21</b>	<b>631</b>	<b>889,512</b>	<b>3,707,725</b>	<b>353,254</b>	<b>2,741,448</b>	<b>7,691,940</b>	<b>1,506</b>	<b>1,014</b>	<b>2,520</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.500	1.386	.
(14) Massachusetts Credibility:	0.510	0.830	.
(15) Countrywide Pure Premium:	1.073	0.904	1.977
(16) Countrywide Indicated Relativity:	1.023	1.214	.
(17) Countrywide Credibility:	0.250	0.090	.
(18) Countrywide Lost-Time Claims:	2787.0	.	.
(19) Pure Premium Underlying Present Rate:	1.035	1.066	2.101
(20) Relativity to Underlying Present Rate:	1.513	1.501	.
(21) Credibility to Underlying Relativity:	0.240	0.080	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.384	1.380	.
(24) Balanced Formula Relativity:	1.378	1.375	1.377

Class(es):		Effective: 9/1/2011							Goods and Services		
8031 STORE: MEAT, FISH OR POULTRY - RETAIL											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	209.968	3	38	305.507	231.860	216.330	184.015	937.712	2.559	1.907	4.466
2005	204.302	2	49	89.272	129.147	35.156	169.738	423.313	1.069	1.003	2.072
2006	229.087	3	57	114.718	157.178	19.334	110.286	401.517	1.187	0.566	1.753
2007	191.381	1	25	220.050	9.071	201.901	72.478	503.500	1.197	1.434	2.631
2008	214.391	2	35	283.945	39.898	70.338	88.881	483.062	1.511	0.743	2.253
<b>MA Total:</b>	<b>1,049,129</b>	<b>11</b>	<b>204</b>	<b>1,013,492</b>	<b>567,154</b>	<b>543,059</b>	<b>625,398</b>	<b>2,749,104</b>	<b>1,507</b>	<b>1,114</b>	<b>2,620</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.500	1.523	.
(14) Massachusetts Credibility:	0.330	0.530	.
(15) Countrywide Pure Premium:	0.976	0.830	1.806
(16) Countrywide Indicated Relativity:	0.931	1.115	.
(17) Countrywide Credibility:	0.340	0.240	.
(18) Countrywide Lost-Time Claims:	588.00	.	.
(19) Pure Premium Underlying Present Rate:	1.039	1.036	2.075
(20) Relativity to Underlying Present Rate:	1.518	1.458	.
(21) Credibility to Underlying Relativity:	0.330	0.230	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.313	1.410	.
(24) Balanced Formula Relativity:	1.307	1.405	1.349

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services			
8032 STORE: CLOTHING, WEARING APPAREL OR DRY GOODS - WHOLESALE												
Converted Unlimited Losses												
Amount												
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	314,019	1	65	113,354	141,020	107,649	114,512	476,535	0.810	0.707	1.518	
2005	293,291	1	54	9,143	39,311	6,989	80,156	135,599	0.165	0.297	0.462	
2006	316,829	3	52	300,692	152,701	216,270	103,667	773,330	1.431	1.010	2.441	
2007	332,042	1	45	2,427	84,249	4,092	118,366	209,135	0.261	0.369	0.630	
2008	379,314	1	46	3,695	65,834	14,750	118,084	202,362	0.183	0.350	0.533	
<b>MA Total:</b>	<b>1,635,495</b>	<b>7</b>	<b>262</b>	<b>429,310</b>	<b>483,114</b>	<b>349,750</b>	<b>534,785</b>	<b>1,796,960</b>	<b>0.558</b>	<b>0.541</b>	<b>1.099</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.556	0.739	.
(14) Massachusetts Credibility:	0.310	0.520	.
(15) Countrywide Pure Premium:	1.146	0.879	2.025
(16) Countrywide Indicated Relativity:	1.093	1.181	.
(17) Countrywide Credibility:	0.350	0.240	.
(18) Countrywide Lost-Time Claims:	1233.0	.	.
(19) Pure Premium Underlying Present Rate:	0.567	0.625	1.192
(20) Relativity to Underlying Present Rate:	0.829	0.879	.
(21) Credibility to Underlying Relativity:	0.340	0.240	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.837	0.879	.
(24) Balanced Formula Relativity:	0.834	0.876	0.851

Class(es):		Effective: 9/1/2011							Goods and Services			
8033 STORE: MEAT, GROCERY & PROVISION COMBINED RETAIL-NOC												
Converted Unlimited Losses												
Amount												
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	1,071,155	7	242	1,099,289	606,930	580,875	529,282	2,816,377	1.593	1.036	2.629	
2005	1,051,458	4	262	102,704	810,909	222,580	676,168	1,812,361	0.869	0.855	1.724	
2006	641,307	4	187	460,381	544,097	192,908	360,228	1,557,613	1.566	0.863	2.429	
2007	705,883	6	165	352,994	178,969	180,789	250,282	963,034	0.754	0.611	1.364	
2008	703,386	6	127	634,285	386,086	359,420	371,191	1,750,981	1.451	1.039	2.489	
<b>MA Total:</b>	<b>4,173,188</b>	<b>27</b>	<b>983</b>	<b>2,649,653</b>	<b>2,526,991</b>	<b>1,536,572</b>	<b>2,187,151</b>	<b>8,900,366</b>	<b>1.240</b>	<b>0.892</b>	<b>2.133</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.235	1.220	.
(14) Massachusetts Credibility:	0.500	0.830	.
(15) Countrywide Pure Premium:	0.918	0.718	1.636
(16) Countrywide Indicated Relativity:	0.875	0.965	.
(17) Countrywide Credibility:	0.250	0.090	.
(18) Countrywide Lost-Time Claims:	17994	.	.
(19) Pure Premium Underlying Present Rate:	0.707	0.789	1.496
(20) Relativity to Underlying Present Rate:	1.034	1.110	.
(21) Credibility to Underlying Relativity:	0.250	0.080	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.095	1.188	.
(24) Balanced Formula Relativity:	1.091	1.184	1.130

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8034 STORE: GROCERY STORES - WHOLESALE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	211.505	4	62	232.551	104.483	70.117	109.498	516.649	1.594	0.849	2.443
2005	185.861	3	48	352.993	187.510	227.088	134.066	901.657	2.908	1.943	4.851
2006	271.352	7	61	852.499	59.050	148.738	104.209	1.164.497	3.359	0.932	4.291
2007	144.055	1	46	184.617	222.430	29.450	102.347	538.844	2.826	0.915	3.741
2008	139.476	2	35	300.623	706.188	84.974	216.193	1.307.978	7.219	2.159	9.378
<b>MA Total:</b>	<b>952.249</b>	<b>17</b>	<b>252</b>	<b>1,923.283</b>	<b>1,279.662</b>	<b>560.366</b>	<b>666.313</b>	<b>4,429.625</b>	<b>3.364</b>	<b>1.288</b>	<b>4.652</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.350	1.761	.
(14) Massachusetts Credibility:	0.380	0.600	.
(15) Countrywide Pure Premium:	1.475	1.234	2.708
(16) Countrywide Indicated Relativity:	1.407	1.657	.
(17) Countrywide Credibility:	0.310	0.200	.
(18) Countrywide Lost-Time Claims:	124.00	.	.
(19) Pure Premium Underlying Present Rate:	1.555	1.503	3.058
(20) Relativity to Underlying Present Rate:	2.273	2.115	.
(21) Credibility to Underlying Relativity:	0.310	0.200	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.414	1.811	.
(24) Balanced Formula Relativity:	2.404	1.805	2.152

Class(es):		Effective: 9/1/2011							Goods and Services		
8039 STORE: DEPARTMENT - RETAIL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	164.821	1	48	24.795	5.798	51.545	30.739	112.877	0.186	0.499	0.685
2005	156.006	3	63	69.870	136.822	45.844	176.903	429.439	1.325	1.428	2.753
2006	393.684	8	68	147.332	79.410	168.671	98.201	493.614	0.576	0.678	1.254
2007	673.076	8	133	424.981	166.955	161.972	263.014	1,016.921	0.879	0.631	1.511
2008	638.413	1	102	13.359	13.671	16.773	125.434	169.236	0.042	0.223	0.265
<b>MA Total:</b>	<b>2,026,000</b>	<b>21</b>	<b>414</b>	<b>680.337</b>	<b>402.655</b>	<b>444.805</b>	<b>694.290</b>	<b>2,222.087</b>	<b>0.535</b>	<b>0.562</b>	<b>1.097</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.532	0.769	.
(14) Massachusetts Credibility:	0.340	0.600	.
(15) Countrywide Pure Premium:	0.710	0.689	1.398
(16) Countrywide Indicated Relativity:	0.677	0.925	.
(17) Countrywide Credibility:	0.330	0.200	.
(18) Countrywide Lost-Time Claims:	4845.0	.	.
(19) Pure Premium Underlying Present Rate:	0.552	0.723	1.276
(20) Relativity to Underlying Present Rate:	0.807	1.018	.
(21) Credibility to Underlying Relativity:	0.330	0.200	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.671	0.850	.
(24) Balanced Formula Relativity:	0.668	0.847	0.743

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## Calculation of Class Relativities

Class(es): 8044 STORE: FURNITURE & DRIVERS		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,252,772	8	347	556,507	1,083,991	198,920	857,783	2,697,202	1,309	0,843	2,153
2005	1,303,216	18	340	1,070,955	959,794	765,923	789,934	3,586,605	1,558	1,194	2,752
2006	1,166,733	13	228	906,115	433,966	523,076	660,083	2,523,241	1,149	1,014	2,163
2007	824,573	9	188	651,315	1,420,589	438,216	866,121	3,376,240	2,513	1,582	4,095
2008	738,361	5	161	440,678	943,927	312,414	607,149	2,304,168	1,875	1,245	3,121
<b>MA Total:</b>	<b>5,285,655</b>	<b>53</b>	<b>1,264</b>	<b>3,625,570</b>	<b>4,842,266</b>	<b>2,238,549</b>	<b>3,781,070</b>	<b>14,487,455</b>	<b>1,602</b>	<b>1,139</b>	<b>2,741</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.595	1.557	.
(14) Massachusetts Credibility:	0.670	1.000	.
(15) Countrywide Pure Premium:	1.646	1.059	2.706
(16) Countrywide Indicated Relativity:	1.571	1.422	.
(17) Countrywide Credibility:	0.170	0.000	.
(18) Countrywide Lost-Time Claims:	8922.0	.	.
(19) Pure Premium Underlying Present Rate:	1.187	1.341	2.527
(20) Relativity to Underlying Present Rate:	1.734	1.887	.
(21) Credibility to Underlying Relativity:	0.160	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.613	1.557	.
(24) Balanced Formula Relativity:	1.607	1.552	1.584

Class(es): 8046 STORE: AUTOMOBILE ACCESSORIES-RETAIL-NOC & DR		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	298,198	5	52	627,654	38,859	657,417	64,218	1,388,148	2,235	2,420	4,655
2005	302,547	4	50	271,035	432,002	194,972	301,316	1,199,325	2,324	1,640	3,964
2006	244,615	4	30	321,396	48,375	347,378	67,712	784,861	1,512	1,697	3,209
2007	309,988	1	58	6,236	252,422	4,117	153,729	416,504	0,834	0,509	1,344
2008	421,187	6	73	700,845	480,412	677,448	438,379	2,297,085	2,805	2,649	5,454
<b>MA Total:</b>	<b>1,576,536</b>	<b>20</b>	<b>263</b>	<b>1,927,166</b>	<b>1,252,070</b>	<b>1,881,332</b>	<b>1,025,355</b>	<b>6,085,923</b>	<b>2,017</b>	<b>1,844</b>	<b>3,860</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.008	2.521	.
(14) Massachusetts Credibility:	0.350	0.640	.
(15) Countrywide Pure Premium:	1.116	0.832	1.948
(16) Countrywide Indicated Relativity:	1.064	1.117	.
(17) Countrywide Credibility:	0.330	0.180	.
(18) Countrywide Lost-Time Claims:	4960.0	.	.
(19) Pure Premium Underlying Present Rate:	0.809	1.060	1.869
(20) Relativity to Underlying Present Rate:	1.183	1.492	.
(21) Credibility to Underlying Relativity:	0.320	0.180	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.433	2.083	.
(24) Balanced Formula Relativity:	1.427	2.076	1.701

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8048 STORE: FRUIT OR VEGETABLE -WHOLESALE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	252,914	3	50	569,870	856,750	184,249	311,432	1,922,300	5,641	1,960	7,601
2005	284,429	5	65	138,413	147,813	74,643	129,541	490,410	1,006	0,718	1,724
2006	306,949	4	53	166,868	310,557	47,019	232,133	756,577	1,555	0,909	2,465
2007	316,590	1	41	165,006	317,808	284,123	384,980	1,151,917	1,525	2,113	3,639
2008	281,261	1	30	70,851	15,034	40,306	35,574	161,765	0,305	0,270	0,575
<b>MA Total:</b>	<b>1,442,143</b>	<b>14</b>	<b>239</b>	<b>1,111,008</b>	<b>1,647,961</b>	<b>630,340</b>	<b>1,093,659</b>	<b>4,482,969</b>	<b>1,913</b>	<b>1,195</b>	<b>3,109</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.905	1.634	.
(14) Massachusetts Credibility:	0.420	0.650	.
(15) Countrywide Pure Premium:	1.243	1.116	2.359
(16) Countrywide Indicated Relativity:	1.186	1.498	.
(17) Countrywide Credibility:	0.140	0.140	.
(18) Countrywide Lost-Time Claims:	8.000	.	.
(19) Pure Premium Underlying Present Rate:	1.360	1.216	2.576
(20) Relativity to Underlying Present Rate:	1.987	1.711	.
(21) Credibility to Underlying Relativity:	0.440	0.210	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.841	1.631	.
(24) Balanced Formula Relativity:	1.833	1.626	1.746

Class(es):		Effective: 9/1/2011							Goods and Services		
8050 STORE: FIVE & TEN CENT STORES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	6,730	0	2	0	0	0	624	624	0.000	0.093	0.093
2005	4,134	0	1	0	0	0	662	662	0.000	0.160	0.160
2006	7,881	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	7,402	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	7,253	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>33,400</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,286</b>	<b>1,286</b>	<b>0.000</b>	<b>0.039</b>	<b>0.039</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.053	.
(14) Massachusetts Credibility:	0.070	0.120	.
(15) Countrywide Pure Premium:	0.000	0.051	0.051
(16) Countrywide Indicated Relativity:	0.000	0.068	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	0.607	0.719	1.325
(20) Relativity to Underlying Present Rate:	0.886	1.012	.
(21) Credibility to Underlying Relativity:	0.930	0.880	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.824	0.897	.
(24) Balanced Formula Relativity:	0.821	0.894	0.852

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8058 BUILDING MATERIAL DEALER-NEW MATERIALS ONLY-STORE EMP											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	271,093	8	88	955,843	221,881	402,880	319,112	1,899,717	4,344	2,663	7,008
2005	247,451	2	71	44,092	239,642	21,889	177,592	483,215	1,147	0,806	1,953
2006	268,422	3	53	312,358	214,576	129,672	149,029	805,635	1,963	1,038	3,001
2007	273,771	1	36	3,540	94,302	763	56,418	155,023	0,357	0,209	0,566
2008	243,819	2	57	224,587	630,420	325,952	296,090	1,477,048	3,507	2,551	6,058
<b>MA Total:</b>	<b>1,304,557</b>	<b>16</b>	<b>305</b>	<b>1,540,420</b>	<b>1,400,819</b>	<b>881,157</b>	<b>998,241</b>	<b>4,820,637</b>	<b>2,255</b>	<b>1,441</b>	<b>3,695</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.245	1.970	.
(14) Massachusetts Credibility:	0.350	0.610	.
(15) Countrywide Pure Premium:	1.405	1.157	2.562
(16) Countrywide Indicated Relativity:	1.340	1.554	.
(17) Countrywide Credibility:	0.330	0.200	.
(18) Countrywide Lost-Time Claims:	6993.0	.	.
(19) Pure Premium Underlying Present Rate:	0.925	1.177	2.101
(20) Relativity to Underlying Present Rate:	1.352	1.656	.
(21) Credibility to Underlying Relativity:	0.320	0.190	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.661	1.827	.
(24) Balanced Formula Relativity:	1.654	1.821	1.724

Class(es):		Effective: 9/1/2011							Goods and Services		
8103 WOOL MERCHANT											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	31,505	0	6	0	0	0	5,279	5,279	0,000	0,168	0,168
2005	34,303	0	5	0	94,472	0	17,574	112,046	2,754	0,512	3,266
2006	19,507	0	3	0	338	0	1,235	1,573	0,017	0,063	0,081
2007	20,505	0	8	0	9,634	0	6,802	16,436	0,470	0,332	0,802
2008	20,134	0	6	0	50,544	0	17,249	67,793	2,510	0,857	3,367
<b>MA Total:</b>	<b>125,953</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>154,988</b>	<b>0</b>	<b>48,139</b>	<b>203,127</b>	<b>1,231</b>	<b>0,382</b>	<b>1,613</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.225	0.523	.
(14) Massachusetts Credibility:	0.150	0.240	.
(15) Countrywide Pure Premium:	1.385	1.012	2.397
(16) Countrywide Indicated Relativity:	1.321	1.359	.
(17) Countrywide Credibility:	0.300	0.320	.
(18) Countrywide Lost-Time Claims:	57,000	.	.
(19) Pure Premium Underlying Present Rate:	1.207	1.150	2.357
(20) Relativity to Underlying Present Rate:	1.764	1.619	.
(21) Credibility to Underlying Relativity:	0.550	0.440	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.551	1.273	.
(24) Balanced Formula Relativity:	1.544	1.269	1.428

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8105 STORE: HIDE OR LEATHER DEALERS OR STORES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	11,386	1	1	43,223	1,711	70,096	50	115,080	3,946	6,161	10,107
2005	9,240	0	0	0	0	0	0	0	0,000	0,000	0,000
2006	8,120	0	1	0	4,330	0	2,409	6,739	0,533	0,297	0,830
2007	8,820	0	1	0	4,261	0	125	4,387	0,483	0,014	0,497
2008	8,540	0	1	0	436	0	28	464	0,051	0,003	0,054
<b>MA Total:</b>	<b>46,106</b>	<b>1</b>	<b>4</b>	<b>43,223</b>	<b>10,738</b>	<b>70,096</b>	<b>2,613</b>	<b>126,669</b>	<b>1,170</b>	<b>1,577</b>	<b>2,747</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.166	2.156	.
(14) Massachusetts Credibility:	0.120	0.190	.
(15) Countrywide Pure Premium:	0.774	0.375	1.149
(16) Countrywide Indicated Relativity:	0.738	0.504	.
(17) Countrywide Credibility:	0.110	0.120	.
(18) Countrywide Lost-Time Claims:	5.000	.	.
(19) Pure Premium Underlying Present Rate:	1.798	1.797	3.594
(20) Relativity to Underlying Present Rate:	2.627	2.528	.
(21) Credibility to Underlying Relativity:	0.770	0.690	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.244	2.215	.
(24) Balanced Formula Relativity:	2.235	2.208	2.223

Class(es):		Effective: 9/1/2011							Goods and Services		
8106 IRON OR STEEL MERCHANT & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	135,038	3	82	536,386	348,123	323,833	206,746	1,415,089	6,550	3,929	10,479
2005	158,269	2	75	457,937	83,688	203,285	143,304	888,213	3,422	2,190	5,612
2006	169,405	4	56	254,332	536,839	233,065	401,283	1,425,519	4,670	3,745	8,415
2007	149,291	4	50	629,555	395,518	555,375	413,431	1,993,880	6,866	6,489	13,356
2008	117,602	1	30	74,238	115,518	50,113	213,104	452,972	1,614	2,238	3,852
<b>MA Total:</b>	<b>729,606</b>	<b>14</b>	<b>293</b>	<b>1,952,448</b>	<b>1,479,686</b>	<b>1,365,670</b>	<b>1,377,870</b>	<b>6,175,673</b>	<b>4,704</b>	<b>3,760</b>	<b>8,464</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.685	5.141	.
(14) Massachusetts Credibility:	0.400	0.750	.
(15) Countrywide Pure Premium:	2.632	1.755	4.387
(16) Countrywide Indicated Relativity:	2.511	2.357	.
(17) Countrywide Credibility:	0.300	0.130	.
(18) Countrywide Lost-Time Claims:	3130.0	.	.
(19) Pure Premium Underlying Present Rate:	2.406	3.423	5.829
(20) Relativity to Underlying Present Rate:	3.516	4.817	.
(21) Credibility to Underlying Relativity:	0.300	0.120	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	3.682	4.740	.
(24) Balanced Formula Relativity:	3.667	4.725	4.113

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8107 FARM MACHINERY DEALER-ALL OPERATIONS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,137,555	20	256	1,514,167	838,780	1,411,576	938,802	4,703,325	4,137	4,132	8,269
2005	1,215,210	18	268	2,068,811	2,427,671	777,724	1,136,289	6,410,494	7,400	3,150	10,550
2006	1,133,571	4	210	108,836	1,038,069	366,634	973,869	2,487,408	2,024	2,365	4,389
2007	1,243,457	6	278	794,665	1,040,623	1,258,676	1,331,264	4,425,227	2,952	4,166	7,118
2008	1,144,817	4	214	1,529,898	966,537	249,850	880,243	3,626,527	4,361	1,974	6,336
<b>MA Total:</b>	<b>5,874,610</b>	<b>52</b>	<b>1,226</b>	<b>6,016,376</b>	<b>6,311,679</b>	<b>4,064,460</b>	<b>5,260,467</b>	<b>21652982</b>	<b>2,099</b>	<b>1,587</b>	<b>3,686</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.090	2.170	.
(14) Massachusetts Credibility:	0.560	1.000	.
(15) Countrywide Pure Premium:	1.718	1.053	2.771
(16) Countrywide Indicated Relativity:	1.638	1.414	.
(17) Countrywide Credibility:	0.220	0.000	.
(18) Countrywide Lost-Time Claims:	6847.0	.	.
(19) Pure Premium Underlying Present Rate:	1.387	1.750	3.136
(20) Relativity to Underlying Present Rate:	2.027	2.462	.
(21) Credibility to Underlying Relativity:	0.220	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.977	2.170	.
(24) Balanced Formula Relativity:	1.969	2.163	2.051

Class(es):		Effective: 9/1/2011							Goods and Services		
8111 PLUMBERS SUPPLIES DEALERS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	383,682	4	105	485,229	267,713	225,399	281,417	1,259,759	1,962	1,321	3,283
2005	461,484	7	117	707,733	394,072	392,896	346,160	1,840,861	2,388	1,601	3,989
2006	483,180	4	134	364,962	551,008	129,579	519,079	1,564,627	1,896	1,342	3,238
2007	485,318	4	98	282,575	358,544	291,814	271,925	1,204,858	1,321	1,162	2,483
2008	491,788	1	104	70,079	371,107	141,107	355,127	937,419	0,897	1,009	1,906
<b>MA Total:</b>	<b>2,305,451</b>	<b>20</b>	<b>558</b>	<b>1,910,579</b>	<b>1,942,444</b>	<b>1,180,794</b>	<b>1,773,708</b>	<b>6,807,524</b>	<b>1,671</b>	<b>1,282</b>	<b>2,953</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.664	1.752	.
(14) Massachusetts Credibility:	0.500	0.800	.
(15) Countrywide Pure Premium:	1.471	0.982	2.453
(16) Countrywide Indicated Relativity:	1.404	1.319	.
(17) Countrywide Credibility:	0.250	0.100	.
(18) Countrywide Lost-Time Claims:	1654.0	.	.
(19) Pure Premium Underlying Present Rate:	1.319	1.311	2.630
(20) Relativity to Underlying Present Rate:	1.928	1.844	.
(21) Credibility to Underlying Relativity:	0.250	0.100	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.665	1.718	.
(24) Balanced Formula Relativity:	1.658	1.713	1.681

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8203 ICE DEALER & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	28,419	0	13	0	21,114	0	21,066	42,180	0.743	0.741	1.484
2005	26,111	1	12	31,842	9,814	8,086	24,142	73,885	1.595	1.234	2.830
2006	26,366	1	14	102,083	28,064	10,198	110,059	250,405	4.936	4.561	9.497
2007	30,758	0	2	0	6,871	0	6,425	13,296	0.223	0.209	0.432
2008	32,038	0	12	0	45,337	0	76,644	121,982	1.415	2.392	3.807
<b>MA Total:</b>	<b>143,692</b>	<b>2</b>	<b>53</b>	<b>133,925</b>	<b>111,201</b>	<b>18,285</b>	<b>238,336</b>	<b>501,747</b>	<b>1.706</b>	<b>1.786</b>	<b>3.492</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.699	2.442	.
(14) Massachusetts Credibility:	0.210	0.320	.
(15) Countrywide Pure Premium:	2.877	1.845	4.723
(16) Countrywide Indicated Relativity:	2.745	2.478	.
(17) Countrywide Credibility:	0.400	0.340	.
(18) Countrywide Lost-Time Claims:	383.00	.	.
(19) Pure Premium Underlying Present Rate:	2.397	2.140	4.537
(20) Relativity to Underlying Present Rate:	3.503	3.011	.
(21) Credibility to Underlying Relativity:	0.390	0.340	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.821	2.648	.
(24) Balanced Formula Relativity:	2.809	2.639	2.738

Class(es):		Effective: 9/1/2011							Goods and Services		
8204 BUILDING MATERIAL YARD & LOCAL MANAGERS, DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	8,952	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	10,348	0	1	0	1,967	0	1,889	3,856	0.190	0.183	0.373
2006	12,043	0	5	0	157,933	0	34,369	192,302	13.114	2.854	15.968
2007	19,664	1	1	239,164	12,861	56,163	18,293	326,481	12.816	3.786	16.603
2008	26,569	0	3	0	188,744	0	76,072	264,815	7.104	2.863	9.967
<b>MA Total:</b>	<b>77,576</b>	<b>1</b>	<b>10</b>	<b>239,164</b>	<b>361,506</b>	<b>56,163</b>	<b>130,622</b>	<b>787,454</b>	<b>7.743</b>	<b>2.408</b>	<b>10.151</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	7.711	3.292	.
(14) Massachusetts Credibility:	0.160	0.210	.
(15) Countrywide Pure Premium:	1.807	1.017	2.824
(16) Countrywide Indicated Relativity:	1.724	1.365	.
(17) Countrywide Credibility:	0.420	0.400	.
(18) Countrywide Lost-Time Claims:	177.00	.	.
(19) Pure Premium Underlying Present Rate:	2.289	1.408	3.697
(20) Relativity to Underlying Present Rate:	3.345	1.981	.
(21) Credibility to Underlying Relativity:	0.420	0.390	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	3.363	2.010	.
(24) Balanced Formula Relativity:	3.349	2.004	2.782

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8215 HAY, GRAIN OR FEED DEALER & LOCAL MANAGERS, DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	69,401	0	16	0	177,669	0	99,321	276,990	2,560	1,431	3,991
2005	67,228	0	10	0	6,132	0	12,105	18,237	0,091	0,180	0,271
2006	62,558	0	15	0	6,842	0	13,363	20,205	0,109	0,214	0,323
2007	64,489	0	12	0	54,631	0	12,656	67,287	0,847	0,196	1,043
2008	51,653	0	10	0	0	0	11,547	11,547	0,000	0,224	0,224
<b>MA Total:</b>	<b>315,329</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>245,274</b>	<b>0</b>	<b>148,992</b>	<b>394,266</b>	<b>0.778</b>	<b>0.472</b>	<b>1.250</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.775	0.646	.
(14) Massachusetts Credibility:	0.230	0.340	.
(15) Countrywide Pure Premium:	1.676	1.228	2.904
(16) Countrywide Indicated Relativity:	1.598	1.649	.
(17) Countrywide Credibility:	0.390	0.330	.
(18) Countrywide Lost-Time Claims:	1453.0	.	.
(19) Pure Premium Underlying Present Rate:	1.305	1.108	2.414
(20) Relativity to Underlying Present Rate:	1.908	1.559	.
(21) Credibility to Underlying Relativity:	0.380	0.330	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.527	1.279	.
(24) Balanced Formula Relativity:	1.520	1.275	1.417

Class(es):		Effective: 9/1/2011							Construction		
8227 CONTRACTORS PERMANENT YARD											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	850,976	10	111	1,057,936	1,049,007	760,669	788,313	3,655,925	2,476	1,820	4,296
2005	881,042	8	90	1,031,441	798,799	1,109,963	831,176	3,771,378	2,077	2,203	4,281
2006	926,992	4	62	522,348	1,016,432	276,058	732,501	2,547,339	1,660	1,088	2,748
2007	925,593	10	96	1,403,557	456,055	923,911	746,467	3,529,990	2,009	1,805	3,814
2008	930,281	4	72	1,297,900	1,422,993	856,542	1,209,853	4,787,288	2,925	2,221	5,146
<b>MA Total:</b>	<b>4,514,884</b>	<b>36</b>	<b>431</b>	<b>5,313,182</b>	<b>4,743,286</b>	<b>3,927,143</b>	<b>4,308,310</b>	<b>18,291,921</b>	<b>2,227</b>	<b>1,824</b>	<b>4,051</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.682	0.945	.
(14) Massachusetts Credibility:	0.710	1.000	.
(15) Countrywide Pure Premium:	2.649	1.694	4.344
(16) Countrywide Indicated Relativity:	0.828	0.888	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	4064.0	.	.
(19) Pure Premium Underlying Present Rate:	1.576	1.767	3.342
(20) Relativity to Underlying Present Rate:	0.702	0.922	.
(21) Credibility to Underlying Relativity:	0.140	0.000	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.706	0.945	.
(24) Balanced Formula Relativity:	0.714	0.946	0.800

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8232 LUMBER YARD-NEW MATERIALS ONLY: A/O EMP INCL YRD & WHSE & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,073,662	18	318	1,617,015	1,105,880	1,735,229	976,894	5,435,019	2,536	2,526	5,062
2005	1,082,079	12	249	1,775,180	1,021,491	1,213,274	733,892	4,743,838	2,585	1,799	4,384
2006	1,050,495	16	251	2,061,404	1,656,218	814,576	1,098,766	5,630,964	3,539	1,821	5,360
2007	1,024,609	7	247	809,580	1,567,372	323,595	991,620	3,692,167	2,320	1,284	3,603
2008	946,958	5	205	491,201	2,054,049	245,515	1,111,263	3,902,029	2,688	1,433	4,121
<b>MA Total:</b>	<b>5,177,803</b>	<b>58</b>	<b>1,270</b>	<b>6,754,381</b>	<b>7,405,011</b>	<b>4,332,189</b>	<b>4,912,435</b>	<b>23,404,016</b>	<b>2,735</b>	<b>1,785</b>	<b>4,520</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.723	2.441	.
(14) Massachusetts Credibility:	0.770	1.000	.
(15) Countrywide Pure Premium:	2.311	1.464	3.775
(16) Countrywide Indicated Relativity:	2.205	1.966	.
(17) Countrywide Credibility:	0.120	0.000	.
(18) Countrywide Lost-Time Claims:	12621	.	.
(19) Pure Premium Underlying Present Rate:	1.696	1.799	3.495
(20) Relativity to Underlying Present Rate:	2.478	2.532	.
(21) Credibility to Underlying Relativity:	0.110	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.634	2.441	.
(24) Balanced Formula Relativity:	2.624	2.433	2.543

Class(es):		Effective: 9/1/2011							Goods and Services		
8233 METAL SCRAP DEALER & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	592,967	15	309	1,418,955	1,013,371	1,136,497	1,080,635	4,649,458	12,306	11,217	23,523
2005	547,801	9	183	1,428,577	1,448,983	1,283,292	822,346	4,983,198	15,759	11,531	27,290
2006	574,610	12	159	2,067,331	502,236	2,031,733	1,082,940	5,684,240	13,416	16,261	29,677
2007	580,802	12	177	1,100,917	958,699	459,134	1,102,302	3,621,052	10,638	8,065	18,704
2008	483,282	3	111	569,948	352,329	162,920	357,023	1,442,220	5,725	3,228	8,953
<b>MA Total:</b>	<b>2,779,462</b>	<b>51</b>	<b>939</b>	<b>6,585,727</b>	<b>4,275,617</b>	<b>5,073,577</b>	<b>4,445,246</b>	<b>20,380,167</b>	<b>3,908</b>	<b>3,425</b>	<b>7,332</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.892	4.682	.
(14) Massachusetts Credibility:	0.480	0.870	.
(15) Countrywide Pure Premium:	3.016	2.377	5.394
(16) Countrywide Indicated Relativity:	2.877	3.193	.
(17) Countrywide Credibility:	0.260	0.070	.
(18) Countrywide Lost-Time Claims:	2047.0	.	.
(19) Pure Premium Underlying Present Rate:	2.934	3.991	6.926
(20) Relativity to Underlying Present Rate:	4.289	5.617	.
(21) Credibility to Underlying Relativity:	0.260	0.060	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	3.731	4.634	.
(24) Balanced Formula Relativity:	3.716	4.619	4.097

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services			
8235 SASH, DOOR OR ASSEMBLED MILLWORK DEALER & DR												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	166.055	3	70	134.580	161.227	104.563	141.639	542.009	1.781	1.483	3.264	
2005	174.797	3	71	37.155	154.700	39.781	126.759	358.395	1.098	0.953	2.050	
2006	177.824	1	60	6.337	275.189	9.487	260.887	551.901	1.583	1.520	3.104	
2007	160.447	2	62	325.413	39.827	56.708	92.527	514.475	2.276	0.930	3.207	
2008	154.347	1	57	306.994	620.689	100.395	226.686	1,254.763	6.010	2.119	8.130	
<b>MA Total:</b>	<b>833.470</b>	<b>10</b>	<b>320</b>	<b>810.479</b>	<b>1,251.631</b>	<b>310.934</b>	<b>848.499</b>	<b>3,221,543</b>	<b>2.474</b>	<b>1.391</b>	<b>3.865</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.464	1.902	.
(14) Massachusetts Credibility:	0.350	0.560	.
(15) Countrywide Pure Premium:	2.073	1.279	3.352
(16) Countrywide Indicated Relativity:	1.977	1.718	.
(17) Countrywide Credibility:	0.330	0.220	.
(18) Countrywide Lost-Time Claims:	839.00	.	.
(19) Pure Premium Underlying Present Rate:	1.506	1.490	2.996
(20) Relativity to Underlying Present Rate:	2.202	2.096	.
(21) Credibility to Underlying Relativity:	0.320	0.220	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.219	1.904	.
(24) Balanced Formula Relativity:	2.210	1.898	2.079

Class(es):		Effective: 9/1/2011							Goods and Services			
8263 JUNK DEALERS & DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		Total	MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	20.851	0	5	0	10.557	0	18.892	29.449	0.506	0.906	1.412	
2005	29.435	1	16	160.730	23.228	61.802	38.810	284.571	6.250	3.418	9.668	
2006	49.257	2	14	179.114	11.602	63.796	37.789	292.301	3.872	2.062	5.934	
2007	53.047	0	8	0	108.674	0	125.608	234.282	2.049	2.368	4.417	
2008	55.974	1	12	394.665	109.412	139.566	194.359	838.001	9.006	5.966	14.971	
<b>MA Total:</b>	<b>208.563</b>	<b>4</b>	<b>55</b>	<b>734.509</b>	<b>263.474</b>	<b>265.164</b>	<b>415.458</b>	<b>1,678,605</b>	<b>4.785</b>	<b>3.263</b>	<b>8.048</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.765	4.461	.
(14) Massachusetts Credibility:	0.270	0.420	.
(15) Countrywide Pure Premium:	2.782	1.979	4.762
(16) Countrywide Indicated Relativity:	2.654	2.658	.
(17) Countrywide Credibility:	0.370	0.290	.
(18) Countrywide Lost-Time Claims:	165.00	.	.
(19) Pure Premium Underlying Present Rate:	3.156	2.803	5.960
(20) Relativity to Underlying Present Rate:	4.613	3.945	.
(21) Credibility to Underlying Relativity:	0.360	0.290	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	3.929	3.789	.
(24) Balanced Formula Relativity:	3.913	3.777	3.856

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8264 BOTTLE DEALER-USED & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	153,525	0	41	0	232,765	0	227,649	460,414	1,516	1,483	2,999
2005	174,290	4	51	430,284	319,058	409,128	213,697	1,372,167	4,299	3,574	7,873
2006	163,181	4	52	316,549	129,564	153,936	140,186	740,236	2,734	1,802	4,536
2007	186,668	1	42	114,059	211,566	7,663	144,467	477,755	1,744	0,815	2,559
2008	198,144	1	31	19,723	152,507	57,844	191,694	421,768	0,869	1,259	2,129
<b>MA Total:</b>	<b>875,807</b>	<b>10</b>	<b>217</b>	<b>880,615</b>	<b>1,045,460</b>	<b>628,571</b>	<b>917,693</b>	<b>3,472,339</b>	<b>2,199</b>	<b>1,766</b>	<b>3,965</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.190	2.414	.
(14) Massachusetts Credibility:	0.390	0.620	.
(15) Countrywide Pure Premium:	2.770	1.729	4.499
(16) Countrywide Indicated Relativity:	2.642	2.322	.
(17) Countrywide Credibility:	0.310	0.190	.
(18) Countrywide Lost-Time Claims:	961.00	.	.
(19) Pure Premium Underlying Present Rate:	1.859	1.823	3.682
(20) Relativity to Underlying Present Rate:	2.717	2.566	.
(21) Credibility to Underlying Relativity:	0.300	0.190	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.488	2.425	.
(24) Balanced Formula Relativity:	2.478	2.418	2.453

Class(es):		Effective: 9/1/2011							Goods and Services		
8279 STABLE OR BREEDING FARM & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	129,587	0	27	0	29,354	0	62,003	91,357	0,227	0,478	0,705
2005	136,784	1	24	26,595	9,482	167,952	47,270	251,299	0,264	1,573	1,837
2006	146,119	0	28	0	37,021	0	99,385	136,406	0,253	0,680	0,934
2007	151,825	1	28	49,388	165,049	13,637	233,882	461,955	1,412	1,630	3,043
2008	149,110	2	36	161,913	179,313	97,252	253,224	691,703	2,288	2,350	4,639
<b>MA Total:</b>	<b>713,424</b>	<b>4</b>	<b>143</b>	<b>237,897</b>	<b>420,220</b>	<b>278,841</b>	<b>695,763</b>	<b>1,632,720</b>	<b>0,922</b>	<b>1,366</b>	<b>2,289</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.919	1.868	.
(14) Massachusetts Credibility:	0.340	0.530	.
(15) Countrywide Pure Premium:	2.838	2.195	5.032
(16) Countrywide Indicated Relativity:	2.707	2.947	.
(17) Countrywide Credibility:	0.330	0.240	.
(18) Countrywide Lost-Time Claims:	1133.0	.	.
(19) Pure Premium Underlying Present Rate:	1.571	1.468	3.039
(20) Relativity to Underlying Present Rate:	2.296	2.066	.
(21) Credibility to Underlying Relativity:	0.330	0.230	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.963	2.172	.
(24) Balanced Formula Relativity:	1.955	2.166	2.044

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## Calculation of Class Relativities

Class(es): 8291 STORAGE WAREHOUSE-COLD		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	120.567	1	28	8.240	279.723	34.053	112.166	434.182	2.388	1.213	3.601
2005	144.743	3	42	210.408	58.034	123.007	106.380	497.830	1.855	1.585	3.439
2006	185.929	0	59	0	531.474	0	264.713	796.187	2.858	1.424	4.282
2007	210.701	3	70	227.018	469.588	47.682	273.930	1,018.218	3.306	1.526	4.833
2008	206.022	4	46	164.334	125.479	87.377	126.554	503.744	1.407	1.038	2.445
<b>MA Total:</b>	<b>867.962</b>	<b>11</b>	<b>245</b>	<b>610.001</b>	<b>1,464.298</b>	<b>292.119</b>	<b>883.741</b>	<b>3,250.160</b>	<b>2.390</b>	<b>1.355</b>	<b>3.745</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.380	1.852	.
(14) Massachusetts Credibility:	0.370	0.600	.
(15) Countrywide Pure Premium:	1.796	1.266	3.062
(16) Countrywide Indicated Relativity:	1.713	1.700	.
(17) Countrywide Credibility:	0.320	0.200	.
(18) Countrywide Lost-Time Claims:	1042.0	.	.
(19) Pure Premium Underlying Present Rate:	1.580	1.690	3.270
(20) Relativity to Underlying Present Rate:	2.309	2.378	.
(21) Credibility to Underlying Relativity:	0.310	0.200	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.145	1.927	.
(24) Balanced Formula Relativity:	2.136	1.921	2.045

Class(es): 8292 STORAGE WAREHOUSE NOC		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	417.043	9	136	355.835	419.685	114.341	786.988	1,676.849	1.860	2.161	4.021
2005	444.879	6	131	227.701	326.794	131.397	355.446	1,041.337	1.246	1.094	2.341
2006	517.544	6	145	361.540	349.616	386.109	367.629	1,464.894	1.374	1.456	2.830
2007	554.080	9	147	481.489	436.713	125.640	389.816	1,433.657	1.657	0.930	2.587
2008	504.255	4	105	665.838	891.168	319.945	540.987	2,417.939	3.088	1.707	4.795
<b>MA Total:</b>	<b>2,437.801</b>	<b>34</b>	<b>664</b>	<b>2,092.403</b>	<b>2,423.976</b>	<b>1,077.432</b>	<b>2,440.866</b>	<b>8,034.677</b>	<b>1.853</b>	<b>1.443</b>	<b>3.296</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.845	1.973	.
(14) Massachusetts Credibility:	0.530	0.890	.
(15) Countrywide Pure Premium:	1.993	1.363	3.357
(16) Countrywide Indicated Relativity:	1.902	1.831	.
(17) Countrywide Credibility:	0.240	0.060	.
(18) Countrywide Lost-Time Claims:	7848.0	.	.
(19) Pure Premium Underlying Present Rate:	1.444	1.595	3.039
(20) Relativity to Underlying Present Rate:	2.111	2.244	.
(21) Credibility to Underlying Relativity:	0.230	0.050	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.920	1.978	.
(24) Balanced Formula Relativity:	1.912	1.972	1.937

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8293 STORAGE WAREHOUSE-FURNITURE & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	467.157	17	200	1,511.668	1,370.749	909.380	1,068.120	4,859.917	6.170	4.233	10.403
2005	487.077	13	161	610.710	711.034	406.120	595.440	2,323.305	2.714	2.056	4.770
2006	469.038	20	180	1,412.021	1,081.852	996.636	854.851	4,345.361	5.317	3.947	9.264
2007	395.440	7	115	387.355	933.035	107.594	871.828	2,299.812	3.339	2.477	5.816
2008	395.244	13	122	2,104.490	1,189.409	1,198.695	806.041	5,298.634	8.334	5.072	13.406
<b>MA Total:</b>	<b>2,213,956</b>	<b>70</b>	<b>778</b>	<b>6,026,244</b>	<b>5,286,080</b>	<b>3,618,425</b>	<b>4,196,280</b>	<b>19,127,029</b>	<b>5.110</b>	<b>3.530</b>	<b>8.639</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	5.089	4.826	.
(14) Massachusetts Credibility:	0.710	1.000	.
(15) Countrywide Pure Premium:	4.769	2.720	7.489
(16) Countrywide Indicated Relativity:	4.550	3.652	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	5346.0	.	.
(19) Pure Premium Underlying Present Rate:	3.286	3.243	6.528
(20) Relativity to Underlying Present Rate:	4.802	4.564	.
(21) Credibility to Underlying Relativity:	0.140	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	4.968	4.826	.
(24) Balanced Formula Relativity:	4.948	4.810	4.890

Class(es):		Effective: 9/1/2011							Goods and Services		
8350 GASOLINE OR OIL DEALER & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,626,637	30	423	2,669,476	3,290,245	1,478,575	2,007,523	9,445,819	3.664	2.143	5.807
2005	1,593,548	24	386	2,099,863	2,640,821	1,169,799	1,755,505	7,665,987	2.975	1.836	4.811
2006	1,500,853	32	319	5,751,355	2,294,619	2,979,071	1,307,343	12,332,387	5.361	2.856	8.217
2007	1,536,019	19	306	2,659,816	2,979,032	1,553,231	1,666,685	8,858,764	3.671	2.096	5.767
2008	1,529,071	15	265	2,123,706	2,791,447	1,258,718	1,727,629	7,901,499	3.214	1.953	5.168
<b>MA Total:</b>	<b>7,786,128</b>	<b>120</b>	<b>1,699</b>	<b>15,304,217</b>	<b>13,996,163</b>	<b>8,439,393</b>	<b>8,464,684</b>	<b>46,204,457</b>	<b>3.763</b>	<b>2.171</b>	<b>5.934</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.748	2.968	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	3.253	1.841	5.094
(16) Countrywide Indicated Relativity:	3.103	2.473	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	4140.0	.	.
(19) Pure Premium Underlying Present Rate:	2.374	2.163	4.537
(20) Relativity to Underlying Present Rate:	3.469	3.044	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	3.748	2.968	.
(24) Balanced Formula Relativity:	3.733	2.959	3.406

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8380 AUTOMOBILE SERVICE OR REPAIR CENTER & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9,373,458	79	1,952	6,548,796	6,841,020	3,078,631	4,978,643	21447090	1,428	0,860	2,288
2005	9,029,655	70	1,825	6,423,320	6,344,774	3,673,950	4,875,347	21317392	1,414	0,947	2,361
2006	8,348,901	59	1,512	5,357,952	6,776,164	3,047,723	4,905,122	20086960	1,453	0,953	2,406
2007	7,741,641	48	1,406	5,483,054	6,637,619	2,458,703	4,941,038	19520413	1,566	0,956	2,521
2008	7,473,478	40	1,161	5,615,145	7,493,631	2,621,920	5,419,234	21149930	1,754	1,076	2,830
<b>MA Total:</b>	<b>41967134</b>	<b>296</b>	<b>7,856</b>	<b>29428268</b>	<b>34093207</b>	<b>14880927</b>	<b>25119385</b>	<b>103521787</b>	<b>1,514</b>	<b>0,953</b>	<b>2,467</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.507	1.303	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	1.430	0.892	2.323
(16) Countrywide Indicated Relativity:	1.364	1.198	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	27469	.	.
(19) Pure Premium Underlying Present Rate:	0.998	0.933	1.931
(20) Relativity to Underlying Present Rate:	1.459	1.313	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.507	1.303	.
(24) Balanced Formula Relativity:	1.501	1.299	1.416

Class(es):		Effective: 9/1/2011							Goods and Services		
8381 GASOLINE STATION-RETAIL-SELF SERVICE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	210,065	3	25	118,754	36,615	14,017	46,629	216,015	0,740	0,289	1,028
2005	210,844	0	25	0	43,310	0	68,296	111,606	0,205	0,324	0,529
2006	218,053	0	25	0	380,958	0	237,955	618,913	1,747	1,091	2,838
2007	205,312	2	19	101,459	124,024	95,979	126,942	448,404	1,098	1,086	2,184
2008	203,521	0	16	0	431,795	0	162,313	594,108	2,122	0,798	2,919
<b>MA Total:</b>	<b>1,047,795</b>	<b>5</b>	<b>110</b>	<b>220,214</b>	<b>1,016,702</b>	<b>109,997</b>	<b>642,134</b>	<b>1,989,047</b>	<b>1,180</b>	<b>0,718</b>	<b>1,898</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.176	0.981	.
(14) Massachusetts Credibility:	0.280	0.440	.
(15) Countrywide Pure Premium:	1.097	0.839	1.936
(16) Countrywide Indicated Relativity:	1.046	1.126	.
(17) Countrywide Credibility:	0.360	0.280	.
(18) Countrywide Lost-Time Claims:	490.00	.	.
(19) Pure Premium Underlying Present Rate:	0.680	0.646	1.326
(20) Relativity to Underlying Present Rate:	0.994	0.909	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.064	1.002	.
(24) Balanced Formula Relativity:	1.059	0.998	1.034

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8385 BUS CO: GARAGE EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	329,299	7	97	339,964	199,818	392,084	228,759	1,160,625	1,639	1,885	3,525
2005	280,592	5	86	124,648	840,101	154,127	224,160	1,343,036	3,438	1,348	4,786
2006	267,104	2	76	212,834	402,251	39,039	282,353	936,476	2,303	1,203	3,506
2007	300,930	4	83	1,168,653	433,375	233,558	229,019	2,064,605	5,324	1,537	6,861
2008	299,057	3	74	31,921	251,101	59,035	223,008	565,065	0,946	0,943	1,889
<b>MA Total:</b>	<b>1,476,982</b>	<b>21</b>	<b>416</b>	<b>1,878,020</b>	<b>2,126,646</b>	<b>877,843</b>	<b>1,187,299</b>	<b>6,069,808</b>	<b>2,711</b>	<b>1,398</b>	<b>4,110</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.700	1.912	.
(14) Massachusetts Credibility:	0.430	0.660	.
(15) Countrywide Pure Premium:	1.491	0.986	2.476
(16) Countrywide Indicated Relativity:	1.422	1.324	.
(17) Countrywide Credibility:	0.290	0.170	.
(18) Countrywide Lost-Time Claims:	1449.0	.	.
(19) Pure Premium Underlying Present Rate:	1.378	1.232	2.611
(20) Relativity to Underlying Present Rate:	2.015	1.734	.
(21) Credibility to Underlying Relativity:	0.280	0.170	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.138	1.781	.
(24) Balanced Formula Relativity:	2.129	1.776	1.980

Class(es):		Effective: 9/1/2011							Goods and Services		
8392 AUTOMOBILE STORAGE GARAGE OR PARKING STATION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	459,656	8	69	87,376	35,263	108,771	91,545	322,955	0,267	0,436	0,703
2005	515,772	0	63	0	76,296	0	87,714	164,010	0,148	0,170	0,318
2006	511,236	3	56	60,423	74,866	28,072	100,750	264,112	0,265	0,252	0,517
2007	594,692	4	70	93,904	299,535	54,451	228,446	676,336	0,662	0,476	1,137
2008	502,389	3	60	75,082	546,423	40,817	466,598	1,128,920	1,237	1,010	2,247
<b>MA Total:</b>	<b>2,583,745</b>	<b>18</b>	<b>318</b>	<b>316,785</b>	<b>1,032,384</b>	<b>232,111</b>	<b>975,053</b>	<b>2,556,332</b>	<b>0,522</b>	<b>0,467</b>	<b>0,989</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.520	0.639	.
(14) Massachusetts Credibility:	0.370	0.540	.
(15) Countrywide Pure Premium:	1.192	0.971	2.164
(16) Countrywide Indicated Relativity:	1.137	1.304	.
(17) Countrywide Credibility:	0.320	0.230	.
(18) Countrywide Lost-Time Claims:	1227.0	.	.
(19) Pure Premium Underlying Present Rate:	0.532	0.441	0.973
(20) Relativity to Underlying Present Rate:	0.777	0.621	.
(21) Credibility to Underlying Relativity:	0.310	0.230	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.797	0.788	.
(24) Balanced Formula Relativity:	0.794	0.785	0.790

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## Calculation of Class Relativities

Class(es): 8393 AUTOMOBILE BODY REPAIR		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,629,601	8	243	1,187,090	1,257,657	613,605	573,317	3,631,669	1,500	0,728	2,229
2005	1,614,466	14	221	771,499	842,594	181,531	638,368	2,433,991	1,000	0,508	1,508
2006	1,629,830	11	226	1,646,286	646,818	671,870	705,364	3,670,338	1,407	0,845	2,252
2007	1,622,389	8	208	836,487	1,029,303	187,072	788,689	2,841,552	1,150	0,601	1,751
2008	1,623,094	8	215	783,189	1,077,622	318,596	672,839	2,852,246	1,146	0,611	1,757
<b>MA Total:</b>	<b>8,119,381</b>	<b>49</b>	<b>1,113</b>	<b>5,224,551</b>	<b>4,853,993</b>	<b>1,972,674</b>	<b>3,378,577</b>	<b>15429796</b>	<b>1,241</b>	<b>0,659</b>	<b>1,900</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.236	0.901	.
(14) Massachusetts Credibility:	0.700	1.000	.
(15) Countrywide Pure Premium:	1.033	0.573	1.605
(16) Countrywide Indicated Relativity:	0.985	0.769	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	3109.0	.	.
(19) Pure Premium Underlying Present Rate:	0.845	0.639	1.484
(20) Relativity to Underlying Present Rate:	1.235	0.899	.
(21) Credibility to Underlying Relativity:	0.150	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.198	0.901	.
(24) Balanced Formula Relativity:	1.194	0.898	1.069

Class(es): 8601 ARCHITECT OR ENGINEER-CONSULTING		Effective: 9/1/2011							Office and Clerical		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	8,033,793	7	199	945,922	1,183,697	882,845	831,184	3,843,648	0,265	0,213	0,478
2005	7,968,313	8	224	260,855	258,355	438,121	627,979	1,585,311	0,065	0,134	0,199
2006	8,304,951	4	231	601,382	379,411	448,606	545,012	1,974,410	0,118	0,120	0,238
2007	8,823,992	1	176	220,429	303,720	27,897	593,158	1,145,205	0,059	0,070	0,130
2008	9,214,804	1	175	248,834	1,478,879	57,873	553,408	2,338,994	0,187	0,066	0,254
<b>MA Total:</b>	<b>42345854</b>	<b>21</b>	<b>1,005</b>	<b>2,277,422</b>	<b>3,604,063</b>	<b>1,855,342</b>	<b>3,150,741</b>	<b>10887568</b>	<b>0,139</b>	<b>0,118</b>	<b>0,257</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.597	1.692	.
(14) Massachusetts Credibility:	0.560	0.960	.
(15) Countrywide Pure Premium:	0.211	0.152	0.363
(16) Countrywide Indicated Relativity:	2.583	2.303	.
(17) Countrywide Credibility:	0.220	0.020	.
(18) Countrywide Lost-Time Claims:	4324.0	.	.
(19) Pure Premium Underlying Present Rate:	0.094	0.112	0.206
(20) Relativity to Underlying Present Rate:	1.687	1.748	.
(21) Credibility to Underlying Relativity:	0.220	0.020	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	1.834	1.705	.
(24) Balanced Formula Relativity:	1.820	1.703	1.768

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8710 STEVEDORING:TALLIERS & CHECKING CLERKS: MA ACT											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9,350	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	9,857	2	0	41,672	0	64,726	0	106,398	8,456	13,134	21,589
2006	7,186	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	11,496	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	12,472	0	2	0	8,432	0	16,387	24,819	1,352	2,628	3,980
<b>MA Total:</b>	<b>50,360</b>	<b>2</b>	<b>2</b>	<b>41,672</b>	<b>8,432</b>	<b>64,726</b>	<b>16,387</b>	<b>131,217</b>	<b>0.995</b>	<b>1.611</b>	<b>2.606</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.991	2.202	.
(14) Massachusetts Credibility:	0.070	0.110	.
(15) Countrywide Pure Premium:	2.340	1.875	4.215
(16) Countrywide Indicated Relativity:	2.232	2.518	.
(17) Countrywide Credibility:	0.290	0.300	.
(18) Countrywide Lost-Time Claims:	50.000	.	.
(19) Pure Premium Underlying Present Rate:	0.848	0.870	1.718
(20) Relativity to Underlying Present Rate:	1.240	1.224	.
(21) Credibility to Underlying Relativity:	0.640	0.590	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.510	1.720	.
(24) Balanced Formula Relativity:	1.504	1.715	1.593

Class(es):		Effective: 9/1/2011							Goods and Services		
8720 INSPECTION OF RISKS FOR INSURANCE OR VALUATION PURPOSES NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,245,783	8	48	229,671	98,597	191,774	126,872	646,913	0.264	0.256	0.519
2005	1,253,368	4	55	310,163	942,915	116,725	198,329	1,568,132	1.000	0.251	1.251
2006	1,285,264	5	53	430,362	72,726	142,310	128,779	774,176	0.391	0.211	0.602
2007	1,327,016	3	50	258,005	83,594	263,917	150,630	756,146	0.257	0.312	0.570
2008	1,341,868	1	62	184,217	268,216	188,066	268,954	909,454	0.337	0.341	0.678
<b>MA Total:</b>	<b>6,453,299</b>	<b>21</b>	<b>268</b>	<b>1,412,418</b>	<b>1,466,047</b>	<b>902,792</b>	<b>873,564</b>	<b>4,654,821</b>	<b>0.446</b>	<b>0.275</b>	<b>0.721</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.444	0.376	.
(14) Massachusetts Credibility:	0.500	0.710	.
(15) Countrywide Pure Premium:	0.804	0.518	1.323
(16) Countrywide Indicated Relativity:	0.767	0.696	.
(17) Countrywide Credibility:	0.250	0.150	.
(18) Countrywide Lost-Time Claims:	1071.0	.	.
(19) Pure Premium Underlying Present Rate:	0.455	0.343	0.798
(20) Relativity to Underlying Present Rate:	0.665	0.483	.
(21) Credibility to Underlying Relativity:	0.250	0.140	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.580	0.439	.
(24) Balanced Formula Relativity:	0.578	0.438	0.519

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Office and Clerical		
8721 REAL ESTATE APPRAISAL CO - OUTSIDE EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	271,146	0	2	0	6,033	0	2,877	8,910	0.022	0.011	0.033
2005	296,745	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	244,849	0	5	0	3,101	0	4,328	7,429	0.013	0.018	0.030
2007	232,173	0	4	0	4,494	0	6,220	10,714	0.019	0.027	0.046
2008	210,047	1	0	199,215	0	236,883	0	436,099	0.948	1.128	2.076
<b>MA Total:</b>	<b>1,254,960</b>	<b>1</b>	<b>11</b>	<b>199,215</b>	<b>13,628</b>	<b>236,883</b>	<b>13,424</b>	<b>463,151</b>	<b>0.170</b>	<b>0.199</b>	<b>0.369</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.950	2.855	.
(14) Massachusetts Credibility:	0.120	0.190	.
(15) Countrywide Pure Premium:	0.092	0.059	0.151
(16) Countrywide Indicated Relativity:	1.122	0.896	.
(17) Countrywide Credibility:	0.340	0.360	.
(18) Countrywide Lost-Time Claims:	79,000	.	.
(19) Pure Premium Underlying Present Rate:	0.062	0.069	0.131
(20) Relativity to Underlying Present Rate:	1.114	1.082	.
(21) Credibility to Underlying Relativity:	0.540	0.450	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	1.217	1.352	.
(24) Balanced Formula Relativity:	1.208	1.350	1.271

Class(es):		Effective: 9/1/2011							Office and Clerical		
8742 SALESPERSONS, COLLECTORS OR MESSENGERS-OUTSIDE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	61182890	67	797	3,967,340	2,404,397	2,071,044	2,361,169	10803950	0.104	0.072	0.177
2005	64561564	48	782	3,823,600	2,055,436	1,945,917	2,127,191	9,952,144	0.091	0.063	0.154
2006	70048786	34	728	2,498,892	2,818,870	1,316,469	2,363,066	8,997,298	0.076	0.053	0.128
2007	73956483	32	730	3,229,640	3,254,657	2,131,173	3,012,655	11,628,125	0.088	0.070	0.157
2008	75221697	27	590	3,105,392	3,107,261	1,834,788	3,757,782	11,805,223	0.083	0.074	0.157
<b>MA Total:</b>	<b>344971421</b>	<b>208</b>	<b>3,627</b>	<b>16,624,864</b>	<b>13,640,622</b>	<b>9,299,391</b>	<b>13,621,864</b>	<b>53,186,740</b>	<b>0.088</b>	<b>0.066</b>	<b>0.154</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.009	0.951	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.127	0.095	0.222
(16) Countrywide Indicated Relativity:	1.556	1.430	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	19254	.	.
(19) Pure Premium Underlying Present Rate:	0.056	0.061	0.117
(20) Relativity to Underlying Present Rate:	0.996	0.960	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	1.009	0.951	.
(24) Balanced Formula Relativity:	1.001	0.950	0.978

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8745 NEWS AGENT OR DISTRIB OF MAGAZINE-NOT RETAIL & SALES,DR											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	146.777	5	55	68.628	81.393	63.477	99.281	312.778	1.022	1.109	2.131
2005	229.159	4	45	133.759	208.161	132.193	83.164	557.277	1.492	0.940	2.432
2006	240.794	1	59	249.729	358.945	15.825	248.729	873.228	2.528	1.099	3.626
2007	152.791	0	35	0	348.756	0	126.069	474.825	2.283	0.825	3.108
2008	138.256	0	25	0	52.421	0	69.168	121.589	0.379	0.500	0.879
<b>MA Total:</b>	<b>907.777</b>	<b>10</b>	<b>219</b>	<b>452,116</b>	<b>1,049,676</b>	<b>211,495</b>	<b>626,410</b>	<b>2,339,697</b>	<b>1.654</b>	<b>0.923</b>	<b>2.577</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.648	1.262	.
(14) Massachusetts Credibility:	0.340	0.560	.
(15) Countrywide Pure Premium:	1.857	1.646	3.503
(16) Countrywide Indicated Relativity:	1.772	2.210	.
(17) Countrywide Credibility:	0.330	0.220	.
(18) Countrywide Lost-Time Claims:	504.00	.	.
(19) Pure Premium Underlying Present Rate:	1.267	1.322	2.588
(20) Relativity to Underlying Present Rate:	1.851	1.860	.
(21) Credibility to Underlying Relativity:	0.330	0.220	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.756	1.602	.
(24) Balanced Formula Relativity:	1.749	1.597	1.685

Class(es):		Effective: 9/1/2011							Office and Clerical		
8748 AUTOMOBILE SALESPERSONS											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,308.854	8	188	968.370	223.052	715.607	314.107	2,221.137	0.360	0.311	0.671
2005	2,770.415	7	97	416.969	435.144	202.590	327.771	1,382.473	0.308	0.191	0.499
2006	2,803.714	6	94	187.536	422.700	236.430	269.813	1,116.480	0.218	0.181	0.398
2007	2,367.597	6	100	541.931	254.154	152.243	206.166	1,154.494	0.336	0.151	0.488
2008	2,160.976	2	92	346.801	1,084.572	142.634	754.455	2,328.462	0.662	0.415	1.078
<b>MA Total:</b>	<b>13411556</b>	<b>29</b>	<b>571</b>	<b>2,461,607</b>	<b>2,419,622</b>	<b>1,449,505</b>	<b>1,872,314</b>	<b>8,203,047</b>	<b>0.364</b>	<b>0.248</b>	<b>0.612</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	4.185	3.545	.
(14) Massachusetts Credibility:	0.450	0.740	.
(15) Countrywide Pure Premium:	0.225	0.154	0.379
(16) Countrywide Indicated Relativity:	2.758	2.324	.
(17) Countrywide Credibility:	0.280	0.130	.
(18) Countrywide Lost-Time Claims:	1959.0	.	.
(19) Pure Premium Underlying Present Rate:	0.167	0.185	0.353
(20) Relativity to Underlying Present Rate:	2.996	2.902	.
(21) Credibility to Underlying Relativity:	0.270	0.130	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	3.465	3.303	.
(24) Balanced Formula Relativity:	3.438	3.299	3.376

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## Calculation of Class Relativities

Class(es): 8800 MAILING OR ADDRESSING CO & CLERICAL		Effective: 9/1/2011							Office and Clerical		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	660,701	3	41	132,506	48,138	75,428	77,305	333,376	0.273	0.231	0.505
2005	648,186	3	41	151,560	147,746	45,071	105,995	450,372	0.462	0.233	0.695
2006	703,910	5	48	244,053	162,532	163,688	167,492	737,765	0.578	0.470	1.048
2007	711,650	3	48	453,057	650,691	153,157	590,691	1,847,596	1.551	1.045	2.596
2008	593,932	1	40	109,682	388,791	30,265	151,342	680,080	0.839	0.306	1.145
<b>MA Total:</b>	<b>3,318,380</b>	<b>15</b>	<b>218</b>	<b>1,090,859</b>	<b>1,397,898</b>	<b>467,608</b>	<b>1,092,825</b>	<b>4,049,190</b>	<b>0.750</b>	<b>0.470</b>	<b>1.220</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	8.624	6.730	.
(14) Massachusetts Credibility:	0.320	0.540	.
(15) Countrywide Pure Premium:	0.417	0.411	0.828
(16) Countrywide Indicated Relativity:	5.104	6.211	.
(17) Countrywide Credibility:	0.340	0.230	.
(18) Countrywide Lost-Time Claims:	1081.0	.	.
(19) Pure Premium Underlying Present Rate:	0.307	0.338	0.645
(20) Relativity to Underlying Present Rate:	5.486	5.289	.
(21) Credibility to Underlying Relativity:	0.340	0.230	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	6.360	6.279	.
(24) Balanced Formula Relativity:	6.312	6.273	6.295

Class(es): 8803 AUDITORS, ACCOUNTANT OR FACTORY COST OR OFF SYSTEMZR-TRAV		Effective: 9/1/2011							Office and Clerical		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	19208645	5	55	563,649	83,832	140,762	198,207	986,449	0.034	0.018	0.051
2005	20463982	1	54	34,372	68,871	27,030	205,710	335,983	0.005	0.011	0.016
2006	21932921	1	48	293,097	38,009	89,005	85,952	506,063	0.015	0.008	0.023
2007	23675531	0	54	0	139,939	0	306,330	446,269	0.006	0.013	0.019
2008	23026270	1	44	146,152	192,412	45,863	146,402	530,828	0.015	0.008	0.023
<b>MA Total:</b>	<b>108307348</b>	<b>8</b>	<b>255</b>	<b>1,037,270</b>	<b>523,064</b>	<b>302,660</b>	<b>942,600</b>	<b>2,805,593</b>	<b>0.014</b>	<b>0.011</b>	<b>0.026</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.166	0.165	.
(14) Massachusetts Credibility:	0.400	0.610	.
(15) Countrywide Pure Premium:	0.025	0.021	0.046
(16) Countrywide Indicated Relativity:	0.309	0.315	.
(17) Countrywide Credibility:	0.300	0.200	.
(18) Countrywide Lost-Time Claims:	978.00	.	.
(19) Pure Premium Underlying Present Rate:	0.016	0.014	0.030
(20) Relativity to Underlying Present Rate:	0.288	0.220	.
(21) Credibility to Underlying Relativity:	0.300	0.190	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	0.245	0.205	.
(24) Balanced Formula Relativity:	0.243	0.205	0.226

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Office and Clerical		
8810 TELEPHONE OR TELEGRAPH CO: OFF OR EXCH EMP & CL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	549375996	260	6.024	18408494	16373559	11921931	15706394	62410378	0.127	0.101	0.227
2005	620304724	186	5.164	11055512	19204806	7.507.698	16290224	54058241	0.098	0.077	0.174
2006	695709090	200	4.694	16554052	13033437	10277389	13860543	53725421	0.085	0.069	0.154
2007	741394979	174	4.552	11691743	18259511	5.405.952	17517967	52875173	0.081	0.062	0.143
2008	773522853	168	3.898	19735882	16117371	13000088	17406948	66260290	0.093	0.079	0.171
MA Total:	3.38031E9	988	24.332	77445684	82988683	48113058	80782076	289329502	0.047	0.038	0.086

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.546	0.546	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.058	0.048	0.106
(16) Countrywide Indicated Relativity:	0.707	0.724	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	55435	.	.
(19) Pure Premium Underlying Present Rate:	0.031	0.036	0.067
(20) Relativity to Underlying Present Rate:	0.560	0.566	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	0.546	0.546	.
(24) Balanced Formula Relativity:	0.542	0.545	0.543

Class(es):		Effective: 9/1/2011							Office and Clerical		
8820 ATTORNEY-ALL EMP & CLERICAL, MESSENGERS, DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	19873143	5	115	159.336	265.152	108.522	296.830	829.839	0.021	0.020	0.042
2005	21364530	8	108	507.603	187.540	645.125	313.942	1.654.210	0.033	0.045	0.077
2006	21916726	4	94	145.025	446.975	302.466	362.276	1.256.743	0.027	0.030	0.057
2007	23742486	9	102	923.897	490.654	619.341	366.133	2.400.024	0.060	0.042	0.101
2008	23736798	5	79	198.677	538.555	222.877	467.538	1.427.647	0.031	0.029	0.060
MA Total:	110633683	31	498	1,934.538	1,928.875	1,898.331	1,806.719	7,568.463	0.035	0.033	0.068

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.402	0.479	.
(14) Massachusetts Credibility:	0.550	0.880	.
(15) Countrywide Pure Premium:	0.057	0.042	0.100
(16) Countrywide Indicated Relativity:	0.701	0.642	.
(17) Countrywide Credibility:	0.230	0.060	.
(18) Countrywide Lost-Time Claims:	2190.0	.	.
(19) Pure Premium Underlying Present Rate:	0.034	0.034	0.068
(20) Relativity to Underlying Present Rate:	0.603	0.533	.
(21) Credibility to Underlying Relativity:	0.220	0.060	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	0.515	0.492	.
(24) Balanced Formula Relativity:	0.511	0.492	0.502

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8829 CONVALESCENT OR NURSING HOME-ALL EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	7,890,742	74	2,820	4,192,327	5,014,325	1,544,734	4,172,624	14924011	1.167	0.725	1.891
2005	8,536,647	76	2,832	4,908,127	5,236,204	2,217,730	4,233,440	16595501	1.188	0.756	1.944
2006	7,866,557	49	2,193	2,876,996	5,172,232	1,633,075	4,171,527	13853830	1.023	0.738	1.761
2007	8,153,017	49	2,305	3,373,099	5,152,716	1,686,510	4,251,344	14463669	1.046	0.728	1.774
2008	8,708,074	44	2,221	4,564,037	7,380,055	2,084,757	4,950,153	18979002	1.372	0.808	2.179
<b>MA Total:</b>	<b>41155038</b>	<b>292</b>	<b>12,371</b>	<b>19914586</b>	<b>27955533</b>	<b>9,166,806</b>	<b>21779089</b>	<b>78816013</b>	<b>1.163</b>	<b>0.752</b>	<b>1.915</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.158	1.028	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	1.218	0.900	2.118
(16) Countrywide Indicated Relativity:	1.162	1.208	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	23633	.	.
(19) Pure Premium Underlying Present Rate:	0.832	0.790	1.622
(20) Relativity to Underlying Present Rate:	1.216	1.112	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.158	1.028	.
(24) Balanced Formula Relativity:	1.154	1.025	1.099

Class(es):		Effective: 9/1/2011							Goods and Services		
8831 PET GROOMING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,666,943	4	633	182,084	199,862	597,823	701,786	1,681,555	0.229	0.780	1.009
2005	1,880,371	11	561	367,126	249,964	306,221	794,529	1,717,839	0.328	0.585	0.914
2006	1,922,695	3	650	291,115	493,817	148,577	995,921	1,929,430	0.408	0.595	1.004
2007	1,960,115	10	535	1,021,481	499,291	792,731	887,777	3,201,280	0.776	0.857	1.633
2008	2,306,994	6	574	356,309	958,337	334,233	1,132,457	2,781,336	0.570	0.636	1.206
<b>MA Total:</b>	<b>9,737,118</b>	<b>34</b>	<b>2,953</b>	<b>2,218,116</b>	<b>2,401,270</b>	<b>2,179,584</b>	<b>4,512,471</b>	<b>11311440</b>	<b>0.474</b>	<b>0.687</b>	<b>1.162</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.472	0.940	.
(14) Massachusetts Credibility:	0.490	1.000	.
(15) Countrywide Pure Premium:	0.557	0.601	1.158
(16) Countrywide Indicated Relativity:	0.531	0.807	.
(17) Countrywide Credibility:	0.260	0.000	.
(18) Countrywide Lost-Time Claims:	3840.0	.	.
(19) Pure Premium Underlying Present Rate:	0.288	0.625	0.913
(20) Relativity to Underlying Present Rate:	0.422	0.879	.
(21) Credibility to Underlying Relativity:	0.250	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.475	0.940	.
(24) Balanced Formula Relativity:	0.473	0.937	0.668

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## Calculation of Class Relativities

Class(es): 8832 PHYSICIAN & CLERICAL		Effective: 9/1/2011							Office and Clerical		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	37110944	43	1,214	2,164,998	2,944,241	1,289,555	2,195,594	8,594,387	0.138	0.094	0.232
2005	38977654	39	1,273	2,388,515	1,822,718	1,126,832	1,907,239	7,245,304	0.108	0.078	0.186
2006	41909584	44	1,234	2,971,004	2,391,452	2,800,390	2,632,619	10,795,465	0.128	0.130	0.258
2007	43807546	30	1,202	2,332,662	3,126,008	982,902	2,326,469	8,768,041	0.125	0.076	0.200
2008	44689229	21	1,157	2,459,755	4,130,545	1,504,039	2,970,937	11,065,275	0.147	0.100	0.248
<b>MA Total:</b>	<b>206494955</b>	<b>177</b>	<b>6,080</b>	<b>12316933</b>	<b>14414964</b>	<b>7,703,718</b>	<b>12032858</b>	<b>46468473</b>	<b>0.129</b>	<b>0.096</b>	<b>0.225</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.489	1.368	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.110	0.086	0.196
(16) Countrywide Indicated Relativity:	1.346	1.305	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	12419	.	.
(19) Pure Premium Underlying Present Rate:	0.084	0.088	0.172
(20) Relativity to Underlying Present Rate:	1.503	1.374	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	1.489	1.368	.
(24) Balanced Formula Relativity:	1.477	1.366	1.428

Class(es): 8833 HOSPITAL: PROFESSIONAL EMPLOYEES		Effective: 9/1/2011							Office and Clerical		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9,052,538	35	1,586	1,701,236	2,130,452	971,249	1,913,025	6,715,962	0.423	0.319	0.742
2005	9,163,580	41	1,521	2,925,168	3,559,912	1,284,144	2,464,025	10,233,250	0.708	0.409	1.117
2006	9,735,897	48	1,392	4,213,299	3,475,744	2,115,636	2,556,284	12,360,963	0.790	0.480	1.270
2007	7,751,884	22	1,056	1,805,314	3,967,783	782,515	2,270,139	8,825,751	0.745	0.394	1.139
2008	6,395,041	25	806	2,382,226	3,133,107	1,357,155	2,231,577	9,104,064	0.862	0.561	1.424
<b>MA Total:</b>	<b>42098940</b>	<b>171</b>	<b>6,361</b>	<b>13027243</b>	<b>16266998</b>	<b>6,510,699</b>	<b>11435051</b>	<b>47239991</b>	<b>0.696</b>	<b>0.426</b>	<b>1.122</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	8.002	6.101	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.354	0.270	0.624
(16) Countrywide Indicated Relativity:	4.334	4.082	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	17630	.	.
(19) Pure Premium Underlying Present Rate:	0.439	0.408	0.847
(20) Relativity to Underlying Present Rate:	7.846	6.388	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	8.002	6.101	.
(24) Balanced Formula Relativity:	7.941	6.094	7.118

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
8835 NURSING-HOME HEALTH, PUBLIC & TRAVELING-ALL EMPLOYEES											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,135,546	59	659	2,126,292	1,607,035	1,226,383	1,378,510	6,338,220	1.191	0.831	2.021
2005	3,382,097	29	671	1,421,297	2,396,734	558,868	1,531,993	5,908,892	1.129	0.618	1.747
2006	3,803,944	34	723	2,350,761	2,131,711	1,349,665	1,663,725	7,495,863	1.178	0.792	1.971
2007	4,138,191	40	679	2,002,924	2,485,116	969,153	1,654,213	7,111,406	1.085	0.634	1.718
2008	4,491,830	45	653	3,004,226	2,688,051	1,834,064	1,989,935	9,516,276	1.267	0.851	2.119
<b>MA Total:</b>	<b>18951609</b>	<b>207</b>	<b>3,385</b>	<b>10905499</b>	<b>11308647</b>	<b>5,938,133</b>	<b>8,218,376</b>	<b>36370656</b>	<b>1.172</b>	<b>0.747</b>	<b>1.919</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.167	1.021	.
(14) Massachusetts Credibility:	0.970	1.000	.
(15) Countrywide Pure Premium:	1.247	0.794	2.041
(16) Countrywide Indicated Relativity:	1.189	1.067	.
(17) Countrywide Credibility:	0.020	0.000	.
(18) Countrywide Lost-Time Claims:	11514	.	.
(19) Pure Premium Underlying Present Rate:	0.837	0.768	1.605
(20) Relativity to Underlying Present Rate:	1.223	1.080	.
(21) Credibility to Underlying Relativity:	0.010	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.168	1.021	.
(24) Balanced Formula Relativity:	1.164	1.018	1.102

Class(es):		Effective: 9/1/2011							Office and Clerical		
8868 COLLEGE: PROFESSIONAL EMPLOYEES & CLERICAL											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical				MA Indicated Pure Premiums	
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	24794860	100	2,829	4,425,758	3,631,189	3,785,268	4,643,698	16,485,913	0.325	0.340	0.665
2005	24458451	90	2,883	3,564,396	3,428,311	2,568,438	4,808,553	14,369,698	0.286	0.302	0.588
2006	26870088	90	2,982	4,344,894	3,827,091	3,377,257	5,859,478	17,408,720	0.304	0.344	0.648
2007	28735110	83	3,363	5,587,867	6,680,207	3,284,303	7,110,507	22,662,884	0.427	0.362	0.789
2008	30948276	72	3,680	4,370,796	6,940,323	2,537,657	7,941,236	21,790,013	0.365	0.339	0.704
<b>MA Total:</b>	<b>135806785</b>	<b>435</b>	<b>15,737</b>	<b>22,293,710</b>	<b>24,507,120</b>	<b>15,552,924</b>	<b>30,363,473</b>	<b>92,717,228</b>	<b>0.345</b>	<b>0.338</b>	<b>0.683</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.963	4.839	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.107	0.112	0.219
(16) Countrywide Indicated Relativity:	1.311	1.690	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	15057	.	.
(19) Pure Premium Underlying Present Rate:	0.211	0.289	0.500
(20) Relativity to Underlying Present Rate:	3.773	4.529	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	3.963	4.839	.
(24) Balanced Formula Relativity:	3.933	4.834	4.334

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9014 BUILDINGS - OPERATION BY CONTRACTORS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,501,533	50	651	2,954,660	2,342,810	2,208,840	1,910,582	9,416,892	1,177	0.915	2,092
2005	4,665,010	69	663	4,712,997	3,449,479	4,348,038	1,941,321	14,451,835	1,750	1.348	3,098
2006	5,200,982	48	657	3,794,490	3,841,489	1,803,402	2,262,029	11,701,410	1,468	0.782	2,250
2007	5,417,549	32	717	2,283,716	4,005,219	928,797	2,374,323	9,592,055	1,161	0.610	1,771
2008	3,973,003	27	481	2,365,282	3,836,534	1,104,314	3,041,490	10,347,619	1,561	1.043	2,604
<b>MA Total:</b>	<b>23,758,076</b>	<b>226</b>	<b>3,169</b>	<b>16,111,146</b>	<b>17,475,530</b>	<b>10,393,390</b>	<b>11,529,745</b>	<b>55,509,811</b>	<b>1,414</b>	<b>0.923</b>	<b>2,336</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.408	1.262	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	1.520	1.074	2.594
(16) Countrywide Indicated Relativity:	1.450	1.442	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	16571	.	.
(19) Pure Premium Underlying Present Rate:	0.972	0.880	1.852
(20) Relativity to Underlying Present Rate:	1.420	1.239	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.408	1.262	.
(24) Balanced Formula Relativity:	1.402	1.258	1.341

Class(es):		Effective: 9/1/2011							Goods and Services		
9015 BUILDINGS-OPERATION BY OWNER OR LESSEE											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	4,222,363	48	973	3,049,278	3,749,019	1,279,359	2,365,395	10,443,051	1,610	0.863	2,473
2005	4,426,636	49	970	4,556,555	3,107,611	2,798,682	2,571,115	13,033,964	1,731	1.213	2,944
2006	4,616,484	33	916	3,140,436	4,684,490	1,944,361	3,478,322	13,247,609	1,695	1.175	2,870
2007	4,785,083	26	885	2,785,903	4,737,093	1,629,472	3,807,790	12,960,258	1,572	1.136	2,708
2008	4,911,791	34	893	4,831,703	5,091,858	2,306,913	4,241,431	16,471,906	2,020	1.333	3,354
<b>MA Total:</b>	<b>22,962,358</b>	<b>190</b>	<b>4,637</b>	<b>18,363,876</b>	<b>21,370,071</b>	<b>9,958,787</b>	<b>16,464,054</b>	<b>66,156,787</b>	<b>1,730</b>	<b>1.151</b>	<b>2,881</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.723	1.573	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	1.566	1.027	2.593
(16) Countrywide Indicated Relativity:	1.494	1.379	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	13866	.	.
(19) Pure Premium Underlying Present Rate:	1.101	1.047	2.148
(20) Relativity to Underlying Present Rate:	1.609	1.474	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.723	1.573	.
(24) Balanced Formula Relativity:	1.716	1.568	1.654

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services			
9016 AMUSEMENT PARK OR EXHIBITION OPERATION & DR												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	418,105	1	108	187	180,254	3,348	308,001	491,791	0.432	0.745	1.176	
2005	471,106	2	104	82,485	478,223	7,618	328,179	896,505	1.190	0.713	1.903	
2006	511,249	3	72	79,018	21,165	187,055	130,023	417,261	0.196	0.620	0.816	
2007	564,663	0	96	0	169,379	0	283,478	452,857	0.300	0.502	0.802	
2008	562,964	3	109	262,989	186,176	116,770	510,412	1,076,347	0.798	1.114	1.912	
<b>MA Total:</b>	<b>2,528,088</b>	<b>9</b>	<b>489</b>	<b>424,679</b>	<b>1,035,197</b>	<b>314,791</b>	<b>1,560,094</b>	<b>3,334,760</b>	<b>0.577</b>	<b>0.742</b>	<b>1.319</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.575	1.014	.
(14) Massachusetts Credibility:	0.380	0.630	.
(15) Countrywide Pure Premium:	1.211	1.132	2.343
(16) Countrywide Indicated Relativity:	1.155	1.520	.
(17) Countrywide Credibility:	0.310	0.190	.
(18) Countrywide Lost-Time Claims:	2024.0	.	.
(19) Pure Premium Underlying Present Rate:	0.596	0.648	1.244
(20) Relativity to Underlying Present Rate:	0.871	0.912	.
(21) Credibility to Underlying Relativity:	0.310	0.180	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.847	1.092	.
(24) Balanced Formula Relativity:	0.843	1.088	0.946

Class(es):		Effective: 9/1/2011							Miscellaneous			
9019 BRIDGE OR VEHICULAR TUNNEL OPERATION & DRIVERS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	6,390	0	0	0	0	0	0	0	0.000	0.000	0.000	
2005	8,159	0	0	0	0	0	0	0	0.000	0.000	0.000	
2006	5,209	0	0	0	0	0	0	0	0.000	0.000	0.000	
2007	6,139	0	0	0	0	0	0	0	0.000	0.000	0.000	
2008	11,112	0	0	0	0	0	0	0	0.000	0.000	0.000	
<b>MA Total:</b>	<b>37,008</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.080	0.100	.
(15) Countrywide Pure Premium:	0.725	0.770	1.495
(16) Countrywide Indicated Relativity:	0.260	0.420	.
(17) Countrywide Credibility:	0.180	0.190	.
(18) Countrywide Lost-Time Claims:	16.000	.	.
(19) Pure Premium Underlying Present Rate:	0.832	0.461	1.292
(20) Relativity to Underlying Present Rate:	0.429	0.242	.
(21) Credibility to Underlying Relativity:	0.740	0.710	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.364	0.251	.
(24) Balanced Formula Relativity:	0.357	0.249	0.314

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9033 HOUSING AUTHORITY & CLERICAL, SALES, DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	461.744	5	122	735.218	968.802	408.155	410.974	2,523.150	3.690	1.774	5.464
2005	481.266	7	119	388.332	1,308.187	165.913	532.881	2,395.313	3.525	1.452	4.977
2006	474.892	7	110	1,250.410	1,214.984	348.380	650.385	3,464.160	5.191	2.103	7.295
2007	93.055	0	18	0	26.004	0	70.255	96.259	0.279	0.755	1.034
2008	541.715	4	105	128.299	647.466	59.239	375.026	1,210.029	1.432	0.802	2.234
<b>MA Total:</b>	<b>2,052.672</b>	<b>23</b>	<b>474</b>	<b>2,502.260</b>	<b>4,165.443</b>	<b>981.687</b>	<b>2,039.521</b>	<b>9,688.911</b>	<b>3.248</b>	<b>1.472</b>	<b>4.720</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	3.235	2.012	.
(14) Massachusetts Credibility:	0.580	0.830	.
(15) Countrywide Pure Premium:	1.182	0.660	1.841
(16) Countrywide Indicated Relativity:	1.127	0.886	.
(17) Countrywide Credibility:	0.210	0.090	.
(18) Countrywide Lost-Time Claims:	781.00	.	.
(19) Pure Premium Underlying Present Rate:	2.098	1.579	3.677
(20) Relativity to Underlying Present Rate:	3.066	2.222	.
(21) Credibility to Underlying Relativity:	0.210	0.080	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.757	1.928	.
(24) Balanced Formula Relativity:	2.746	1.922	2.398

Class(es):		Effective: 9/1/2011							Goods and Services		
9040 HOSPITAL: ALL OTHER EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	881.962	16	580	1,010.499	878.163	578.942	755.975	3,223.579	2.141	1.514	3.655
2005	771.973	5	411	215.677	530.268	110.780	543.942	1,400.667	0.966	0.848	1.814
2006	964.684	11	309	1,159.200	603.451	372.555	660.266	2,795.472	1.827	1.071	2.898
2007	661.942	4	240	427.100	709.186	79.096	593.014	1,808.396	1.717	1.015	2.732
2008	597.614	2	211	25.125	212.307	24.217	469.824	731.474	0.397	0.827	1.224
<b>MA Total:</b>	<b>3,878.175</b>	<b>38</b>	<b>1,751</b>	<b>2,837.602</b>	<b>2,933.373</b>	<b>1,165.590</b>	<b>3,023.022</b>	<b>9,959.588</b>	<b>1.488</b>	<b>1.080</b>	<b>2.568</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.482	1.477	.
(14) Massachusetts Credibility:	0.590	0.940	.
(15) Countrywide Pure Premium:	1.784	1.490	3.274
(16) Countrywide Indicated Relativity:	1.702	2.001	.
(17) Countrywide Credibility:	0.210	0.030	.
(18) Countrywide Lost-Time Claims:	7383.0	.	.
(19) Pure Premium Underlying Present Rate:	1.166	1.154	2.320
(20) Relativity to Underlying Present Rate:	1.703	1.624	.
(21) Credibility to Underlying Relativity:	0.200	0.030	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.572	1.497	.
(24) Balanced Formula Relativity:	1.566	1.492	1.535

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9052 HOTEL: RESTAURANT EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	9,802,889	90	2,230	4,661,782	3,539,819	2,299,027	3,289,527	13,790,154	1,673	1,140	2,813
2005	10,417,319	72	2,066	5,188,940	3,786,014	3,419,849	3,610,680	16,005,483	1,723	1,350	3,073
2006	10,712,221	56	2,018	3,402,634	4,230,724	2,156,650	5,078,846	14,868,854	1,425	1,351	2,776
2007	12,072,922	62	2,308	4,024,933	5,667,939	4,201,976	5,413,162	19,308,010	1,606	1,593	3,199
2008	12,622,599	52	2,164	3,374,990	6,383,851	2,036,343	5,676,683	17,471,867	1,546	1,222	2,768
<b>MA Total:</b>	<b>55,627,950</b>	<b>332</b>	<b>10,786</b>	<b>20,653,278</b>	<b>23,608,347</b>	<b>14,113,844</b>	<b>23,068,898</b>	<b>81,444,367</b>	<b>0.796</b>	<b>0.668</b>	<b>1.464</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.792	0.914	.
(14) Massachusetts Credibility:	0.960	1.000	.
(15) Countrywide Pure Premium:	0.909	0.743	1.651
(16) Countrywide Indicated Relativity:	0.867	0.997	.
(17) Countrywide Credibility:	0.020	0.000	.
(18) Countrywide Lost-Time Claims:	21953	.	.
(19) Pure Premium Underlying Present Rate:	0.551	0.624	1.175
(20) Relativity to Underlying Present Rate:	0.806	0.878	.
(21) Credibility to Underlying Relativity:	0.020	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.794	0.914	.
(24) Balanced Formula Relativity:	0.791	0.911	0.842

Class(es):		Effective: 9/1/2011							Goods and Services		
9060 CLUB-COUNTRY, GOLF, FISHING OR YACHT & CLERICAL											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,408,558	9	395	780,918	701,379	282,798	1,089,618	2,854,714	0.615	0.570	1.185
2005	2,523,618	12	397	946,915	379,562	1,026,382	820,764	3,173,623	0.526	0.732	1.258
2006	2,600,940	8	328	515,100	278,653	371,305	746,161	1,911,218	0.305	0.430	0.735
2007	2,668,883	8	381	363,949	358,165	275,472	683,352	1,680,937	0.271	0.359	0.630
2008	2,738,093	7	358	573,039	907,501	462,584	1,326,974	3,270,098	0.541	0.654	1.194
<b>MA Total:</b>	<b>12,940,092</b>	<b>44</b>	<b>1,859</b>	<b>3,179,921</b>	<b>2,625,260</b>	<b>2,418,541</b>	<b>4,666,869</b>	<b>12,890,591</b>	<b>0.449</b>	<b>0.548</b>	<b>0.996</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.447	0.749	.
(14) Massachusetts Credibility:	0.610	1.000	.
(15) Countrywide Pure Premium:	0.653	0.550	1.203
(16) Countrywide Indicated Relativity:	0.623	0.739	.
(17) Countrywide Credibility:	0.200	0.000	.
(18) Countrywide Lost-Time Claims:	5817.0	.	.
(19) Pure Premium Underlying Present Rate:	0.388	0.502	0.889
(20) Relativity to Underlying Present Rate:	0.567	0.706	.
(21) Credibility to Underlying Relativity:	0.190	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.505	0.749	.
(24) Balanced Formula Relativity:	0.503	0.746	0.605

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## Calculation of Class Relativities

Class(es): 9061 CLUB NOC & CLERICAL		Effective: 9/1/2011							Goods and Services		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	603,156	2	40	10,439	71,641	8,224	72,219	162,523	0.136	0.133	0.269
2005	631,409	3	40	177,386	68,641	65,620	77,127	388,774	0.390	0.226	0.616
2006	675,420	5	44	351,235	125,802	216,985	113,599	807,621	0.706	0.489	1.196
2007	698,370	0	54	0	216,863	0	314,913	531,776	0.311	0.451	0.761
2008	697,236	0	34	0	161,069	0	155,591	316,660	0.231	0.223	0.454
<b>MA Total:</b>	<b>3,305,591</b>	<b>10</b>	<b>212</b>	<b>539,059</b>	<b>644,016</b>	<b>290,830</b>	<b>733,449</b>	<b>2,207,353</b>	<b>0.358</b>	<b>0.310</b>	<b>0.668</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.356	0.424	.
(14) Massachusetts Credibility:	0.340	0.580	.
(15) Countrywide Pure Premium:	0.668	0.528	1.195
(16) Countrywide Indicated Relativity:	0.637	0.709	.
(17) Countrywide Credibility:	0.330	0.210	.
(18) Countrywide Lost-Time Claims:	841.00	.	.
(19) Pure Premium Underlying Present Rate:	0.355	0.405	0.760
(20) Relativity to Underlying Present Rate:	0.519	0.570	.
(21) Credibility to Underlying Relativity:	0.330	0.210	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.502	0.514	.
(24) Balanced Formula Relativity:	0.500	0.513	0.506

Class(es): 9063 YMCA, YWCA, YMHA OR YWHA, INSTITUTION-ALL EMPLOYEES & CLERICAL		Effective: 9/1/2011							Goods and Services		
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	3,418,131	12	344	698,420	419,457	452,785	815,058	2,385,720	0.327	0.371	0.698
2005	3,549,299	12	369	406,891	626,146	243,837	944,302	2,221,176	0.291	0.335	0.626
2006	3,727,473	9	361	555,816	1,016,261	293,018	1,084,635	2,949,730	0.422	0.370	0.791
2007	4,003,188	6	362	296,728	681,375	99,976	764,036	1,842,115	0.244	0.216	0.460
2008	4,063,308	5	391	448,831	761,167	288,618	1,109,759	2,608,376	0.298	0.344	0.642
<b>MA Total:</b>	<b>18761398</b>	<b>44</b>	<b>1,827</b>	<b>2,406,685</b>	<b>3,504,407</b>	<b>1,378,234</b>	<b>4,717,790</b>	<b>12007116</b>	<b>0.315</b>	<b>0.325</b>	<b>0.640</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.314	0.444	.
(14) Massachusetts Credibility:	0.560	1.000	.
(15) Countrywide Pure Premium:	0.348	0.363	0.711
(16) Countrywide Indicated Relativity:	0.332	0.487	.
(17) Countrywide Credibility:	0.220	0.000	.
(18) Countrywide Lost-Time Claims:	2566.0	.	.
(19) Pure Premium Underlying Present Rate:	0.209	0.320	0.529
(20) Relativity to Underlying Present Rate:	0.306	0.450	.
(21) Credibility to Underlying Relativity:	0.220	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.316	0.444	.
(24) Balanced Formula Relativity:	0.315	0.443	0.369

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## Calculation of Class Relativities

Class(es): 9079 RESTAURANT NOC		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	15744433	83	2.975	3,153,138	4,006,616	1,543,032	4,346,873	13049659	0.455	0.374	0.829
2005	15957623	52	3.071	2,718,400	5,247,664	1,311,636	6,415,621	15693322	0.499	0.484	0.983
2006	16035372	69	2.877	4,895,692	5,150,852	3,321,749	5,505,647	18873940	0.627	0.550	1.177
2007	16925200	61	2.883	3,545,547	6,064,857	1,578,487	6,581,313	17770204	0.568	0.482	1.050
2008	17317469	59	2.608	3,998,889	6,257,781	2,997,860	6,838,963	20093492	0.592	0.568	1.160
<b>MA Total:</b>	<b>81980097</b>	<b>324</b>	<b>14.414</b>	<b>18311665</b>	<b>26727769</b>	<b>10752765</b>	<b>29688418</b>	<b>85480617</b>	<b>0.549</b>	<b>0.493</b>	<b>1.043</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.547	0.674	.
(14) Massachusetts Credibility:	1.000	1.000	.
(15) Countrywide Pure Premium:	0.547	0.506	1.054
(16) Countrywide Indicated Relativity:	0.522	0.680	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	3483.0	.	.
(19) Pure Premium Underlying Present Rate:	0.381	0.463	0.844
(20) Relativity to Underlying Present Rate:	0.557	0.651	.
(21) Credibility to Underlying Relativity:	0.000	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.547	0.674	.
(24) Balanced Formula Relativity:	0.545	0.672	0.599

Class(es): 9089 BILLIARD HALL		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	41,040	0	7	0	2,070	0	23,013	25,084	0.050	0.561	0.611
2005	38,079	2	6	57,436	1,722	19,646	11,141	89,945	1.554	0.809	2.362
2006	36,136	0	7	0	7,585	0	12,784	20,369	0.210	0.354	0.564
2007	34,868	0	13	0	15,325	0	17,104	32,429	0.440	0.491	0.930
2008	11,364	0	1	0	0	0	244	244	0.000	0.022	0.022
<b>MA Total:</b>	<b>161,488</b>	<b>2</b>	<b>34</b>	<b>57,436</b>	<b>26,702</b>	<b>19,646</b>	<b>64,287</b>	<b>168,071</b>	<b>0.521</b>	<b>0.520</b>	<b>1.041</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.519	0.711	.
(14) Massachusetts Credibility:	0.110	0.190	.
(15) Countrywide Pure Premium:	0.244	0.310	0.555
(16) Countrywide Indicated Relativity:	0.233	0.417	.
(17) Countrywide Credibility:	0.180	0.190	.
(18) Countrywide Lost-Time Claims:	16,000	.	.
(19) Pure Premium Underlying Present Rate:	0.452	0.518	0.970
(20) Relativity to Underlying Present Rate:	0.661	0.729	.
(21) Credibility to Underlying Relativity:	0.710	0.620	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.568	0.666	.
(24) Balanced Formula Relativity:	0.566	0.664	0.607

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## Calculation of Class Relativities

Class(es): 9093 BOWLING LANE		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	96,964	0	13	0	30,820	0	50,218	81,038	0.318	0.518	0.836
2005	96,727	0	8	0	16,809	0	23,511	40,320	0.174	0.243	0.417
2006	92,804	0	10	0	6,118	0	13,563	19,682	0.066	0.146	0.212
2007	93,240	0	12	0	10,208	0	24,666	34,874	0.109	0.265	0.374
2008	111,007	0	11	0	107,535	0	55,317	162,852	0.969	0.498	1.467
<b>MA Total:</b>	<b>490,741</b>	<b>0</b>	<b>54</b>	<b>0</b>	<b>171,490</b>	<b>0</b>	<b>167,275</b>	<b>338,766</b>	<b>0.349</b>	<b>0.341</b>	<b>0.690</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.348	0.466	.
(14) Massachusetts Credibility:	0.150	0.290	.
(15) Countrywide Pure Premium:	0.584	0.615	1.199
(16) Countrywide Indicated Relativity:	0.557	0.826	.
(17) Countrywide Credibility:	0.430	0.360	.
(18) Countrywide Lost-Time Claims:	471.00	.	.
(19) Pure Premium Underlying Present Rate:	0.321	0.463	0.784
(20) Relativity to Underlying Present Rate:	0.469	0.652	.
(21) Credibility to Underlying Relativity:	0.420	0.350	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.489	0.660	.
(24) Balanced Formula Relativity:	0.487	0.658	0.559

Class(es): 9101 COLLEGE: ALL OTHER EMPLOYEES		Effective: 9/1/2011							Goods and Services		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,170,591	22	585	2,086,158	1,191,668	662,755	915,084	4,855,665	2,800	1,348	4,148
2005	1,056,081	14	563	676,286	880,128	394,891	1,095,145	3,046,451	1,474	1,411	2,885
2006	1,128,701	13	592	284,257	1,213,963	374,401	1,079,903	2,952,523	1,327	1,288	2,616
2007	1,196,927	13	626	1,352,149	1,453,523	671,070	1,340,068	4,816,809	2,344	1,680	4,024
2008	1,340,815	18	630	1,285,008	2,078,157	671,284	1,832,314	5,866,762	2,508	1,867	4,376
<b>MA Total:</b>	<b>5,893,116</b>	<b>80</b>	<b>2,996</b>	<b>5,683,857</b>	<b>6,817,438</b>	<b>2,774,401</b>	<b>6,262,513</b>	<b>21,538,210</b>	<b>2,121</b>	<b>1,533</b>	<b>3,655</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.113	2.096	.
(14) Massachusetts Credibility:	0.710	1.000	.
(15) Countrywide Pure Premium:	1.565	1.227	2.792
(16) Countrywide Indicated Relativity:	1.493	1.648	.
(17) Countrywide Credibility:	0.150	0.000	.
(18) Countrywide Lost-Time Claims:	13967	.	.
(19) Pure Premium Underlying Present Rate:	1.210	1.291	2.501
(20) Relativity to Underlying Present Rate:	1.768	1.817	.
(21) Credibility to Underlying Relativity:	0.140	0.000	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.971	2.096	.
(24) Balanced Formula Relativity:	1.964	2.090	2.017

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
9102 PARK NOC- ALL EMPLOYEES & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	121.183	0	22	0	12.734	0	26.698	39.432	0.105	0.220	0.325
2005	105.714	1	20	13.279	27.975	73.054	87.679	201.987	0.390	1.520	1.911
2006	130.232	2	32	100.138	123.886	14.926	148.222	387.172	1.720	1.253	2.973
2007	173.226	0	26	0	58.803	0	49.792	108.596	0.339	0.287	0.627
2008	190.625	1	43	209.332	80.808	64.855	70.379	425.374	1.522	0.709	2.231
<b>MA Total:</b>	<b>720.980</b>	<b>4</b>	<b>143</b>	<b>322.749</b>	<b>304.207</b>	<b>152.835</b>	<b>382.770</b>	<b>1,162.561</b>	<b>0.870</b>	<b>0.743</b>	<b>1.612</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.293	0.377	.
(14) Massachusetts Credibility:	0.270	0.440	.
(15) Countrywide Pure Premium:	1.419	1.116	2.535
(16) Countrywide Indicated Relativity:	0.508	0.609	.
(17) Countrywide Credibility:	0.370	0.280	.
(18) Countrywide Lost-Time Claims:	6083.0	.	.
(19) Pure Premium Underlying Present Rate:	0.858	0.905	1.763
(20) Relativity to Underlying Present Rate:	0.442	0.475	.
(21) Credibility to Underlying Relativity:	0.360	0.280	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.427	0.469	.
(24) Balanced Formula Relativity:	0.418	0.465	0.437

Class(es):		Effective: 9/1/2011							Miscellaneous		
9154 THEATER NOC: ALL OTHER EMPLOYEES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	504.605	2	95	39.986	90.439	30.725	172.762	333.911	0.258	0.403	0.662
2005	631.113	3	84	71.741	269.288	47.604	252.232	640.865	0.540	0.475	1.015
2006	558.768	0	83	0	60.884	0	250.682	311.565	0.109	0.449	0.558
2007	599.601	2	95	348.308	40.530	121.996	129.445	640.280	0.648	0.419	1.068
2008	608.567	1	88	26.944	422.743	160.805	250.881	861.373	0.739	0.676	1.415
<b>MA Total:</b>	<b>2,902.652</b>	<b>8</b>	<b>445</b>	<b>486.979</b>	<b>883.884</b>	<b>361.129</b>	<b>1,056.002</b>	<b>2,787.995</b>	<b>0.472</b>	<b>0.488</b>	<b>0.960</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.159	0.248	.
(14) Massachusetts Credibility:	0.360	0.600	.
(15) Countrywide Pure Premium:	0.983	0.804	1.787
(16) Countrywide Indicated Relativity:	0.352	0.439	.
(17) Countrywide Credibility:	0.320	0.200	.
(18) Countrywide Lost-Time Claims:	1411.0	.	.
(19) Pure Premium Underlying Present Rate:	0.454	0.491	0.945
(20) Relativity to Underlying Present Rate:	0.234	0.258	.
(21) Credibility to Underlying Relativity:	0.320	0.200	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.245	0.288	.
(24) Balanced Formula Relativity:	0.240	0.285	0.258

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Office and Clerical		
9156 THEATER NOC: PLAYERS, ENTERTAINERS OR MUSICIANS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	423,538	2	104	207,815	63,179	238,094	159,182	668,271	0.640	0.938	1.578
2005	439,875	1	115	67,976	76,770	27,073	184,223	356,042	0.329	0.480	0.809
2006	461,683	1	98	2,468	291,750	122	223,791	518,130	0.637	0.485	1.122
2007	477,204	0	65	0	77,276	0	126,698	203,974	0.162	0.266	0.427
2008	471,774	2	102	408,288	237,880	129,108	311,955	1,087,231	1.370	0.935	2.305
<b>MA Total:</b>	<b>2,274,074</b>	<b>6</b>	<b>484</b>	<b>686,546</b>	<b>746,855</b>	<b>394,396</b>	<b>1,005,850</b>	<b>2,833,647</b>	<b>0.630</b>	<b>0.616</b>	<b>1.246</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	7.248	8.813	.
(14) Massachusetts Credibility:	0.290	0.560	.
(15) Countrywide Pure Premium:	0.671	0.598	1.269
(16) Countrywide Indicated Relativity:	8.210	9.049	.
(17) Countrywide Credibility:	0.360	0.220	.
(18) Countrywide Lost-Time Claims:	760.00	.	.
(19) Pure Premium Underlying Present Rate:	0.328	0.538	0.866
(20) Relativity to Underlying Present Rate:	5.866	8.415	.
(21) Credibility to Underlying Relativity:	0.350	0.220	.
(22) Industry Group Converted Pure Premium:	0.087	0.070	0.157
(23) Formula Relativity:	7.111	8.777	.
(24) Balanced Formula Relativity:	7.057	8.768	7.819

Class(es):		Effective: 9/1/2011							Miscellaneous		
9178 ATHLETIC TEAM OR PARK: NON-CONTACT SPORTS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	16,266	0	22	0	139,466	0	123,102	262,568	8.574	7.568	16.142
2005	16,553	0	34	0	15,383	0	132,940	148,323	0.929	8.031	8.960
2006	61,040	0	75	0	85,358	0	506,479	591,837	1.398	8.297	9.696
2007	30,366	1	48	16,400	1,115	20,427	197,890	235,832	0.577	7.190	7.766
2008	20,202	0	14	0	136,406	0	113,881	250,286	6.752	5.637	12.389
<b>MA Total:</b>	<b>144,428</b>	<b>1</b>	<b>193</b>	<b>16,400</b>	<b>377,727</b>	<b>20,427</b>	<b>1,074,292</b>	<b>1,488,846</b>	<b>2.729</b>	<b>7.580</b>	<b>10.309</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.920	3.846	.
(14) Massachusetts Credibility:	0.180	0.510	.
(15) Countrywide Pure Premium:	1.265	2.438	3.703
(16) Countrywide Indicated Relativity:	0.453	1.331	.
(17) Countrywide Credibility:	0.410	0.250	.
(18) Countrywide Lost-Time Claims:	423.00	.	.
(19) Pure Premium Underlying Present Rate:	1.732	6.575	8.307
(20) Relativity to Underlying Present Rate:	0.894	3.449	.
(21) Credibility to Underlying Relativity:	0.410	0.240	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.718	3.122	.
(24) Balanced Formula Relativity:	0.703	3.093	1.657

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous			
9179 ATHLETIC TEAM OR PARK: CONTACT SPORTS												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	27,662	13	84	208,431	395,301	62,063	255,042	920,838	21,825	11,464	33,289	
2005	27,425	3	67	7,265	648,854	2,324	236,995	895,437	23,924	8,726	32,650	
2006	28,433	3	56	128,647	806,823	14,839	168,520	1,118,829	32,901	6,449	39,349	
2007	34,709	7	77	332,647	529,513	67,960	469,514	1,399,634	24,840	15,485	40,325	
2008	29,415	2	36	14,170	150,712	1,509	109,677	276,069	5,605	3,780	9,385	
<b>MA Total:</b>	<b>147,645</b>	<b>28</b>	<b>320</b>	<b>691,160</b>	<b>2,531,204</b>	<b>148,696</b>	<b>1,239,748</b>	<b>4,610,807</b>	<b>21,825</b>	<b>9,404</b>	<b>31,229</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	7.361	4.772	.
(14) Massachusetts Credibility:	0.370	0.580	.
(15) Countrywide Pure Premium:	7.164	5.953	13.117
(16) Countrywide Indicated Relativity:	2.566	3.250	.
(17) Countrywide Credibility:	0.320	0.210	.
(18) Countrywide Lost-Time Claims:	1116.0	.	.
(19) Pure Premium Underlying Present Rate:	9.900	8.903	18.803
(20) Relativity to Underlying Present Rate:	5.108	4.670	.
(21) Credibility to Underlying Relativity:	0.310	0.210	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	5.128	4.431	.
(24) Balanced Formula Relativity:	5.023	4.390	4.770

Class(es):		Effective: 9/1/2011							Miscellaneous			
9180 CARNIVAL, CIRCUS OR AMUSEMENT DEVICE OP-TRAV-ALL EMP & DR												
		Converted Unlimited Losses										
		Amount										
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums				
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)	
2004	211,954	2	74	3,108	77,030	8,386	268,455	356,979	0.756	2.612	3.368	
2005	225,702	0	88	0	125,128	0	614,605	739,733	1.109	5.446	6.555	
2006	206,768	0	66	0	35,404	0	311,094	346,497	0.342	3.009	3.352	
2007	232,055	2	66	750	47,340	12,239	307,023	367,351	0.414	2.752	3.166	
2008	236,254	0	74	0	138,562	0	525,005	663,567	1.173	4.444	5.617	
<b>MA Total:</b>	<b>1,112,733</b>	<b>4</b>	<b>368</b>	<b>3,858</b>	<b>423,464</b>	<b>20,625</b>	<b>2,026,181</b>	<b>2,474,128</b>	<b>0.384</b>	<b>1.839</b>	<b>2.223</b>	

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.130	0.933	.
(14) Massachusetts Credibility:	0.260	0.550	.
(15) Countrywide Pure Premium:	2.829	3.704	6.533
(16) Countrywide Indicated Relativity:	1.013	2.022	.
(17) Countrywide Credibility:	0.370	0.230	.
(18) Countrywide Lost-Time Claims:	1936.0	.	.
(19) Pure Premium Underlying Present Rate:	1.044	2.088	3.132
(20) Relativity to Underlying Present Rate:	0.539	1.095	.
(21) Credibility to Underlying Relativity:	0.370	0.220	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.608	1.219	.
(24) Balanced Formula Relativity:	0.595	1.208	0.840

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
9182 ATHLETIC TEAM OR PARK: OPERATIONS & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	69,691	0	7	0	176,715	0	54,554	231,269	2,536	0,783	3,319
2005	102,389	4	55	670,582	52,201	178,641	79,923	981,347	7,059	2,525	9,584
2006	148,437	0	43	0	166,585	0	133,682	300,266	1,122	0,901	2,023
2007	214,984	1	70	390,039	47,376	14,369	375,509	827,293	2,035	1,814	3,848
2008	126,669	3	41	287,759	161,568	1,078,970	279,954	1,808,252	3,547	10,728	14,275
<b>MA Total:</b>	<b>662,170</b>	<b>8</b>	<b>216</b>	<b>1,348,380</b>	<b>604,445</b>	<b>1,271,980</b>	<b>923,621</b>	<b>4,148,427</b>	<b>2,949</b>	<b>3,316</b>	<b>6,265</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.995	1.683	.
(14) Massachusetts Credibility:	0.280	0.530	.
(15) Countrywide Pure Premium:	0.820	1.028	1.848
(16) Countrywide Indicated Relativity:	0.294	0.561	.
(17) Countrywide Credibility:	0.360	0.240	.
(18) Countrywide Lost-Time Claims:	392.00	.	.
(19) Pure Premium Underlying Present Rate:	1.042	1.615	2.657
(20) Relativity to Underlying Present Rate:	0.538	0.847	.
(21) Credibility to Underlying Relativity:	0.360	0.230	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.578	1.221	.
(24) Balanced Formula Relativity:	0.566	1.210	0.823

Class(es):		Effective: 9/1/2011							Goods and Services		
9220 CEMETERY OPERATION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	172,174	1	52	302,933	127,717	319,485	126,898	877,032	2,501	2,593	5,094
2005	169,654	2	55	280,111	54,108	28,216	60,121	422,556	1,970	0,521	2,491
2006	166,405	2	42	287,184	114,648	102,238	129,130	633,200	2,415	1,390	3,805
2007	174,443	2	55	91,929	84,506	63,707	84,544	324,686	1,011	0,850	1,861
2008	185,983	0	38	0	304,270	0	244,505	548,775	1,636	1,315	2,951
<b>MA Total:</b>	<b>868,660</b>	<b>7</b>	<b>242</b>	<b>962,157</b>	<b>685,249</b>	<b>513,647</b>	<b>645,197</b>	<b>2,806,249</b>	<b>1,896</b>	<b>1,334</b>	<b>3,231</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.889	1.824	.
(14) Massachusetts Credibility:	0.350	0.550	.
(15) Countrywide Pure Premium:	2.284	1.714	3.998
(16) Countrywide Indicated Relativity:	2.178	2.302	.
(17) Countrywide Credibility:	0.330	0.230	.
(18) Countrywide Lost-Time Claims:	733.00	.	.
(19) Pure Premium Underlying Present Rate:	1.423	1.326	2.750
(20) Relativity to Underlying Present Rate:	2.080	1.867	.
(21) Credibility to Underlying Relativity:	0.320	0.220	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	2.046	1.943	.
(24) Balanced Formula Relativity:	2.037	1.937	1.995

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Miscellaneous		
9402 STREET CLEANING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	548,143	5	104	320,836	1,139,176	402,096	865,292	2,727,399	2,664	2,312	4,976
2005	549,314	7	116	776,495	423,516	585,451	288,424	2,073,887	2,185	1,591	3,775
2006	557,253	7	87	1,352,601	186,524	698,296	261,430	2,498,851	2,762	1,722	4,484
2007	576,461	4	98	494,018	870,902	811,720	845,910	3,022,549	2,368	2,876	5,243
2008	652,198	3	76	508,286	1,045,676	248,186	550,354	2,352,502	2,383	1,224	3,607
<b>MA Total:</b>	<b>2,883,368</b>	<b>26</b>	<b>481</b>	<b>3,452,236</b>	<b>3,665,794</b>	<b>2,745,748</b>	<b>2,811,409</b>	<b>12,675,188</b>	<b>2,469</b>	<b>1,927</b>	<b>4,396</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.833	0.978	.
(14) Massachusetts Credibility:	0.640	1.000	.
(15) Countrywide Pure Premium:	2.953	2.007	4.960
(16) Countrywide Indicated Relativity:	1.058	1.096	.
(17) Countrywide Credibility:	0.180	0.000	.
(18) Countrywide Lost-Time Claims:	1872.0	.	.
(19) Pure Premium Underlying Present Rate:	1.924	1.941	3.865
(20) Relativity to Underlying Present Rate:	0.993	1.018	.
(21) Credibility to Underlying Relativity:	0.180	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	0.902	0.978	.
(24) Balanced Formula Relativity:	0.883	0.969	0.918

Class(es):		Effective: 9/1/2011							Miscellaneous		
9403 GARBAGE, ASHES OR REFUSE COLLECTION & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	1,039,915	23	329	1,662,113	1,317,017	957,675	1,407,316	5,344,121	2,865	2,274	5,139
2005	1,093,486	31	334	3,014,308	1,947,452	2,248,526	1,353,234	8,563,520	4,538	3,294	7,831
2006	1,122,483	32	398	5,475,260	3,368,072	2,203,400	2,185,752	13,232,485	7,878	3,910	11,789
2007	765,488	10	277	1,861,841	2,498,468	836,732	2,174,234	7,371,275	5,696	3,933	9,630
2008	876,772	13	264	2,622,593	2,850,548	1,382,093	2,143,776	8,999,011	6,242	4,021	10,264
<b>MA Total:</b>	<b>4,898,143</b>	<b>109</b>	<b>1,602</b>	<b>14,636,116</b>	<b>11,981,557</b>	<b>7,628,426</b>	<b>9,264,312</b>	<b>43,510,411</b>	<b>5,434</b>	<b>3,449</b>	<b>8,883</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.833	1.750	.
(14) Massachusetts Credibility:	0.960	1.000	.
(15) Countrywide Pure Premium:	4.563	2.975	7.538
(16) Countrywide Indicated Relativity:	1.634	1.624	.
(17) Countrywide Credibility:	0.020	0.000	.
(18) Countrywide Lost-Time Claims:	7805.0	.	.
(19) Pure Premium Underlying Present Rate:	3.167	3.160	6.326
(20) Relativity to Underlying Present Rate:	1.634	1.657	.
(21) Credibility to Underlying Relativity:	0.020	0.000	.
(22) Industry Group Converted Pure Premium:	2.965	1.971	4.936
(23) Formula Relativity:	1.825	1.750	.
(24) Balanced Formula Relativity:	1.787	1.734	1.766

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9410 MUNICIPAL, TOWN, COUNTY OR STATE EMP NOC											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	7.464	0	2	0	2.175	0	4.292	6.467	0.291	0.575	0.866
2005	5.287	0	2	0	1.885	0	2.329	4.214	0.357	0.441	0.797
2006	8.242	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	16.844	0	5	0	35.951	0	59.344	95.295	2.134	3.523	5.658
2008	126.113	0	17	0	38.273	0	25.315	63.588	0.303	0.201	0.504
<b>MA Total:</b>	<b>163.950</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>78.284</b>	<b>0</b>	<b>91.280</b>	<b>169.564</b>	<b>0.477</b>	<b>0.557</b>	<b>1.034</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.476	0.761	.
(14) Massachusetts Credibility:	0.130	0.240	.
(15) Countrywide Pure Premium:	0.858	0.689	1.547
(16) Countrywide Indicated Relativity:	0.818	0.925	.
(17) Countrywide Credibility:	0.440	0.380	.
(18) Countrywide Lost-Time Claims:	810.00	.	.
(19) Pure Premium Underlying Present Rate:	0.667	0.868	1.535
(20) Relativity to Underlying Present Rate:	0.975	1.221	.
(21) Credibility to Underlying Relativity:	0.430	0.380	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.841	0.998	.
(24) Balanced Formula Relativity:	0.838	0.995	0.904

Class(es):		Effective: 9/1/2011							Manufacturing		
9501 PAINTING: AUTO OR CARRIAGE BODIES											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	514.696	6	152	813.705	452.599	918.845	302.022	2,487.172	4.921	4.744	9.665
2005	541.612	4	108	355.707	80.820	463.657	170.727	1,070.911	1.612	2.343	3.955
2006	604.403	4	138	184.903	732.900	187.411	336.936	1,442.150	3.037	1.735	4.772
2007	596.113	4	112	948.764	523.423	781.961	307.640	2,561.788	4.939	3.656	8.595
2008	591.779	4	108	194.390	258.335	75.650	352.862	881.237	1.530	1.448	2.978
<b>MA Total:</b>	<b>2,848.603</b>	<b>22</b>	<b>618</b>	<b>2,497.469</b>	<b>2,048.076</b>	<b>2,427.524</b>	<b>1,470.188</b>	<b>8,443.258</b>	<b>1.596</b>	<b>1.368</b>	<b>2.964</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.216	1.562	.
(14) Massachusetts Credibility:	0.380	0.660	.
(15) Countrywide Pure Premium:	1.329	0.940	2.270
(16) Countrywide Indicated Relativity:	1.145	1.219	.
(17) Countrywide Credibility:	0.310	0.170	.
(18) Countrywide Lost-Time Claims:	1128.0	.	.
(19) Pure Premium Underlying Present Rate:	1.087	1.298	2.386
(20) Relativity to Underlying Present Rate:	1.159	1.462	.
(21) Credibility to Underlying Relativity:	0.310	0.170	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.176	1.486	.
(24) Balanced Formula Relativity:	1.175	1.487	1.300

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Section IX - Classification Pricing  
Subsection G - Class Relativities  
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Section IX - G  
Exhibit 188

## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9519 HOUSEHOLD APPLIANCES-ELECTRICAL-INSTALL, SERV OR REPAIR & DR											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	633.855	8	95	1,131,532	160,470	996,788	148,831	2,437,621	2,038	1,807	3,846
2005	593.351	9	102	987,231	493,275	787,181	351,120	2,618,807	2,495	1,918	4,414
2006	678.608	2	88	170,955	274,281	256,104	239,487	940,827	0,656	0,730	1,386
2007	748.865	3	127	288,291	174,367	205,715	444,359	1,112,733	0,618	0,868	1,486
2008	754.558	8	107	1,407,816	694,284	577,407	881,340	3,560,847	2,786	1,933	4,719
<b>MA Total:</b>	<b>3,409,237</b>	<b>30</b>	<b>519</b>	<b>3,985,826</b>	<b>1,796,677</b>	<b>2,823,196</b>	<b>2,065,137</b>	<b>10670835</b>	<b>1,696</b>	<b>1,434</b>	<b>3,130</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.689	1.960	.
(14) Massachusetts Credibility:	0.530	0.840	.
(15) Countrywide Pure Premium:	1.732	1.073	2.805
(16) Countrywide Indicated Relativity:	1.652	1.441	.
(17) Countrywide Credibility:	0.240	0.080	.
(18) Countrywide Lost-Time Claims:	1634.0	.	.
(19) Pure Premium Underlying Present Rate:	1.002	0.988	1.990
(20) Relativity to Underlying Present Rate:	1.464	1.390	.
(21) Credibility to Underlying Relativity:	0.230	0.080	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	1.629	1.873	.
(24) Balanced Formula Relativity:	1.622	1.867	1.725

Class(es):		Effective: 9/1/2011							Manufacturing		
9521 HOUSE FURNISHINGS INSTALLATION-NOC											
Converted Unlimited Losses											
Amount											
		Claim Count		Indemnity		Medical			MA Indicated Pure Premiums		
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	323.257	3	52	523,658	683,264	304,521	181,490	1,692,932	3,734	1,503	5,237
2005	277.363	4	54	694,572	419,779	448,994	229,592	1,792,938	4,018	2,447	6,464
2006	268.503	2	42	190,063	90,449	128,391	78,447	487,350	1,045	0,770	1,815
2007	282.508	2	28	243,080	23,641	94,530	55,870	417,122	0,944	0,532	1,476
2008	217.073	1	20	165,070	70,630	86,001	55,570	377,271	1,086	0,652	1,738
<b>MA Total:</b>	<b>1,368,704</b>	<b>12</b>	<b>196</b>	<b>1,816,443</b>	<b>1,287,763</b>	<b>1,062,437</b>	<b>600,970</b>	<b>4,767,613</b>	<b>2,268</b>	<b>1,215</b>	<b>3,483</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.728	1.387	.
(14) Massachusetts Credibility:	0.470	0.690	.
(15) Countrywide Pure Premium:	2.111	1.234	3.345
(16) Countrywide Indicated Relativity:	1.819	1.599	.
(17) Countrywide Credibility:	0.270	0.160	.
(18) Countrywide Lost-Time Claims:	649.00	.	.
(19) Pure Premium Underlying Present Rate:	1.927	1.512	3.439
(20) Relativity to Underlying Present Rate:	2.053	1.703	.
(21) Credibility to Underlying Relativity:	0.260	0.150	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.837	1.468	.
(24) Balanced Formula Relativity:	1.836	1.469	1.689

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## Calculation of Class Relativities

Class(es): 9522 UPHOLSTERING		Effective: 9/1/2011							Manufacturing		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	168,264	0	24	0	90,947	0	56,993	147,939	0.541	0.339	0.879
2005	147,485	3	15	490,370	1,992	174,627	19,111	686,101	3.338	1.314	4.652
2006	152,945	0	8	0	256,006	0	71,311	327,317	1.674	0.466	2.140
2007	146,843	0	13	0	227,192	0	135,122	362,315	1.547	0.920	2.467
2008	130,081	0	9	0	88,494	0	30,716	119,210	0.680	0.236	0.916
<b>MA Total:</b>	<b>745,618</b>	<b>3</b>	<b>69</b>	<b>490,370</b>	<b>664,631</b>	<b>174,627</b>	<b>313,254</b>	<b>1,642,881</b>	<b>1.549</b>	<b>0.654</b>	<b>2.203</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.180	0.747	.
(14) Massachusetts Credibility:	0.270	0.400	.
(15) Countrywide Pure Premium:	1.139	0.710	1.848
(16) Countrywide Indicated Relativity:	0.981	0.920	.
(17) Countrywide Credibility:	0.370	0.300	.
(18) Countrywide Lost-Time Claims:	1331.0	.	.
(19) Pure Premium Underlying Present Rate:	0.881	0.723	1.604
(20) Relativity to Underlying Present Rate:	0.939	0.814	.
(21) Credibility to Underlying Relativity:	0.360	0.300	.
(22) Industry Group Converted Pure Premium:	1.313	0.876	2.189
(23) Formula Relativity:	1.020	0.819	.
(24) Balanced Formula Relativity:	1.019	0.819	0.939

Class(es): 9533 SCAFFOLDING: SCAFFOLD INST, RPR OR REMOVAL- BUILT UP FROM GROUN		Effective: 9/1/2011							Construction		
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	43,144	0	9	0	90,027	0	53,722	143,750	2.087	1.245	3.332
2005	53,517	2	21	682,714	279,055	247,929	156,514	1,366,212	17.971	7.557	25.528
2006	58,062	3	41	579,236	168,212	154,136	153,869	1,055,452	12.873	5.305	18.178
2007	68,382	2	5	322,592	154,458	124,356	48,332	649,738	6.976	2.525	9.502
2008	63,093	1	9	177,282	226,018	133,411	101,571	638,283	6.392	3.724	10.117
<b>MA Total:</b>	<b>286,198</b>	<b>8</b>	<b>85</b>	<b>1,761,824</b>	<b>917,770</b>	<b>659,832</b>	<b>514,008</b>	<b>3,853,434</b>	<b>9.363</b>	<b>4.101</b>	<b>13.464</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	2.865	2.125	.
(14) Massachusetts Credibility:	0.450	0.550	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	3.525	1.990	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	8.249	4.026	12.276
(20) Relativity to Underlying Present Rate:	3.676	2.102	.
(21) Credibility to Underlying Relativity:	0.550	0.450	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	3.311	2.115	.
(24) Balanced Formula Relativity:	3.348	2.117	2.891

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
9534 MOBILE CRANE & HOIST SERV CONTR-NOC-ALL OP -INCL YRD EMP &DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	216,186	1	25	326,549	242,873	101,641	154,454	825,517	2,634	1,185	3,819
2005	232,028	0	42	0	866,415	0	306,032	1,172,446	3,734	1,319	5,053
2006	223,854	1	17	409,958	653,649	56,229	157,348	1,277,184	4,751	0,954	5,705
2007	264,216	3	16	730,651	148,294	318,104	98,365	1,295,414	3,327	1,576	4,903
2008	266,403	3	14	361,981	410,810	103,372	186,047	1,062,210	2,901	1,086	3,987
<b>MA Total:</b>	<b>1,202,687</b>	<b>8</b>	<b>114</b>	<b>1,829,139</b>	<b>2,322,041</b>	<b>579,346</b>	<b>902,245</b>	<b>5,632,771</b>	<b>3,452</b>	<b>1,232</b>	<b>4,683</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.056	0.638	.
(14) Massachusetts Credibility:	0.510	0.630	.
(15) Countrywide Pure Premium:	3.503	1.804	5.307
(16) Countrywide Indicated Relativity:	1.095	0.946	.
(17) Countrywide Credibility:	0.250	0.190	.
(18) Countrywide Lost-Time Claims:	567.00	.	.
(19) Pure Premium Underlying Present Rate:	2.584	1.349	3.933
(20) Relativity to Underlying Present Rate:	1.151	0.704	.
(21) Credibility to Underlying Relativity:	0.240	0.180	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.089	0.708	.
(24) Balanced Formula Relativity:	1.101	0.709	0.956

Class(es):		Effective: 9/1/2011							Construction		
9545 BILL POSTING & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,472	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	770	0	0	0	0	0	0	0	0.000	0.000	0.000
2006	865	0	0	0	0	0	0	0	0.000	0.000	0.000
2007	807	0	0	0	0	0	0	0	0.000	0.000	0.000
2008	643	0	0	0	0	0	0	0	0.000	0.000	0.000
<b>MA Total:</b>	<b>5,555</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.000	0.000	.
(14) Massachusetts Credibility:	0.050	0.070	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.740	0.652	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.732	1.320	3.052
(20) Relativity to Underlying Present Rate:	0.772	0.689	.
(21) Credibility to Underlying Relativity:	0.950	0.930	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.733	0.641	.
(24) Balanced Formula Relativity:	0.742	0.642	0.704

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Construction		
9549 ADVERTISING CO & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,545	0	0	0	0	0	0	0	0.000	0.000	0.000
2005	3,569	0	3	0	0	0	1,068	1,068	0.000	0.299	0.299
2006	4,431	0	7	0	32,721	0	61,833	94,554	7,385	13,955	21,340
2007	10,427	0	2	0	137,692	0	55,936	193,627	13,206	5,365	18,570
2008	11,201	0	2	0	0	0	1,519	1,519	0.000	0.136	0.136
<b>MA Total:</b>	<b>32,173</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>170,412</b>	<b>0</b>	<b>120,356</b>	<b>290,768</b>	<b>5,297</b>	<b>3,741</b>	<b>9,038</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.621	1.938	.
(14) Massachusetts Credibility:	0.100	0.180	.
(15) Countrywide Pure Premium:	0.000	0.000	0.000
(16) Countrywide Indicated Relativity:	0.787	1.069	.
(17) Countrywide Credibility:	0.000	0.000	.
(18) Countrywide Lost-Time Claims:	0.000	.	.
(19) Pure Premium Underlying Present Rate:	1.843	2.163	4.006
(20) Relativity to Underlying Present Rate:	0.821	1.129	.
(21) Credibility to Underlying Relativity:	0.900	0.820	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	0.901	1.275	.
(24) Balanced Formula Relativity:	0.911	1.277	1.047

Class(es):		Effective: 9/1/2011							Construction		
9552 SIGN PAINTING OR LETTERING-OUTSIDE OF BLDGS OR STRUCT & DR											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	245,993	10	48	2,278,882	353,627	1,016,375	209,974	3,858,858	21,403	9,971	31,374
2005	316,967	10	46	1,280,218	172,404	934,054	148,078	2,534,754	9,166	6,828	15,994
2006	295,818	8	62	1,753,889	75,341	848,270	137,819	2,815,319	12,367	6,667	19,034
2007	236,005	4	42	365,684	1,014,896	247,052	446,167	2,073,799	11,700	5,875	17,574
2008	233,247	0	28	0	649,340	0	295,524	944,864	5,568	2,534	8,102
<b>MA Total:</b>	<b>1,328,030</b>	<b>32</b>	<b>226</b>	<b>5,678,672</b>	<b>2,265,609</b>	<b>3,045,751</b>	<b>1,237,561</b>	<b>12,227,594</b>	<b>5,982</b>	<b>3,225</b>	<b>9,207</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	1.830	1.671	.
(14) Massachusetts Credibility:	0.460	0.680	.
(15) Countrywide Pure Premium:	5.724	4.215	9.939
(16) Countrywide Indicated Relativity:	1.789	2.210	.
(17) Countrywide Credibility:	0.200	0.160	.
(18) Countrywide Lost-Time Claims:	21.000	.	.
(19) Pure Premium Underlying Present Rate:	3.613	2.948	6.561
(20) Relativity to Underlying Present Rate:	1.610	1.539	.
(21) Credibility to Underlying Relativity:	0.340	0.160	.
(22) Industry Group Converted Pure Premium:	3.268	1.930	5.199
(23) Formula Relativity:	1.747	1.736	.
(24) Balanced Formula Relativity:	1.767	1.738	1.756

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## Calculation of Class Relativities

Class(es):		Effective: 9/1/2011							Goods and Services		
9586 BARBER SHOP, BEAUTY PARLOR, HAIR STYLING SALON											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	2,842,609	2	97	91,431	190,726	22,558	151,479	456,195	0.099	0.061	0.160
2005	2,931,773	7	83	322,247	208,029	505,198	274,883	1,310,357	0.181	0.266	0.447
2006	3,110,170	10	86	784,706	227,314	254,812	156,333	1,423,165	0.325	0.132	0.458
2007	3,241,993	5	102	238,279	331,658	65,295	228,270	863,502	0.176	0.091	0.266
2008	3,498,274	2	109	201,102	422,386	93,534	288,697	1,005,719	0.178	0.109	0.287
<b>MA Total:</b>	<b>15624819</b>	<b>26</b>	<b>477</b>	<b>1,637,764</b>	<b>1,380,114</b>	<b>941,397</b>	<b>1,099,663</b>	<b>5,058,938</b>	<b>0.193</b>	<b>0.131</b>	<b>0.324</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.192	0.179	.
(14) Massachusetts Credibility:	0.490	0.770	.
(15) Countrywide Pure Premium:	0.280	0.203	0.484
(16) Countrywide Indicated Relativity:	0.268	0.273	.
(17) Countrywide Credibility:	0.260	0.120	.
(18) Countrywide Lost-Time Claims:	1923.0	.	.
(19) Pure Premium Underlying Present Rate:	0.187	0.171	0.359
(20) Relativity to Underlying Present Rate:	0.274	0.241	.
(21) Credibility to Underlying Relativity:	0.250	0.110	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.232	0.197	.
(24) Balanced Formula Relativity:	0.231	0.196	0.217

Class(es):		Effective: 9/1/2011							Goods and Services		
9620 FUNERAL DIRECTOR & DRIVERS											
		Converted Unlimited Losses									
		Amount									
		Claim Count		Indemnity		Medical		MA Indicated Pure Premiums			
Policy Period (1)	Exposure (2)	Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)	Likely (7)	Not-Likely (8)	Total (9)	Indemnity (10)	Medical (11)	Total (12)
2004	479,341	1	10	21,976	61,745	31,760	43,975	159,456	0.175	0.158	0.333
2005	486,120	1	3	193,897	5,552	84,837	2,589	286,874	0.410	0.180	0.590
2006	512,621	0	13	0	176,763	0	87,768	264,531	0.345	0.171	0.516
2007	538,425	2	9	177,287	79,271	21,491	72,870	350,919	0.476	0.175	0.652
2008	547,569	1	11	27,106	58,999	3,678	98,585	188,368	0.157	0.187	0.344
<b>MA Total:</b>	<b>2,564,077</b>	<b>5</b>	<b>46</b>	<b>420,266</b>	<b>382,330</b>	<b>141,765</b>	<b>305,787</b>	<b>1,250,148</b>	<b>0.313</b>	<b>0.175</b>	<b>0.488</b>

	Pure Premium Relativities		
	Indemnity	Medical	Total
(13) Massachusetts Indicated Relativity:	0.312	0.239	.
(14) Massachusetts Credibility:	0.300	0.450	.
(15) Countrywide Pure Premium:	0.440	0.338	0.778
(16) Countrywide Indicated Relativity:	0.420	0.454	.
(17) Countrywide Credibility:	0.350	0.280	.
(18) Countrywide Lost-Time Claims:	460.00	.	.
(19) Pure Premium Underlying Present Rate:	0.327	0.280	0.607
(20) Relativity to Underlying Present Rate:	0.478	0.393	.
(21) Credibility to Underlying Relativity:	0.350	0.270	.
(22) Industry Group Converted Pure Premium:	1.004	0.731	1.736
(23) Formula Relativity:	0.408	0.341	.
(24) Balanced Formula Relativity:	0.406	0.340	0.378

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Section IX - Classification Pricing  
 Subsection H - Industry Group Rate Change and Rate Level Factors  
 9/1/2011

Section IX - H  
 Exhibit 1

## Calculation of Industry Group Rate Change and Limits

	Industry Group				
	Manufacturing	Construction	Office & Clerical	Goods & Services	Miscellaneous
(1) Industry Group Differential	0.930	0.984	1.041	1.009	1.080
(2) Experience and Benefit Level Change - Overall	6.6%	6.6%	6.6%	6.6%	6.6%
(3) Target Rate Change = (1) x [1.000 + (2)] - 1.000	-0.8%	4.8%	11.0%	7.6%	15.2%
(4) Benefit Level Change - Overall	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
(5) Experience Change - Overall = {[1.000 + (2)] / [1.000 + (4)]} - 1.000	6.8%	6.8%	6.8%	6.8%	6.8%
(6) Experience Change - by Group = {(1) x [1.000 + (5)]} - 1.000	-0.7%	5.0%	11.2%	7.8%	15.4%
(7) 1/2 Experience Change - by Group = (6) / 2.000	-0.3%	2.5%	5.6%	3.9%	7.7%
(8) Maximum Rate Change = (4) + (7) + 20.0%	19.5%	22.3%	25.4%	23.7%	27.5%
(9) Minimum Rate Change = (4) + (7) - 20.0%	-20.5%	-17.7%	-14.6%	-16.3%	-12.5%
(10) Present Average Rate	2.414	5.529	0.160	1.853	5.107
(11) Uncapped Rate Level Factor = [1.000 + (3)] x (10)	2.395	5.797	0.178	1.994	5.880
(12) Capped Rate Level Factor	2.471	5.820	0.178	1.996	5.893

In addition, the WCRIB is limiting the increase in average rates for any class to \$15.00 and no average rate shall exceed \$90.00 per \$100.00 of payroll.

**Notes:**

- (1): Exhibit 2.
- (2): Indicated Rate Change, from Section I-A, Exhibit 1.
- (4): Section IV - A, Exhibit 1.
- (10): Rates by class consistent with the 09/01/10 stipulation, weighted by five years of exposure.
- (12): Proposed average uncapped rates are capped by an iterative process using rate levels to determine if the required change is achieved.

Calculation of Massachusetts Industry Group Differentials  
 Excluding Large Deductibles  
 For Three Latest Policy Years, 2006 through 2008

Industry Group (1)	Injury Type (2)	Three Year Expected Losses (3)	Three Year Adjusted Converted Losses (4)	Industry Group Differential = (4) / (3) (5)	Balanced Industry Group Differential = (5) / 1.246 (6)	Adjusted Balanced Industry Group Differential (7)
Manufacturing	Indemnity	146,318,471	196,536,787	1.343		
	Medical	138,445,560	133,683,336	0.966		
	Total	284,764,031	330,220,123	1.160	0.930	0.930
Construction	Indemnity	330,942,637	475,262,424	1.436		
	Medical	282,458,065	276,723,474	0.980		
	Total	613,400,702	751,985,898	1.226	0.984	0.984
Office & Clerical	Indemnity	96,011,259	148,693,915	1.549		
	Medical	110,086,001	118,792,981	1.079		
	Total	206,097,260	267,486,896	1.298	1.041	1.041
Goods & Services	Indemnity	261,377,569	388,888,152	1.488		
	Medical	271,938,978	282,088,395	1.037		
	Total	533,316,546	670,976,547	1.258	1.009	1.009
Miscellaneous	Indemnity	102,808,978	166,890,352	1.623		
	Medical	101,574,511	108,289,226	1.066		
	Total	204,383,489	275,179,578	1.346	1.080	1.080
All Industry Groups	Indemnity	937,458,914	1,376,271,630	1.468		
	Medical	904,503,115	919,577,412	1.017		
	Total	1,841,962,028	2,295,849,042	1.246	1.000	1.000

Notes:

(3): Three Years of Exposure x Pure Premium Underlying Present Rate from Section IX - F.

(4): Section IX - C. Goods and Services includes Per Capita classes.

(7) = (6) x offbalance factor. The offbalance factor is needed to adjust for differences in the payroll distributions by industry group for the three years used in developing the industry group differentials and the five years used in developing pure premiums.

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Section IX - Classification Pricing  
 Subsection I - Average Uncapped Rates  
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Section IX - I  
 Exhibit 1

Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
0005	1.221	1.574	1.370	1.994	2.73
0008	1.136	1.585	1.325	1.994	2.64
0016	1.870	2.889	2.299	1.994	4.58
0034	2.039	3.589	2.692	1.994	5.37
0035	1.162	1.102	1.137	1.994	2.27
0036	2.039	3.589	2.692	1.994	5.37
0037	1.136	1.585	1.325	1.994	2.64
0042	2.187	2.261	2.218	1.994	4.42
0050	1.345	1.455	1.386	5.797	8.03
0079	1.379	1.165	1.289	1.994	2.57
0083	2.428	4.292	3.214	1.994	6.41
0106	2.367	3.101	2.660	5.880	15.64
0113	2.039	3.589	2.692	1.994	5.37
0170	2.039	3.589	2.692	1.994	5.37
0251	0.757	0.757	0.757	5.880	4.45
0908	118.444	105.740	113.090	1.994	112.75
0909	123.018	228.229	167.360	1.994	166.85
0912	123.018	228.229	167.360	1.994	333.70
0913	118.444	105.740	113.090	1.994	225.49
0917	1.466	1.453	1.461	1.994	2.91
0918	0.496	0.270	0.401	1.994	0.80
1430	3.438	2.409	3.026	2.395	7.25
1438	1.587	1.570	1.581	2.395	3.78
1463	4.738	3.715	4.329	2.395	10.37
1624	1.115	0.984	1.062	5.880	6.25
1655	0.899	1.199	1.019	5.880	5.99
1701	2.717	1.835	2.364	2.395	5.66
1710	1.115	0.984	1.062	5.880	6.25
1747	1.232	1.170	1.207	2.395	2.89
1748	1.277	1.332	1.299	2.395	3.11
1852	3.809	1.771	2.993	2.395	7.17
1853	0.838	0.491	0.699	2.395	1.67
1860	1.181	1.099	1.148	2.395	2.75
1924	1.085	1.016	1.057	2.395	2.53
1925	1.608	1.619	1.613	2.395	3.86
2001	1.473	1.677	1.555	2.395	3.72
2002	2.993	4.092	3.433	2.395	8.22
2003	1.473	1.677	1.555	2.395	3.72
2014	1.768	1.721	1.749	2.395	4.19
2021	1.767	1.594	1.698	2.395	4.07
2039	1.207	1.030	1.136	2.395	2.72
2041	1.222	1.101	1.174	2.395	2.81

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Section IX - Classification Pricing  
 Subsection I - Average Uncapped Rates  
 9/1/2011

Section IX - I  
 Exhibit 1

Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
2070	1.744	1.778	1.758	2.395	4.21
2081	1.571	1.972	1.731	2.395	4.15
2089	1.070	1.059	1.066	2.395	2.55
2095	1.685	1.412	1.576	2.395	3.77
2101	1.070	1.059	1.066	2.395	2.55
2111	1.025	0.949	0.995	2.395	2.38
2114	1.070	1.059	1.066	2.395	2.55
2115	1.507	1.400	1.464	2.395	3.51
2121	0.832	0.667	0.766	2.395	1.83
2130	1.106	0.964	1.049	2.395	2.51
2131	1.052	1.100	1.071	2.395	2.56
2143	1.214	1.011	1.133	2.395	2.71
2150	3.712	3.474	3.617	2.395	8.66
2156	5.056	4.483	4.827	2.395	11.56
2157	2.845	2.425	2.677	2.395	6.41
2172	1.159	0.742	0.992	2.395	2.38
2174	1.646	1.188	1.463	2.395	3.50
2211	2.277	3.087	2.601	2.395	6.23
2220	1.419	1.514	1.457	2.395	3.49
2260	3.854	2.562	3.337	2.395	7.99
2286	1.419	1.514	1.457	2.395	3.49
2288	1.042	1.200	1.106	2.395	2.65
2302	1.419	1.514	1.457	2.395	3.49
2305	1.032	0.926	0.990	2.395	2.37
2362	0.840	0.988	0.899	2.395	2.15
2380	1.044	1.439	1.203	2.395	2.88
2402	1.279	1.096	1.206	2.395	2.89
2413	1.500	1.358	1.443	2.395	3.46
2416	1.287	1.722	1.461	2.395	3.50
2417	1.519	1.257	1.414	2.395	3.39
2501	0.977	0.838	0.921	2.395	2.21
2503	0.420	0.559	0.476	2.395	1.14
2534	0.977	0.838	0.921	2.395	2.21
2570	1.845	1.945	1.885	2.395	4.51
2576	1.371	1.082	1.256	2.395	3.01
2578	1.371	1.082	1.256	2.395	3.01
2585	1.346	1.544	1.425	2.395	3.41
2586	0.745	0.670	0.715	2.395	1.71
2587	1.648	1.408	1.547	1.994	3.08
2623	1.646	1.521	1.596	2.395	3.82
2640	0.968	0.793	0.898	2.395	2.15
2651	0.968	0.793	0.898	2.395	2.15

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Section IX - Classification Pricing  
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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
2660	0.829	1.065	0.924	2.395	2.21
2683	0.808	0.887	0.840	2.395	2.01
2688	1.103	1.076	1.092	2.395	2.62
2702	3.042	2.670	2.894	5.880	17.02
2710	2.788	3.002	2.873	2.395	6.88
2731	1.909	1.863	1.891	2.395	4.53
2741	2.691	2.059	2.438	2.395	5.84
2747	3.096	2.801	2.978	2.395	7.13
2790	0.837	1.019	0.910	2.395	2.18
2802	2.026	1.895	1.974	2.395	4.73
2835	0.902	0.943	0.918	2.395	2.20
2836	1.308	1.053	1.206	2.395	2.89
2841	1.530	1.881	1.671	2.395	4.00
2883	1.602	1.739	1.657	2.395	3.97
2923	0.774	0.733	0.758	2.395	1.81
2942	1.206	1.680	1.395	2.395	3.34
3018	1.175	1.009	1.109	2.395	2.66
3022	1.449	1.625	1.519	2.395	3.64
3027	1.944	1.911	1.931	2.395	4.62
3028	1.324	1.639	1.450	2.395	3.47
3030	2.822	3.265	3.000	2.395	7.18
3040	4.016	3.278	3.721	2.395	8.91
3041	1.900	1.617	1.787	2.395	4.28
3042	5.424	2.696	4.332	2.395	10.37
3064	1.265	1.137	1.214	2.395	2.91
3066	1.265	1.137	1.214	2.395	2.91
3076	1.137	1.177	1.153	2.395	2.76
3081	3.619	3.582	3.604	2.395	8.63
3082	3.619	3.582	3.604	2.395	8.63
3085	1.743	1.816	1.772	2.395	4.24
3110	2.712	2.876	2.778	2.395	6.65
3111	1.243	1.297	1.265	2.395	3.03
3113	0.932	0.819	0.887	2.395	2.12
3114	1.497	1.420	1.466	2.395	3.51
3118	0.932	0.819	0.887	2.395	2.12
3119	0.417	0.441	0.427	2.395	1.02
3120	0.954	0.625	0.822	2.395	1.97
3122	0.827	0.977	0.887	2.395	2.12
3127	0.476	0.477	0.476	2.395	1.14
3131	0.768	0.731	0.753	2.395	1.80
3132	1.388	1.413	1.398	2.395	3.35
3145	0.824	0.858	0.838	2.395	2.01

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 Exhibit 1

## Calculation of Average Uncapped Rates All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
3146	0.926	0.821	0.884	2.395	2.12
3169	1.581	1.846	1.687	2.395	4.04
3179	0.773	0.624	0.713	2.395	1.71
3180	1.368	1.327	1.351	2.395	3.24
3188	1.971	1.521	1.791	2.395	4.29
3200	1.047	1.291	1.145	2.395	2.74
3220	1.027	0.946	0.994	2.395	2.38
3227	1.581	1.846	1.687	2.395	4.04
3241	1.085	1.016	1.057	2.395	2.53
3255	1.348	1.419	1.377	2.395	3.30
3257	1.294	1.586	1.411	2.395	3.38
3270	1.151	1.183	1.164	2.395	2.79
3300	2.586	2.347	2.491	2.395	5.96
3315	1.460	1.405	1.438	2.395	3.44
3336	1.215	1.357	1.272	2.395	3.05
3365	1.532	1.335	1.459	5.797	8.46
3372	1.090	1.149	1.114	2.395	2.67
3373	2.295	2.058	2.200	2.395	5.27
3381	1.418	1.332	1.384	2.395	3.31
3383	0.540	0.576	0.554	2.395	1.33
3385	0.365	0.388	0.374	2.395	0.90
3400	1.581	1.846	1.687	2.395	4.04
3507	1.819	2.390	2.048	2.395	4.90
3515	1.202	1.214	1.207	2.395	2.89
3548	0.769	0.868	0.808	2.395	1.94
3558	0.493	0.626	0.546	2.395	1.31
3559	0.769	0.868	0.808	2.395	1.94
3571	0.509	0.483	0.498	2.395	1.19
3574	0.769	0.868	0.808	2.395	1.94
3612	0.982	0.882	0.942	2.395	2.26
3620	2.216	2.319	2.257	2.395	5.41
3629	0.769	0.868	0.808	2.395	1.94
3632	0.769	0.868	0.808	2.395	1.94
3634	0.796	0.660	0.741	2.395	1.78
3635	1.487	2.121	1.741	2.395	4.17
3638	0.769	0.868	0.808	2.395	1.94
3642	0.499	0.413	0.464	2.395	1.11
3643	0.773	0.624	0.713	2.395	1.71
3647	1.164	1.075	1.128	2.395	2.70
3648	0.611	0.673	0.636	2.395	1.52
3681	0.350	0.384	0.364	2.395	0.87
3685	0.350	0.384	0.364	2.395	0.87

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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
3724	0.782	0.870	0.815	5.797	4.72
3726	3.017	2.627	2.872	5.797	16.65
3807	1.581	1.846	1.687	2.395	4.04
3808	1.584	1.588	1.585	2.395	3.80
3821	2.662	2.333	2.523	1.994	5.03
3826	2.191	2.008	2.118	2.395	5.07
3830	0.769	0.868	0.808	2.395	1.94
3841	0.827	0.978	0.887	2.395	2.12
4000	0.966	0.714	0.865	5.880	5.09
4021	2.315	2.471	2.377	2.395	5.69
4024	1.882	1.174	1.599	2.395	3.83
4034	2.168	2.562	2.326	2.395	5.57
4036	1.751	1.183	1.524	2.395	3.65
4038	1.056	0.913	0.999	2.395	2.39
4053	0.913	0.813	0.873	2.395	2.09
4061	0.976	1.333	1.119	2.395	2.68
4062	0.976	1.333	1.119	2.395	2.68
4112	0.485	0.362	0.436	2.395	1.04
4113	0.913	0.813	0.873	2.395	2.09
4114	1.300	1.049	1.199	2.395	2.87
4130	2.346	2.684	2.481	2.395	5.94
4133	0.713	1.008	0.831	2.395	1.99
4150	0.442	0.310	0.389	2.395	0.93
4239	1.320	1.116	1.239	2.395	2.97
4243	1.433	1.284	1.374	2.395	3.29
4244	1.332	2.021	1.608	2.395	3.85
4250	0.830	0.631	0.750	2.395	1.80
4251	0.817	0.732	0.783	2.395	1.87
4273	1.140	1.229	1.176	2.395	2.82
4279	1.345	1.664	1.473	2.395	3.53
4282	0.628	0.492	0.574	2.395	1.37
4283	1.418	1.388	1.406	2.395	3.37
4299	0.966	0.860	0.923	2.395	2.21
4301	6.411	3.206	5.128	2.395	12.28
4304	1.756	1.656	1.716	2.395	4.11
4307	0.584	0.558	0.574	2.395	1.37
4308	1.637	0.389	1.138	2.395	2.72
4350	0.305	0.243	0.280	2.395	0.67
4351	0.553	0.419	0.499	2.395	1.20
4352	0.520	0.579	0.544	2.395	1.30
4360	0.587	0.564	0.577	2.395	1.38
4361	3.628	3.887	3.744	0.178	0.66

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Calculation of Average Uncapped Rates  
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Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
4362	0.354	0.383	0.366	1.994	0.73
4410	2.127	2.074	2.106	2.395	5.04
4417	2.141	2.029	2.096	2.395	5.02
4432	0.588	0.620	0.601	2.395	1.44
4439	1.092	1.561	1.279	2.395	3.06
4452	1.189	1.379	1.265	2.395	3.03
4459	1.236	1.578	1.373	2.395	3.29
4470	1.191	1.160	1.178	2.395	2.82
4484	0.994	1.082	1.029	2.395	2.46
4493	1.398	1.535	1.453	2.395	3.48
4511	0.175	0.177	0.176	1.994	0.35
4512	0.080	0.070	0.076	1.994	0.15
4557	0.680	0.678	0.679	2.395	1.63
4558	0.751	0.663	0.716	2.395	1.71
4561	1.092	1.561	1.279	2.395	3.06
4583	1.486	1.243	1.389	2.395	3.33
4611	0.728	0.633	0.690	2.395	1.65
4635	1.258	1.246	1.253	2.395	3.00
4653	0.786	0.554	0.693	2.395	1.66
4665	3.699	4.062	3.844	2.395	9.20
4692	0.276	0.225	0.255	2.395	0.61
4693	0.420	0.427	0.422	2.395	1.01
4720	0.907	0.901	0.905	2.395	2.17
4740	0.410	0.376	0.396	2.395	0.95
4741	1.554	1.248	1.431	2.395	3.43
4770	8.216	1.259	5.431	2.395	13.01
4773	16.711	2.364	10.968	2.395	26.26
4774	13.710	2.196	9.101	2.395	21.79
4775	41.643	40.275	41.095	2.395	98.41
4776	12.336	1.207	7.882	2.395	18.87
4777	1.486	1.243	1.389	2.395	3.33
4779	9.006	2.344	6.339	2.395	15.18
4799	30.257	4.643	20.004	2.395	47.90
4825	0.309	0.283	0.299	2.395	0.72
4828	0.635	0.544	0.598	2.395	1.43
4829	0.635	0.544	0.598	2.395	1.43
4902	1.206	1.680	1.395	2.395	3.34
4923	0.587	0.564	0.577	2.395	1.38
5020	1.294	1.243	1.275	5.797	7.39
5022	2.001	1.566	1.839	5.797	10.66
5037	6.475	3.622	5.415	5.797	31.39
5040	12.183	8.469	10.804	5.797	62.63

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 Subsection I - Average Uncapped Rates  
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Section IX - I  
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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
5057	4.965	6.277	5.452	5.797	31.61
5059	4.965	6.277	5.452	5.797	31.61
5069	4.965	6.277	5.452	5.797	31.61
5102	1.509	1.050	1.338	5.797	7.76
5146	0.966	0.916	0.947	5.797	5.49
5160	0.630	0.561	0.604	5.797	3.50
5183	0.577	0.574	0.576	5.797	3.34
5188	0.832	0.713	0.788	5.797	4.57
5190	0.508	0.553	0.525	5.797	3.04
5191	0.557	0.515	0.539	1.994	1.08
5192	2.309	1.841	2.112	1.994	4.21
5213	3.352	2.515	3.041	5.797	17.63
5215	0.867	0.868	0.867	5.797	5.03
5221	1.357	1.233	1.311	5.797	7.60
5222	1.849	1.750	1.812	5.797	10.51
5223	0.867	0.868	0.867	5.797	5.03
5348	1.116	0.984	1.067	5.797	6.19
5402	1.291	1.456	1.352	5.797	7.84
5403	1.931	1.972	1.946	5.797	11.28
5437	0.922	0.768	0.865	5.797	5.02
5443	0.698	0.712	0.703	5.797	4.08
5445	1.451	1.104	1.322	5.797	7.66
5462	1.502	1.585	1.533	5.797	8.89
5472	2.251	2.341	2.285	5.797	13.25
5473	1.866	1.663	1.791	5.797	10.38
5474	0.874	0.990	0.917	5.797	5.32
5478	1.059	0.660	0.911	5.797	5.28
5479	1.208	1.282	1.236	5.797	7.16
5480	0.994	0.810	0.926	5.797	5.37
5506	1.372	1.284	1.340	5.797	7.77
5507	1.275	1.165	1.234	5.797	7.15
5508	1.345	1.455	1.386	5.797	8.03
5509	0.752	0.870	0.796	5.797	4.61
5538	1.017	1.162	1.071	5.797	6.21
5545	5.216	7.339	6.004	5.797	34.81
5547	3.011	3.655	3.250	5.797	18.84
5606	0.311	0.313	0.312	5.797	1.81
5610	1.012	0.695	0.894	5.797	5.18
5645	1.384	1.658	1.486	5.797	8.61
5651	1.384	1.658	1.486	5.797	8.61
5701	2.886	4.278	3.403	5.797	19.73
5703	3.488	2.936	3.283	5.797	19.03

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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
5705	1.949	2.055	1.989	5.797	11.53
6003	2.209	1.384	1.903	5.797	11.03
6005	1.345	1.455	1.386	5.797	8.03
6204	1.770	1.742	1.759	5.797	10.20
6217	0.851	0.839	0.846	5.797	4.91
6229	0.851	0.839	0.846	5.797	4.91
6233	0.733	0.601	0.684	5.797	3.97
6251	1.334	0.688	1.094	5.797	6.34
6252	1.444	1.316	1.397	5.797	8.10
6306	1.798	1.706	1.764	5.797	10.23
6319	0.878	0.863	0.872	5.797	5.06
6325	1.031	1.278	1.123	5.797	6.51
6400	1.100	1.245	1.154	5.797	6.69
6504	1.070	1.059	1.066	2.395	2.55
6834	0.510	0.482	0.499	5.880	2.93
6836	0.586	0.526	0.562	5.880	3.30
7219	1.883	1.685	1.804	5.880	10.61
7230	1.257	1.108	1.197	5.880	7.04
7231	1.519	1.456	1.494	5.880	8.78
7360	1.148	1.057	1.112	5.880	6.54
7370	0.795	1.111	0.921	5.880	5.42
7380	1.156	1.099	1.133	5.880	6.66
7382	0.755	0.801	0.773	5.880	4.55
7403	0.687	1.038	0.827	5.880	4.86
7405	0.345	0.326	0.337	5.880	1.98
7420	2.256	1.036	1.768	5.880	10.40
7421	0.500	0.230	0.392	5.880	2.31
7422	0.500	0.230	0.392	5.880	2.31
7425	0.996	0.436	0.772	5.880	4.54
7431	0.500	0.230	0.392	5.880	2.31
7502	0.669	0.836	0.735	5.880	4.32
7515	0.328	0.369	0.344	5.880	2.02
7520	0.757	0.757	0.757	5.880	4.45
7538	1.094	1.110	1.100	5.797	6.38
7539	0.312	0.263	0.292	5.880	1.72
7580	0.474	0.536	0.499	5.880	2.93
7590	1.361	1.224	1.306	5.880	7.68
7600	0.701	0.661	0.685	5.880	4.03
7601	1.094	1.110	1.100	5.797	6.38
7610	1.564	1.437	1.508	0.178	0.27
7704	0.534	0.648	0.580	5.880	3.41
7720	0.336	0.384	0.355	5.880	2.09

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 Subsection I - Average Uncapped Rates  
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 Exhibit 1

Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
7855	1.077	0.751	0.956	5.797	5.54
8001	0.915	0.873	0.897	1.994	1.79
8002	1.123	1.294	1.195	1.994	2.38
8006	0.836	1.057	0.929	1.994	1.85
8008	0.390	0.424	0.405	1.994	0.81
8010	0.810	0.934	0.862	1.994	1.72
8013	0.227	0.223	0.225	1.994	0.45
8017	0.625	0.746	0.676	1.994	1.35
8018	1.743	1.715	1.732	1.994	3.45
8021	1.378	1.375	1.377	1.994	2.75
8031	1.307	1.405	1.349	1.994	2.69
8032	0.834	0.876	0.851	1.994	1.70
8033	1.091	1.184	1.130	1.994	2.25
8034	2.404	1.805	2.152	1.994	4.29
8039	0.668	0.847	0.743	1.994	1.48
8044	1.607	1.552	1.584	1.994	3.16
8046	1.427	2.076	1.701	1.994	3.39
8048	1.833	1.626	1.746	1.994	3.48
8050	0.821	0.894	0.852	1.994	1.70
8058	1.654	1.821	1.724	1.994	3.44
8103	1.544	1.269	1.428	1.994	2.85
8105	2.235	2.208	2.223	1.994	4.43
8106	3.667	4.725	4.113	1.994	8.20
8107	1.969	2.163	2.051	1.994	4.09
8111	1.658	1.713	1.681	1.994	3.35
8116	1.969	2.163	2.051	1.994	4.09
8203	2.809	2.639	2.738	1.994	5.46
8204	3.349	2.004	2.782	1.994	5.55
8215	1.520	1.275	1.417	1.994	2.82
8227	0.714	0.946	0.800	5.797	4.64
8232	2.624	2.433	2.543	1.994	5.07
8233	3.716	4.619	4.097	1.994	8.17
8235	2.210	1.898	2.079	1.994	4.15
8263	3.913	3.777	3.856	1.994	7.69
8264	2.478	2.418	2.453	1.994	4.89
8265	3.716	4.619	4.097	1.994	8.17
8279	1.955	2.166	2.044	1.994	4.08
8291	2.136	1.921	2.045	1.994	4.08
8292	1.912	1.972	1.937	1.994	3.86
8293	4.948	4.810	4.890	1.994	9.75
8350	3.733	2.959	3.406	1.994	6.79
8380	1.501	1.299	1.416	1.994	2.82

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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
8381	1.059	0.998	1.034	1.994	2.06
8385	2.129	1.776	1.980	1.994	3.95
8392	0.794	0.785	0.790	1.994	1.58
8393	1.194	0.898	1.069	1.994	2.13
8500	3.716	4.619	4.097	1.994	8.17
8601	1.820	1.703	1.768	0.178	0.31
8710	1.504	1.715	1.593	1.994	3.18
8719	1.504	1.715	1.593	1.994	3.18
8720	0.578	0.438	0.519	1.994	1.03
8721	1.208	1.350	1.271	0.178	0.23
8742	1.001	0.950	0.978	0.178	0.17
8745	1.749	1.597	1.685	1.994	3.36
8748	3.438	3.299	3.376	0.178	0.60
8800	6.312	6.273	6.295	0.178	1.12
8803	0.243	0.205	0.226	0.178	0.04
8810	0.542	0.545	0.543	0.178	0.10
8820	0.511	0.492	0.502	0.178	0.09
8829	1.154	1.025	1.099	1.994	2.19
8831	0.473	0.937	0.668	1.994	1.33
8832	1.477	1.366	1.428	0.178	0.25
8833	7.941	6.094	7.118	0.178	1.26
8835	1.164	1.018	1.102	1.994	2.20
8868	3.933	4.834	4.334	0.178	0.77
8901	0.542	0.545	0.543	0.178	0.10
9014	1.402	1.258	1.341	1.994	2.67
9015	1.716	1.568	1.654	1.994	3.30
9016	0.843	1.088	0.946	1.994	1.89
9019	0.357	0.249	0.314	5.880	1.85
9033	2.746	1.922	2.398	1.994	4.78
9040	1.566	1.492	1.535	1.994	3.06
9052	0.791	0.911	0.842	1.994	1.68
9058	0.791	0.911	0.842	1.994	1.68
9060	0.503	0.746	0.605	1.994	1.21
9061	0.500	0.513	0.506	1.994	1.01
9063	0.315	0.443	0.369	1.994	0.74
9079	0.545	0.672	0.599	1.994	1.19
9089	0.566	0.664	0.607	1.994	1.21
9093	0.487	0.658	0.559	1.994	1.11
9101	1.964	2.090	2.017	1.994	4.02
9102	0.418	0.465	0.437	5.880	2.57
9154	0.240	0.285	0.258	5.880	1.52
9156	7.057	8.768	7.819	0.178	1.39

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Calculation of Average Uncapped Rates  
 All Industry Groups

Class (1)	Balanced Formula Relativity			Uncapped Rate Level Factor (6)	Proposed Average Uncapped Rate (7)
	Indemnity (2)	Medical (4)	Total (5)		
9178	0.703	3.093	1.657	5.880	9.75
9179	5.023	4.390	4.770	5.880	28.05
9180	0.595	1.208	0.840	5.880	4.94
9182	0.566	1.210	0.823	5.880	4.84
9186	0.595	1.208	0.840	5.880	4.94
9220	2.037	1.937	1.995	1.994	3.98
9402	0.883	0.969	0.918	5.880	5.40
9403	1.787	1.734	1.766	5.880	10.39
9410	0.838	0.995	0.904	1.994	1.80
9501	1.175	1.487	1.300	2.395	3.11
9505	1.175	1.487	1.300	2.395	3.11
9519	1.622	1.867	1.725	1.994	3.44
9521	1.836	1.469	1.689	2.395	4.04
9522	1.019	0.819	0.939	2.395	2.25
9533	3.348	2.117	2.891	5.797	16.76
9534	1.101	0.709	0.956	5.797	5.54
9545	0.742	0.642	0.704	5.797	4.08
9549	0.911	1.277	1.047	5.797	6.07
9552	1.767	1.738	1.756	5.797	10.18
9553	1.767	1.738	1.756	5.797	10.18
9586	0.231	0.196	0.217	1.994	0.43
9620	0.406	0.340	0.378	1.994	0.75

## Notes:

(2), (3), (4), (5): Section IX - G.

(6): Section IX - H, Exhibit 1.

(7) = (5) x (6)

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Section IX - Classification Pricing  
Subsection J - Average Rates and Proposed Premium Change  
9/1/2011

Section IX - J  
Exhibit 1

Comparison of Average Rates  
All Industry Groups

Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
0005	2.95	2.73	2.73
0008	2.45	2.64	2.65
0016	3.67	4.58	4.54
0034	3.81	5.37	4.71
0035	2.08	2.27	2.27
0036	3.81	5.37	4.71
0037	2.45	2.64	2.65
0042	4.22	4.42	4.43
0050	5.95	8.03	7.28
0079	2.97	2.57	2.57
0083	5.43	6.41	6.42
0106	15.31	15.64	15.68
0113	3.81	5.37	4.71
0170	3.81	5.37	4.71
0251	3.29	4.45	4.20
0908	98.54	112.75	112.88
0909	140.84	166.85	167.05
0912	281.69	333.70	334.10
0913	197.07	225.49	225.76
0917	2.66	2.91	2.92
0918	0.66	0.80	0.80
1430	12.61	7.25	10.02
1438	3.24	3.78	3.87
1463	7.87	10.37	9.41
1624	5.57	6.25	6.26
1655	6.37	5.99	6.00
1701	5.21	5.66	5.84
1710	5.57	6.25	6.26
1747	4.36	2.89	3.47
1748	3.54	3.11	3.21
1852	8.12	7.17	7.40
1853	1.91	1.67	1.73
1860	2.84	2.75	2.84
1924	2.82	2.53	2.61
1925	4.70	3.86	3.98
2001	3.48	3.72	3.84
2002	4.01	8.22	4.79
2003	3.48	3.72	3.84
2014	4.10	4.19	4.32
2021	3.52	4.07	4.19
2039	3.02	2.72	2.81
2041	2.74	2.81	2.90
2070	4.55	4.21	4.34
2081	4.21	4.15	4.28
2089	2.70	2.55	2.63
2095	4.57	3.77	3.89
2101	2.70	2.55	2.63
2111	2.84	2.38	2.46

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 Exhibit 1

Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
2114	2.70	2.55	2.63
2115	3.51	3.51	3.62
2121	2.32	1.83	1.89
2130	2.89	2.51	2.59
2131	2.54	2.56	2.65
2143	3.32	2.71	2.80
2150	5.58	8.66	6.67
2156	8.48	11.56	10.13
2157	6.15	6.41	6.61
2172	1.72	2.38	2.06
2174	4.88	3.50	3.88
2211	6.42	6.23	6.43
2220	3.83	3.49	3.60
2260	6.29	7.99	7.51
2286	3.83	3.49	3.60
2288	2.30	2.65	2.73
2302	3.83	3.49	3.60
2305	2.07	2.37	2.45
2362	2.55	2.15	2.22
2380	3.11	2.88	2.97
2402	3.29	2.89	2.98
2413	3.82	3.46	3.57
2416	3.49	3.50	3.61
2417	3.28	3.39	3.49
2501	2.55	2.21	2.28
2503	1.08	1.14	1.18
2534	2.55	2.21	2.28
2570	5.16	4.51	4.66
2576	3.47	3.01	3.10
2578	3.47	3.01	3.10
2585	3.02	3.41	3.52
2586	1.64	1.71	1.77
2587	2.59	3.08	3.09
2623	3.67	3.82	3.94
2640	2.64	2.15	2.22
2651	2.64	2.15	2.22
2660	2.23	2.21	2.28
2683	2.31	2.01	2.08
2688	2.84	2.62	2.70
2702	16.20	17.02	17.05
2710	6.90	6.88	7.10
2731	5.04	4.53	4.67
2741	6.50	5.84	6.02
2747	8.32	7.13	7.36
2790	2.42	2.18	2.25
2802	4.84	4.73	4.88
2835	2.40	2.20	2.27
2836	3.45	2.89	2.98

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Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
2841	3.99	4.00	4.13
2883	3.93	3.97	4.09
2923	2.13	1.81	1.87
2942	2.42	3.34	2.89
3018	3.04	2.66	2.74
3022	4.21	3.64	3.75
3027	5.12	4.62	4.77
3028	4.65	3.47	3.70
3030	8.92	7.18	7.41
3040	8.13	8.91	9.19
3041	4.92	4.28	4.42
3042	4.82	10.37	5.76
3064	3.22	2.91	3.00
3066	3.22	2.91	3.00
3076	2.86	2.76	2.85
3081	8.85	8.63	8.91
3082	8.85	8.63	8.91
3085	5.29	4.24	4.38
3110	9.01	6.65	7.16
3111	2.76	3.03	3.13
3113	2.36	2.12	2.19
3114	3.89	3.51	3.62
3118	2.36	2.12	2.19
3119	1.11	1.02	1.05
3120	2.09	1.97	2.03
3122	2.81	2.12	2.23
3127	0.96	1.14	1.15
3131	2.30	1.80	1.86
3132	2.82	3.35	3.37
3145	2.09	2.01	2.07
3146	2.26	2.12	2.18
3169	4.65	4.04	4.17
3179	1.82	1.71	1.76
3180	3.11	3.24	3.34
3188	3.68	4.29	4.39
3200	3.42	2.74	2.83
3220	2.09	2.38	2.46
3227	4.65	4.04	4.17
3241	2.82	2.53	2.61
3255	3.73	3.30	3.40
3257	3.29	3.38	3.49
3270	2.09	2.79	2.50
3300	7.64	5.96	6.15
3315	2.93	3.44	3.50
3336	3.47	3.05	3.14
3365	9.58	8.46	8.49
3372	2.63	2.67	2.75
3373	3.95	5.27	4.72

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Section IX - Classification Pricing  
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Section IX - J  
 Exhibit 1

Comparison of Average Rates  
 All Industry Groups

Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
3381	3.64	3.31	3.42
3383	1.50	1.33	1.37
3385	0.92	0.90	0.92
3400	4.65	4.04	4.17
3507	3.62	4.90	4.33
3515	3.13	2.89	2.98
3548	2.09	1.94	2.00
3558	0.65	1.31	0.78
3559	2.09	1.94	2.00
3571	1.34	1.19	1.23
3574	2.09	1.94	2.00
3612	2.11	2.26	2.33
3620	5.31	5.41	5.58
3629	2.09	1.94	2.00
3632	2.09	1.94	2.00
3634	2.05	1.78	1.83
3635	4.20	4.17	4.30
3638	2.09	1.94	2.00
3642	1.16	1.11	1.15
3643	1.82	1.71	1.76
3647	3.03	2.70	2.79
3648	1.89	1.52	1.57
3681	0.88	0.87	0.90
3685	0.88	0.87	0.90
3724	5.42	4.72	4.74
3726	15.27	16.65	16.72
3807	4.65	4.04	4.17
3808	4.16	3.80	3.92
3821	4.22	5.03	5.04
3826	2.55	5.07	3.05
3830	2.09	1.94	2.00
3841	1.97	2.12	2.19
4000	5.04	5.09	5.10
4021	4.20	5.69	5.01
4024	3.42	3.83	3.95
4034	6.11	5.57	5.75
4036	2.96	3.65	3.53
4038	2.59	2.39	2.47
4053	2.22	2.09	2.16
4061	3.26	2.68	2.76
4062	3.26	2.68	2.76
4112	0.70	1.04	0.83
4113	2.22	2.09	2.16
4114	2.89	2.87	2.96
4130	5.49	5.94	6.13
4133	2.17	1.99	2.05
4150	1.10	0.93	0.96
4239	3.71	2.97	3.06

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Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
4243	3.27	3.29	3.39
4244	4.17	3.85	3.97
4250	2.05	1.80	1.85
4251	2.05	1.87	1.93
4273	3.37	2.82	2.91
4279	3.98	3.53	3.64
4282	0.76	1.37	0.91
4283	3.23	3.37	3.47
4299	2.35	2.21	2.28
4301	4.36	12.28	5.21
4304	4.28	4.11	4.24
4307	1.53	1.37	1.42
4308	1.00	2.72	1.20
4350	0.69	0.67	0.69
4351	1.03	1.20	1.23
4352	1.22	1.30	1.34
4360	1.27	1.38	1.43
4361	0.50	0.66	0.63
4362	0.68	0.73	0.73
4410	4.97	5.04	5.20
4417	5.78	5.02	5.18
4432	1.39	1.44	1.48
4439	2.58	3.06	3.08
4452	3.24	3.03	3.13
4459	3.34	3.29	3.39
4470	3.14	2.82	2.91
4484	2.68	2.46	2.54
4493	3.63	3.48	3.59
4511	0.37	0.35	0.35
4512	0.15	0.15	0.15
4557	1.62	1.63	1.68
4558	1.93	1.71	1.77
4561	2.58	3.06	3.08
4583	3.59	3.33	3.43
4611	1.74	1.65	1.70
4635	3.59	3.00	3.10
4653	3.43	1.66	2.73
4665	9.35	9.20	9.50
4692	0.62	0.61	0.63
4693	1.08	1.01	1.04
4720	2.08	2.17	2.24
4740	1.37	0.95	1.09
4741	3.65	3.43	3.54
4770	12.19	13.01	13.42
4773	24.56	26.26	27.10
4774	20.46	21.79	22.49
4775	18.32	98.41	21.89
4776	17.47	18.87	19.47

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Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
4777	3.59	3.33	3.43
4779	15.84	15.18	15.66
4799	44.91	47.90	49.43
4825	0.65	0.72	0.74
4828	1.40	1.43	1.48
4829	1.40	1.43	1.48
4902	2.42	3.34	2.89
4923	1.27	1.38	1.43
5020	6.19	7.39	7.42
5022	10.45	10.66	10.70
5037	23.28	31.39	28.48
5040	53.55	62.63	62.88
5057	32.68	31.61	31.73
5059	32.68	31.61	31.73
5069	32.68	31.61	31.73
5102	6.82	7.76	7.79
5146	5.29	5.49	5.51
5160	4.17	3.50	3.52
5183	3.46	3.34	3.35
5188	4.09	4.57	4.59
5190	2.81	3.04	3.05
5191	1.02	1.08	1.08
5192	4.22	4.21	4.22
5213	18.67	17.63	17.70
5215	5.28	5.03	5.05
5221	6.18	7.60	7.56
5222	8.62	10.51	10.54
5223	5.28	5.03	5.05
5348	5.75	6.19	6.21
5402	11.38	7.84	9.37
5403	9.52	11.28	11.33
5437	5.18	5.02	5.03
5443	5.22	4.08	4.30
5445	7.17	7.66	7.69
5462	9.48	8.89	8.92
5472	8.67	13.25	10.60
5473	12.48	10.38	10.42
5474	5.04	5.32	5.34
5478	4.63	5.28	5.30
5479	7.70	7.16	7.19
5480	4.64	5.37	5.39
5506	6.98	7.77	7.80
5507	6.98	7.15	7.18
5508	5.95	8.03	7.28
5509	3.40	4.61	4.16
5538	5.66	6.21	6.23
5545	30.68	34.81	34.94
5547	16.91	18.84	18.91

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Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
5606	1.60	1.81	1.81
5610	5.37	5.18	5.20
5645	8.60	8.61	8.65
5651	8.60	8.61	8.65
5701	23.52	19.73	19.80
5703	26.46	19.03	21.78
5705	11.05	11.53	11.57
6003	12.79	11.03	11.07
6005	5.95	8.03	7.28
6204	9.57	10.20	10.24
6217	4.30	4.91	4.93
6229	4.30	4.91	4.93
6233	3.78	3.97	3.98
6251	5.93	6.34	6.37
6252	7.75	8.10	8.13
6306	7.54	10.23	9.22
6319	4.82	5.06	5.08
6325	4.34	6.51	5.31
6400	6.98	6.69	6.71
6504	2.70	2.55	2.63
6834	3.11	2.93	2.94
6836	2.54	3.30	3.24
7219	8.66	10.61	10.63
7230	6.53	7.04	7.06
7231	6.62	8.78	8.44
7360	5.73	6.54	6.55
7370	4.81	5.42	5.43
7380	5.97	6.66	6.68
7382	4.28	4.55	4.56
7403	4.94	4.86	4.87
7405	1.29	1.98	1.65
7420	6.13	10.40	7.82
7421	2.11	2.31	2.31
7422	2.11	2.31	2.31
7425	3.50	4.54	4.46
7431	2.11	2.31	2.31
7502	4.01	4.32	4.33
7515	2.38	2.02	2.08
7520	3.29	4.45	4.20
7538	5.34	6.38	6.40
7539	1.23	1.72	1.57
7580	2.58	2.93	2.94
7590	6.62	7.68	7.70
7600	3.37	4.03	4.04
7601	5.34	6.38	6.40
7610	0.19	0.27	0.24
7704	1.89	3.41	2.41
7720	1.80	2.09	2.09

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Comparison of Average Rates  
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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
7855	6.10	5.54	5.56
8001	1.53	1.79	1.79
8002	2.37	2.38	2.39
8006	1.59	1.85	1.85
8008	0.66	0.81	0.81
8010	1.60	1.72	1.72
8013	0.47	0.45	0.45
8017	1.20	1.35	1.35
8018	3.28	3.45	3.46
8021	2.86	2.75	2.75
8031	2.75	2.69	2.69
8032	1.58	1.70	1.70
8033	1.98	2.25	2.26
8034	4.05	4.29	4.30
8039	1.69	1.48	1.48
8044	3.35	3.16	3.16
8046	2.48	3.39	3.07
8048	3.42	3.48	3.49
8050	1.76	1.70	1.70
8058	2.84	3.44	3.44
8103	3.13	2.85	2.85
8105	4.77	4.43	4.44
8106	7.72	8.20	8.21
8107	4.16	4.09	4.09
8111	3.49	3.35	3.36
8116	4.16	4.09	4.09
8203	6.02	5.46	5.47
8204	5.67	5.55	5.55
8215	3.23	2.82	2.83
8227	3.89	4.64	4.66
8232	4.63	5.07	5.08
8233	9.18	8.17	8.18
8235	3.97	4.15	4.15
8263	6.21	7.69	7.68
8264	4.88	4.89	4.90
8265	9.18	8.17	8.18
8279	4.56	4.08	4.08
8291	4.34	4.08	4.08
8292	4.03	3.86	3.87
8293	8.66	9.75	9.76
8350	6.02	6.79	6.80
8380	2.56	2.82	2.83
8381	1.76	2.06	2.06
8385	3.46	3.95	3.95
8392	1.29	1.58	1.58
8393	1.97	2.13	2.13
8500	9.18	8.17	8.18
8601	0.27	0.31	0.31

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Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
8710	2.28	3.18	2.82
8719	2.28	3.18	2.82
8720	1.06	1.03	1.04
8721	0.17	0.23	0.22
8742	0.16	0.17	0.17
8745	3.43	3.36	3.36
8748	0.47	0.60	0.59
8800	0.79	1.12	0.99
8803	0.04	0.04	0.04
8810	0.09	0.10	0.10
8820	0.09	0.09	0.09
8829	2.15	2.19	2.19
8831	1.21	1.33	1.33
8832	0.23	0.25	0.25
8833	1.12	1.26	1.27
8835	2.13	2.20	2.20
8868	0.64	0.77	0.77
8901	0.09	0.10	0.10
9014	2.46	2.67	2.68
9015	2.85	3.30	3.30
9016	1.65	1.89	1.89
9019	3.79	1.85	3.32
9033	4.88	4.78	4.79
9040	3.08	3.06	3.06
9052	1.56	1.68	1.68
9058	1.56	1.68	1.68
9060	1.18	1.21	1.21
9061	1.01	1.01	1.01
9063	0.70	0.74	0.74
9079	1.12	1.19	1.19
9089	1.29	1.21	1.21
9093	1.16	1.11	1.12
9101	3.32	4.02	4.03
9102	2.35	2.57	2.57
9154	1.26	1.52	1.52
9156	1.14	1.39	1.39
9178	18.51	9.75	16.19
9179	25.03	28.05	28.11
9180	4.16	4.94	4.95
9182	3.53	4.84	4.51
9186	4.16	4.94	4.95
9220	3.65	3.98	3.98
9402	5.14	5.40	5.41
9403	8.12	10.39	10.36
9410	2.03	1.80	1.80
9501	3.29	3.11	3.21
9505	3.29	3.11	3.21
9519	2.64	3.44	3.26

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Section IX - J  
Exhibit 1

## Comparison of Average Rates All Industry Groups

Class (1)	Present Average Capped Rate (2)	Proposed Average Uncapped Rate (3)	Proposed Average Capped Rate (4)
9521	4.74	4.04	4.17
9522	2.06	2.25	2.32
9533	20.72	16.76	17.06
9534	5.55	5.54	5.56
9545	4.06	4.08	4.10
9549	5.07	6.07	6.09
9552	8.73	10.18	10.22
9553	8.73	10.18	10.22
9586	0.48	0.43	0.43
9620	0.80	0.75	0.75

Notes:

(2) = (4) from Section IX - J of the 09/01/2010 stipulation.

(3): Section IX - I.

(4): Total Balanced Formula Relativity (from Section IX - I, Exhibit 1) x Capped Rate Level Factors and subject to maximum and minimum caps (from Section IX - H, Exhibit 1.)

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Section IX - J  
Exhibit 2

## Summary of Proposed Premium Change All Industry Groups

Industry Group (1)	Present Premium (2)	Proposed Premium (3)	Proposed Change (4)	Target Change (5)	Capped Rate Level Factor (6)
Manufacturing	615,730,914	610,671,441	-0.8%	-0.8%	2.471
Construction	1,351,330,135	1,416,853,567	4.8%	4.8%	5.820
Office & Clerical	435,280,756	483,167,299	11.0%	11.0%	0.178
Goods & Services	1,162,548,490	1,250,925,010	7.6%	7.6%	1.996
Miscellaneous	451,069,212	519,411,527	15.2%	15.2%	5.893
All Groups	4,015,959,507	4,281,028,844	6.6%		

Notes:

(2), (3): Exposure x Average Rates from Exhibit 1.

(4) = [(3) - (2)] / (2)

(5): Section IX - H, Exhibit 1.

(6): Section IX - H, Exhibit 1. Proposed average uncapped rates are capped by an iterative process using rate levels to determine if the required change is achieved.

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Section IX - Classification Pricing  
Subsection K - Adjustments to Derive Final Manual Rates  
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Section IX - K  
Exhibit 1

## Calculation of Proposed Manual Rates

The proposed manual rates in Section IX - A, Exhibit 1 are derived from the proposed average capped rates in Section IX - J, Exhibit 1 as follows:

$$\text{Proposed Manual Rate} = [\text{Proposed Average Rate} / (\text{Factor 1} \times \text{Factor 2} \times \text{Factor 3})] \times [1.000 / (1.000 - \text{Factor 4})]$$

(1)	Factor 1 =	0.997	The offset for Merit Rating and Average Experience Modification
(2)	Factor 2 =	1.049	The offset for ARAP
(3)	Factor 3 =	0.943	For eligible classes, the offset for the Construction Classification Premium Adjustment Program
(4)	Factor 4 =	0.0002	The loading from the filing of recoupment of amounts paid to the Insolvency Fund

### Notes:

- (1): Exhibit 2.
- (2): Exhibit 3.
- (3): Exhibit 4.
- (4): Section I - E, Exhibit 1.

Offset for Experience & Merit Rating

Policy Year (1)	Age (2)	Rating Category (3)	Number of Policies (4)	% of Policies = (4) / Total (4) (5)	Manual Premium (6)	% of Manual = (6) / Total (6) (7)	Standard Premium (8)	Historical Average Mod = (8) / (6) (9)	Selected Average Mod (10)
2004	66	Non Rated	48,157	29%	12,307,059	1%	12,302,101	1.000	
		Merit Rated	79,196	48%	142,928,670	14%	139,893,643	0.979	
		Intrastate Rated	23,932	14%	573,216,038	58%	561,558,172	0.980	
		Interstate Rated	14,576	9%	266,504,396	27%	253,764,477	0.952	
		Total	165,861	100%	994,956,163	100%	967,518,393	0.972	
2005	54	Non Rated	50,188	30%	12,703,929	1%	12,702,906	1.000	
		Merit Rated	80,097	47%	144,859,190	14%	141,927,442	0.980	
		Intrastate Rated	24,286	14%	574,592,727	56%	567,828,341	0.988	
		Interstate Rated	14,777	9%	297,470,139	29%	280,790,940	0.944	
		Total	169,348	100%	1,029,625,985	100%	1,003,249,629	0.974	
2006	42	Non Rated	52,432	30%	12,831,193	1%	12,831,638	1.000	
		Merit Rated	81,004	47%	146,585,316	14%	143,827,272	0.981	
		Intrastate Rated	23,786	14%	545,796,557	53%	560,538,059	1.027	
		Interstate Rated	16,307	9%	329,876,174	32%	315,760,608	0.957	
		Total	173,529	100%	1,035,089,240	100%	1,032,957,577	0.998	
2007	30	Non Rated	55,076	31%	13,991,132	1%	13,989,138	1.000	
		Merit Rated	81,911	47%	147,339,233	15%	144,605,598	0.981	
		Intrastate Rated	22,576	13%	516,655,514	52%	527,728,297	1.021	
		Interstate Rated	15,647	9%	320,972,258	32%	303,920,734	0.947	
		Total	175,210	100%	998,958,137	100%	990,243,767	0.991	
2008	18	Non Rated	66,687	37%	16,378,495	2%	16,375,664	1.000	
		Merit Rated	79,309	44%	142,020,415	17%	139,450,634	0.982	
		Intrastate Rated	18,675	10%	403,894,464	48%	412,016,406	1.020	
		Interstate Rated	14,235	8%	270,591,384	32%	257,135,786	0.950	
		Total	178,906	100%	832,884,758	100%	824,978,490	0.991	
Total		Non Rated	272,540	32%	68,211,808	1%	68,201,447	1.000	1.000
		Merit Rated	401,517	47%	723,732,824	15%	709,704,589	0.981	0.981
		Intrastate Rated	113,255	13%	2,614,155,300	53%	2,629,669,275	1.006	1.000
		Interstate Rated	75,542	9%	1,485,414,351	30%	1,411,372,545	0.950	1.000
		Total	862,854	100%	4,891,514,283	100%	4,818,947,856	0.985	0.997

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Notes:

Data from Unit Statistical Plan data at most recent report, excluding Large Deductibles and SIGs.

Non Rated, Merit Rated and Intrastate Rated categories are estimated based on manual premium.

(10): Set to 1.000 for Non Rated, Intrastate Rated, and Interstate Rated risks. Total of (10) calculated as weighted average of (10) using (6).

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Section IX - Classification Pricing  
 Subsection K - Adjustments to Derive Final Manual Rates  
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Section IX - K  
 Exhibit 3

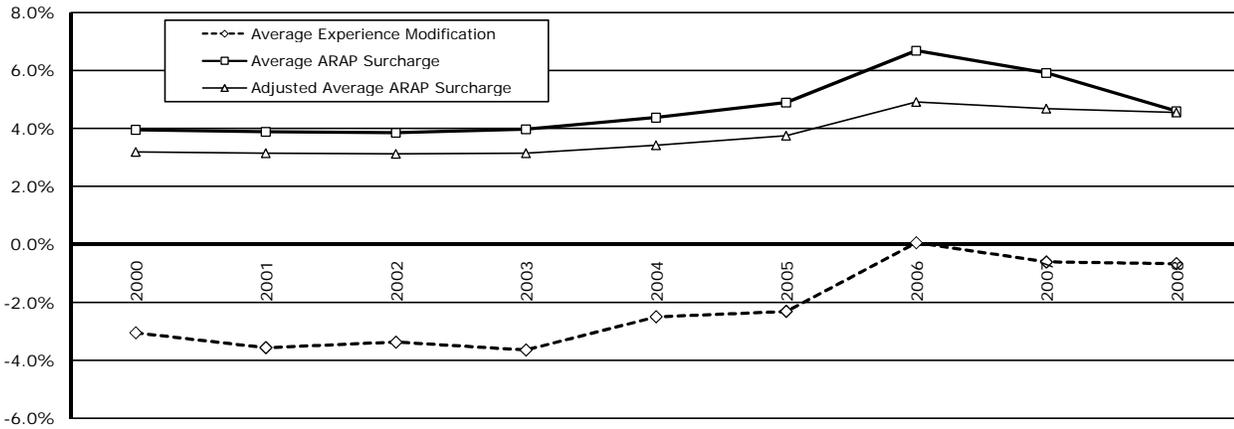
## Offset for ARAP Estimate of Average ARAP Surcharge for Policy Effective Period

Historical Average Experience Modification and ARAP Surcharge

Policy Year (1)	Manual Premium (2)	Standard Premium (3)	ARAP Premium (4)	Adjusted ARAP Premium (5)	Average ARAP Surcharge =(4) / (3) (6)	Average Experience Modification =(3) / (2) - 1.000 (7)	Adjusted Average ARAP Surcharge =(5) / [ (3)+(4)-(5) ] (8)
2000	972,403,817	942,772,067	37,297,021	30,326,257	4.0%	-3.0%	3.2%
2001	987,390,817	952,256,588	36,949,973	30,200,040	3.9%	-3.6%	3.1%
2002	1,026,876,422	992,310,383	38,226,828	31,214,342	3.9%	-3.4%	3.1%
2003	1,033,064,326	995,475,850	39,565,188	31,530,997	4.0%	-3.6%	3.1%
2004	992,304,913	967,518,393	42,310,274	33,432,274	4.4%	-2.5%	3.4%
2005	1,026,982,389	1,003,249,629	49,045,473	38,077,849	4.9%	-2.3%	3.8%
2006	1,032,410,823	1,032,957,577	68,999,396	51,640,235	6.7%	0.1%	4.9%
2007	996,291,762	990,243,767	58,589,489	46,904,902	5.9%	-0.6%	4.7%
2008	830,514,725	824,978,490	37,934,757	37,594,459	4.6%	-0.7%	4.6%

Regression of Average ARAP Surcharge on Average Experience Modification

(9) R-Squared	0.980
(10) Slope	0.519
(11) Intercept	0.049
(12) Projected Average ARAP Surcharge = (11)	0.049



Note:  
 (2)-(5): Unit Statistical Plan data at most recent report, excluding Large Deductibles and SIGs.

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Section IX - Classification Pricing  
Subsection K - Adjustments to Derive Final Manual Rates  
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Section IX - K  
Exhibit 4

## Construction Class Premium Adjustment Program

Policy Year (1)	Manual Premium for Eligible Class Codes (2)	Construction Credit (3)	Percent (4)
2007	345,024,492	18,529,293	5.4%
2008	267,737,034	15,312,249	5.7%
(5) Selected Average Credit for Eligible Class Codes in Policy Effective Period			5.7%

Note:

(2),(3): Unit Statistical Plan data at most recent report, excluding Large Deductibles and SIGs.

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## Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of MA Indicated Relativity:

(A). Limited Losses (Unit Statistical Plan data, excluding Large Deductibles)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	57,038	12,157	8,075	17,165	32,821	0
	2005	0	0	0	0	0	0	0	373	98,816	0
	2006	0	0	0	0	0	0	0	1,381	47,652	0
	2007	0	0	0	0	62,549	29,800	0	0	70,898	0
	2008	0	0	0	0	0	0	0	24,239	6,699	0
Medical	2004	0	0	0	0	8,608	1,691	0	29,970	40,298	41,350
	2005	0	0	0	0	0	0	0	2,603	67,741	27,785
	2006	0	0	0	0	0	0	0	3,022	63,070	23,883
	2007	0	0	0	0	23,196	48,600	0	0	99,073	28,438
	2008	0	0	0	0	0	0	0	10,761	7,176	14,905

(B). Primary Conversion Factors (Section IX - B, Exhibit 1, Page 1)											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0.935	0.927	0.946	0.977	0.969	0.977	0.969	0.929	0.922	0.000
	2005	1.020	0.992	1.030	1.057	1.028	1.057	1.028	1.016	0.988	0.000
	2006	1.159	1.083	1.168	1.190	1.111	1.190	1.111	1.156	1.079	0.000
	2007	1.359	1.213	1.365	1.382	1.234	1.382	1.234	1.355	1.210	0.000
	2008	1.984	1.532	1.988	2.002	1.546	2.002	1.546	1.981	1.530	0.000
Medical	2004	1.067	0.966	1.067	1.067	0.966	1.067	0.966	1.067	0.966	0.945
	2005	1.231	1.072	1.231	1.231	1.072	1.231	1.072	1.231	1.072	0.935
	2006	1.312	1.062	1.312	1.312	1.062	1.312	1.062	1.312	1.062	0.975
	2007	1.391	1.034	1.391	1.391	1.034	1.391	1.034	1.391	1.034	1.002
	2008	1.625	1.133	1.625	1.625	1.133	1.625	1.133	1.625	1.133	1.084

(C). Converted Limited Losses [ (A) x (B) ]											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	55,260	11,877	7,823	15,955	30,253	0
	2005	0	0	0	0	0	0	0	379	97,622	0
	2006	0	0	0	0	0	0	0	1,596	51,425	0
	2007	0	0	0	0	77,186	41,195	0	0	85,781	0
	2008	0	0	0	0	0	0	0	48,016	10,250	0
Medical	2004	0	0	0	0	8,313	1,805	0	31,990	38,915	39,091
	2005	0	0	0	0	0	0	0	3,205	72,650	25,977
	2006	0	0	0	0	0	0	0	3,966	66,990	23,288
	2007	0	0	0	0	23,984	67,595	0	0	102,438	28,484
	2008	0	0	0	0	0	0	0	17,487	8,128	16,157

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### Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of MA Indicated Relativity:

(D). Unadjusted Excess Losses [ (Excess Factor -1.0) x (C) ]											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	7,393	1,589	1,047	2,135	4,048	0
	2005	0	0	0	0	0	0	0	51	13,061	0
	2006	0	0	0	0	0	0	0	213	6,880	0
	2007	0	0	0	0	10,326	5,511	0	0	11,476	0
	2008	0	0	0	0	0	0	0	6,424	1,371	0
Medical	2004	0	0	0	0	1,112	241	0	4,280	5,206	5,230
	2005	0	0	0	0	0	0	0	429	9,720	3,475
	2006	0	0	0	0	0	0	0	531	8,962	3,116
	2007	0	0	0	0	3,209	9,043	0	0	13,705	3,811
	2008	0	0	0	0	0	0	0	2,340	1,087	2,162

(E). Adjusted Excess Losses											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	5,175	1,112	733	1,494	2,833	0
	2005	0	0	0	0	0	0	0	35	9,142	0
	2006	0	0	0	0	0	0	0	149	4,816	0
	2007	0	0	0	0	7,229	3,858	0	0	8,033	0
	2008	0	0	0	0	0	0	0	4,497	960	0
Medical	2004	0	0	0	0	3,330	718	314	4,920	6,421	5,230
	2005	0	0	0	0	0	0	0	444	13,638	3,475
	2006	0	0	0	0	0	0	0	595	11,026	3,116
	2007	0	0	0	0	6,307	10,697	0	0	17,148	3,811
	2008	0	0	0	0	0	0	0	4,267	1,499	2,162

(F). Secondary Conversion Factors						
	Fatal	Permanent	Major Permanent Partial	Minor Permanent Partial	Temporary Total	Medical
Indemnity	0.998	0.950	1.202	1.224	1.212	0.000
Medical	1.186	0.954	1.207	1.229	1.216	1.186

(G). Converted Unlimited Losses											
	Policy Year	Fatal		Permanent Total	Major Permanent Partial		Minor Permanent Partial		Temporary Total		Medical Only
		LD	NLD		LD	NLD	LD	NLD	LD	NLD	
Indemnity	2004	0	0	0	0	72,649	15,900	10,474	21,141	40,087	0
	2005	0	0	0	0	0	0	0	502	129,354	0
	2006	0	0	0	0	0	0	0	2,114	68,140	0
	2007	0	0	0	0	101,474	55,151	0	0	113,664	0
	2008	0	0	0	0	0	0	0	63,623	13,581	0
Medical	2004	0	0	0	0	14,050	3,101	386	44,893	55,140	52,564
	2005	0	0	0	0	0	0	0	4,438	104,949	34,930
	2006	0	0	0	0	0	0	0	5,547	94,889	31,314
	2007	0	0	0	0	36,553	96,211	0	0	145,448	38,302
	2008	0	0	0	0	0	0	0	26,458	11,709	21,726

(H). Total					
Policy Year	Exposure	Indemnity		Medical	
		LD	NLD	LD	NLD
2004	145759	37,041	123,210	47,993	122,139
2005	140390	502	129,354	4,438	139,880
2006	137462	2,114	68,140	5,547	126,203
2007	137782	55,151	215,137	96,211	220,303
2008	137119	63,623	13,581	26,458	33,435
<b>Total</b>	<b>698,512</b>	<b>158,432</b>	<b>549,422</b>	<b>180,648</b>	<b>641,960</b>

	Indemnity	Medical
(I). Indicated Pure Premium	1.013	1.178
(J). Goods & Services Industry Group Pure Premium	1.004	0.731
(K). MA Indicated Relativity	1.009	1.611

- Notes:
- (E): Indemnity Adjusted Excess Losses = Indemnity Unadjusted Excess Losses x 0.7
  - Medical Adjusted Excess Losses = Medical Unadjusted Excess Losses + 0.3 x Indemnity Unadjusted Excess Losses
  - (F): Section IX-B, Exhibit 1, Page 2.
  - (G) = [ (C) + (E) ] x (F)
  - (I) = Total Losses / Total Exposure
  - (J): Industry Group Pure Premium from Section IX - C, Exhibit 4, Page 2.
  - (K) = (I) / (J)

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Section IX - Classification Pricing  
 Subsection L - Pricing Example  
 9/1/2011

Section IX - L  
 Exhibit 2  
 Page 1

## Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of Countrywide Relativity

State (1)	State Code (2)	Losses				Lost-Time Claims		Payroll (9)
		Indemnity		Medical		Likely (7)	Not-Likely (8)	
		Likely (3)	Not-Likely (4)	Likely (5)	Not-Likely (6)			
Alabama	1	66,945	26,520	325,738	216,985	2	14	36,520,758
Arizona	2	227,243	156,110	1,268,315	1,297,768	6	44	186,346,363
Arkansas	3	366,813	109,008	414,312	318,709	3	18	50,161,811
Colorado	5	312,885	497,973	265,636	866,348	6	51	70,073,570
Connecticut	6	1,504,378	249,493	2,006,878	755,052	13	45	74,452,078
D.C.	8	0	0	0	0	0	0	0
Florida	9	1,376,889	2,134,673	4,166,977	6,046,275	54	267	407,247,834
Georgia	10	1,104,224	1,081,032	1,559,245	1,881,770	16	89	175,687,040
Idaho	11	234,122	183,030	571,055	426,572	5	26	51,510,433
Illinois	12	656,310	1,351,456	865,531	2,628,111	17	94	163,000,227
Indiana	13	0	233,113	0	1,150,052	0	31	54,213,651
Iowa	14	204,409	193,525	321,367	451,894	7	30	23,991,124
Kansas	15	40,788	119,079	53,612	175,841	2	7	19,891,730
Kentucky	16	93,784	10,620	60,685	36,088	1	4	15,655,815
Louisiana	17	224,007	100,270	146,688	498,035	3	24	62,728,983
Maine	18	0	46,459	0	496,341	0	8	15,285,826
Maryland	19	44,751	239,061	73,760	367,449	3	44	100,302,111
Mississippi	23	113,292	210,518	71,060	311,774	1	11	41,083,060
Missouri	24	343,095	248,367	393,110	711,134	8	37	60,150,252
Montana	25	161,601	20,119	407,613	141,532	3	6	10,844,376
Nebraska	26	90,765	87,900	80,456	288,123	2	13	16,883,931
Nevada	27	175,844	17,397	192,290	94,215	1	5	12,841,074
New Hampshire	28	9,224	266,890	38,992	608,513	1	16	14,822,517
New Mexico	30	176,927	67,532	346,262	235,620	3	12	16,446,234
North Carolina	32	2,065,340	1,889,531	2,829,160	2,159,632	21	92	263,909,993
Oklahoma	35	599,109	706,031	342,143	685,854	9	51	86,519,790
Oregon	36	1,712,544	2,845,406	3,729,010	6,461,207	68	568	715,180,358
Rhode Island	38	22,173	279,271	24,345	193,054	3	25	15,891,298
South Carolina	39	1,109,565	444,168	1,448,889	931,047	15	39	105,436,830
South Dakota	40	0	8,200	0	36,014	0	2	3,609,936
Tennessee	41	176,584	229,893	457,966	514,661	5	33	80,935,673
Utah	43	0	45,034	0	275,049	0	19	36,169,102
Vermont	44	62,111	114,535	111,974	117,649	1	8	7,477,074
Virginia	45	385,610	140,870	650,408	556,023	6	33	122,450,293
Hawaii	52	104,524	274,835	52,025	124,080	3	36	22,791,477
Alaska	54	0	461	0	11,530	0	2	1,952,467
<b>Total</b>		<b>13,765,856</b>	<b>14,628,380</b>	<b>23,275,502</b>	<b>32,070,001</b>	<b>288</b>	<b>1,804</b>	<b>3,142,465,089</b>

Note:  
 Data are total for latest three policy years. See Section IX - D, Exhibit 3 for years used.

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## Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of Countrywide Relativity

State (1)	State Code (2)	Goods & Services Pitch Factors		Pure Premiums, on MA Level		Total (7)
		Indemnity (3)	Medical (4)	Indemnity (5)	Medical (6)	
Alabama	1	1.153	0.236	0.295	0.351	
Arizona	2	1.552	0.344	0.319	0.474	
Arkansas	3	1.792	0.521	1.700	0.761	
Colorado	5	0.779	0.435	0.901	0.703	
Connecticut	6	0.472	0.275	1.113	1.020	
D.C.	8	0.918	0.876	0.000	0.000	
Florida	9	1.208	0.339	1.042	0.850	
Georgia	10	0.830	0.443	1.033	0.868	
Idaho	11	0.921	0.292	0.746	0.566	
Illinois	12	0.515	0.254	0.635	0.543	
Indiana	13	2.315	0.429	0.995	0.911	
Iowa	14	0.750	0.324	1.245	1.045	
Kansas	15	1.016	0.363	0.817	0.418	
Kentucky	16	1.218	0.314	0.812	0.194	
Louisiana	17	0.903	0.390	0.467	0.401	
Maine	18	0.635	0.325	0.193	1.055	
Maryland	19	0.889	0.493	0.251	0.217	
Mississippi	23	1.165	0.407	0.918	0.379	
Missouri	24	0.989	0.369	0.972	0.678	
Montana	25	0.548	0.135	0.919	0.686	
Nebraska	26	1.220	0.323	1.291	0.705	
Nevada	27	0.928	0.457	1.397	1.019	
New Hampshire	28	0.912	0.191	1.700	0.833	
New Mexico	30	0.967	0.347	1.437	1.229	
North Carolina	32	0.704	0.404	1.056	0.764	
Oklahoma	35	0.328	0.297	0.494	0.353	
Oregon	36	0.900	0.372	0.574	0.531	
Rhode Island	38	0.517	0.546	0.981	0.747	
South Carolina	39	0.613	0.421	0.903	0.950	
South Dakota	40	1.383	0.331	0.314	0.330	
Tennessee	41	1.008	0.380	0.506	0.456	
Utah	43	1.971	0.406	0.245	0.308	
Vermont	44	0.590	0.289	1.395	0.886	
Virginia	45	1.651	0.486	0.710	0.479	
Hawaii	52	0.745	0.595	1.239	0.460	
Alaska	54	1.012	0.201	0.024	0.119	
(8)	Average of (6), (7), (8) weighted by Payroll from Page 1, respectively			0.774	0.636	
(9)	Conversion and Excess Loss Adjustment Factor			1.560	1.620	
(10)	CW Pure Premium = (8) x (9)			1.208	1.031	2.239
(11)	CW Goods & Services Pure Premium			1.042	0.740	1.783
(12)	CW Relativity = (10) / (11)			1.159	1.393	1.256
(13)	CW Relativity, balanced to unity			1.152	1.385	

Notes:

(3), (4) = (MA Total Limited Losses) / [(State Pure Premium) x (MA Total Exposure)] for Industry Code 9. See Section IX - D, Exhibit 2.

(5) = 100 x [ State Indemnity Losses / State Payroll ] x (3), where State Indemnity Losses and State Payroll from page 1.

(6) = 100 x [ State Medical Losses / State Payroll ] x (4), where State Medical Losses and State Payroll from page 1.

(9) = (MA Total Goods & Services Converted Unlimited Losses) / (MA Goods & Services Limited Losses). See Section IX - C, Exhibit 4.

(11) = (10) weighted by MA five year Goods & Services Exposure

(13): Relativities balanced to unity (weighted by MA exposure) over Goods & Services Industry Group.

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Section IX - Classification Pricing  
 Subsection L - Pricing Example  
 9/1/2011

Section IX - L  
 Exhibit 3

## Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of Credibility and Balanced Formula Relativity:

- (1) MA Indicated Relativity
- (2) Countrywide Indicated Relativity
- (3) Relativity to Underlying Present Rate

Injury Type	
Indemnity	Medical
1.009	1.611
1.152	1.385
1.468	1.722

Calculation of MA Credibility:

The MA Credibilities are calculated using the formula  $Z=(E / F)^{0.4}$  where E are expected losses for that injury type.

- (4) Adopted Relativity
- (5) Industry Group Pure Premium Underlying Present Rate Factor
- (6) Pure Premium Underlying Present Rate  
 = (4) x (5)
- (7) Expected Losses  
 = (6) x [(Total Exposure from Exhibit 1)]
- (8) Full Credibility Standards
- (9) MA Credibility  
 = Minimum of {100%, [(7) / (8)]<sup>0.4</sup>}

Injury Type	
Indemnity	Medical
1.445	1.699
0.695	0.720
1.004	1.223
701,597	854,585
17,000,000	5,200,000
28.0%	49.0%

Calculation of Countrywide Credibility

The Countrywide Credibilities are calculated using the formula  $Z=(E / F)^{0.4}$  where E are the countrywide claim counts for that injury type. The countrywide credibility is limited to no more than half of the complement of the credibility assigned to the Massachusetts data.

- (10) Countrywide Lost-Time Claims
- (11) Countrywide Claim Count Standard
- (12) Countrywide Credibility  
 = Minimum of {[ (10) / (11) ]<sup>0.4</sup>, 0.5 x [100% - (9)]}
- (13) Credibility to Underlying Present Rate  
 = 100% - (9) - (12)
- (14) Formula Relativity  
 = [(1) x (9)] + [(2) x (12)] + [(3) x (13)]
- (15) Off Balance Factor

Injury Type	
Indemnity	Medical
2,092	2,092
1,150	1,000
36%	26%
36%	25%
1.226	1.580
1.004	1.004

- (16) Balanced Formula Relativity

Injury Type		
Indemnity	Medical	Total
1.221	1.574	1.370

Notes:

- (1): Exhibit 1, Page 2.
- (2), (10): Exhibit 2, Page 2.
- (3): Relativity of (5) to Industry Group average, using 5 year Schedule Z exposure as weights.
- (4): Section IX - F, Exhibit 4.
- (5): Section IX - E, Exhibit 1.
- (8), (11): Section IX - D, Exhibit 1, Page 1.
- (15): Factor to balance Formula relativities across industry group to unity using 5 year Schedule Z exposure by injury type.
- (16) = (14) / (15) , Total Balanced Formula Relativity is the weighted average of Partial Relativities using the MA Industry Group Pure Premium as weights.

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Section IX - Classification Pricing  
Subsection L - Pricing Example  
9/1/2011

Section IX - L  
Exhibit 4

## Pricing Example for Class 5 Farm: Nursery Emp & Drivers

Calculation of Proposed Average Rate and Proposed Manual Rate:

(1) Total Balanced Formula Relativity	1.370
(2) Capped Rate Level Factor	1.996
(3) Proposed Average Capped Rate = (1) x (2)	2.73
(4) Offset for Merit Rating	0.997
(5) Offset for ARAP	1.049
(6) Offset for Construction Classification Premium Adjustment Program	1.000
(7) Provision for Insolvency Fund Assessment Recoupment	0.0002
(8) Proposed Manual Rate = {(3) / [(4) x (5) x (6)]} x {1.000 / [1.000 - (7)]}	2.62
(9) Minimum Premium	271
(10) Loss Constant	20.00
(11) Expected Loss Rate	1.02
(12) D-Ratio	0.22

### Notes:

(1): Exhibit 3.

(2): Section IX - H, Exhibit 1. Proposed average uncapped rates are capped by an iterative process using rate levels to determine if the required change is achieved. Class 5 is in the Goods & Services Industry Group.

(4), (5), (6), (7): Section IX - K. Class 5 is not eligible for the Construction Credit program.

(9) = {[ (8) x 35.0] + (10) + Expense Constant} subject to a maximum of \$500

Where Expense Constant = 159 if (8) x 35 + (10) < 200

= 250 if (8) x 35 + (10) >= 200 and < 1000.

= 338 if (8) x 35 + (10) >= 1000.

(10): No loss constant for Manufacturing classes, \$50 for Construction classes, \$20 for all other classes.

(11) = (3) x Ratio of Experience Rating ELR to Average Rate, from Section X - A, Exhibit 1. Class 5 is in Hazard Group C.

(12): Section X. See text of this section for an explanation of the calculation of D-Ratios.

**EXPERIENCE RATING**

Experience rating is a procedure that uses past insurance experience for individual policyholders to predict their future losses. In this procedure, the manual rate for the risk is adjusted by an experience rating modification that serves to increase or decrease the rate for individual policyholders depending on whether their past experience has been worse or better than expected.

The experience rating modification for an insured is determined by comparing actual past losses to expected losses. This section of the filing develops elements used in the derivation of Expected Loss Rates (ELRs) and D-Ratios, which are needed for the calculation of experience rating modifications.

**Section X-A - Expected Loss Rates**

Generally, an insured's experience rating modification is based on its exposure and loss experience for the last three completed policies for which the WCRIBMA has received data. For the purpose of experience rating, we must derive expected losses on a comparable basis for each of those three policy periods. These calculations are detailed in Section X-A and Section X-D.

Expected Losses for an insured are derived by multiplying the ELR for each applicable class by the reported exposure (typically payroll in hundreds) for each class. The proposed ELRs are displayed in Section X-D. The ELR for each class is the product of the proposed average capped rate for that class (as shown in Section IX-J) and the

Ratio of Experience Rating ELR to Average Rate (as calculated in Section X-A) for the hazard group containing the classification. The intent of the Ratio of Experience Rating ELR to Average Rate is to remove profit and expenses (including loss adjustment expenses) from the capped rate, and then adjust the remaining pure premiums to a level comparable to that of the losses entering the experience rating calculation itself. The Ratio of Experience Rating ELR to Average Rate is a composite factor that incorporates elements relating to expenses (Exhibit 1), trend (Exhibit 1), loss limitations (Exhibit 2), benefit level differences (Exhibit 3), loss development (Exhibits 4 & 5) and investment income (Exhibit 6).

### **Section X-B - Calculation of D-Ratios**

The second task of Section X is to determine the portion of the expected loss that is considered primary. Primary losses are defined as the first \$5,000 of loss per claim. The experience rating formula splits losses into primary losses and excess losses (the loss amount above the primary loss subject to a maximum). In calculating the experience rating modification, primary losses are given more weight than excess losses.

The D-Ratio is defined as the portion of expected losses that is expected to be primary. In experience rating, multiplication of a risk's expected losses by the appropriate D-Ratio gives the expected primary losses to which the risk's actual primary losses are compared. The proposed D-Ratios are displayed in Section X-D.

The procedure used here for the calculation of D-Ratios is similar to the methodology used in all of the WCRIBMA's filings since 2001. The general methodology is as follows. First, the WCRIBMA calculates partial D-Ratios for indemnity and medical losses from detailed loss data (Section X-B). The loss data is taken from the Schedule Z database for the three most recent policy years, and is adjusted for law amendment changes and severity trend to the level corresponding with the losses that will be used in experience rating. The calculation of indemnity and medical partial D-Ratios instead of serious, non-serious and medical follows the change made in Class Ratemaking's pure premium relativities (Section IX-I).

We calculate final D-Ratios by class as a weighted average of the partial D-Ratios using the formula:

$$\text{"D" Ratio} = \frac{[(P_i)(D_i) + (P_m)(D_m)]}{[P_i + P_m]}$$

where  $P_i$  and  $P_m$  are the proposed partial pure premiums for indemnity and medical.  $D_i$  and  $D_m$  represent the associated partial D-Ratios. The resulting D-Ratios by classification are shown in Section X-D.

### **Section X-C –Expected Loss Rates for F-Class**

The calculations for F-Class rates differ from the state classifications because F-Classes are subject to different benefit provisions than the state classifications. Changes in F-Class rates include a separate calculation for the Ratio of Experience

**X 000004**

Section X – Experience Rating  
Subsection A - Summary  
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Section X - A  
Page 4

Rating ELR to Average Rate by excluding the loss based assessment from the federal indemnity losses. Additionally, the law factors and loss development factors are weighted by losses to reflect that F-Class benefits can be paid either under state or federal laws. The remaining calculations mirror the calculations for the state classifications from Section X-A.

Calculation of ELR Factors

Unit Report / Policy Effective Dates (1)	Hazard Group (2)	Permissible Loss Ratio (3)	Exp Rating LER by Hazard Group (4)	Law Factor (5)	Loss Trend / Payroll Trend (6)	Loss Development to 5th Report (7)	Loss Development from 5th Report to Ult (8)	Investment Income Offset (9)	Ratio of Exp Rating ELR to Average Rate (10)
1st Report 9/1/2009 to 8/31/2010	A	0.593	0.045	1.006	0.979	1.542	1.073	1.015	0.342
	B	0.593	0.044	1.006	0.979	1.546	1.076	1.013	0.342
	C	0.593	0.079	1.006	0.979	1.557	1.085	1.009	0.325
	D	0.593	0.066	1.006	0.979	1.558	1.081	1.007	0.332
	E	0.593	0.089	1.006	0.979	1.563	1.084	1.005	0.322
	F	0.593	0.126	1.006	0.979	1.565	1.087	1.008	0.307
	G	0.593	0.179	1.006	0.979	1.574	1.100	0.993	0.288
2nd Report 9/1/2008 to 8/31/2009	A	0.593	0.089	1.008	0.969	1.230	1.073	1.015	0.413
	B	0.593	0.087	1.008	0.969	1.232	1.076	1.013	0.413
	C	0.593	0.155	1.008	0.969	1.236	1.085	1.009	0.379
	D	0.593	0.129	1.008	0.969	1.237	1.081	1.007	0.393
	E	0.593	0.174	1.008	0.969	1.239	1.084	1.005	0.372
	F	0.593	0.247	1.008	0.969	1.240	1.087	1.008	0.337
	G	0.593	0.352	1.008	0.969	1.243	1.100	0.993	0.290
3rd Report 9/1/2007 to 8/31/2008	A	0.593	0.100	1.022	0.959	1.108	1.073	1.015	0.452
	B	0.593	0.098	1.022	0.959	1.109	1.076	1.013	0.452
	C	0.593	0.174	1.022	0.959	1.111	1.085	1.009	0.411
	D	0.593	0.145	1.022	0.959	1.112	1.081	1.007	0.428
	E	0.593	0.195	1.022	0.959	1.113	1.084	1.005	0.402
	F	0.593	0.278	1.022	0.959	1.113	1.087	1.008	0.359
	G	0.593	0.395	1.022	0.959	1.115	1.100	0.993	0.301
1st - 3rd Report Average	A								0.402
	B								0.402
	C								0.372
	D								0.384
	E								0.365
	F								0.334
	G								0.293

Notes:

- (1): Unit Stat Reports used to experience rate a policy taking effect during the proposed policy period.
- (3): Section VI-A, Exhibit 1, (10).
- (4): Exhibit 2, (10) - (12).
- (5): Section IV-A, Exhibit 1.
- (6): Section V-A, Exhibit 1. Net Trend applied from USR policy effective period to proposed policy period.
- (7): Exhibit 4, Page 1, (6).
- (8): Exhibit 5, Page 1, (7).
- (9): Exhibit 6, (7).
- (10) = { (3) x [ 1.0 - (4) ] } / [ (5) x (6) x (7) x (8) x (9) ]

X 000005

Loss Elimination Ratios for Losses in Excess of Experience Rating Caps  
 By Hazard Group

Hazard Group	Adjusted Total Losses	Adjusted Excess Losses	Implied Loss Elimination Ratio = (3) / (2)	Expected Losses	Expected Losses Wgtd LER	Balanced LER Differential	Selected LER Differential
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A	53,187,963	4,383,019	0.082	60,661,380	0.082	0.51	0.51
B	202,029,845	16,242,125	0.080	240,164,196	0.080	0.50	0.50
C	400,476,319	57,380,510	0.143	479,004,541	0.143	0.89	0.89
D	174,220,359	20,771,365	0.119	220,868,566	0.119	0.74	0.74
E	245,058,019	39,384,476	0.161	325,676,011	0.161	1.00	1.00
F	345,545,995	78,881,530	0.228	442,827,899	0.228	1.42	1.42
G	54,822,762	17,831,225	0.325	72,759,435	0.325	2.02	2.02
Total	1,475,341,262	234,874,250	0.159	1,841,962,028	0.161	1.00	1.00

Expected Loss Limitation Adjustment Factor by Hazard Group

Hazard Group	First Report	Second Report	Third Report	Average
(9)	(10)	(11)	(12)	(13)
A	0.045	0.089	0.100	0.078
B	0.044	0.087	0.098	0.076
C	0.079	0.155	0.174	0.136
D	0.066	0.129	0.145	0.113
E	0.089	0.174	0.195	0.153
F	0.126	0.247	0.278	0.217
G	0.179	0.352	0.395	0.309
Total	0.089	0.174	0.196	

Notes:

- (2): Unit Statistical Plan losses, PYs 2006 - 2008. Adjusted by factors from Section X - B, Exhibit 1, Page 2.
- (3): Adjusted losses above per claim limit of \$175,000.
- (5): PYs 2006 - 2008, exposure times pure premium underlying present rates.
- (6): Total = (6) Weighted by (5)
- (7) = (6) / [ Total for (6) ]
- (10) - (12) = [ Exhibit 3, (5) ] x (8)

Loss Elimination Ratio  
Factor to Reflect the State Accident Limitation of \$175,000

Report (1)	Injury Type (2)	Adjusted Total Losses (3)	Adjusted Excess Losses (4)	Loss Elimination Ratio = (4) / (3) (5)
1st	1	7,104,182	4,472,013	0.629
1st	2	3,557,948	2,588,233	0.727
1st	3	129,195,345	19,453,907	0.151
1st	4	34,813,050	127,159	0.004
1st	5	193,924,960	8,672,597	0.045
1st	6	29,225,030	0	0.000
1st	Total	397,820,515	35,313,909	0.089
2nd	1	14,648,360	11,575,613	0.790
2nd	2	13,847,065	10,481,543	0.757
2nd	3	265,971,193	62,231,208	0.234
2nd	4	50,750,429	169,443	0.003
2nd	5	143,642,694	6,273,742	0.044
2nd	6	32,380,195	0	0.000
2nd	Total	521,239,937	90,731,549	0.174
3rd	1	7,792,952	4,332,730	0.556
3rd	2	32,808,063	24,835,085	0.757
3rd	3	294,818,135	72,732,583	0.247
3rd	4	44,008,546	116,170	0.003
3rd	5	145,591,366	6,776,850	0.047
3rd	6	31,263,331	35,373	0.001
3rd	Total	556,282,393	108,828,792	0.196

Notes:

Unit Statistical Plan losses have been adjusted by multiplying by law amendment changes and severity trend factors from Section X - B, Exhibit 1, Page 2.

(4): Adjusted losses above \$175,000.

X 000007

# X 000008

Section X - Experience Rating  
 Subsection A - Expected Loss Rates  
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Section X - A  
 Exhibit 4  
 Page 1

## Hazard Group Development Factors to Fifth Report

Development to Fifth Report (1)	Hazard Group (2)	Losses at Latest Report (3)	Selected Relativity (4)	Balanced Relativity = (4) / TT(4) (5)	Selected Dev. Factor to 5th Report (6)
1st to 5th	A	13,745,091	0.971	0.972	1.542
1st to 5th	B	51,494,665	0.978	0.978	1.546
1st to 5th	C	108,199,363	0.998	0.998	1.557
1st to 5th	D	46,015,311	1.000	1.000	1.558
1st to 5th	E	58,397,802	1.009	1.009	1.563
1st to 5th	F	73,972,241	1.011	1.012	1.565
1st to 5th	G	10,853,681	1.027	1.028	1.574
1st to 5th	Total	362,678,154	0.999	1.000	1.558
2nd to 5th	A	16,678,701	0.971	0.971	1.230
2nd to 5th	B	64,109,741	0.978	0.977	1.232
2nd to 5th	C	124,501,422	0.998	0.997	1.236
2nd to 5th	D	51,393,298	1.000	0.999	1.237
2nd to 5th	E	80,111,504	1.009	1.008	1.239
2nd to 5th	F	114,822,360	1.011	1.010	1.240
2nd to 5th	G	20,679,542	1.027	1.027	1.243
2nd to 5th	Total	472,296,568	1.001	1.000	1.237
3rd to 5th	A	17,907,645	0.971	0.971	1.108
3rd to 5th	B	68,062,902	0.978	0.977	1.109
3rd to 5th	C	131,568,334	0.998	0.997	1.111
3rd to 5th	D	61,242,943	1.000	0.999	1.112
3rd to 5th	E	84,750,541	1.009	1.008	1.113
3rd to 5th	F	125,845,410	1.011	1.010	1.113
3rd to 5th	G	18,360,357	1.027	1.027	1.115
3rd to 5th	Total	507,738,132	1.000	1.000	1.112

**Notes:**

(3): See Exhibit 4 Pages 4-6.

(4): See Page 3 for selection. The entry in the "Total" row is the weighted average using incurred losses at latest report in column (3) as the weights.

(6) = 1.00 + (5) x (Total LDF from page 2 - 1.00)

**X 000009**

Section X - Experience Rating  
 Subsection A - Expected Loss Rates  
 9/1/2011

Section X - A  
 Exhibit 4  
 Page 2

Loss Development Factors For Use in Calculation of Reciprocals

Report (1)	Benefit Type (2)	Injury Type (3)	Distribution of Reported Loss @ 5th Report (4)	Loss Development Factor to 5th Report (5)	Adjusted Distribution = (4) / (5) (6)	LDF to 5th Report to Derive ELR = TT(4) / TT(6) (7)
1st	Indemnity	Likely to Develop	31.2%	2.110	14.8%	
1st	Indemnity	Not Likely to Develop	32.0%	1.617	19.8%	
1st	Medical	Likely to Develop	16.4%	1.451	11.3%	
1st	Medical	Not Likely to Develop	20.4%	1.115	18.3%	
1st	Total		100.0%		64.2%	1.558
2nd	Indemnity	Likely to Develop	31.2%	1.376	22.6%	
2nd	Indemnity	Not Likely to Develop	32.0%	1.220	26.3%	
2nd	Medical	Likely to Develop	16.4%	1.304	12.6%	
2nd	Medical	Not Likely to Develop	20.4%	1.054	19.3%	
2nd	Total		100.0%		80.8%	1.237
3rd	Indemnity	Likely to Develop	31.2%	1.175	26.5%	
3rd	Indemnity	Not Likely to Develop	32.0%	1.095	29.3%	
3rd	Medical	Likely to Develop	16.4%	1.142	14.4%	
3rd	Medical	Not Likely to Develop	20.4%	1.029	19.8%	
3rd	Total		100.0%		90.0%	1.112

Notes:

(4): Section IV-E, Exhibit 1.

(5): Section X-B, Exhibit 3, Page 1.

Hazard Group Reported Loss Development Relativities to Fifth Report

Hazard Group (1)	Development			Average Relativity (5)	Selected (6)
	3rd Report to 5th Report (2)	2nd Report to 5th Report (3)	1st Report to 5th Report (4)		
A	0.991	0.967	0.956	0.971	0.971
B	0.994	0.983	0.956	0.978	0.978
C	0.997	0.998	0.998	0.998	0.998
D	0.999	0.993	1.008	1.000	1.000
E	1.000	1.006	1.019	1.009	1.009
F	1.007	1.010	1.016	1.011	1.011
G	1.008	1.033	1.040	1.027	1.027

Notes:  
 (2) - (4): Pages 4 through 6.

X 000010

Loss Development of Schedule Z to Fifth Report by Hazard Group

Review Year 2010  
 First Report to Fifth Report

Hazard Group	Indemnity Losses Likely to Develop			Indemnity Losses Not Likely to Develop			Medical Losses Likely to Develop			Medical Losses Not Likely to Develop			Total Losses		
	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (2) x (3) = (4)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (5) x (6) = (7)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (8) x (9) = (10)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (11) x (12) = (13)	Total Reported Losses = (2)+(5)+(8)+(11) = (14)	Total Developed Losses = (4)+(7)+(10)+(13) = (15)	Develop. Factor = (15) / (14) = (16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
A	2,081,712	2.110	4,392,239	4,255,060	1.617	6,879,480	1,609,604	1.451	2,335,861	5,798,715	1.115	6,466,532	13,745,091	20,074,113	1.460
B	7,040,561	2.110	14,854,999	17,858,614	1.617	28,873,384	5,423,719	1.451	7,870,914	21,171,771	1.115	23,610,048	51,494,665	75,209,345	1.461
C	21,567,188	2.110	45,504,974	35,364,248	1.617	57,176,078	15,005,030	1.451	21,775,337	36,262,897	1.115	40,439,166	108,199,363	164,895,554	1.524
D	8,988,628	2.110	18,965,258	17,455,171	1.617	28,221,107	5,357,601	1.451	7,774,964	14,213,911	1.115	15,850,877	46,015,311	70,812,205	1.539
E	13,336,425	2.110	28,138,748	19,792,803	1.617	32,000,535	7,695,882	1.451	11,168,283	17,572,692	1.115	19,596,476	58,397,802	90,904,042	1.557
F	15,001,007	2.110	31,650,878	28,719,942	1.617	46,433,722	8,873,096	1.451	12,876,659	21,378,196	1.115	23,840,247	73,972,241	114,801,505	1.552
G	2,196,380	2.110	4,634,179	4,853,794	1.617	7,847,499	1,539,742	1.451	2,234,477	2,263,765	1.115	2,524,475	10,853,681	17,240,630	1.588
A, B, C, D, E, F, G	70,211,901		148,141,275	128,299,632		207,431,805	45,504,674		66,036,495	118,661,947		132,327,821	362,678,154	553,937,396	1.527

Notes:  
 (2), (5), (8), (11): Unit Statistical Plan Data.  
 (3), (6), (9), (12): Section X-B, Exhibit 3, Page 1

X 000011

Loss Development of Schedule Z to Fifth Report by Hazard Group

Review Year 2010  
 Second Report to Fifth Report

Hazard Group	Indemnity Losses Likely to Develop			Indemnity Losses Not Likely to Develop			Medical Losses Likely to Develop			Medical Losses Not Likely to Develop			Total Losses		
	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (2) x (3)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (5) x (6)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (8) x (9)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (11) x (12)	Total Reported Losses	Total Developed Losses	Develop. Factor
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	=(2)+(5)+(8)+(11) (14)	=(4)+(7)+(10)+(13) (15)	= (15) / (14) (16)
A	3,019,824	1.376	4,156,059	5,690,446	1.220	6,944,208	1,266,953	1.304	1,652,012	6,701,478	1.054	7,060,710	16,678,701	19,812,989	1.188
B	13,624,696	1.376	18,751,105	21,166,418	1.220	25,829,964	7,660,278	1.304	9,988,427	21,658,349	1.054	22,819,343	64,109,741	77,388,839	1.207
C	29,317,029	1.376	40,347,814	40,162,664	1.220	49,011,607	20,875,658	1.304	27,220,291	34,146,071	1.054	35,976,468	124,501,422	152,556,179	1.225
D	12,273,376	1.376	16,891,339	18,721,409	1.220	22,846,252	5,847,688	1.304	7,624,946	14,550,825	1.054	15,330,820	51,393,298	62,693,358	1.220
E	22,648,116	1.376	31,169,665	28,404,449	1.220	34,662,733	10,334,745	1.304	13,475,731	18,724,194	1.054	19,727,903	80,111,504	99,036,031	1.236
F	32,758,270	1.376	45,083,851	38,273,838	1.220	46,706,620	17,906,556	1.304	23,348,804	25,883,696	1.054	27,271,189	114,822,360	142,410,465	1.240
G	6,754,359	1.376	9,295,745	5,462,764	1.220	6,666,362	5,471,701	1.304	7,134,687	2,990,718	1.054	3,151,035	20,679,542	26,247,829	1.269
A, B, C, D, E, F, G	120,395,670		165,695,577	157,881,988		192,667,746	69,363,579		90,444,899	124,655,331		131,337,467	472,296,568	580,145,689	1.228

Notes:  
 (2), (5), (8), (11): Unit Statistical Plan Data.  
 (3), (6), (9), (12): Section X-B, Exhibit 3, Page 1

X 000012

Loss Development of Schedule Z to Fifth Report by Hazard Group

Review Year 2010  
 Third Report to Fifth Report

Hazard Group	Indemnity Losses Likely to Develop			Indemnity Losses Not Likely to Develop			Medical Losses Likely to Develop			Medical Losses Not Likely to Develop			Total Losses		
	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (2) x (3) = (4)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (5) x (6) = (7)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (8) x (9) = (10)	Reported Losses	Develop. Factor to 5th Report	Losses Developed to 5th Report = (11) x (12) = (13)	Total Reported Losses = (2)+(5)+(8)+(11) = (14)	Total Developed Losses = (4)+(7)+(10)+(13) = (15)	Develop. Factor = (15) / (14) = (16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
A	4,418,875	1.175	5,192,785	5,435,404	1.095	5,950,663	2,471,744	1.142	2,823,004	5,581,622	1.029	5,745,091	17,907,645	19,711,542	1.101
B	18,705,950	1.175	21,982,060	20,202,964	1.095	22,118,139	9,399,901	1.142	10,735,721	19,754,087	1.029	20,332,625	68,062,902	75,168,545	1.104
C	36,118,008	1.175	42,443,620	40,727,535	1.095	44,588,372	21,220,362	1.142	24,235,988	33,502,429	1.029	34,483,614	131,568,334	145,751,595	1.108
D	17,171,971	1.175	20,179,424	18,818,746	1.095	20,602,702	10,405,983	1.142	11,884,778	14,846,243	1.029	15,281,045	61,242,943	67,947,948	1.109
E	25,629,970	1.175	30,118,735	29,594,254	1.095	32,399,693	11,007,910	1.142	12,572,244	18,518,407	1.029	19,060,755	84,750,541	94,151,427	1.111
F	42,397,212	1.175	49,822,547	41,604,161	1.095	45,548,099	20,722,296	1.142	23,667,142	21,121,741	1.029	21,740,333	125,845,410	140,778,122	1.119
G	5,502,500	1.175	6,466,193	5,901,449	1.095	6,460,887	4,268,875	1.142	4,875,525	2,687,533	1.029	2,766,243	18,360,357	20,568,848	1.120
A, B, C, D, E, F, G	149,944,486		176,205,364	162,284,513		177,668,554	79,497,071		90,794,403	116,012,062		119,409,707	507,738,132	564,078,028	1.111

Notes:  
 (2), (5), (8), (11): Unit Statistical Plan Data.  
 (3), (6), (9), (12): Section X-B, Exhibit 3, Page 1

X 000013

Loss Development Factors From 5th to Ultimate

Hazard Group	Losses Developed to 5th Report				Indicated Development Factor to Ultimate	Balanced Selected Factor
	Indemnity		Medical			
	Likely to Develop	Not Likely to Develop	Likely to Develop	Not Likely to Develop		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A	13,741,083	19,774,351	6,810,877	19,272,333	1.073	1.073
B	55,588,164	76,821,487	28,595,063	66,762,016	1.076	1.076
C	128,296,407	150,776,057	73,231,615	110,899,248	1.085	1.085
D	56,036,022	71,670,060	27,284,687	46,462,742	1.081	1.081
E	89,427,148	99,062,960	37,216,259	58,385,134	1.084	1.084
F	126,557,276	138,688,442	59,892,605	72,851,769	1.087	1.087
G	20,396,117	20,974,748	14,244,690	8,441,753	1.100	1.100
TOTAL	490,042,217	577,768,105	247,275,796	383,074,995	1.084	1.084

Notes:

(2) - (5): Exhibit 4, Pages 4-6.

(6): Weighted Average of Development Factors from Page 2.

(Likely to Dev. Ind. 1.125, Not Likely to Dev. Ind. 1.026, Likely to Dev. Med. 1.214, Not Likely to Dev. Med. 1.035)

(7): Factors are balanced to the total development factor from Page 2.

X 000014

# X 000015

Section X - Experience Rating  
 Subsection A - Expected Loss Rates  
 9/1/2011

Section X - A  
 Exhibit 5  
 Page 2

## Calculation of Injury Type Development Factors from 5th to Ultimate

Policy Year (1)	Schedule Z Losses Developed to 5th Rept. (2)	Financial Aggregate Develop. Factor 5th to Ult. (3)	Differential in Loss Development (4)	Schedule Z Losses Adjusted to Financial Agg. Ult. Loss Level = (2) x (3) x (4) (5)	Development Factor 5th to Ult. = (5) / (2) (6)
<b>Indemnity</b>					
2008	355,573,080	1.051	1.019	380,969,654	1.071
2007	358,363,323	1.051	1.019	383,959,189	1.071
2006	353,873,919	1.051	1.019	379,149,131	1.071
<b>Total</b>	<b>1,067,810,322</b>			<b>1,144,077,974</b>	<b>1.071</b>
<b>Medical</b>					
2008	198,364,316	1.105	1.000	219,166,912	1.105
2007	221,782,366	1.105	1.000	245,040,828	1.105
2006	210,204,109	1.105	1.000	232,248,352	1.105
<b>Total</b>	<b>630,350,791</b>			<b>696,456,092</b>	<b>1.105</b>
<b>Ind.+Med.</b>					
2008	553,937,396			600,136,566	1.083
2007	580,145,689			629,000,017	1.084
2006	564,078,028			611,397,484	1.084
<b>Total</b>	<b>1,698,161,113</b>			<b>1,840,534,067</b>	<b>1.084</b>

(7)	Schedule Z Indem. Losses Developed to 5th Report (8)	Development Factor 5th to Ult. (9)	(10)	Schedule Z Med. Losses Developed to 5th Report (11)	Development Factor 5th to Ult. (12)
a. Likely to Develop	490,042,217	1.125	a. Likely to Develop	247,275,796	1.214
b. Not Likely to Develop	577,768,105	1.026	b. Not Likely to Develop	383,074,995	1.035
<b>c. Total</b>	<b>1,067,810,322</b>	<b>1.071</b>	<b>c.Total</b>	<b>630,350,791</b>	<b>1.105</b>

**Notes:**

(2): Page 4.

(3): Page 3.

(4): Page 5.

(8),(11): Page 4.

(9), (12): Likely to Develop Factor = 1 + (Total Losses/Likely to Develop Losses) x ("Appropriate Column 6 Factor" - 1) x 0.8

(9), (12): Not Likely to Develop Factor = 1 + (Total Losses/Likely to Develop Losses) x ("Appropriate Column 6 Factor" - 1) x (1 - 0.8)

Determination of Factor to Financial Aggregate Level

	<u>Indemnity</u>	<u>Medical</u>
(1) Development Factor based on Paid + Case 72 Months to Ult.	1.031	1.130
(2) Est. Ultimate Losses (Prior to Escalation Adj.) based on Paid + Case Develop. Method		
(a) PY2007	316,998,582	217,738,672
(b) PY2008	296,429,198	188,681,249
(c) Average	306,713,890	203,209,960
(3) Est. Ultimate Losses (Prior to Escalation Adj.) based on Paid Develop. Method		
(a) PY2007	322,503,170	201,922,720
(b) PY2008	314,906,486	186,393,500
(c) Average	318,704,828	194,158,110
(4) Ratio of Est. Ultimate Losses based on average of Paid and Paid + Case indications to Est. Ultimate Losses based on Paid + Case = { [ (2c) + (3c) ] / 2.000 } / (2c)	1.020	0.978
(5) Development Factor to bring Schedule Z 5th report data to Financial Aggregate Ultimate Level = (1) x (4)	1.051	1.105

Notes:

- (1): Section II-B, Exhibit 1 & Section II-C, Exhibit 2, Page 1.  
 (2),(3): Section II-A, Exhibit 1.

X 000016

Losses Developed to 5th Report

Policy Year (1)	Injury Type (2)	Paid + Case					
		Reported Schedule Z Losses		Development Factors to 5th Report		Losses Developed to 5th Report	
		Indemnity (3)	Medical (4)	Indemnity (5)	Medical (6)	Indemnity = (3) x (5) (7)	Medical = (4) x (6) (8)
2008	Likely	70,211,901	45,504,674	2.110	1.451	148,141,275	66,036,495
2008	Not Likely	128,299,632	118,661,947	1.617	1.115	207,431,805	132,327,821
2008	TOTALS	198,511,533	164,166,621			355,573,080	198,364,316
2007	Likely	120,395,670	69,363,579	1.376	1.304	165,695,577	90,444,899
2007	Not Likely	157,881,988	124,655,331	1.220	1.054	192,667,746	131,337,467
2007	TOTALS	278,277,658	194,018,910			358,363,323	221,782,366
2006	Likely	149,944,486	79,497,071	1.175	1.142	176,205,364	90,794,403
2006	Not Likely	162,284,513	116,012,062	1.095	1.029	177,668,554	119,409,707
2006	TOTALS	312,228,999	195,509,133			353,873,919	210,204,109

Notes:

(3),(4): Sum of Unit Statistical Plan Data.

(5),(6): Section X-B, Exhibit 3, Page 1.

X 000017

Escalation Adjustment for Indemnity Losses Only

Loss Development Method (1)	Policy Year (2)	Differential in Loss Development (3)
Paid Plus Case	2008	1.007
	2007	1.007
	2006	1.007
Paid	2008	1.031
	2007	1.031
	2006	1.031
Average of Paid and Paid Plus Case	2008	1.019
	2007	1.019
	2006	1.019

Notes:

(3): Section II-D, Exhibit 1, Page 1 and Exhibit 2, Page 1.

X 000018

# X 000019

Section X - Experience Rating  
 Subsection A - Expected Loss Rates  
 9/1/2011

Section X - A  
 Exhibit 6

## Investment Income Offset

Hazard Code (1)	Injury Type (2)	Indemnity		Medical		Total Investment Income Offset (11)
		Developed Losses at Ultimate (3)	Investment Income Offset (4)	Developed Losses at Ultimate (5)	Investment Income Offset (6)	
A	1	916,722	0.841	56,577	1.000	
A	2	268,264	0.801	165,431	0.804	
A	3	14,857,503	1.014	7,152,016	1.017	
A	4	5,086,577	1.032	2,673,364	1.036	
A	5	13,256,721	1.022	10,188,765	1.026	
A	6	0		6,759,533	1.000	
A	TOTAL	34,385,787	1.013	26,995,685	1.017	1.015
B	1	2,521,186	0.841	359,688	1.000	
B	2	3,009,613	0.801	1,303,719	0.804	
B	3	59,514,214	1.014	23,955,879	1.017	
B	4	17,801,658	1.032	11,581,616	1.036	
B	5	53,001,178	1.022	40,647,852	1.026	
B	6	0		20,843,552	1.000	
B	TOTAL	135,847,849	1.011	98,692,307	1.016	1.013
C	1	3,519,205	0.841	2,879,258	1.000	
C	2	8,272,025	0.801	10,304,393	0.804	
C	3	138,665,729	1.014	57,447,090	1.017	
C	4	35,200,822	1.032	18,947,903	1.036	
C	5	100,662,651	1.022	70,849,382	1.026	
C	6	0		30,141,244	1.000	
C	TOTAL	286,320,431	1.010	190,569,270	1.008	1.009
D	1	2,799,429	0.841	65,205	1.000	
D	2	3,565,867	0.801	5,440,520	0.804	
D	3	70,335,454	1.014	24,012,281	1.017	
D	4	11,557,702	1.032	7,475,409	1.036	
D	5	42,764,716	1.022	28,518,311	1.026	
D	6	0		10,814,101	1.000	
D	TOTAL	131,023,169	1.008	76,325,828	1.005	1.007
E	1	7,324,485	0.841	266,847	1.000	
E	2	7,865,454	0.801	3,660,126	0.804	
E	3	103,384,121	1.014	36,408,532	1.017	
E	4	11,066,834	1.032	7,321,048	1.036	
E	5	63,742,641	1.022	38,815,410	1.026	
E	6	0		12,472,544	1.000	
E	TOTAL	193,383,535	1.002	98,944,508	1.012	1.005
F	1	8,584,466	0.841	3,598,261	1.000	
F	2	7,593,807	0.801	3,288,252	0.804	
F	3	174,764,534	1.014	72,168,742	1.017	
F	4	12,261,268	1.032	7,039,182	1.036	
F	5	68,927,048	1.022	41,775,526	1.026	
F	6	0		9,518,265	1.000	
F	TOTAL	272,131,124	1.005	137,388,228	1.014	1.008
G	1	3,321,586	0.841	66,708	1.000	
G	2	1,984,925	0.801	2,693,785	0.804	
G	3	28,204,215	1.014	13,609,036	1.017	
G	4	1,759,993	1.032	1,222,175	1.036	
G	5	7,173,916	1.022	4,705,609	1.026	
G	6	0		1,182,805	1.000	
G	TOTAL	42,444,636	0.992	23,480,119	0.995	0.993

**Notes:**

(3),(5),(7),(9): 2010 From Exhibit 4, Pages 4-6, Developed to Ultimate.

(4),(6),(8),(10): Section IX-B, Exhibit 4.

(11) = Average of (4),(6),(8) and (10) weighted by (3),(5),(7) and (9).

Calculation of Statewide Partial "D" Ratios by Injury Type

(1)	Adjusted Primary Losses (2)	Adjusted Total Losses (3)	Partial D-Ratio = (2) / (3) (4)
INDEMNITY	88,919,501	727,053,189	0.122
MEDICAL	163,234,638	513,415,406	0.318

Notes:

Data at the individual claim level for PYs 2006 - 2008 have been adjusted by the factors shown on Page 2.

The Adjusted Primary Losses are capped at \$5,000 per claim, the Adjusted Total Losses are capped at \$175,000 per claim. If losses are capped, the proportions for capped indemnity and capped medical losses are consistent with the proportions for unlimited indemnity and unlimited medical.

X 000020

Severity Trend and Law Amendment Factors

Policy Year	Indemnity By Injury Type					Medical by Injury Type					
	1	2	3	4	5	1	2	3	4	5	6

(1) Severity Trend Factors

2006	1.072	1.072	1.072	1.072	1.072	1.096	1.096	1.096	1.096	1.096	1.096
2007	1.072	1.072	1.072	1.072	1.072	1.096	1.096	1.096	1.096	1.096	1.096
2008	1.072	1.072	1.072	1.072	1.072	1.096	1.096	1.096	1.096	1.096	1.096

(2) Law Amendment Factors

2006	1.010	1.014	1.025	1.025	1.008	1.002	1.002	1.002	1.002	1.002	1.002
2007	1.008	1.011	1.019	1.019	1.007	1.026	1.026	1.026	1.026	1.026	1.026
2008	1.002	1.002	1.004	1.004	1.002	1.024	1.024	1.024	1.024	1.024	1.024

(3) Combined Severity Trend and Law Amendment Factors

2006	1.083	1.087	1.099	1.099	1.081	1.099	1.099	1.099	1.099	1.099	1.099
2007	1.081	1.084	1.093	1.093	1.079	1.125	1.125	1.125	1.125	1.125	1.125
2008	1.074	1.075	1.077	1.077	1.074	1.123	1.123	1.123	1.123	1.123	1.123

Notes:

(1): Exhibit 2.

(2): Section IV-A, Exhibit 1. PY 2006 to effective period starting 09/01/2007. PY 2007 to effective period starting 09/01/2008.  
 PY 2008 to effective period starting 09/01/2009.

(3) = (1) x (2)

X 000021

Severity Trend Factors

Schedule Z Policy Year (1)			Policy Effective Period (2)		
01/01/2008	-	12/31/2008	09/01/2009	-	08/31/2010
01/01/2007	-	12/31/2007	09/01/2008	-	08/31/2009
01/01/2006	-	12/31/2006	09/01/2007	-	08/31/2008

Avg Acc Date	Avg Acc Date
12/31/2007	08/31/2009

(3) Indemnity Severity Trend	4.3%
(4) Medical Severity Trend	5.7%
(5) Trend Period Length = Years between (1) and (2)	1.667
(6) Indemnity Trend Factor = [ 1.000 + (3) ] ^ (5)	1.072
(7) Medical Trend Factor = [ 1.000 + (4) ] ^ (5)	1.096

Notes:

(3),(4): Section V-A Exhibit 1.

Medical Severity Trend is a weighted average. The weights used are the relative amounts of losses for Lost Time Medical and Medical Only at 5th report.

(6),(7): Severity Trend Factors adjust 2008 to 8/31/2010, 2007 to 8/31/2009, and 2006 to 8/31/2008.

# X 000023

Section X - Experience Rating  
Subsection B - Conversion/Excess Loss Factors  
9/1/2011

Section X - B  
Exhibit 3  
Page 1

## Summary of Development Factors

Likely to Develop				
Development Factors From:				
	18-30	30-42	42-54	54-66
<u>(1) Indemnity Losses</u>				
2 Yr Average	1.533	1.171	1.106	1.063
Cumulative	2.110	1.376	1.175	1.063
<u>(2) Medical Losses</u>				
2 Yr Average	1.113	1.142	1.088	1.050
Cumulative	1.451	1.304	1.142	1.050
Not-Likely to Develop				
Development Factors From:				
	18-30	30-42	42-54	54-66
<u>(3) Indemnity Losses</u>				
2 Yr Average	1.325	1.115	1.061	1.032
Cumulative	1.617	1.220	1.095	1.032
<u>(4) Medical Losses</u>				
2 Yr Average	1.058	1.024	1.021	1.008
Cumulative	1.115	1.054	1.029	1.008

Notes:

(1),(2): Page 2.

(3),(4): Page 3.

**X 000024**

Section X - Experience Rating  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section X - B  
 Exhibit 3  
 Page 2

Calculation of Likely to Develop Development Factors

Likely to Develop						
Policy Year	Indemnity Losses			Medical Losses		
	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio
	18	30		18	30	
2007	78,375,160	116,783,475	1.490	61,833,411	67,934,578	1.099
2006	76,962,809	121,301,556	1.576	60,094,980	67,740,731	1.127
Average			1.533			1.113
	30	42		30	42	
2006	123,655,989	145,192,953	1.174	68,292,947	77,270,126	1.131
2005	120,642,292	140,925,360	1.168	63,436,840	73,073,545	1.152
Average			1.171			1.142
	42	54		42	54	
2005	143,610,074	162,261,211	1.130	73,641,685	79,833,410	1.084
2004	152,422,766	164,824,392	1.081	87,092,494	95,037,723	1.091
Average			1.106			1.088
	54	66		54	66	
2004	170,814,761	181,778,507	1.064	96,548,644	100,021,869	1.036
2003	160,825,962	170,728,137	1.062	81,795,669	87,043,876	1.064
Average			1.063			1.050

**X 000025**

Section X - Experience Rating  
 Subsection B - Conversion/Excess Loss Factors  
 9/1/2011

Section X - B  
 Exhibit 3  
 Page 3

Calculation of Not-Likely to Develop Development Factors

Not-Likely to Develop						
Policy Year	Indemnity Losses			Medical Losses		
	Evaluated at month		Link Ratio	Evaluated at month		Link Ratio
	18	30		18	30	
2007	121,940,234	161,494,183	1.324	118,922,175	126,084,332	1.060
2006	114,513,202	151,772,346	1.325	109,189,767	115,373,543	1.057
Average			1.325			1.058
	30	42		30	42	
2006	149,417,913	167,036,046	1.118	114,821,327	118,239,007	1.030
2005	156,560,909	174,003,499	1.111	116,263,776	118,296,850	1.017
Average			1.115			1.024
	42	54		42	54	
2005	171,317,335	181,354,436	1.059	117,726,419	120,834,147	1.026
2004	167,605,525	178,217,714	1.063	113,973,763	115,744,176	1.016
Average			1.061			1.021
	54	66		54	66	
2004	172,227,345	177,163,695	1.029	114,233,255	115,792,111	1.014
2003	159,290,953	164,888,219	1.035	110,758,640	111,052,658	1.003
Average			1.032			1.008

Calculation of ELR Factors

Unit Report / Policy Effective Dates (1)	Hazard Group (2)	Permissible Loss Ratio (3)	Weighted LBA (4)	Exp Rating LER by Hazard Group (5)	Law Factor (6)	Loss Trend / Payroll Trend (7)	Loss Development to Ultimate Report (8)	Investment Income Offset (9)	Ratio of Exp Rating ELR to Average Rate (10)
1st Report	C	0.593	0.120	0.079	1.001	0.979	1.613	1.009	0.306
9/1/2009	E	0.593	0.120	0.089	1.001	0.979	1.620	1.005	0.303
to	F	0.593	0.120	0.126	1.001	0.979	1.622	1.008	0.289
8/31/2010	G	0.593	0.120	0.179	1.001	0.979	1.632	0.993	0.274
2nd Report	C	0.593	0.120	0.155	1.001	0.969	1.354	1.009	0.338
9/1/2008	E	0.593	0.120	0.174	1.001	0.969	1.357	1.005	0.331
to	F	0.593	0.120	0.247	1.001	0.969	1.358	1.008	0.300
8/31/2009	G	0.593	0.120	0.352	1.001	0.969	1.364	0.993	0.261
3rd Report	C	0.593	0.120	0.174	1.003	0.959	1.214	1.009	0.371
9/1/2007	E	0.593	0.120	0.195	1.003	0.959	1.216	1.005	0.363
to	F	0.593	0.120	0.278	1.003	0.959	1.217	1.008	0.325
8/31/2008	G	0.593	0.120	0.395	1.003	0.959	1.220	0.993	0.275
1st - 3rd Report Average	C E F G								0.338 0.332 0.305 0.270

Notes:

- (1): Unit Stat Reports used to experience rate a policy taking effect during the proposed policy period.
- (3), (5), (7) , (9): Section X-A, Exhibit 1.
- (4): Loss Based Assessment weighted by federal indemnity losses as a % of losses.
- (6): State Factors from Section IV-A, Exhibit 1 and Federal Factors from Section IV-F, Exhibit 1 weighted by Adjusted Reported Losses from Section VIII-C, Exhibit 1, Pages 2 and 4.
- (8): Exhibit 2.
- (10) =  $[(3) / \{ 1.0 + (4) \}] \times [ 1.0 - (5) ] / [ (6) \times (7) \times (8) \times (9) ]$

X 000026

**X 000027**

Section X - Experience Rating  
 Subsection C - Expected Loss Rates for F-Class  
 9/1/2011

Section X - C  
 Exhibit 2

Hazard Group Development Factors to Ultimate

Development to Ultimate (1)	Hazard Group (2)	Hazard Group Relativity (3)	Selected Dev. Factor to Ultimate (4)
1st to 5th	C	0.998	1.613
1st to 5th	E	1.009	1.620
1st to 5th	F	1.012	1.622
1st to 5th	G	1.028	1.632
1st to 5th	Total		1.614
2nd to 5th	C	0.997	1.354
2nd to 5th	E	1.008	1.357
2nd to 5th	F	1.010	1.358
2nd to 5th	G	1.027	1.364
2nd to 5th	Total		1.355
3rd to 5th	C	0.997	1.214
3rd to 5th	E	1.008	1.216
3rd to 5th	F	1.010	1.217
3rd to 5th	G	1.027	1.220
3rd to 5th	Total		1.215

Notes:

(3): Balanced Relativities from Section X-A Exhibit 4, Page 1.

(4) = 1.00 + (3) x (Overall Selected LDF from Exhibit 3 - 1.00)

Loss Development Factors For Use in Calculation of Reciprocals

Report (1)	Benefit Type (2)	Injury Type (3)	State Loss Development Factor to Ultimate (4)	Federal Loss Development Factor to Ultimate (5)	Average Loss Development Factor to Ultimate (6)	Distribution of Ultimate Losses (7)	Adjusted Distribution = (7) / (6) (8)	LDF to Ultimate to Derive ELR = TT(7) / TT(8) (9)
1st	Indemnity	Likely to Develop	2.373	2.264	2.264	30.7%	13.6%	
1st	Indemnity	Not Likely to Develop	1.659	1.508	1.509	30.3%	20.1%	
1st	Medical	Likely to Develop	1.762	1.976	1.975	19.0%	9.6%	
1st	Medical	Not Likely to Develop	1.154	1.070	1.071	20.0%	18.7%	
1st	Total					100.0%	61.9%	1.614
2nd	Indemnity	Likely to Develop	1.548	1.553	1.553	30.7%	19.8%	
2nd	Indemnity	Not Likely to Develop	1.253	1.276	1.276	30.3%	23.8%	
2nd	Medical	Likely to Develop	1.583	1.699	1.698	19.0%	11.2%	
2nd	Medical	Not Likely to Develop	1.090	1.046	1.046	20.0%	19.1%	
2nd	Total					100.0%	73.8%	1.355
3rd	Indemnity	Likely to Develop	1.321	1.323	1.323	30.7%	23.2%	
3rd	Indemnity	Not Likely to Develop	1.124	1.116	1.116	30.3%	27.2%	
3rd	Medical	Likely to Develop	1.386	1.582	1.581	19.0%	12.0%	
3rd	Medical	Not Likely to Develop	1.065	1.002	1.002	20.0%	19.9%	
3rd	Total					100.0%	82.3%	1.215

Notes:

(4): Section X-B, Exhibit 3, Page 1 and Section X-A, Exhibit 5, Page 2.

(5): Section VIII-E, Exhibit 1, Page 1.

(6): Average of (4) and (5) weighted by % of Total Reported Losses from Section VIII-C, Exhibit 1 Page 1 and Page 3.

Federal losses are 99.6% of total reported indemnity losses and 99.3% of total reported medical losses.

(7): Section IV-E, Exhibit 1.

X 000028

EXPERIENCE RATING PLAN MANUAL

MASSACHUSETTS

Proposed Effective September 1, 2011

TABLE OF EXPECTED LOSS RATES AND DISCOUNT RATIOS

CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO
0005	1.02	.22	2002	1.93	.22	2683	0.83	.20	3241	0.97	.20	4053	0.80	.20
0008	1.02	.22	2003	1.43	.21	2688	1.08	.20	3255	1.37	.20	4061	1.11	.22
0016	1.66	.23	2014	1.58	.20	2702	5.00	.19	3257	1.30	.21	4062	1.03	.22
0034	1.75	.23	2021	1.61	.20	2710	2.37	.20	3270	0.93	.20	4112	0.31	.19
0035	0.91	.20	2039	1.13	.19	2731	1.71	.20	3300	2.29	.20	4113	0.80	.20
0036	1.75	.23	2041	1.17	.20	2741	2.42	.19	3305	(a)	(a)	4114	1.10	.19
0037	1.02	.22	2070	1.62	.20	2747	2.96	.20	3315	1.41	.20	4130	2.28	.21
0042	1.70	.21	2081	1.59	.21	2790	0.90	.21	3334	(a)	(a)	4133	0.83	.22
0046	1.21	.21	2089	0.98	.20	2802	1.87	.20	3336	1.15	.21	4150	0.39	.18
0050	2.71	.20	2095	1.45	.19	2835	0.91	.20	3365	3.10	.19	4239	1.12	.19
0059D	.	.	2101	1.06	.20	2836	1.20	.19	3372	1.06	.20	4243	1.26	.20
0065D	.	.	2105	(a)	(a)	2841	1.66	.21	3373	1.75	.20	4244	1.48	.22
0066D	.	.	2111	0.99	.20	2883	1.52	.20	3381	1.27	.20	4250	0.69	.19
0067D	.	.	2114	1.06	.20	2923	0.75	.20	3383	0.55	.20	4251	0.72	.20
0079	0.94	.20	2115	1.32	.20	2942	1.16	.22	3385	0.37	.20	4273	1.08	.20
0083	2.39	.23	2121	0.70	.19	3018	1.00	.19	3400	1.60	.21	4279	1.35	.21
0106	5.24	.21	2130	0.96	.19	3022	1.51	.21	3507	1.61	.21	4282	0.37	.19
0113	1.75	.23	2131	0.98	.20	3027	1.74	.20	3515	1.11	.20	4283	1.29	.20
0170	1.75	.23	2143	1.12	.19	3028	1.38	.21	3548	0.74	.21	4299	0.92	.20
0251	1.56	.20	2150	2.48	.20	3030	2.71	.21	3558	0.29	.21	4301	2.10	.17
0400	(a)	(a)	2156	3.77	.19	3040	3.36	.19	3559	0.74	.21	4304	1.63	.20
0401	(a)	(a)	2157	2.46	.19	3041	1.64	.19	3571	0.50	.20	4307	0.57	.20
0770	.	.	2172	0.79	.18	3042	2.21	.17	3574	0.80	.21	4308	0.48	.15
0773	.	.	2174	1.56	.19	3064	1.12	.20	3612	0.89	.20	4350	0.26	.19
0774	.	.	2211	2.35	.22	3066	1.12	.20	3620	2.04	.20	4351	0.46	.19
0775	.	.	2220	1.34	.20	3076	1.15	.20	3629	0.80	.21	4352	0.54	.21
0776	.	.	2260	2.74	.18	3081D	3.25	.20	3632	0.77	.21	4360	0.57	.20
0779	.	.	2286	1.45	.20	3082D	3.25	.20	3634	0.74	.19	4361	0.25	.21
0799	.	.	2288	1.10	.21	3085D	1.60	.20	3635	1.60	.22	4362	0.27	.21
0908	41.99	.20	2302	1.34	.20	3110	2.66	.20	3638	0.80	.21	4410	1.94	.20
0909	67.15	.23	2305	0.94	.20	3111	1.16	.20	3642	0.43	.19	4417	2.08	.20
0912	134.31	.23	2362	0.83	.21	3113	0.81	.19	3643	0.66	.19	4432	0.60	.20
0913	83.98	.20	2380	1.11	.22	3114	1.35	.20	3647	1.07	.20	4439	1.12	.22
0917	1.17	.20	2402	1.09	.19	3118	0.88	.19	3648	0.63	.21	4452	1.16	.21
0918	0.30	.18	2413	1.33	.20	3119	0.42	.20	3681	0.36	.20	4459	1.26	.21
1430	3.66	.18	2416	1.34	.21	3120	0.82	.18	3685	0.36	.20	4470	1.08	.20
1438	1.29	.20	2417	1.30	.19	3122	0.90	.21	3724	1.58	.20	4484	0.95	.20
1463	3.14	.19	2501	0.85	.19	3127	0.43	.20	3726	4.90	.19	4493	1.34	.20
1624D	2.09	.19	2503	0.47	.21	3131	0.69	.20	3807	1.68	.21	4511	0.13	.21
1655	2.19	.21	2534	0.92	.19	3132	1.25	.20	3808	1.50	.20	4512	0.06	.20
1701	2.13	.18	2570	1.87	.20	3145	0.77	.20	3821	1.93	.20	4557	0.67	.20
1710D	2.29	.19	2576	1.25	.19	3146	0.81	.19	3826	1.13	.20	4558	0.66	.19
1747	1.27	.20	2578	1.15	.19	3169	1.55	.21	3830	0.77	.21	4561	1.14	.22
1748	1.17	.20	2585	1.42	.21	3179	0.71	.19	3841	0.82	.21	4583	1.15	.19
1852	2.17	.17	2586	0.66	.20	3180	1.34	.20	4000	1.70	.19	4611	0.69	.19
1853	0.66	.18	2587	1.24	.20	3188	1.77	.19	4021	1.83	.20	4635	0.91	.20
1860	1.14	.20	2623	1.51	.20	3200	1.05	.21	4024	1.44	.18	4653	1.10	.18
1924	1.05	.20	2640	0.85	.19	3220	0.91	.20	4034	2.10	.21	4665	3.47	.20
1925	1.53	.20	2651	0.89	.19	3223	(a)	(a)	4036	1.29	.18	4692	0.25	.19
2001	1.54	.21	2660	0.92	.21	3227	1.68	.21	4038	0.99	.19	4693	0.39	.20

(a) Expected Loss Rates and Discount Ratios for each individual risk must be obtained by Home Office from the MA Bureau.  
 D D Specific Disease element involved. Refer to Manual Supplement – Treatment of Disease Coverage.

Proposed Effective September 1, 2011

TABLE OF EXPECTED LOSS RATES AND DISCOUNT RATIOS

CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO	CLASS CODE	EXP LOSS RATE	DISC RATIO
4720	0.83	.20	5507	2.40	.19	7382	1.70	.20	8215	1.03	.20	9060	0.49	.22
4740	0.40	.20	5508D	2.66	.20	7403	1.78	.22	8227	1.36	.21	9061	0.41	.21
4741	1.32	.19	5509	1.39	.20	7405	0.60	.20	8232	1.85	.20	9063	0.30	.22
4770	3.93	.14	5538	2.27	.20	7420	2.29	.17	8233	2.99	.22	9077F	2.11	.24
4773	7.94	.14	5545	10.24	.21	7421	0.77	.17	8235	1.54	.20	9079	0.48	.21
4774	6.59	.14	5547	5.54	.20	7422	0.68	.17	8263	2.95	.20	9088	(a)	(a)
4775	6.41	.20	5606	0.61	.20	7425	1.31	.17	8264	1.79	.20	9089	0.49	.21
4776	5.71	.13	5610	1.94	.18	7431	0.68	.17	8265	2.73	.22	9093	0.45	.22
4777	1.01	.19	5645	2.89	.20	7445	.	.	8279	1.36	.21	9101	1.62	.21
4779	4.59	.15	5651	2.89	.20	7453	.	.	8291	1.57	.20	9102	0.96	.21
4799	14.48	.14	5701	5.80	.21	7502	1.58	.21	8292	1.44	.21	9154	0.57	.21
4825	0.27	.20	5703	7.95	.19	7515	0.61	.21	8293	3.56	.20	9156	0.53	.22
4828	0.57	.19	5705	4.22	.20	7520	1.56	.20	8350	2.27	.19	9178	6.51	.27
4829	0.49	.19	6003	4.04	.17	7538	1.88	.20	8380	1.09	.20	9179	11.30	.19
4902	1.16	.22	6005	2.66	.20	7539	0.53	.19	8381	0.79	.20	9180	1.81	.23
4923	0.53	.20	6204	3.42	.19	7580	1.07	.21	8385	1.44	.20	9182	1.68	.24
5020	2.71	.19	6217	1.65	.19	7590	2.96	.20	8392	0.59	.20	9186	1.65	.23
5022	3.57	.18	6229	1.65	.19	7600	1.47	.20	8393	0.79	.19	9220	1.53	.20
5037	8.35	.17	6233	1.33	.19	7601	2.14	.20	8500	2.99	.22	9402	1.97	.20
5040	18.42	.18	6251D	2.13	.17	7610	0.09	.21	8601	0.12	.21	9403	3.46	.20
5057	9.30	.21	6252D	2.38	.19	7704	0.80	.21	8709F	2.39	.18	9410	0.67	.21
5059	9.30	.21	6306	3.08	.19	7720	0.76	.21	8710	1.03	.21	9501	1.23	.21
5069	9.30	.21	6319	1.70	.19	7855	2.03	.18	8719	0.83	.21	9505	1.23	.21
5102	2.60	.18	6325	1.77	.20	8001	0.72	.20	8720	0.38	.19	9519	1.19	.21
5146	2.01	.19	6400	2.58	.20	8002	0.89	.21	8721	0.08	.21	9521	1.52	.19
5160	1.17	.19	6504	1.06	.20	8006	0.69	.22	8726F	2.40	.21	9522	0.86	.19
5183	1.22	.19	6801F	5.46	.20	8008	0.32	.21	8742	0.06	.21	9533	5.70	.18
5188	1.67	.19	6811	4.60	.20	8010	0.69	.21	8745	1.29	.20	9534	1.86	.18
5190	1.11	.20	6824F	3.62	.19	8013	0.17	.20	8747	0.54	.21	9545	1.50	.19
5191	0.40	.20	6826F	4.40	.21	8017	0.54	.21	8748	0.22	.21	9549	2.22	.21
5192	1.57	.19	6834	1.13	.20	8018	1.39	.20	8800	0.40	.21	9552	3.73	.19
5213	5.91	.18	6836	1.18	.20	8021	1.02	.20	8803	0.01	.20	9553	3.41	.19
5215	1.94	.19	6843F	5.04	.20	8031	1.00	.21	8810	0.04	.21	9586	0.17	.20
5221	2.76	.19	6854	4.25	.20	8032	0.68	.21	8820	0.03	.21	9620	0.29	.20
5222	3.52	.19	6872F	12.76	.20	8033	0.84	.21	8829	0.82	.20			
5223	1.84	.19	6874F	11.25	.18	8034	1.60	.19	8831	0.50	.24			
5348	2.27	.19	6882	10.76	.20	8039	0.60	.22	8832	0.09	.21			
5402	3.77	.20	6884	9.49	.18	8044	1.21	.20	8833	0.47	.20			
5403	3.78	.20	7133	(a)	(a)	8046	1.14	.22	8835	0.82	.20			
5437	1.84	.19	7219	3.55	.20	8048	1.40	.20	8837	(a)	(a)			
5443	1.60	.20	7230	2.71	.19	8050	0.68	.21	8868	0.31	.22			
5445	2.57	.18	7231	3.24	.20	8058	1.28	.21	8901	0.04	.21			
5462	3.26	.20	7309F	10.42	.18	8103	1.09	.20	9014	1.00	.20			
5472	3.11	.20	7313F	5.39	.17	8105	1.78	.20	9015	1.23	.20			
5473	3.05	.19	7317F	5.15	.18	8106	3.00	.22	9016	0.70	.22			
5474	1.78	.20	7327F	11.79	.18	8107	1.49	.21	9019	1.21	.18			
5478	1.94	.17	7350F	6.89	.18	8111	1.25	.21	9033	1.78	.19			
5479	2.76	.20	7360	2.39	.20	8116	1.52	.21	9040	1.23	.20			
5480	1.80	.19	7370	2.02	.22	8203	2.03	.20	9052	0.68	.21			
5506	2.28	.19	7380	2.56	.20	8204	2.03	.18	9058	0.68	.21			

- (a) Expected Loss Rates and Discount Ratios for each individual risk must be obtained by Home Office from the MA Bureau.
- F Expected Loss Rates and Discount Ratios for risks covered under the United States Longshore and Harbor Workers' Compensation Act.
- D D Specific Disease element involved. Refer to Manual Supplement – Treatment of Disease Coverage.

**Miscellaneous Rating Values**

Massachusetts law requires that insureds be given a choice of medical and indemnity deductibles. In accordance with the statute, the Division of Insurance has approved two separate and distinct deductible programs: the Massachusetts Benefits Deductible Program effective January 1, 1993, and the Massachusetts Benefits Claim and Aggregate Deductible Program effective January 1, 1997. This section updates the small deductible credits for these two programs.

Additionally, in this section, we discuss the basis of premium for taxicab operators without verifiable payroll records and we recommend an expansion of the *Table of Increased Limits* contained in Rule VIII of the *Massachusetts Workers Compensation and Employers Liability Insurance Manual*.

**Section XI-A – Massachusetts Benefits Deductible Program Credits**

The Massachusetts Benefits Deductible Program allows insureds to elect a per claim deductible applicable to the sum of medical and indemnity losses. Deductible levels of \$500, \$1,000, \$2,000, \$2,500 and \$5,000 are offered to every employer. Insureds that elect a deductible obtain a premium reduction reflective of the percentage of losses retained below the deductible. Higher deductibles should be associated with larger premium credits because an insured's expected retained losses increase as the deductible level increases.

## XI 000002

Section XI-A, Exhibit 1 displays Loss Elimination Ratios and Premium Credits for the available deductible levels. The premium credits have been calculated with the following considerations:

- The deductible will apply to the sum of indemnity and medical losses.
- The database used is Massachusetts Workers' Compensation Schedule Z data from policy years 2004, 2003, 2002, 2001, and 2000 at fifth report. Each loss is multiplied by appropriate trend, law amendment and development factors. Claim costs are trended to 9/1/2012, the average accident date (assuming the proposed small deductible benefits will be in effect for one year starting 9/1/2011). These factors are shown in Section XI-C, Exhibit 1 and they are taken directly from other sections of the filing.
- Each claim is then layered by size of loss to calculate loss elimination ratios (LER).
- The WCRIBMA used the same formula as in the last Massachusetts Benefits Deductible Program filing to calculate the premium credit. This is formula (8) in "Fundamentals of Individual Risk Rating", 1992, Part III by William R. Gillam and Richard H. Snader:

$$\text{Premium Credit} = \frac{\text{LER} \times \text{SF} \times \text{ELR}}{1.0 - \text{VEL}}$$

LER - Loss Elimination Ratio (Section XI-B, Exhibit 1)

ELR - Expected Loss Ratio (Section VI-A, Exhibit 1)

## XI 000003

VEL - Variable Expense Load (sum of the variable expense ratio from Section VI-B, Exhibit 1 and the Profit Provision from Section VII-A, Exhibit 1)

SF - Safety Factor (from the 2007 Stipulation)

The safety factor is warranted for a number of reasons. First, insureds that elect a small deductible are more likely to benefit from having the deductible than an insured chosen at random. This is referred to as adverse selection and this problem is exacerbated by the requirement in Massachusetts (211 CMR 113.00) mandating that all risks are offered a policy with a deductible. Second, unlike personal auto or health insurance where the insurance company pays claims net of any applicable deductible, workers' compensation insurers must pay the entire amount of the claim and then seek reimbursement of the deductible from the insured. This creates credit risk and, unfortunately, some insureds default on their obligation to reimburse their insurance carrier. Additionally, the exposure insured by the insurance carrier is more risky if the policyholder has opted for a deductible because the policyholder is retaining the less risky portion of the total losses.

**Section XI-B – Massachusetts Benefits Claim and Aggregate Deductible Program****Credits**

The Massachusetts Benefits Claim and Aggregate Deductible Program allows insureds to elect a per claim deductible applicable to the sum of medical and indemnity losses. However, unlike the Massachusetts Benefits Deductible Program, the losses retained by the insured are subject to a maximum, the aggregate limit. Only one deductible option is available with the Massachusetts Benefits Claim and Aggregate Deductible Program. Insureds may elect a \$2,500 deductible with an aggregate limit equal to the greater of \$10,000 or 5% of the “Basis for the Aggregate Limit at Policy Inception” (which is defined in *Massachusetts Workers Compensation and Employers Liability Insurance Manual* as manual premium subject to any applicable merit or experience rating).

Section XI-B, Exhibit 1 shows the pricing of the \$2,500 per claim deductible subject to an aggregate limit. In the exhibit, the WCRIBMA estimates how much less of a credit is appropriate given the limitation on the insured's retained losses. For the Massachusetts Benefits Deductible Program, a credit of 4.6% is estimated for a \$2,500 per claim deductible (not subject to an aggregate limit). The 4.6% will serve as the basis for the calculation of the credit factors applicable to the Massachusetts Benefits Claim and Aggregate Deductible Program.

The impact of the aggregate limit on retained losses will vary with the premium size for an insured. Consistent with the law of large numbers, the loss experience for smaller policies is more volatile than for larger policies. Hence, proportionately “smaller insureds”

have either very low or very high loss ratios when compared to “larger insureds”. Consequently, smaller insureds are less apt to benefit from an aggregate limit. In this section, factors are derived to modify the credit proposed for a \$2,500 deductible without an applicable aggregate limit. These vary by premium size to reflect the differential benefits of the aggregate limit for different size insureds. As in the prior Massachusetts Benefits Claim and Aggregate Deductible Program filing, the selection of the adjustment factor is based on the results of a simulation model shown in Section XI-B, Exhibit 2.

The simulation model does the following for each simulated insured:

- Assumes the insured has an expected claim frequency of N.
- Simulates the number of claims for the insured by generating a random number from a Poisson distribution with mean N.
- For each simulated claim, selects at random an actual loss amount from those reported in policy years 2004, 2003, 2002, 2001, and 2000 at 5th report. Loss amounts are adjusted for trend, development and law changes.
- Applies the per claim deductible to each claim to estimate the retained losses prior to application of the aggregate limit.
- Summarizes the simulated retained losses.
- Applies the aggregate limit to the sum of the simulated retained losses.

# XI 000006

Section XI - Miscellaneous Rating values  
Subsection A - Massachusetts Benefits Deductible Program Credits  
9/1/2011

Section XI-A  
Exhibit 1

## Premium Credit and Loss Elimination Ratios by Deductible Level

Deductible Level (1)	Loss Elimination Ratio (2)	Expected Loss Ratio (3)	Safety Factor (4)	Variable Expense Ratio (5)	Profit Provision (6)	Premium Credit (7)
500	2.9%	0.593	0.90	0.184	0.060	2.0%
1,000	4.8%	0.593	0.90	0.184	0.060	3.4%
2,000	7.2%	0.593	0.90	0.184	0.060	5.1%
2,500	8.2%	0.593	0.90	0.184	0.060	5.8%
5,000	12.0%	0.593	0.90	0.184	0.060	8.5%

Notes:

(3): Section VI-A, Exhibit 1.

(4) = 0.9 from 9/1/2007 Stipulation.

(5): Section VI-A, Exhibit 1.

(6): Section VII-A, Exhibit 1.

(7) = [ (2) x (3) x (4) ] / [ 1.0 - (5) - (6) ]

# XI 000007

Section XI - Miscellaneous Rating values  
 Subsection B - Massachusetts Benefits Claim and Aggregate Deductible Program Credits  
 9/1/2011

Section XI-B  
 Exhibit 1

## Premium Credit for \$2,500 Per Claim Deductible with Aggregate Limit

Estimated Annual Standard Premium (1)	Expected Number of Claims Per Year = Midpoint of (1) / \$24,856 (2)	Aggregate Limit (3)	Selected Adjustment Factor for Aggregate Limit (4)	Premium Credit = (4) x 5.8% (5)
0 - 75,000	1.5	\$10,000	0.99	5.7%
75,000 - 100,000	3.5	\$10,000	0.98	5.7%
100,000 - 125,000	4.5	\$10,000	0.96	5.6%
125,000 - 150,000	5.5	\$10,000	0.94	5.4%
150,000 - 200,000	7.0	\$10,000	0.86	5.0%
Over 200,000	9 or more	5% of the 'Basis for the Aggregate Limit at Policy Inception'	0.84	4.9%

**Notes:**

(2): Based on \$24,856 in premium per expected claim.

(4): Selected based on the simulation results shown in Exhibit 2.

(5): The 5.8% is based on the \$2,500 per claim deductible without any aggregate limit, from Section XI-A, Exhibit 1.

# XI 000008

Section XI - Miscellaneous Rating values  
 Subsection B - Massachusetts Benefits Claim and Aggregate Deductible Program Credits  
 9/1/2011

Section XI-B  
 Exhibit 2

## Results of Simulation Model

Expected Number of Claims Per Year (1)	Number of Simulated Risks (2)	LER with No Aggregate Limit (3)	LER with \$10,000 Aggregate Limit (4)	LER with 5% of the Basis for Aggregate Limit (5)	Ratio of LERs (\$10,000 limit) = (4) / (3) (6)	Ratio of LERs (5% limit) = (5) / (3) (7)
1	100,000	8.09%	8.09%	4.08%	1.00	0.50
2	100,000	8.33%	8.31%	5.54%	1.00	0.67
3	75,000	8.17%	8.10%	5.96%	0.99	0.73
4	75,000	8.11%	7.92%	6.23%	0.98	0.77
5	50,000	8.22%	7.84%	6.55%	0.95	0.80
6	50,000	8.26%	7.63%	6.74%	0.92	0.82
7	50,000	8.13%	7.17%	6.74%	0.88	0.83
8	50,000	8.11%	6.81%	6.83%	0.84	0.84
9	50,000	8.27%	6.58%	7.06%	0.80	0.85
10	50,000	8.17%	6.11%	7.04%	0.75	0.86
12	25,000	8.29%	5.47%	7.27%	0.66	0.88
14	25,000	8.16%	4.72%	7.22%	0.58	0.88
16	25,000	8.21%	4.23%	7.35%	0.52	0.90
18	25,000	8.12%	3.72%	7.31%	0.46	0.90
20	25,000	8.21%	3.42%	7.47%	0.42	0.91
25	25,000	8.20%	2.71%	7.53%	0.33	0.92
30	25,000	8.03%	2.22%	7.45%	0.28	0.93
40	25,000	8.13%	1.69%	7.65%	0.21	0.94
50	25,000	8.10%	1.35%	7.68%	0.17	0.95
75	25,000	8.20%	0.91%	7.87%	0.11	0.96
100	25,000	8.12%	0.67%	7.86%	0.08	0.97
150	25,000	8.14%	0.45%	7.95%	0.06	0.98
200	25,000	8.18%	0.34%	8.03%	0.04	0.98
300	25,000	8.17%	0.23%	8.07%	0.03	0.99
400	25,000	8.16%	0.17%	8.08%	0.02	0.99
500	25,000	8.15%	0.14%	8.09%	0.02	0.99

**Notes:**

(5): The Aggregate limit is based on the average claim severity of the simulated losses, \$14,746 and the permissible loss ratio. One claim is assumed to be expected for each \$24,856 of premium [ $\$14,746 / \text{permissible loss ratio}$ ].

# XI 000009

Section XI - Miscellaneous Rating values  
 Subsection C - Law Amendment , Loss Development, and Trend Summary  
 9/1/2011

Section XI-C  
 Exhibit 1

## Law Amendments, Loss Development Factors, and Severity Trend

(1) Law Amendment Factors to Proposed Policy Effective Period

Policy Year	Indemnity Losses					Medical Losses
	Injury Type 1	Injury Type 2	Injury Type 3	Injury Type 4	Injury Type 5	All Injury Types
PY 2000	1.054	1.066	1.117	1.126	1.036	1.110
PY 2001	1.035	1.050	1.090	1.090	1.027	1.101
PY 2002	1.032	1.046	1.084	1.084	1.026	1.072
PY 2003	1.033	1.046	1.084	1.084	1.026	1.046
PY 2004	1.029	1.041	1.075	1.075	1.023	1.036

(2) Loss Development Factors - Fifth Report to Ultimate

Injury Type	Indemnity	Medical
Likely to Develop	1.054	1.233
Not Likely to Develop	1.012	1.047

(3) Severity Trend Factors

We apply three distinct trend factors.

Trend to PY 2004 is based on emperical USR data at 5th report.

Trend from PY 2004 to PY 2008 is based on severities from Section V-A.

Trend from PY 2008 to the Prospective Effective Period is based on the projected severity trends from Section V-A.

Trend Period		Indemnity	Lost Time	
			Medical	Medical Only
PY 2000	PY 2004	1.279	1.225	1.336
PY 2001	PY 2004	1.240	1.349	1.252
PY 2002	PY 2004	1.215	1.262	1.160
PY 2003	PY 2004	1.148	1.185	1.044
PY 2004	PY 2008	1.199	1.157	1.223
PY 2008	Prosp. Eff. Period	1.166	1.227	1.203

Notes:

(1): Section IV-A, Exhibit 1.

(2): Section IV-E, Exhibit 2.

(3): Section V-A, Exhibit 1.

**XI 000010**

**MASSACHUSETTS WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE MANUAL** **RATES**  
Page RA-5  
*Proposed Effective September 1, 2011*

**MISCELLANEOUS VALUES**

**Basis of Premium** applicable in accordance with the footnote instructions for Code 7370 - "Taxicab Co.":

Employee operated vehicles.....	\$84,900
Leased or rented vehicles.....	\$56,600

**Basis of Premium** for Sole Proprietors, Partners of Legal Partnerships, Members of Limited Liability Companies or Partners of Limited Liability Partnerships in accordance with Rule IX-B. 3. a..... \$39,600

Minimum individual payroll for an executive officer per week..... \$200

Maximum individual payroll for an executive officer per week..... \$1,000

**Terrorism Insurance Program**—Certified Loss: ..... 0.03

**BENEFITS DEDUCTIBLE COVERAGE PROGRAM**

<b>Medical and Indemnity Deductible Amount</b>	<b>Premium Reduction Percentage</b>
\$500	2.0%
\$1,000	3.4%
\$2,000	5.1%
\$2,500	5.8%
\$5,000	8.5%

**BENEFITS CLAIM AND AGGREGATE DEDUCTIBLE PROGRAM**

<b>Basis for the Aggregate Limit</b>	<b>Claim Deductible Amount</b>	<b>Aggregate Deductible Amount</b>	<b>Premium Reduction Percentage</b>
\$ 0 to \$75,000	\$2,500	\$10,000	5.7%
\$75,001 to \$100,000	\$2,500	\$10,000	5.7%
\$100,001 to \$125,000	\$2,500	\$10,000	5.6%
\$125,001 to \$150,000	\$2,500	\$10,000	5.4%
\$150,001 to \$200,000	\$2,500	\$10,000	5.0%
over \$200,000	\$2,500	5% of Basis for the Aggregate Limit	4.9%

**Expense Constant** applicable in accordance with Basic Manual Rule VI-E-2:

Policies which develop earned Standard Premium of less than \$200.....	\$159
Policies which develop earned Standard Premium of at least \$200 and less than \$1,000.....	\$250
Policies which develop earned Standard Premium of \$1,000 or more.....	\$338

The expense constant for private residence per capita classifications is \$64, up to a maximum of 4.

**Premium Discount Percentages**—(See Basic Manual Rule VII). The following premium discounts are applicable to Standard Premiums. Note: Premium Discount is not applicable to Assigned Risk policies.

		<b>Type A Discount</b>	<b>Type B Discount</b>
First	\$ 10,000.....	0.0%	0.0%
Next	\$190,000.....	9.1%	5.1%
Next	\$1,550,000.....	11.3%	6.5%
Over	\$1,750,000.....	12.3%	7.5%

**United States Longshore and Harbor Workers' Compensation Coverage** Percentage applicable only in connection with Rule XII-D-3. "U.S. Longshore and Harbor Workers' Compensation Act" of the Basic Manual..... 31.1%  
 (Multiply a Non-F classification rate by a factor of 1.311)

**EXPERIENCE RATING ELIGIBILITY**

A risk is eligible for intrastate experience rating when the payrolls or other exposures developed in the last year or last two years of the experience period produced a premium of at least \$11,000. If more than two years, an average annual premium of at least \$5,500 is required. Page A-1 of the Experience Rating Plan Manual should be referenced for the latest eligibility amounts by state.

**RETROSPECTIVE RATING PLANS**

The NCCI's Retrospective Rating Plan has been adopted for use in Massachusetts, and the WCRIBMA relies in many respects on the NCCI's filing memorandum to derive Massachusetts parameters throughout this section of the WCRIBMA's filing.

Retrospective rating plans adjust the premium of a policy to reflect an insured's loss experience during the effective period of the policy. At the simplest level, an insured's retrospective premium is determined by the formula  $R = [B + (c \times L)] \times t$ , where:

R = Retrospective Premium, subject to minimum and maximum amounts

B = Basic Premium

c = Loss Conversion Factor, generally reflecting loss adjustment expense

L = Actual Incurred Loss during the effective policy period

t = Tax Multiplier

The basic premium provides for the expenses of carriers. It also includes a net insurance charge, which is intended to compensate for the possibility that the otherwise-indicated retrospective premium will exceed the maximum permissible premium amount. Similarly, there is a savings resulting from the possibility that the otherwise-

indicated retrospective premium will be less than the permissible minimum premium amount. The net insurance charge is the difference between the charge for the maximum and the savings from the minimum.

The calculations in this section are substantially similar to those used by the Commissioner in her 2003 decisions and used by the WCRIB in the 2005, 2007, 2008 and 2010 rate filings. The calculations appear in Sections XII-A, XII-B and XII-C. This year, consistent with the 2010 filing, the WCRIB includes miscellaneous taxes in the Tax Multiplier.

Section XII-A displays the calculation of the parameters needed for retrospective rating. Insureds electing to purchase a retrospectively rated policy may choose one of two options that differ as to their treatment of defense and cost containment expenses (DCC). Option one, the traditional approach, is designed so that expected DCC is primarily recovered through the application of the loss conversion factor to losses (Exhibit 3). Option two uses the sum of losses and DCC, as opposed to only losses, in its calculation of retrospective premium and therefore, the loss conversion factor is smaller (Exhibit 4).

Section XII-B calculates the revised provision for the residual market subsidy.

Section XII-C displays the tables of expense ratios corresponding to the parameters calculated in Section XII-A.

Section XII-D presents an update of the Excess Loss Factors.

### **Expected Loss Ranges and State and Hazard Groups**

Retrospective premiums are calculated subject to a maximum and minimum premium. If an insured incurs losses high enough to cap its premium at the maximum,

## XII 000003

the insurer collects insufficient premium for that account. If an insured has unusually low losses, it pays the minimum premium. The net insurance charge is the difference between the charge for the maximum and the savings from the minimum.

The Table of Insurance Charges contains the excess ratios needed to quantify the insurance charge and savings described above. The ratio of actual losses to expected losses, the entry ratio, is used to look up the values in the Table of Insurance Charges. The charges depend not only on the maximum and minimum subject losses, but also on the size of the insured. The variation in the loss ratios, hence the charges, of the larger employers that expect many losses should be much lower than the variation for smaller employers. Insurance Charges are inversely proportional to risk size.

**RETROSPECTIVE RATING PLAN MANUAL  
 STATE SPECIAL RATING VALUES**

**MASSACHUSETTS  
 RR1**

*Proposed Effective September 1, 2011*

**1. Hazard Group Differentials**

A	B	C	D	E	F	G
2.17	1.69	1.43	1.29	1.09	0.84	0.60

**2. Tax Multipliers**

1.028\*  
 Federal Tax Multiplier 1.117  
 \* Includes 0.05% residual market subsidy provision

**3. Expected Loss Ratio**

0.587

**4. Loss Conversion Factor**

1.186

**Expected Loss and Allocated Expense Ratio**

0.654

**Allocated Loss Adjustment  
 Expense Option (ALAE Option)  
 Loss Conversion Factor**

1.065

**5. Table of Expense Ratios Excluding Taxes  
 and Including Profit and Contingencies**

**Type A Company**

Massachusetts  
 Effective September 1, 2011

**Type B Company**

Massachusetts  
 Effective September 1, 2011

**6. 2008 - Table of Expected Loss Ranges  
 September 1, 2010**

**Table of Expense Ratios Excluding Allocated  
 Loss Adjustment Expense and Taxes  
 and Including Profit and Contingencies**

**Type A Company**

Massachusetts  
 Effective September 1, 2011

**Type B Company**

Massachusetts  
 Effective September 1, 2011

**7a.**

**Excess Loss Factors**

(Applicable to New and Renewal Policies)

**Per Accident  
 Limitation**

**Hazard Groups**

	A	B	C	D	E	F	G
\$25,000	0.359	0.383	0.406	0.427	0.446	0.474	0.506
30,000	0.342	0.367	0.391	0.413	0.432	0.461	0.497
35,000	0.326	0.352	0.376	0.400	0.420	0.450	0.488
40,000	0.312	0.338	0.363	0.389	0.409	0.439	0.480
50,000	0.288	0.314	0.341	0.368	0.389	0.420	0.465
75,000	0.240	0.267	0.295	0.326	0.347	0.379	0.433
100,000	0.205	0.230	0.259	0.292	0.314	0.345	0.405
125,000	0.179	0.201	0.229	0.264	0.285	0.315	0.380
150,000	0.158	0.178	0.205	0.240	0.259	0.288	0.357
175,000	0.140	0.158	0.185	0.219	0.237	0.264	0.337
200,000	0.125	0.142	0.167	0.201	0.217	0.244	0.319
250,000	0.103	0.116	0.139	0.172	0.185	0.209	0.286
300,000	0.086	0.097	0.118	0.148	0.160	0.182	0.259
500,000	0.050	0.057	0.071	0.093	0.100	0.115	0.183
1,000,000	0.023	0.026	0.033	0.045	0.049	0.056	0.099
2,000,000	0.010	0.011	0.015	0.021	0.022	0.026	0.049
3,000,000	0.006	0.007	0.009	0.013	0.014	0.016	0.031
4,000,000	0.004	0.005	0.006	0.009	0.010	0.011	0.022
5,000,000	0.003	0.004	0.005	0.007	0.007	0.009	0.017

**MASSACHUSETTS  
 RR2**

**RETROSPECTIVE RATING PLAN MANUAL  
 STATE SPECIAL RATING VALUES**

*Proposed Effective September 1, 2011*

7b.

**ALAE Option Excess Loss and Allocated Expense Factors**  
 (Applicable to New and Renewal Policies)

Per Accident Limitation	Hazard Groups						
	A	B	C	D	E	F	G
\$25,000	0.411	0.438	0.463	0.485	0.505	0.536	0.569
30,000	0.392	0.420	0.446	0.469	0.491	0.522	0.559
35,000	0.376	0.404	0.430	0.456	0.478	0.510	0.550
40,000	0.360	0.389	0.416	0.443	0.465	0.499	0.542
50,000	0.334	0.363	0.392	0.421	0.444	0.478	0.527
75,000	0.282	0.311	0.342	0.376	0.400	0.435	0.493
100,000	0.243	0.272	0.303	0.340	0.364	0.399	0.463
125,000	0.214	0.240	0.271	0.309	0.333	0.367	0.437
150,000	0.190	0.213	0.244	0.283	0.306	0.339	0.413
175,000	0.170	0.191	0.222	0.261	0.281	0.313	0.391
200,000	0.153	0.173	0.202	0.241	0.260	0.290	0.372
250,000	0.126	0.143	0.170	0.207	0.224	0.251	0.337
300,000	0.106	0.121	0.145	0.181	0.195	0.220	0.307
500,000	0.062	0.071	0.088	0.115	0.124	0.142	0.221
1,000,000	0.029	0.033	0.042	0.056	0.061	0.071	0.122
2,000,000	0.013	0.014	0.019	0.026	0.028	0.033	0.061
3,000,000	0.008	0.009	0.011	0.016	0.017	0.020	0.039
4,000,000	0.005	0.006	0.008	0.011	0.012	0.014	0.028
5,000,000	0.004	0.005	0.006	0.009	0.009	0.011	0.022

8. **Retrospective Development Factors**

<u>With Loss Limit</u>			<u>Without Loss Limit</u>			<u>4th &amp; Subsequent Adjustment</u>
1st Adj.	2nd Adj.	3rd Adj.	1st Adj.	2nd Adj.	3rd Adj.	
0.11	0.07	0.05	0.14	0.09	0.06	0.00

9. **State Special Classifications by Hazard Group**

All Massachusetts Classifications by Hazard Group can now be found in the Massachusetts Workers' Compensation & Employers Liability Insurance Manual in the Appendix Section. Refer to Appendix G in the 2008 Edition.

## XII 000006

Section XII - Retrospective Rating  
Subsection A - Expenses  
9/1/2011

Section XII - A  
Exhibit 3

### Expense Provisions Underlying the Proposed Retrospective Rating Plans

Total Expenses:	
(1) Acquisition and Field Supervision	11.5%
(2) Fixed Expenses	4.9%
(3) Premium Discount	5.3%
(4) Profit and Contingencies	<u>6.0%</u>
(5) Total Expenses Excluding Taxes and Assessments ( = (1) + (2) + (3) + (4) )	27.6%
(6) Premium Tax Rate	2.28%
(7) Miscellaneous Taxes	0.37%
(8) Residual Market Subsidy	0.05%
(9) Insolvency Fund Assessment	<u>0.02%</u>
(10) Tax Multiplier ( = 1.0 / { 1.0 - [ (6) + (7) + (8) + (9) ] } )	1.028
(11) Expected Loss and LAE Ratio (adjusted for Residual Market Subsidy) ( = [ 1.0 / (10) ] - (5) )	69.7%
(12) Loss Adjustment Expense (as percentage of losses)	18.6%
(13) Loss Conversion Factor ( = 1.0 + (12) )	1.186
(14) Expected Loss without LAE ( = (11) / (13) )	58.7%
(15) Expenses excluding Premium Taxes but including LAE ( = (5) + [ (12) x (14) ] )	38.6%

#### Notes:

- (1): Section VI-A, Exhibit 1, line (1).  
(2): Section VI-A, Exhibit 1, line (7), less the provision for miscellaneous taxes, see line (7) below.  
(3): Average Voluntary Premium Discount as a Percent of Standard Premium / ( 1.0 + Average ARAP Surcharge )  
5.3% = 5.5% / (1.0 + 4.9%)  
= [ Section VI-H, Exhibit 1, line (3) ] / { 1.0 + [ Section VI-H, Exhibit 1, line (6) ] }  
(4): Section VII-B, Exhibit 1.  
(6): Section VI-B, Exhibit 3, line (2).  
(7): Section VI-B, Exhibit 1, the average of the results of columns (13) x (15) / (17).  
(8): Section XII-B, Exhibit 1.  
(9): Section I-E, Exhibit 1, page 1.  
(12): Section VI-A, Exhibit 1, line (9).

## XII 000007

Section XII - Retrospective Rating  
Subsection A - Expenses  
9/1/2011

Section XII - A  
Exhibit 4

### Expense Provisions Underlying the DCC Option of the Proposed Retrospective Rating Plans

(1) Expected Loss without Defense and Cost Containment Expense (as percentage of Standard Premium plus ARAP)	58.7%
(2) Provision for DCC Expenses (as percentage of losses)	11.4%
(3) Expected Loss plus DCC Ratio ( = (1) x [ 1.0 + (2) ] )	65.4%
(4) Loss Adjustment Expense (as percentage of losses)	18.6%
(5) Loss Conversion Factor ( = [ 1.0 + (4) ] / [ 1.0 + (2) ] )	1.065
(6) Tax Multiplier	1.028
(7) Expenses excluding Premium Taxes but including LAE (as percentage of Standard Premium plus ARAP)	38.6%
(8) Expenses including all AO Expenses but excluding DCC Expenses and Premium Taxes ( = (7) - [ (1) x (2) ] )	31.9%

Notes:

(1), (4), (6), (7): Exhibit 3.

(2): Section VI-K, Exhibit 1, line (4).

## XII 000008

Section XII - Retrospective Rating  
Subsection B - Residual Market Subsidy  
9/1/2011

Section XII - B  
Exhibit 1

### Calculation of the Provision for the Residual Market Subsidy

(1) Voluntary Market Implied Rate Factor Equivalent	0.999
(2) Factor to take into account Basic Premium	0.800
(3) Retro Provision for the Residual Market Subsidy	0.000

Notes:

(1): Section I-D, Exhibit 1, page 1.

(2): From the filing for the provision for the Residual Market Subsidy effective 1/1/89.

(3) =  $[ 1.0 - (1) ] \times (2)$

**RETROSPECTIVE RATING PLAN MANUAL  
 STATE SPECIAL RATING VALUES**

**MASSACHUSETTS  
 RR5**

*Proposed Effective September 1, 2011*

**TABLE OF EXPENSE RATIOS—EXCLUDING TAXES  
 AND INCLUDING PROFIT AND CONTINGENCIES**

**TYPE A COMPANY—MASSACHUSETTS**

Standard Premium	Expense Ratio	Standard Premium	Expense Ratio	Standard Premium	Expense Ratio
0 - 10,057	0.386	18,059 - 18,434	0.346	98,125 - 110,357	0.306
10,058 - 10,172	0.385	18,435 - 18,826	0.345	110,358 - 126,074	0.305
10,173 - 10,291	0.384	18,827 - 19,235	0.344	126,075 - 147,011	0.304
10,292 - 10,412	0.383	19,236 - 19,662	0.343	147,012 - 176,288	0.303
10,413 - 10,536	0.382	19,663 - 20,109	0.342	176,289 - 203,184	0.302
10,537 - 10,662	0.381	20,110 - 20,576	0.341	203,185 - 211,503	0.301
10,663 - 10,792	0.380	20,577 - 21,066	0.340	211,504 - 220,533	0.300
10,793 - 10,926	0.379	21,067 - 21,579	0.339	220,534 - 230,369	0.299
10,927 - 11,062	0.378	21,580 - 22,119	0.338	230,370 - 241,123	0.298
11,063 - 11,202	0.377	22,120 - 22,685	0.337	241,124 - 252,929	0.297
11,203 - 11,346	0.376	22,686 - 23,282	0.336	252,930 - 265,952	0.296
11,347 - 11,493	0.375	23,283 - 23,911	0.335	265,953 - 280,389	0.295
11,494 - 11,644	0.374	23,912 - 24,575	0.334	280,390 - 296,482	0.294
11,645 - 11,799	0.373	24,576 - 25,276	0.333	296,483 - 314,536	0.293
11,800 - 11,959	0.372	25,277 - 26,019	0.332	314,537 - 334,931	0.292
11,960 - 12,123	0.371	26,020 - 26,807	0.331	334,932 - 358,155	0.291
12,124 - 12,291	0.370	26,808 - 27,644	0.330	358,156 - 384,838	0.290
12,292 - 12,464	0.369	27,645 - 28,536	0.329	384,839 - 415,818	0.289
12,465 - 12,642	0.368	28,537 - 29,486	0.328	415,819 - 452,223	0.288
12,643 - 12,825	0.367	29,487 - 30,502	0.327	452,224 - 495,613	0.287
12,826 - 13,014	0.366	30,503 - 31,591	0.326	495,614 - 548,214	0.286
13,015 - 13,208	0.365	31,592 - 32,760	0.325	548,215 - 613,306	0.285
13,209 - 13,408	0.364	32,761 - 34,019	0.324	613,307 - 695,937	0.284
13,409 - 13,614	0.363	34,020 - 35,378	0.323	695,938 - 804,302	0.283
13,615 - 13,827	0.362	35,379 - 36,851	0.322	804,303 - 952,637	0.282
13,828 - 14,046	0.361	36,852 - 38,452	0.321	952,638 - 1,168,060	0.281
14,047 - 14,273	0.360	38,453 - 40,198	0.320	1,168,061 - 1,509,380	0.280
14,274 - 14,507	0.359	40,199 - 42,110	0.319	1,509,381 - 1,826,261	0.279
14,508 - 14,748	0.358	42,111 - 44,213	0.318	1,826,262 - 1,990,054	0.278
14,749 - 14,998	0.357	44,214 - 46,538	0.317	1,990,055 - 2,186,122	0.277
14,999 - 15,257	0.356	46,539 - 49,120	0.316	2,186,123 - 2,425,048	0.276
15,258 - 15,524	0.355	49,121 - 52,006	0.315	2,425,049 - 2,722,607	0.275
15,525 - 15,801	0.354	52,007 - 55,252	0.314	2,722,608 - 3,103,401	0.274
15,802 - 16,089	0.353	55,253 - 58,930	0.313	3,103,402 - 3,608,035	0.273
16,090 - 16,386	0.352	58,931 - 63,133	0.312	3,608,036 - 4,308,651	0.272
16,387 - 16,695	0.351	63,134 - 67,981	0.311	4,308,652 - 5,346,929	0.271
16,696 - 17,016	0.350	67,982 - 73,637	0.310	5,346,930 - 7,044,472	0.270
17,017 - 17,350	0.349	73,638 - 80,318	0.309	7,044,473 - 10,321,267	0.269
17,351 - 17,697	0.348	80,319 - 88,332	0.308	10,321,268 - OVER	0.268
17,698 - 18,058	0.347	88,333 - 98,124	0.307		

Note: Above table based on the following discounts:

Standard Premium	Discount
First 10,000	0.0%
Next 190,000	9.1%
Next 1,550,000	11.3%
Over 1,750,000	12.3%

**MASSACHUSETTS** **RETROSPECTIVE RATING PLAN MANUAL**  
**RR6** **STATE SPECIAL RATING VALUES**  
*Proposed Effective September 1, 2011*

**TABLE OF EXPENSE RATIOS—EXCLUDING TAXES  
 AND INCLUDING PROFIT AND CONTINGENCIES**

**TYPE B COMPANY—MASSACHUSETTS**

Standard Premium	Expense Ratio	Standard Premium	Expense Ratio	Standard Premium	Expense Ratio
0 - 10,102	0.386	19,758 - 20,576	0.361	234,520 - 252,942	0.336
10,103 - 10,312	0.385	20,577 - 21,466	0.360	252,943 - 274,507	0.335
10,313 - 10,531	0.384	21,467 - 22,437	0.359	274,508 - 300,091	0.334
10,532 - 10,759	0.383	22,438 - 23,500	0.358	300,092 - 330,934	0.333
10,760 - 10,998	0.382	23,501 - 24,669	0.357	330,935 - 368,843	0.332
10,999 - 11,247	0.381	24,670 - 25,959	0.356	368,844 - 416,562	0.331
11,248 - 11,508	0.380	25,960 - 27,393	0.355	416,563 - 478,462	0.330
11,509 - 11,781	0.379	27,394 - 28,994	0.354	478,463 - 561,969	0.329
11,782 - 12,068	0.378	28,995 - 30,793	0.353	561,970 - 680,790	0.328
12,069 - 12,368	0.377	30,794 - 32,831	0.352	680,791 - 863,328	0.327
12,369 - 12,685	0.376	32,832 - 35,158	0.351	863,329 - 1,179,615	0.326
12,686 - 13,018	0.375	35,159 - 37,839	0.350	1,179,616 - 1,766,853	0.325
13,019 - 13,368	0.374	37,840 - 40,964	0.349	1,766,854 - 1,935,814	0.324
13,369 - 13,738	0.373	40,965 - 44,651	0.348	1,935,815 - 2,140,506	0.323
13,739 - 14,130	0.372	44,652 - 49,067	0.347	2,140,507 - 2,393,605	0.322
14,131 - 14,544	0.371	49,068 - 54,452	0.346	2,393,606 - 2,714,584	0.321
14,545 - 14,983	0.370	54,453 - 61,166	0.345	2,714,585 - 3,134,980	0.320
14,984 - 15,450	0.369	61,167 - 69,767	0.344	3,134,981 - 3,709,447	0.319
15,451 - 15,946	0.368	69,768 - 81,184	0.343	3,709,448 - 4,541,685	0.318
15,947 - 16,476	0.367	81,185 - 97,069	0.342	4,541,686 - 5,855,374	0.317
16,477 - 17,042	0.366	97,070 - 120,681	0.341	5,855,375 - 8,238,321	0.316
17,043 - 17,648	0.365	120,682 - 159,475	0.340	8,238,322 - 13,891,856	0.315
17,649 - 18,299	0.364	159,476 - 204,700	0.339	13,891,857 - OVER	0.314
18,300 - 19,000	0.363	204,701 - 218,597	0.338		
19,001 - 19,757	0.362	218,598 - 234,519	0.337		

Note: Above table based on the following discounts:

	Standard Premium	Discount
First	10,000	0.0%
Next	190,000	5.1%
Next	1,550,000	6.5%
Over	1,750,000	7.5%

**RETROSPECTIVE RATING PLAN MANUAL MASSACHUSETTS**  
**STATE SPECIAL RATING VALUES RR7**

*Proposed Effective September 1, 2011*

**TABLE OF EXPENSE RATIOS—EXCLUDING ALLOCATED LOSS ADJUSTMENT EXPENSE  
 AND TAXES AND INCLUDING PROFIT AND CONTINGENCIES**

**TYPE A COMPANY—MASSACHUSETTS**

Standard Premium	Expense Ratio	Standard Premium	Expense Ratio	Standard Premium	Expense Ratio
0 - 10,057	0.319	18,059 - 18,434	0.279	98,125 - 110,357	0.239
10,058 - 10,172	0.318	18,435 - 18,826	0.278	110,358 - 126,074	0.238
10,173 - 10,291	0.317	18,827 - 19,235	0.277	126,075 - 147,011	0.237
10,292 - 10,412	0.316	19,236 - 19,662	0.276	147,012 - 176,288	0.236
10,413 - 10,536	0.315	19,663 - 20,109	0.275	176,289 - 203,184	0.235
10,537 - 10,662	0.314	20,110 - 20,576	0.274	203,185 - 211,503	0.234
10,663 - 10,792	0.313	20,577 - 21,066	0.273	211,504 - 220,533	0.233
10,793 - 10,926	0.312	21,067 - 21,579	0.272	220,534 - 230,369	0.232
10,927 - 11,062	0.311	21,580 - 22,119	0.271	230,370 - 241,123	0.231
11,063 - 11,202	0.310	22,120 - 22,685	0.270	241,124 - 252,929	0.230
11,203 - 11,346	0.309	22,686 - 23,282	0.269	252,930 - 265,952	0.229
11,347 - 11,493	0.308	23,283 - 23,911	0.268	265,953 - 280,389	0.228
11,494 - 11,644	0.307	23,912 - 24,575	0.267	280,390 - 296,482	0.227
11,645 - 11,799	0.306	24,576 - 25,276	0.266	296,483 - 314,536	0.226
11,800 - 11,959	0.305	25,277 - 26,019	0.265	314,537 - 334,931	0.225
11,960 - 12,123	0.304	26,020 - 26,807	0.264	334,932 - 358,155	0.224
12,124 - 12,291	0.303	26,808 - 27,644	0.263	358,156 - 384,838	0.223
12,292 - 12,464	0.302	27,645 - 28,536	0.262	384,839 - 415,818	0.222
12,465 - 12,642	0.301	28,537 - 29,486	0.261	415,819 - 452,223	0.221
12,643 - 12,825	0.300	29,487 - 30,502	0.260	452,224 - 495,613	0.220
12,826 - 13,014	0.299	30,503 - 31,591	0.259	495,614 - 548,214	0.219
13,015 - 13,208	0.298	31,592 - 32,760	0.258	548,215 - 613,306	0.218
13,209 - 13,408	0.297	32,761 - 34,019	0.257	613,307 - 695,937	0.217
13,409 - 13,614	0.296	34,020 - 35,378	0.256	695,938 - 804,302	0.216
13,615 - 13,827	0.295	35,379 - 36,851	0.255	804,303 - 952,637	0.215
13,828 - 14,046	0.294	36,852 - 38,452	0.254	952,638 - 1,168,060	0.214
14,047 - 14,273	0.293	38,453 - 40,198	0.253	1,168,061 - 1,509,380	0.213
14,274 - 14,507	0.292	40,199 - 42,110	0.252	1,509,381 - 1,826,261	0.212
14,508 - 14,748	0.291	42,111 - 44,213	0.251	1,826,262 - 1,990,054	0.211
14,749 - 14,998	0.290	44,214 - 46,538	0.250	1,990,055 - 2,186,122	0.210
14,999 - 15,257	0.289	46,539 - 49,120	0.249	2,186,123 - 2,425,048	0.209
15,258 - 15,524	0.288	49,121 - 52,006	0.248	2,425,049 - 2,722,607	0.208
15,525 - 15,801	0.287	52,007 - 55,252	0.247	2,722,608 - 3,103,401	0.207
15,802 - 16,089	0.286	55,253 - 58,930	0.246	3,103,402 - 3,608,035	0.206
16,090 - 16,386	0.285	58,931 - 63,133	0.245	3,608,036 - 4,308,651	0.205
16,387 - 16,695	0.284	63,134 - 67,981	0.244	4,308,652 - 5,346,929	0.204
16,696 - 17,016	0.283	67,982 - 73,637	0.243	5,346,930 - 7,044,472	0.203
17,017 - 17,350	0.282	73,638 - 80,318	0.242	7,044,473 - 10,321,267	0.202
17,351 - 17,697	0.281	80,319 - 88,332	0.241	10,321,268 - OVER	0.201
17,698 - 18,058	0.280	88,333 - 98,124	0.240		

Note: Above table based on the following discounts:

	Standard Premium	Discount
First	10,000	0.0%
Next	190,000	9.1%
Next	1,550,000	11.3%
Over	1,750,000	12.3%

**XII 000012**

**MASSACHUSETTS** **RETROSPECTIVE RATING PLAN MANUAL**  
**RR8** **STATE SPECIAL RATING VALUES**

*Proposed Effective September 1, 2011*

**TABLE OF EXPENSE RATIOS—EXCLUDING ALLOCATED LOSS ADJUSTMENT EXPENSE  
 AND TAXES AND INCLUDING PROFIT AND CONTINGENCIES**

**TYPE B COMPANY—MASSACHUSETTS**

Standard Premium	Expense Ratio	Standard Premium	Expense Ratio	Standard Premium	Expense Ratio
0 - 10,102	0.319	19,758 - 20,576	0.294	234,520 - 252,942	0.269
10,103 - 10,312	0.318	20,577 - 21,466	0.293	252,943 - 274,507	0.268
10,313 - 10,531	0.317	21,467 - 22,437	0.292	274,508 - 300,091	0.267
10,532 - 10,759	0.316	22,438 - 23,500	0.291	300,092 - 330,934	0.266
10,760 - 10,998	0.315	23,501 - 24,669	0.290	330,935 - 368,843	0.265
10,999 - 11,247	0.314	24,670 - 25,959	0.289	368,844 - 416,562	0.264
11,248 - 11,508	0.313	25,960 - 27,393	0.288	416,563 - 478,462	0.263
11,509 - 11,781	0.312	27,394 - 28,994	0.287	478,463 - 561,969	0.262
11,782 - 12,068	0.311	28,995 - 30,793	0.286	561,970 - 680,790	0.261
12,069 - 12,368	0.310	30,794 - 32,831	0.285	680,791 - 863,328	0.260
12,369 - 12,685	0.309	32,832 - 35,158	0.284	863,329 - 1,179,615	0.259
12,686 - 13,018	0.308	35,159 - 37,839	0.283	1,179,616 - 1,766,853	0.258
13,019 - 13,368	0.307	37,840 - 40,964	0.282	1,766,854 - 1,935,814	0.257
13,369 - 13,738	0.306	40,965 - 44,651	0.281	1,935,815 - 2,140,506	0.256
13,739 - 14,130	0.305	44,652 - 49,067	0.280	2,140,507 - 2,393,605	0.255
14,131 - 14,544	0.304	49,068 - 54,452	0.279	2,393,606 - 2,714,584	0.254
14,545 - 14,983	0.303	54,453 - 61,166	0.278	2,714,585 - 3,134,980	0.253
14,984 - 15,450	0.302	61,167 - 69,767	0.277	3,134,981 - 3,709,447	0.252
15,451 - 15,946	0.301	69,768 - 81,184	0.276	3,709,448 - 4,541,685	0.251
15,947 - 16,476	0.300	81,185 - 97,069	0.275	4,541,686 - 5,855,374	0.250
16,477 - 17,042	0.299	97,070 - 120,681	0.274	5,855,375 - 8,238,321	0.249
17,043 - 17,648	0.298	120,682 - 159,475	0.273	8,238,322 - 13,891,856	0.248
17,649 - 18,299	0.297	159,476 - 204,700	0.272	13,891,857 - OVER	0.247
18,300 - 19,000	0.296	204,701 - 218,597	0.271		
19,001 - 19,757	0.295	218,598 - 234,519	0.270		

Note: Above table based on the following discounts:

Standard Premium	Discount
First 10,000	0.0%
Next 190,000	5.1%
Next 1,550,000	6.5%
Over 1,750,000	7.5%

**EXCESS LOSS FACTORS**

This Section proposes new Excess Loss Factors (ELFs) to be effective 9/1/2011. The proposed ELFs for the seven hazard groups<sup>1</sup> are shown in Exhibit 1, page 1. Exhibit 1, page 2 shows the Excess Loss and DCC Expense Factors for the seven hazard groups. For purposes of comparison, the current ELFs are included as Exhibit 2. These factors were last reviewed in the 9/1/2010 filing.

The proposed ELFs in Exhibit 1, page 1 are the selected Excess Ratios in Exhibit 3, page 1 times 58.7%, the proposed Expected Loss Ratio (without LAE) underlying the Retrospective Rating Plans from Section XII-A, Exhibit 3. Generally, the excess loss factor for a limit is the product of an excess ratio and a permissible loss ratio.

Exhibit 3, page 3 shows the Excess Ratios based on the data used in the 9/1/2008 filing adjusted for trend. Exhibit 3, page 2 shows the Excess Ratios for higher limits estimated by curve fitting. Exhibit 4 displays the parameters of the mixed Pareto - Exponential distribution and a calculation of excess factors for different entry ratios.

**Analysis from 9/1/2008 Filing**

The Excess Ratios calculated in this filing use the same data set and fitted curves used in 9/1/2008 filing, with an adjustment for trend. On-level adjusted Schedule Z data for composite policy years 00/01, 99/00, 98/97, 96/97, and 95/96 at fifth report are used, and the Pareto-Exponential parameters from the 9/1/2008 filing are also used. An adjustment factor for trend and benefit changes from 9/1/2008 to the 9/1/2011 proposed effective date is shown on Exhibit 5. Rather than applying the factor to the

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<sup>1</sup> The seven hazard groups are denoted using the letters A, B, C, D, E, F, and G. Hazard group A has the lowest expected claim severity while hazard group G has the highest expected claim severity.

data itself, the trend and benefit adjustment is made by dividing the limits, including the truncation point, by the trend and adjustment factor. Using the adjusted limits and truncation point and the on-level adjusted data from 9/1/2008, the excess ratios are estimated using the same methodology underlying the 9/1/2010 filing.

### **Estimation of Excess Ratios**

For each hazard group this fitted curve, scaled to the observed mean, is used in Exhibit 3 to estimate the excess ratios for the data truncated and shifted at \$150,000.

The excess ratios for accident limits less than or equal to \$150,000 are determined directly from the data, as has been done in the past. For accident limits  $L$  above \$150,000 the excess ratio is estimated from the product of (Empirical Excess Ratio at \$150,000,  $R(150,000)$ )  $\times$  (Excess Ratio estimated from mixed Pareto-Exponential curve for  $L - \$150,000$ ). (See the Appendix). The former is shown in Exhibit 3, page 3, the latter in Exhibit 3, page 2, while the product is in Exhibit 3, page 1. For accident limits of \$150,000 or less, the estimated excess ratio is equal to the observed excess ratio.

This method thus provides a smooth transition from relying on data for lower accident limits to relying on a fitted curve to provide some of the information at higher accident limits. It is important to note that even at higher accident limits an important contribution to the excess ratio is  $R(150,000)$  which is calculated directly from the data.

### **Calculation of Excess Loss Factors with DCC Expenses**

The calculation of the Excess Loss Factors including DCC expenses follows the same general methodology outlined above. The assumption is made that DCC

## **XII 000015**

Section XII – Retrospective Rating Plans  
Subsection D – Excess Loss Factors  
9/1/2011

Section XII-D  
Page 3

expenses are proportional to the underlying losses. Let  $x$  be the factor to load losses for DCC expenses. For an accident limit of  $L$ , the excess ratio is computed at a limit of  $L / x$ . The Excess Loss Factors are derived by multiplying this excess ratio by 65.4%, the expected loss and DCC ratio (from Section XII-A, Exhibit 4).

**APPENDIX – EXCESS LOSS FACTORS**

**Excess Ratios, Truncated and Shifted Data**

Let  $f(x)$  be the size of loss probability density function. Then the excess ratio for limit L is given by:

$$R(x) = \frac{\int_L^\infty (x - L) f(x) dx}{\int_0^\infty x f(x) dx}$$

$$= \frac{\text{average dollars of loss excess of } L}{\text{average size of loss}}$$

$$= \frac{\text{total dollars of loss excess of } L}{\text{total dollars of loss}}$$

Assume we have a truncation point of T. Assume we look at the size of loss distribution for the data truncated and shifted at T. So for a loss  $x > T$ , we instead look at  $x - T$ . Then the excess ratio for the truncated and shifted data for ground up limit  $L > T$  can be written as

$$\hat{R}(L - T)$$

Assume we were computing the (observed) excess ratio for a \$500,000 accident limit, for hazard group 3 data

$$R(\$500,000) = \frac{\text{HG3 Losses Excess of } \$500,000}{\text{Total HG3 Losses}}$$

We can also express this in terms of the data truncated and shifted at \$150,000 as follows:

$$R(\$500,000) = \frac{\text{HG3 Losses Excess of } \$500,000}{\text{HG3 Losses Excess of } \$150,000} \times \frac{\text{HG3 Losses Excess of } \$150,000}{\text{Total HG3 Losses}}$$

The second term is the excess ratio at \$150,000,  $R(\$150,000)$ , while the first term is  $\hat{R}(\$350,000) =$  excess ratio at \$350,000 for the data truncated and shifted at \$150,000.

Thus

$$R(\$500,000) = \hat{R}(\$350,000) \times R(\$150,000).$$

In general, for limits  $L > \$150,000$

$$R(L) = \hat{R}(L - \$150,000) \times R(\$150,000).$$

In the methodology we used,  $\hat{R}(L - \$150,000)$  is estimated via a curve fit to the data truncated and shifted at \$150,000, while  $R(\$150,000)$  is estimated from the data.

**Excess Ratios, Mixed Distributions**

Let a (mixed) distribution be a weighted average of two other distributions:

$$f(x) = pg(x) + (1-p)h(x).$$

Then the mean is a weighted average of the two means:

$$\begin{aligned} m_f &= \int_0^{\infty} x f(x) d(x) = \int_0^{\infty} x \{pg(x) + (1-p) h(x)\} dx \\ &= p \int_0^{\infty} xg(x) dx + (1-p) \int_0^{\infty} x h(x) dx \\ &= pm_g + (1-p) m_h. \end{aligned}$$

The excess ratio for limit L is given by:

$$\begin{aligned} R_f(L) &= \frac{\int_L^{\infty} (x - L) f(x) dx}{\int_0^{\infty} x f(x) dx} \\ &= \frac{p \int_L^{\infty} (x - L) g(x) dx + (1-p) \int_L^{\infty} (x - L) h(x) dx}{pm_g + (1-p)m_h} \\ &= \frac{pm_g R_g(L) + (1-p)m_h R_h(L)}{pm_g + (1-p)m_h} \end{aligned}$$

So the excess ratio for a mixed distribution is a weighted average of the excess ratios for the individual distributions, with weights equal to the product of the mean of each distribution times the weight in the mixture of each distribution.

For example, for the mixed Pareto-Exponential distribution with parameters:

$p = 0.7344$ ,  $s = 2.3285$ ,  $b = 1.4950$ ,  $\theta = 0.6270$  (weight to Pareto, Pareto Shape, Pareto Scale, Exponential scale), at an entry ratio of 2, the excess ratio is computed as follows:

$$\text{Excess Ratio for Pareto} = \left(1 + \frac{x}{b}\right)^{1-s} = \left(1 + \frac{2}{1.4950}\right)^{1-2.3285} = 0.3236$$

$$\text{Excess Ratio for Exponential} = e^{-x/\theta} = e^{-2/0.6270} = 0.0412$$

$$\text{Mean for Pareto} = \frac{b}{s-1} = \frac{1.4950}{2.3285-1} = 1.1253$$

$$\text{Mean for Exponential} = \theta = 0.6270$$

Excess Ratio for Pareto-Exponential distribution at entry ratio 2

$$= \frac{(0.7344) (1.1253) (0.3236) + (1 - 0.7344) (0.6270) (0.0412)}{(0.7344) (1.1253) + (1 - 0.7344) (0.6270)} = 0.2763$$

This matches the value shown on Exhibit 4.

## PARETO DISTRIBUTION

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$$F(x;s,b) = 1 - \left(1 + \frac{x}{b}\right)^{-s}$$

$$f(x;s,b) = \frac{s}{b} \left(1 + \frac{x}{b}\right)^{-(s+1)}$$

$$E(X^y) = \frac{b^y \Gamma(y+1) \Gamma(s-y)}{\Gamma(s)}, \quad -1 < y < s$$

If  $y$  is an integer  $N$ ,

$$E(X^N) = \frac{b^N N!}{\prod_{i=1}^N (s-i)}, \quad N < s$$

$$\text{Mean} = \frac{b}{s-1}$$

$$\text{Variance} = \frac{b^2 s}{(s-1)^2 (s-2)}$$

$$\text{Coefficient of Variation} = \sqrt{\frac{s}{s-2}}, \quad s > 2$$

$$\text{Skewness} = \frac{2(s+1)}{s-3} \sqrt{\frac{s-2}{s}}, \quad s > 3$$

$$\text{Excess Ratio} = R(x) = \left(1 + \frac{x}{b}\right)^{1-s}$$

$$\text{Mean Residual Life} = e(x) = \frac{b+x}{s-1}$$


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Note:  $s$  is the shape parameter,  $b$  is the scale parameter.

**EXPONENTIAL DISTRIBUTION**

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$$F(x; \theta) = 1 - e^{-x/\theta}$$

$$f(x; \theta) = \frac{1}{\theta} e^{-x/\theta}$$

$$E(X^y) = \theta^y \Gamma(1 + y), \quad y > -1$$

If  $y$  is an integer  $N$ ,

$$E(X^N) = \theta^N N!, \quad N > -1$$

$$\text{Mean} = \theta$$

$$\text{Variance} = \theta^2$$

$$\text{Coefficient of Variation} = 1$$

$$\text{Skewness} = 2$$

$$\text{Excess ratio} = R(x) = e^{-x/\theta}$$

$$\text{Mean Residual Life} = e(x) = \theta$$

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Note:  $\theta$  is the scale parameter.

# XII 000021

Section XII - Retrospective Rating  
Subsection D - Excess Loss Factors  
9/1/2011

Section XII - D  
Exhibit 1  
Page 1

## Excess Loss Factors Proposed to be Effective 09/01/2011

Accident Limit	Hazard Group A	Hazard Group B	Hazard Group C	Hazard Group D	Hazard Group E	Hazard Group F	Hazard Group G
\$25,000	0.359	0.383	0.406	0.427	0.446	0.474	0.506
\$30,000	0.342	0.367	0.391	0.413	0.432	0.461	0.497
\$35,000	0.326	0.352	0.376	0.400	0.420	0.450	0.488
\$40,000	0.312	0.338	0.363	0.389	0.409	0.439	0.480
\$50,000	0.288	0.314	0.341	0.368	0.389	0.420	0.465
\$75,000	0.240	0.267	0.295	0.326	0.347	0.379	0.433
\$100,000	0.205	0.230	0.259	0.292	0.314	0.345	0.405
\$125,000	0.179	0.201	0.229	0.264	0.285	0.315	0.380
\$150,000	0.158	0.178	0.205	0.240	0.259	0.288	0.357
\$175,000	0.140	0.158	0.185	0.219	0.237	0.264	0.337
\$200,000	0.125	0.142	0.167	0.201	0.217	0.244	0.319
\$250,000	0.103	0.116	0.139	0.172	0.185	0.209	0.286
\$300,000	0.086	0.097	0.118	0.148	0.160	0.182	0.259
\$500,000	0.050	0.057	0.071	0.093	0.100	0.115	0.183
\$1,000,000	0.023	0.026	0.033	0.045	0.049	0.056	0.099
\$2,000,000	0.010	0.011	0.015	0.021	0.022	0.026	0.049
\$3,000,000	0.006	0.007	0.009	0.013	0.014	0.016	0.031
\$4,000,000	0.004	0.005	0.006	0.009	0.010	0.011	0.022
\$5,000,000	0.003	0.004	0.005	0.007	0.007	0.009	0.017

Note:

Exhibit 3, page 1 x the Expected Loss Ratio without LAE of 58.7% from Section XII-A, Exhibit 3.

**XII 000022**

Section XII - Retrospective Rating  
Subsection D - Excess Loss Factors  
9/1/2011

Section XII - D  
Exhibit 1  
Page 2

**Excess Loss and DCC Expense Factors Proposed to be Effective 09/01/2011**

Accident Limit	Hazard Group A	Hazard Group B	Hazard Group C	Hazard Group D	Hazard Group E	Hazard Group F	Hazard Group G
\$25,000	0.411	0.438	0.463	0.485	0.505	0.536	0.569
\$30,000	0.392	0.420	0.446	0.469	0.491	0.522	0.559
\$35,000	0.376	0.404	0.430	0.456	0.478	0.510	0.550
\$40,000	0.360	0.389	0.416	0.443	0.465	0.499	0.542
\$50,000	0.334	0.363	0.392	0.421	0.444	0.478	0.527
\$75,000	0.282	0.311	0.342	0.376	0.400	0.435	0.493
\$100,000	0.243	0.272	0.303	0.340	0.364	0.399	0.463
\$125,000	0.214	0.240	0.271	0.309	0.333	0.367	0.437
\$150,000	0.190	0.213	0.244	0.283	0.306	0.339	0.413
\$175,000	0.170	0.191	0.222	0.261	0.281	0.313	0.391
\$200,000	0.153	0.173	0.202	0.241	0.260	0.290	0.372
\$250,000	0.126	0.143	0.170	0.207	0.224	0.251	0.337
\$300,000	0.106	0.121	0.145	0.181	0.195	0.220	0.307
\$500,000	0.062	0.071	0.088	0.115	0.124	0.142	0.221
\$1,000,000	0.029	0.033	0.042	0.056	0.061	0.071	0.122
\$2,000,000	0.013	0.014	0.019	0.026	0.028	0.033	0.061
\$3,000,000	0.008	0.009	0.011	0.016	0.017	0.020	0.039
\$4,000,000	0.005	0.006	0.008	0.011	0.012	0.014	0.028
\$5,000,000	0.004	0.005	0.006	0.009	0.009	0.011	0.022

Excess Loss Factors Effective 9/1/2008

Accident Limit	Hazard Group A	Hazard Group B	Hazard Group C	Hazard Group D	Hazard Group E	Hazard Group F	Hazard Group G
\$25,000	0.382	0.409	0.436	0.460	0.482	0.514	0.552
\$30,000	0.362	0.390	0.417	0.444	0.466	0.499	0.541
\$35,000	0.344	0.373	0.401	0.429	0.451	0.485	0.531
\$40,000	0.328	0.357	0.386	0.415	0.438	0.472	0.521
\$50,000	0.299	0.329	0.359	0.391	0.414	0.449	0.503
\$75,000	0.246	0.275	0.306	0.342	0.366	0.401	0.464
\$100,000	0.208	0.233	0.265	0.303	0.326	0.360	0.430
\$125,000	0.179	0.201	0.232	0.271	0.292	0.325	0.400
\$150,000	0.156	0.176	0.205	0.244	0.264	0.294	0.374
\$175,000	0.137	0.155	0.183	0.221	0.239	0.266	0.350
\$200,000	0.122	0.138	0.164	0.201	0.217	0.243	0.329
\$250,000	0.098	0.112	0.135	0.169	0.183	0.205	0.291
\$300,000	0.081	0.092	0.113	0.144	0.156	0.176	0.260
\$500,000	0.046	0.053	0.066	0.088	0.095	0.108	0.177
\$1,000,000	0.020	0.024	0.030	0.042	0.045	0.051	0.093
\$2,000,000	0.009	0.010	0.013	0.019	0.020	0.023	0.045
\$3,000,000	0.005	0.006	0.008	0.011	0.012	0.014	0.028
\$4,000,000	0.004	0.004	0.006	0.008	0.009	0.010	0.020
\$5,000,000	0.003	0.003	0.004	0.006	0.006	0.007	0.015

XII 000023

Note:  
 9/1/2008 Stipulation. Section XII-F, Exhibit 1, Page 1.

# XII 000024

Section XII - Retrospective Rating  
Subsection D - Excess Loss Factors  
9/1/2011

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Exhibit 3  
Page 1

Estimated Excess Ratios based on Adjusted Data and Curves Fit to Data Truncated and Shifted at \$150,000

Accident Limit	Hazard Group A	Hazard Group B	Hazard Group C	Hazard Group D	Hazard Group E	Hazard Group F	Hazard Group G
\$25,000	0.612	0.653	0.692	0.727	0.760	0.807	0.862
\$30,000	0.582	0.624	0.665	0.703	0.736	0.786	0.846
\$35,000	0.555	0.599	0.641	0.682	0.715	0.766	0.831
\$40,000	0.532	0.576	0.619	0.662	0.696	0.748	0.818
\$50,000	0.490	0.535	0.580	0.627	0.662	0.715	0.793
\$75,000	0.409	0.454	0.502	0.555	0.592	0.645	0.737
\$100,000	0.350	0.392	0.441	0.498	0.534	0.587	0.689
\$125,000	0.305	0.343	0.391	0.449	0.485	0.536	0.647
\$150,000	0.269	0.303	0.349	0.409	0.442	0.491	0.609
\$175,000	0.239	0.269	0.314	0.374	0.403	0.450	0.574
\$200,000	0.214	0.242	0.284	0.343	0.370	0.415	0.543
\$250,000	0.175	0.198	0.237	0.292	0.316	0.356	0.488
\$300,000	0.146	0.166	0.201	0.253	0.273	0.310	0.441
\$500,000	0.085	0.097	0.120	0.158	0.171	0.196	0.311
\$1,000,000	0.039	0.044	0.056	0.077	0.083	0.096	0.169
\$2,000,000	0.017	0.019	0.025	0.035	0.038	0.044	0.083
\$3,000,000	0.010	0.012	0.015	0.021	0.023	0.027	0.053
\$4,000,000	0.007	0.008	0.011	0.015	0.016	0.019	0.038
\$5,000,000	0.005	0.006	0.008	0.011	0.012	0.014	0.029

Note:

For Accident Limit  $L \leq \$150,000$  excess ratios are from Page 3. For Accident Limit  $L > \$150,000$  excess ratios are from Page 2 times the estimated excess ratio at  $L = \$150,000$  (See Appendix).

Fitted Excess Ratios Based on Losses Truncated and Shifted to \$150,000

Accident Limit	Hazard Group A		Hazard Group B		Hazard Group C		Hazard Group D		Hazard Group E		Hazard Group F		Hazard Group G	
	Entry Ratio	Excess Ratio												
\$175,000	0.121	0.888	0.119	0.890	0.108	0.900	0.092	0.914	0.092	0.914	0.087	0.918	0.059	0.944
\$200,000	0.243	0.795	0.238	0.798	0.216	0.815	0.184	0.839	0.184	0.839	0.175	0.846	0.117	0.892
\$250,000	0.486	0.650	0.477	0.655	0.431	0.679	0.367	0.715	0.368	0.715	0.350	0.726	0.234	0.802
\$300,000	0.729	0.544	0.715	0.549	0.647	0.576	0.551	0.618	0.551	0.618	0.524	0.631	0.351	0.725
\$500,000	1.700	0.315	1.669	0.319	1.510	0.344	1.285	0.387	1.286	0.386	1.223	0.400	0.819	0.511
\$1,000,000	4.129	0.143	4.052	0.146	3.666	0.161	3.120	0.187	3.124	0.187	2.970	0.196	1.989	0.278
\$2,000,000	8.986	0.063	8.820	0.064	7.980	0.072	6.791	0.086	6.799	0.085	6.465	0.090	4.328	0.137
\$3,000,000	13.842	0.038	13.587	0.039	12.293	0.044	10.462	0.053	10.474	0.053	9.960	0.056	6.668	0.087
\$4,000,000	18.699	0.026	18.355	0.027	16.606	0.030	14.132	0.037	14.149	0.037	13.454	0.039	9.007	0.062
\$5,000,000	23.556	0.020	23.122	0.020	20.920	0.023	17.803	0.028	17.824	0.028	16.949	0.030	11.347	0.048

XII 000025

Notes:

Entry Ratio = ( [ Limit ] - [ \$150,000 Truncation Point ] ) / [ Average Size of Data Truncated and Shifted to \$150,000 ]

For the seven Hazard Groups, the detrended average sizes are \$177,490 for HGA, \$180,822 for HGB, \$199,860 for HGC, \$234,851 for HGD, \$234,570 for HGE, \$246,688 for HGF and \$368,477 for HGG.

Excess Ratio is computed for a Mixed Pareto - Exponential distribution with parameters: 0.7344, 2.3285, 1.4950, 0.6270 (weight to Pareto, Pareto Shape, Pareto Scale, Exponential Scale).

# XII 000026

Section XII - Retrospective Rating  
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9/1/2011

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Page 3

Excess Ratios based on Adjusted Data

Accident Limit	Hazard Group A	Hazard Group B	Hazard Group C	Hazard Group D	Hazard Group E	Hazard Group F	Hazard Group G
\$25,000	0.612	0.653	0.692	0.727	0.760	0.807	0.862
\$30,000	0.582	0.624	0.665	0.703	0.736	0.786	0.846
\$35,000	0.555	0.599	0.641	0.682	0.715	0.766	0.831
\$40,000	0.532	0.576	0.619	0.662	0.696	0.748	0.818
\$50,000	0.490	0.535	0.580	0.627	0.662	0.715	0.793
\$75,000	0.409	0.454	0.502	0.555	0.592	0.645	0.737
\$100,000	0.350	0.392	0.441	0.498	0.534	0.587	0.689
\$125,000	0.305	0.343	0.391	0.449	0.485	0.536	0.647
\$150,000	0.269	0.303	0.349	0.409	0.442	0.491	0.609
\$175,000	0.239	0.270	0.315	0.374	0.404	0.450	0.574
\$200,000	0.214	0.242	0.285	0.344	0.371	0.414	0.543
\$250,000	0.175	0.201	0.239	0.296	0.315	0.353	0.490
\$300,000	0.148	0.170	0.205	0.259	0.271	0.304	0.446
\$500,000	0.086	0.099	0.128	0.175	0.165	0.184	0.325
\$1,000,000	0.040	0.041	0.068	0.113	0.079	0.088	0.208
\$2,000,000	0.013	0.017	0.039	0.083	0.036	0.040	0.107
\$3,000,000	0.003	0.014	0.030	0.075	0.025	0.024	0.067
\$4,000,000	0.000	0.012	0.025	0.070	0.021	0.016	0.042
\$5,000,000	0.000	0.011	0.021	0.066	0.018	0.011	0.025

**Note:**

Unit Statistical Plan Data for Composite Policy Years 00/01, 99/00, 98/99, 97/98, 96/97, 95/96 at fifth report, adjusted for trend, law amendments and development factors using factors from Section XI-A, Exhibit 2.

# XII 000027

Section XII - Retrospective Rating  
 Subsection D - Excess Loss Factors  
 9/1/2011

Section XII - D  
 Exhibit 4

## Mixed Pareto-Exponential Distribution

Parameters:

Pareto shape = s	2.3285
Pareto scale = b	1.4950
Exponential scale = $\theta$	0.6270
Weight to Pareto = p	0.7344
Mean =	1.0000
Variance =	5.5243
Coefficient of Variation =	2.3504
Skewness =	18.0452
Pareto Mean = $b / (s - 1.0)$	1.1253
Exponential Mean = $\theta$	0.6270

Entry Ratio	Excess Ratio	Entry Ratio	Excess Ratio
0.1	0.9067	11	0.0496
0.2	0.8263	12	0.0448
0.3	0.7567	13	0.0407
0.4	0.6960	14	0.0372
0.5	0.6428	15	0.0343
0.6	0.5960	20	0.0241
0.7	0.5546	25	0.0183
0.8	0.5178	30	0.0145
0.9	0.4849	35	0.0119
1.0	0.4555	40	0.0101
1.25	0.3941	45	0.0087
1.5	0.3460	50	0.0076
1.75	0.3075	55	0.0067
2.0	0.2763	60	0.0060
2.50	0.2286	65	0.0054
3.0	0.1942	70	0.0049
3.5	0.1682	75	0.0045
4.0	0.1479	80	0.0041
4.5	0.1316	85	0.0038
5.0	0.1183	90	0.0035
6.0	0.0978	95	0.0033
7.0	0.0828	100	0.0031
8.0	0.0714		
9.0	0.0625		
10.0	0.0554		

Note:  
 See the Appendix for a sample calculation of an excess ratio.

## XII 000028

Section XII - Retrospective Rating  
Subsection D - Excess Loss Factors  
9/1/2011

Section XII - D  
Exhibit 5

### Total Severity Trend & Benefit Change Adjustment

	Indemnity	Lost Time Medical	Medical Only	Total
(1) Severity Trend	4.3%	5.7%	5.2%	
(2) Injury Type Weight @ Ultimate	61.06%	34.11%	4.83%	
(3) Total Severity Trend = (1) Weighted by (2)				4.8%
(4) Total Severity Trend Factor from PY 9/1/2008 to Policy Effective Period = [ 1.000 + (3) ] <sup>3</sup>				1.151
(5) Total Benefit Level Change Factor from PY 9/1/2008 to Policy Effective Period				1.008
(6) Combined Trend and Benefit Factor from PY9/1/2008 to Policy Effective Period = (4) x (5)				1.160

Note:

- (1): From Section V-A, Exhibit 1.
- (2): From Section IV-E, Exhibit 2.
- (5): From Section IV-A, Exhibit 1.