



Rhode Island

**Advisory Loss Cost Filing
Proposed Effective August 1, 2016**

Technical Supplement





**National Council on
Compensation Insurance**

Laura Backus Hall
State Relations Executive
Regulatory Services Division

(P) 802-454-1800
(F) 802-454-1802
Email: Laura_Backus_Hall@ncci.com

November 19, 2016

The Honorable Macky McCleary
Director
State of Rhode Island and Providence Plantations
Department of Business Regulation
Insurance Division
1511 Pontiac Ave
Cranston, RI 02920

Attention: Paula Pallozzi, SPIR, Associate Director

Re: **Rhode Island Workers Compensation Loss Cost Level Change including Loss Adjustment
Expense (LAE) -- Effective August 1, 2016**

Dear Director McCleary:

We are enclosing for your review, supporting actuarial and statistical data used to produce the results of the proposed August 1, 2016 advisory loss costs and rating values filing.

Please contact me if you have any questions or need any further information.

Respectfully submitted,

A handwritten signature in black ink that reads "Laura Backus Hall". The signature is fluid and cursive, with the first name "Laura" written in a larger, more prominent script.

Laura Backus Hall, CPCU
State Relations Executive



RHODE ISLAND

WORKERS COMPENSATION FILING – AUGUST 1, 2016

Actuarial Certification and Disclosure Statement

Actuarial Certification

I, Angela McGhee, am a Practice Leader and Senior Actuary for the National Council on Compensation Insurance, Inc. I am a Fellow of the Casualty Actuarial Society and a member of the American Academy of Actuaries, and I meet the Qualification Standards of the American Academy of Actuaries to provide the actuarial report contained herein.

The information contained in this report has been prepared under my direction in accordance with applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board. The Actuarial Standards Board is vested by the U.S.-based actuarial organizations with the responsibility for promulgating Actuarial Standards of Practice for actuaries providing professional services in the United States. Each of these organizations requires its members, through its Code of Professional Conduct, to observe the Actuarial Standards of Practice when practicing in the United States.

A handwritten signature in cursive script that reads "Angela McGhee".

Angela McGhee, FCAS, MAAA
Practice Leader and Senior Actuary
Actuarial and Economic Services

Documents Comprising the Report

There are two documents comprising the full actuarial report:

- The loss cost filing includes a description of the key components reviewed in determining the overall average loss cost level change, the proposed loss costs and experience rating values by class code, and updated miscellaneous values and retrospective rating values.
- The Technical Supplement shows detailed calculations supporting the information conveyed in the filing document.



RHODE ISLAND

WORKERS COMPENSATION FILING – AUGUST 1, 2016

Actuarial Certification and Disclosure Statement

Data Sources and Dates

The overall average loss cost level change is based on a review of Financial Call Data, which is aggregated workers compensation data reported to NCCI annually. In this filing, Financial Call Data submissions received after September 7, 2015 were not considered for inclusion in the analysis.

Loss cost level changes at the classification code level are based on Unit Statistical Data, which is the audited exposure, premium and loss information reported to NCCI on a policy level. In this filing, Unit Statistical Data submissions received after September 24, 2015 were not considered for inclusion in the analysis.

In some areas, NCCI's analysis also relies on other data sources, which are reviewed for reasonableness and are referenced in the filing where applicable.

This filing was prepared as of October 30, 2015. Therefore, events that occurred after this date that may have a material impact on workers compensation costs in this jurisdiction have not been considered in the analysis.

Methodology and Assumptions

The methodology and assumptions used in this filing, detailed in the Technical Supplement, may not be applicable to or relevant for another purpose, including but not limited to NCCI filings in other jurisdictions.

Generally, the methodology used in this filing is not materially different from previous NCCI filings approved in Rhode Island with the exception of the following changes:

- Removal of the Wage Trend Adjustment

In prior filings, NCCI has applied wage trend adjustments to the losses used to derive industry group differentials used in class ratemaking. The purpose of these adjustments was to account for differences in wage growth across industry groups.

Research conducted by NCCI in 2012 showed that wage trend adjustments are close to unity, with the majority of adjustments having little to no impact on the final differentials. As a result, NCCI will no longer apply wage trend adjustments in the industry group differential calculations in state loss cost/rate filings effective on or after 10/1/2014.

- Likely/Not Likely Part of Body Reassignment for Non-Physical Injuries



RHODE ISLAND

WORKERS COMPENSATION FILING – AUGUST 1, 2016

Actuarial Certification and Disclosure Statement

For the purposes of class ratemaking loss development, claims are assigned to either the likely-to-develop or not-likely-to-develop group based upon the type of injury, whether the claim is open or closed at first report, and the part of body injured. Losses for claims that fall under the temporary total or permanent partial categories and are open at the first report of the claim are mapped to either the likely-to-develop or not-likely-to-develop group based on the part of body injured.

NCCI recently evaluated historical loss development data to determine if the current body part mappings are still optimal. This analysis indicated that the current mappings are appropriate with the exception of part-of-body code 66 (No Physical Injury—Mental Disorder). The analysis showed that these claims are a better fit in the likely-to-develop group. These claims will be reassigned in all NCCI state loss cost/rate filings effective on or after 10/1/2014. These claims represent a very small portion of total losses.

- Tail Adjustment Factor

As part of the ratemaking process in those jurisdictions in which the large loss procedure has been implemented, unlimited losses beyond a 19th report are adjusted to a limited basis by the “tail adjustment factor” (TAF). Beginning with the 2014 rate filing season, NCCI will utilize data collected via its “Large Loss and Catastrophe” Financial Data Call in the TAF calculation. The change utilizes financial data consistent with the NCCI limited loss development data currently used prior to a 19th report and eliminates the previous reliance on an external data source to estimate excess loss development.

NCCI has prepared this filing in accordance with the applicable laws and regulations of this jurisdiction.

Risks and Uncertainty

This filing includes assumptions and projections concerning the future. As with any prospective analysis, there exists estimation uncertainty in these assumptions and projections. Areas of this analysis subject to estimation uncertainty that could have a material impact on the final results include the following:

- Projection of future loss development
- Selection of loss ratio trends
- Potential impact of changes to laws and/or regulations



RHODE ISLAND

WORKERS COMPENSATION FILING – AUGUST 1, 2016

Actuarial Certification and Disclosure Statement

In addition, any future changes to workers compensation law or regulations that apply retroactively to policies or benefit claims on policies in the proposed effective period may have a significant impact on the adequacy of the loss costs proposed in this filing.



© Copyright 2015 National Council on Compensation Insurance, Inc. All Rights Reserved

These materials are comprised of NCCI actuarial judgment and proprietary and confidential information which are valuable assets of NCCI and are protected by copyright and other intellectual property laws. The uses of these materials are governed by a separate contractual agreement between NCCI and its licensees such as an affiliation agreement between NCCI and an end user. Unless expressly authorized by NCCI, you may not copy, create derivative works (by way of example, create or supplement your own works or other materials), display, perform, or use the materials, in whole or in part, in any media. Such actions taken by you, or by your direction, may be in violation of federal copyright and other commercial laws. NCCI does not permit or agree to such use of its materials. In the event such use is contemplated or desired, please contact NCCI's Legal Department for permission.

NCCI MAKES NO REPRESENTATIONS OR WARRANTIES RELATING TO THESE MATERIALS, INCLUDING ANY EXPRESS, STATUTORY OR IMPLIED WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, AUTHORIZED END USERS ASSUME RESPONSIBILITY FOR THE USE OF, AND FOR ANY AND ALL RESULTS DERIVED OR OBTAINED THROUGH THE USE OF SUCH MATERIALS.



RHODE ISLAND

TABLE OF CONTENTS

Summary of Proposed Changes

Exhibit I - Determination of Indicated Loss Cost Level Change

Exhibit II - Workers Compensation Loss Adjustment Expense Provision

Appendix A - Factors Underlying Advisory Loss Cost Level Change

- A-I - Determination of Policy Year On-level Factors
- A-II - Determination of Premium and Losses Developed to an Ultimate Report
- A-III - Policy Year Trend Factors
- A-IV - Carriers Not Included in Policy Year Experience
- A-V - Derivation of Industry Group Differentials

Appendix B - Derivation of Voluntary Loss Costs

- B-I - Distribution of Loss Cost Level Change to Occupational Classification
- B-II - Adjustments to Obtain Advisory Loss Costs
- B-III - Derivation of Proposed Advisory Loss Cost - Code 8810
- B-IV - Determination and Distribution of Premium Level Change to "F" Classifications

Appendix C - Memoranda for Laws and Assessments

- C-I - Impact Due to the Change in the Minimum and Maximum Weekly Benefit, Effective September 1, 2014
- C-II - Impact Due to the Change in the Minimum and Maximum Weekly Benefit, Effective September 1, 2015
- C-III - Impact Due to the Enactment of SB 3053, Effective October 1, 2016
- C-IV - Longshore and Harbor Workers' Compensation Act - October 1, 2013 Benefit Change
- C-V - Longshore and Harbor Workers' Compensation Act - October 1, 2014 Benefit Change
- C-VI - Longshore and Harbor Workers' Compensation Act Assessment



RHODE ISLAND

SUMMARY OF PROPOSED CHANGES

Proposed Effective Date

August 1, 2016

I. Industrial Classifications

Overall Proposed Change in Loss Cost Level

New and Renewal Policies -4.9%

By Component

Change in Experience, Trend and Benefits -5.1%

Change in Loss Based Expenses +0.2%

Overall Loss Cost Level Change -4.9%

By Industry Group

Manufacturing -5.7%

Contracting -9.6%

Office & Clerical -9.7%

Goods & Services -2.0%

Miscellaneous -2.8%

Overall -4.9%

II. "F" Classifications

Overall Proposed Change in Voluntary Loss Cost Level

New and Renewal Policies -0.7%



RHODE ISLAND

EXHIBIT I

Determination of Indicated Loss Cost Level Change

Section A - Policy Year 2013 Experience

Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$143,878,992
(2) Premium On-level Factor (Appendix A-I)	1.050
(3) Premium Available for Benefit Costs = (1) x (2)	\$151,072,942

Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$76,273,826
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.002
(6) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(7) Composite Adjustment Factor = (5) x (6)	1.183
(8) Adjusted Limited Indemnity Losses = (4) x (7)	\$90,231,936
(9) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.597
(10) Factor to Reflect Indemnity Trend (Appendix A-III)	1.000
(11) Projected Limited Indemnity Cost Ratio = (9) x (10)	0.597
(12) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(13) Projected Indemnity Cost Ratio = (11) x (12)	0.614
(14) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.005
(15) Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.617

Medical Benefit Cost:

(16) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$38,698,728
(17) Medical Loss On-level Factor (Appendix A-I)	1.000
(18) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(19) Composite Adjustment Factor = (17) x (18)	1.181
(20) Adjusted Limited Medical Losses = (16) x (19)	\$45,703,198
(21) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.303
(22) Factor to Reflect Medical Trend (Appendix A-III)	1.018
(23) Projected Limited Medical Cost Ratio = (21) x (22)	0.308
(24) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(25) Projected Medical Cost Ratio = (23) x (24)	0.317
(26) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(27) Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.317

Total Benefit Cost:

(28) Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.934
---	-------



RHODE ISLAND

EXHIBIT I

Determination of Indicated Loss Cost Level Change

Section B - Policy Year 2012 Experience

Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$135,228,530
(2) Premium On-level Factor (Appendix A-I)	1.089
(3) Premium Available for Benefit Costs = (1) x (2)	\$147,263,869

Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$75,298,776
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.004
(6) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(7) Composite Adjustment Factor = (5) x (6)	1.186
(8) Adjusted Limited Indemnity Losses = (4) x (7)	\$89,304,348
(9) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.606
(10) Factor to Reflect Indemnity Trend (Appendix A-III)	1.000
(11) Projected Limited Indemnity Cost Ratio = (9) x (10)	0.606
(12) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(13) Projected Indemnity Cost Ratio = (11) x (12)	0.623
(14) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.005
(15) Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.626

Medical Benefit Cost:

(16) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$38,646,310
(17) Medical Loss On-level Factor (Appendix A-I)	1.000
(18) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(19) Composite Adjustment Factor = (17) x (18)	1.181
(20) Adjusted Limited Medical Losses = (16) x (19)	\$45,641,292
(21) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.310
(22) Factor to Reflect Medical Trend (Appendix A-III)	1.023
(23) Projected Limited Medical Cost Ratio = (21) x (22)	0.317
(24) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(25) Projected Medical Cost Ratio = (23) x (24)	0.326
(26) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(27) Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.326

Total Benefit Cost:

(28) Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.952
---	-------



RHODE ISLAND

EXHIBIT I

Determination of Indicated Loss Cost Level Change

Section C - Policy Year 2011 Experience

Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$129,981,037
(2) Premium On-level Factor (Appendix A-I)	1.134
(3) Premium Available for Benefit Costs = (1) x (2)	\$147,398,496

Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$75,251,218
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.018
(6) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(7) Composite Adjustment Factor = (5) x (6)	1.202
(8) Adjusted Limited Indemnity Losses = (4) x (7)	\$90,451,964
(9) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.614
(10) Factor to Reflect Indemnity Trend (Appendix A-III)	1.000
(11) Projected Limited Indemnity Cost Ratio = (9) x (10)	0.614
(12) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(13) Projected Indemnity Cost Ratio = (11) x (12)	0.631
(14) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.005
(15) Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.634

Medical Benefit Cost:

(16) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$38,506,180
(17) Medical Loss On-level Factor (Appendix A-I)	1.000
(18) Factor to Include Loss-based Expenses (Exhibit II)	1.181
(19) Composite Adjustment Factor = (17) x (18)	1.181
(20) Adjusted Limited Medical Losses = (16) x (19)	\$45,475,799
(21) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.309
(22) Factor to Reflect Medical Trend (Appendix A-III)	1.028
(23) Projected Limited Medical Cost Ratio = (21) x (22)	0.318
(24) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.028
(25) Projected Medical Cost Ratio = (23) x (24)	0.327
(26) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(27) Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.327

Total Benefit Cost:

(28) Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.961
---	-------



RHODE ISLAND

EXHIBIT I

Determination of Indicated Loss Cost Level Change

Section D - Indicated Change Based on Experience, Trend and Benefits

(1) Policy Year 2013 Indicated Change Based on Experience, Trend, and Benefits	0.934
(2) Policy Year 2012 Indicated Change Based on Experience, Trend, and Benefits	0.952
(3) Policy Year 2011 Indicated Change Based on Experience, Trend, and Benefits	0.961
(4) Indicated Change Based on Experience, Trend and Benefits = [(1)+(2)+(3)] / 3	0.949

Section E - Application of the Change in Loss-based Expenses

(1) Indicated Loss Cost Level Change	0.949
(2) Effect of the Change in Loss-based Expenses (Exhibit II)	1.002
(3) Indicated Change Modified to Reflect the Change in Loss-based Expenses = (1) x (2)	0.951

Section F - Distribution of Overall Loss Cost Level Change to Industry Groups

Industry Group Differentials (Appendix A-V):

Manufacturing	0.992
Contracting	0.951
Office & Clerical	0.950
Goods & Services	1.031
Miscellaneous	1.022

Applying these industry group differentials to the final overall loss cost level change produces the changes in loss cost level proposed for each group as shown:

Industry Group	(1) Final Overall Loss Cost Level Change	(2) Industry Group Differential	(3) = (1) x (2) Final Loss Cost Level Change by Industry Group	
Manufacturing	0.951	0.992	0.943	(-5.7%)
Contracting	0.951	0.951	0.904	(-9.6%)
Office & Clerical	0.951	0.950	0.903	(-9.7%)
Goods & Services	0.951	1.031	0.980	(-2.0%)
Miscellaneous	0.951	1.022	0.972	(-2.8%)
Overall	0.951	1.000	0.951	(-4.9%)



RHODE ISLAND

EXHIBIT II

Workers Compensation Loss-based Expense Provision

Section A - Determination of Loss Adjustment Expense Provision

NCCI has computed the loss adjustment expense allowance on an accident year basis using data obtained from the NCCI Call for Loss Adjustment Expense. For this filing, NCCI proposes a 18.3% loss adjustment expense allowance as a percentage of incurred losses.

Accident Year	Accident Year Developed LAE Ratio	Accident Year Developed DCCE Ratio	Accident Year Developed AOE Ratio
2010	18.5%	11.5%	7.0%
2011	18.8%	12.1%	6.7%
2012	19.8%	12.8%	7.0%
2013	20.3%	12.9%	7.4%
2014	20.4%	13.4%	7.0%
Countrywide selected:	20.1%	13.0%	7.1%
Rhode Island selected: (11.2% = 13.0% x 0.860)	18.3%	11.2%	7.1%

Section B - Determination of Rhode Island DCCE Relativity

(1a) Rhode Island paid losses (in '000s)	149,677
(1b) Rhode Island paid DCCE (in '000s)	15,498
(1c) Ratio (1b)/(1a)	10.4%
(2a) Countrywide paid losses (in '000s)	70,990,388
(2b) Countrywide paid DCCE (in '000s)	8,554,950
(2c) Ratio (2b)/(2a)	12.1%
(3) Rhode Island DCCE relativity (1c)/(2c)	0.860

Section C - Proposed Change in Rhode Island Loss Adjustment Expense Provision

(1) Current Rhode Island LAE Provision	18.1%
(2) Proposed Rhode Island LAE Provision	18.3%
(3) Proposed Change in LAE Provision	1.002
= [1.0 + (2)] / [1.0 + (1)] - 1	0.2%

Notes

NAIC Annual Statement data is used in the above calculations. The countrywide figures exclude state funds.



RHODE ISLAND

APPENDIX A-I

Determination of Policy Year On-level Factors

Section A - Factor Adjusting 2013 Policy Year Premium to Present Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Off-balance Adjustment Factor*	Premium Adjustment Factor (5)x(6)
Date							
NR 01/01/13	Base	1.000	0.620	0.620	1.071	0.980	1.050
NR 08/01/13	1.074	1.074	0.380	0.408			
NR 08/01/14	1.025	1.101					
				1.028			

Section B - Factor Adjusting 2013 Policy Year Indemnity Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
Date					
09/01/12	Base	1.000	0.275	0.275	1.002
09/01/13	1.001	1.001	0.674	0.675	
09/01/14	1.002	1.003	0.051	0.051	
				1.001	

Section C - Factor Adjusting 2013 Policy Year Medical Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
Date					
09/01/12	Base	1.000	0.275	0.275	1.000
09/01/13	1.000	1.000	0.674	0.674	
09/01/14	1.000	1.000	0.051	0.051	
				1.000	

NR New and renewal business.

@ Eliminates premium derived from expense constants.

* 0.980 = 0.967 / 0.987 = (Targeted Off-balance) / (Off-balance for Policy Year 2013)



RHODE ISLAND

APPENDIX A-I

Determination of Policy Year On-level Factors

Section D - Factor Adjusting 2012 Policy Year Premium to Present Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Date	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Off-balance Adjustment Factor*	Premium Adjustment Factor (5)x(6)
NR 06/01/11	Base	1.000	0.489	0.489	1.119	0.973	1.089
NR 07/01/12	1.053	1.053	0.511	0.538			
NR 01/01/13	0.991	1.044					
NR 08/01/13	1.074	1.121					
NR 08/01/14	1.025	1.149					
				1.027			

Section E - Factor Adjusting 2012 Policy Year Indemnity Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
01/01/12	Base	1.000	0.275	0.275	1.004
09/01/12	1.002	1.002	0.674	0.675	
09/01/13	1.001	1.003	0.051	0.051	
09/01/14	1.002	1.005			
				1.001	

Section F - Factor Adjusting 2012 Policy Year Medical Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
01/01/12	Base	1.000	0.275	0.275	1.000
09/01/12	1.000	1.000	0.674	0.674	
09/01/13	1.000	1.000	0.051	0.051	
09/01/14	1.000	1.000			
				1.000	

NR New and renewal business.

@ Eliminates premium derived from expense constants.

* $0.973 = 0.967 / 0.994 = (\text{Targeted Off-balance}) / (\text{Off-balance for Policy Year 2012})$



RHODE ISLAND

APPENDIX A-I

Determination of Policy Year On-level Factors

Section G - Factor Adjusting 2011 Policy Year Premium to Present Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Date	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Off-balance Adjustment Factor*	Premium Adjustment Factor (5)x(6)
NR 06/01/10	Base	1.000	0.436	0.436	1.167	0.972	1.134
NR 06/01/11	1.036	1.036	0.564	0.584			
NR 07/01/12	1.053	1.091					
NR 01/01/13	0.991	1.081					
NR 08/01/13	1.074	1.161					
NR 08/01/14	1.025	1.190					
				1.020			

Section H - Factor Adjusting 2011 Policy Year Indemnity Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
09/01/10	Base	1.000	0.275	0.275	1.018
09/01/11	1.001	1.001	0.283	0.283	
01/01/12	1.022	1.023	0.391	0.400	
09/01/12	1.002	1.025	0.051	0.052	
09/01/13	1.001	1.026			
09/01/14	1.002	1.028			
				1.010	

Section I - Factor Adjusting 2011 Policy Year Medical Losses To Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
09/01/10	Base	1.000	0.275	0.275	1.000
09/01/11	1.000	1.000	0.283	0.283	
01/01/12	1.000	1.000	0.391	0.391	
09/01/12	1.000	1.000	0.051	0.051	
09/01/13	1.000	1.000			
09/01/14	1.000	1.000			
				1.000	

NR New and renewal business.

@ Eliminates premium derived from expense constants.

* $0.972 = 0.967 / 0.995 = (\text{Targeted Off-balance}) / (\text{Off-balance for Policy Year 2011})$



RHODE ISLAND

APPENDIX A-I

Determination of Policy Year On-level Factors

Section J - Premium Adjustment to Average Expected Mod

Rating Year	(1) Average Intrastate Mod	(2) Average Interstate Mod	(3) Average Mod Combined Rated Risk	(4) Weighted Average Off-Balance	(5) Average Mod Expected	(6)= (5)/(4) Policy Year Adjustment Factor
1999	1.041	0.978	1.019	1.018	0.967	0.950
2000	1.006	0.969	0.994	0.994	0.967	0.973
2001	1.010	0.998	1.006	1.006	0.967	0.961
2002	1.010	1.019	1.013	1.012	0.967	0.956
2003	1.018	1.005	1.013	1.012	0.967	0.956
2004	0.991	1.008	0.997	0.997	0.967	0.970
2005	0.976	1.017	0.991	0.992	0.967	0.975
2006	0.974	0.991	0.980	0.981	0.967	0.986
2007	0.985	0.991	0.987	0.988	0.967	0.979
2008	0.985	0.998	0.989	0.990	0.967	0.977
2009	0.995	0.975	0.988	0.989	0.967	0.978
2010	0.992	0.986	0.990	0.991	0.967	0.976
2011	0.998	0.990	0.995	0.995	0.967	0.972
2012	0.996	0.988	0.993	0.994	0.967	0.973
2013	0.988	0.982	0.986	0.987	0.967	0.980
2014	0.971	0.982	0.975	0.977	0.967	0.990



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section A - Premium and Loss Summary Valued as of 12/31/2014

Policy Year 2013

(1) Standard Earned Premium	\$143,305,769
(2) Factor to Develop Premium to Ultimate	1.004
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$143,878,992
(4) Limited Indemnity Paid Losses	\$25,578,077
(5) Limited Indemnity Paid Development Factor to Ultimate	2.982
(6) Limited Indemnity Paid Losses Developed to Ultimate = (4)x(5)	\$76,273,826
(7) Limited Medical Paid Losses	\$22,817,646
(8) Limited Medical Paid Development Factor to Ultimate	1.696
(9) Limited Medical Paid Losses Developed to Ultimate = (7)x(8)	\$38,698,728

Policy Year 2012

(1) Standard Earned Premium	\$135,093,437
(2) Factor to Develop Premium to Ultimate	1.001
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$135,228,530
(4) Limited Indemnity Paid Losses	\$43,250,302
(5) Limited Indemnity Paid Development Factor to Ultimate	1.741
(6) Limited Indemnity Paid Losses Developed to Ultimate = (4)x(5)	\$75,298,776
(7) Limited Medical Paid Losses	\$29,299,704
(8) Limited Medical Paid Development Factor to Ultimate	1.319
(9) Limited Medical Paid Losses Developed to Ultimate = (7)x(8)	\$38,646,310

Policy Year 2011

(1) Standard Earned Premium	\$129,981,037
(2) Factor to Develop Premium to Ultimate	1.000
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$129,981,037
(4) Limited Indemnity Paid Losses	\$55,372,493
(5) Limited Indemnity Paid Development Factor to Ultimate	1.359
(6) Limited Indemnity Paid Losses Developed to Ultimate = (4)x(5)	\$75,251,218
(7) Limited Medical Paid Losses	\$31,823,289
(8) Limited Medical Paid Development Factor to Ultimate	1.210
(9) Limited Medical Paid Losses Developed to Ultimate = (7)x(8)	\$38,506,180



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section B - Premium Development Factors

<u>Policy Year</u>	<u>1st/2nd</u>	<u>Policy Year</u>	<u>2nd/3rd</u>	<u>Policy Year</u>	<u>3rd/4th</u>	<u>Policy Year</u>	<u>4th/5th</u>
2010	1.002	2009	1.003	2008	1.001	2007	1.000
2011	1.003	2010	1.000	2009	1.000	2008	1.000
2012	1.004	2011	0.999	2010	1.000	2009	1.000
Average	1.003	Average	1.001	Average	1.000	Average	1.000

Summary of Premium Development Factors

<u>1st/5th</u>	<u>2nd/5th</u>	<u>3rd/5th</u>	<u>4th/5th</u>
1.004	1.001	1.000	1.000



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section C - Limited Indemnity Paid Loss Development Factors

Policy Year	<u>1st/2nd</u>	Policy Year	<u>2nd/3rd</u>	Policy Year	<u>3rd/4th</u>	Policy Year	<u>4th/5th</u>
2008	1.757	2007	1.276	2006	1.102	2005	1.038
2009	1.720	2008	1.290	2007	1.114	2006	1.061
2010	1.754	2009	1.304	2008	1.128	2007	1.087
2011	1.674	2010	1.277	2009	1.158	2008	1.078
2012	1.662	2011	1.260	2010	1.106	2009	1.049
Average	1.713	Average	1.281	Average	1.122	Average	1.063
Policy Year	<u>5th/6th</u>	Policy Year	<u>6th/7th</u>	Policy Year	<u>7th/8th</u>	Policy Year	<u>8th/9th</u>
2004	1.019	2003	1.024	2002	1.007	2001	1.007
2005	1.021	2004	1.029	2003	1.017	2002	1.008
2006	1.042	2005	1.019	2004	1.009	2003	1.008
2007	1.039	2006	1.034	2005	1.023	2004	1.008
2008	1.030	2007	1.039	2006	1.022	2005	1.008
Average	1.030	Average	1.029	Average	1.016	Average	1.008
Policy Year	<u>9th/10th</u>	Policy Year	<u>10th/11th</u>	Policy Year	<u>11th/12th</u>	Policy Year	<u>12th/13th</u>
2000	1.002	1999	1.007	1998	1.001	1997	1.003
2001	1.004	2000	1.006	1999	1.009	1998	1.004
2002	1.003	2001	1.004	2000	1.005	1999	1.008
2003	1.004	2002	1.001	2001	1.002	2000	1.008
2004	1.011	2003	1.003	2002	1.004	2001	1.003
Average	1.005	Average	1.004	Average	1.004	Average	1.005
Policy Year	<u>13th/14th</u>	Policy Year	<u>14th/15th</u>	Policy Year	<u>15th/16th</u>	Policy Year	<u>16th/17th</u>
1996	1.005	1995	1.001	1994	1.007	1993	1.001
1997	1.001	1996	1.005	1995	1.000	1994	1.003
1998	1.005	1997	1.003	1996	1.006	1995	1.000
1999	1.007	1998	1.002	1997	1.006	1996	1.006
2000	1.000	1999	1.010	1998	1.000	1997	1.001
Average	1.004	Average	1.004	Average	1.004	Average	1.002
Policy Year	<u>17th/18th*</u>	Policy Year	<u>18th/19th*</u>				
1992	1.001	1991	1.001				
1993	1.001	1992	1.003				
1994	1.006	1993	1.004				
1995	1.001	1994	1.013				
1996	1.003	1995	1.001				
Selected	1.002	Selected	1.004				

* For Policy Years 1992 and prior, the development portion of the link ratio was adjusted by a factor of 0.5. No adjustment was made for Policy Years 1993 and subsequent.



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section D - Limited Medical Paid Loss Development Factors

Policy Year	<u>1st/2nd</u>	Policy Year	<u>2nd/3rd</u>	Policy Year	<u>3rd/4th</u>	Policy Year	<u>4th/5th</u>
2008	1.298	2007	1.091	2006	1.035	2005	1.019
2009	1.280	2008	1.084	2007	1.050	2006	1.028
2010	1.318	2009	1.101	2008	1.039	2007	1.014
2011	1.259	2010	1.103	2009	1.066	2008	1.020
2012	1.277	2011	1.073	2010	1.064	2009	1.031
Average	1.286	Average	1.090	Average	1.051	Average	1.022
Policy Year	<u>5th/6th</u>	Policy Year	<u>6th/7th</u>	Policy Year	<u>7th/8th</u>	Policy Year	<u>8th/9th</u>
2004	0.998	2003	1.006	2002	1.005	2001	1.007
2005	1.017	2004	1.000	2003	1.003	2002	1.005
2006	1.013	2005	1.010	2004	1.002	2003	1.001
2007	1.023	2006	1.018	2005	1.011	2004	1.007
2008	1.019	2007	1.048	2006	1.027	2005	1.010
Average	1.014	Average	1.016	Average	1.010	Average	1.006
Policy Year	<u>9th/10th</u>	Policy Year	<u>10th/11th</u>	Policy Year	<u>11th/12th</u>	Policy Year	<u>12th/13th</u>
2000	1.001	1999	1.002	1998	1.003	1997	1.004
2001	1.005	2000	1.006	1999	1.008	1998	1.002
2002	1.006	2001	1.003	2000	1.018	1999	1.005
2003	1.003	2002	1.002	2001	1.003	2000	1.008
2004	1.006	2003	1.005	2002	1.004	2001	1.004
Average	1.004	Average	1.004	Average	1.007	Average	1.005
Policy Year	<u>13th/14th</u>	Policy Year	<u>14th/15th</u>	Policy Year	<u>15th/16th</u>	Policy Year	<u>16th/17th</u>
1996	1.001	1995	1.006	1994	1.003	1993	1.004
1997	1.003	1996	1.002	1995	1.004	1994	1.003
1998	1.001	1997	1.002	1996	1.001	1995	1.004
1999	1.005	1998	1.008	1997	1.002	1996	1.003
2000	1.000	1999	1.007	1998	1.000	1997	1.001
Average	1.002	Average	1.005	Average	1.002	Average	1.003
Policy Year	<u>17th/18th</u>	Policy Year	<u>18th/19th</u>				
1992	1.001	1991	1.001				
1993	1.006	1992	1.001				
1994	1.005	1993	1.003				
1995	1.006	1994	1.008				
1996	1.001	1995	1.003				
Average	1.004	Average	1.003				



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section E - Determination of Policy Year Loss Development Factors (19th-to-Ultimate Report)

Indemnity Paid+Case Data for Matching Companies

(1) Policy Year	(2) Losses for Policy Year 19th Report	(3) Losses for Policy Year 20th Report	(4) Losses for All Prior Policy Years Previous	(5) Losses for All Prior Policy Years Current	(6) Factor to Adjust Losses for Prior Policy Years	(7) Indicated 19th-to-Ult Development for Policy Year	(8) Adjusted 19th-to-Ult Development for Policy Year
1985	99,181,358	99,646,049	630,586,643	630,204,695	0.661	0.999	1.000
1986	125,687,696	126,336,934	721,066,898	720,792,023	0.545	1.001	1.001
1987	146,804,574	147,122,331	874,425,984	876,324,865	0.532	1.026	1.013
1988	154,789,371	154,601,219	1,030,466,056	1,029,990,339	0.559	0.993	0.997
1989	176,705,579	177,303,328	1,184,591,558	1,185,617,205	0.528	1.014	1.007
1990	112,503,976	112,790,727	1,298,012,630	1,298,407,655	0.899	1.006	1.003
1991	85,575,382	85,672,605	1,409,971,364	1,411,320,668	1.239	1.014	1.007
1992	48,966,747	49,116,401	1,496,937,388	1,498,561,923	2.215	1.018	1.009
1993	32,082,136	32,043,098	1,547,678,324	1,546,962,946	3.353	0.992	0.992
1994	35,573,601	35,269,771	1,578,637,388	1,579,823,995	2.916	1.003	1.003
Selected Indemnity 19th-to-Ultimate Loss Development Factor						1.005	

Medical Paid+Case Data for Matching Companies

(9) Policy Year	(10) Losses for Policy Year 19th Report	(11) Losses for Policy Year 20th Report	(12) Losses for All Prior Policy Years Previous	(13) Losses for All Prior Policy Years Current	(14) Factor to Adjust Losses for Prior Policy Years	(15) Indicated 19th-to-Ult Development for Policy Year
1985	26,394,325	26,676,091	192,526,656	193,065,376	0.671	1.041
1986	31,620,463	31,670,926	216,546,253	215,725,244	0.583	0.957
1987	36,236,507	36,343,911	247,396,170	248,426,087	0.554	1.054
1988	40,060,454	40,473,027	287,528,109	288,304,226	0.550	1.046
1989	46,187,274	45,985,799	328,777,253	331,652,954	0.516	1.116
1990	33,727,324	33,705,992	358,959,623	359,252,356	0.754	1.011
1991	30,866,077	31,077,089	392,573,156	395,172,097	0.884	1.102
1992	20,595,271	20,585,164	426,208,322	426,744,400	1.391	1.018
1993	17,249,496	17,306,436	447,329,564	445,526,340	1.691	0.941
1994	16,124,192	15,872,178	462,688,164	462,101,525	1.809	0.964
Selected Medical 19th-to-Ultimate Loss Development Factor						1.030

(7) = 1 + [(3)-(2) + ((5)-(4)) / (6)] / (2)

Column (8) reduces the development portion of Column (7) by a factor of 0.5 for Policy Years 1992 and prior to reflect the 1992 reform.

(15) = 1 + [(11)-(10) + ((13)-(12)) / (14)] / (10)

Columns (4) and (12) are valued as of the date at which the given policy year is at a 19th report.

Columns (5) and (13) are valued as of the date at which the given policy year is at a 20th report.



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section F - Derivation of Policy Year Limited 19th-to-Ultimate Loss Development Factors

Policy Year	Indemnity Paid-to-Paid + Case Ratio 19th Report*	Medical Paid-to-Paid + Case Ratio 19th Report
1991	0.985	0.984
1992	0.992	0.990
1993	0.990	0.974
1994	0.985	0.981
1995	0.996	0.951
Selected	0.990	0.976

* Policy Years 1992 and prior were adjusted to reflect the 1992 reform.

	Indemnity	Medical
(1) Paid+Case 19th-to-Ultimate Loss Development Factor (Section E)	1.005	1.030
(2) Factor to Adjust 19th-to-Ultimate Development Factor to a Limited Basis	0.395	0.395
(3) Limited Paid+Case 19th-to-Ultimate Loss Development Factor = [(1)-1]x(2)+1	1.002	1.012
(4) Limited Paid-to-Paid+Case Ratio (Section F)	0.990	0.976
(5) Limited Paid 19th-to-Ultimate Loss Development Factor = (3) / (4)	1.012	1.037

Section G - Summary of Limited Paid Loss Development Factors

Report	(1) Indemnity Paid Loss Development to Next Report	(2) to Ultimate	Report	(3) Medical Paid Loss Development to Next Report	(4) to Ultimate
1st	1.713	2.982	1st	1.286	1.696
2nd	1.281	1.741	2nd	1.090	1.319
3rd	1.122	1.359	3rd	1.051	1.210
4th	1.063	1.211	4th	1.022	1.151
5th	1.030	1.139	5th	1.014	1.126
6th	1.029	1.106	6th	1.016	1.110
7th	1.016	1.075	7th	1.010	1.093
8th	1.008	1.058	8th	1.006	1.082
9th	1.005	1.050	9th	1.004	1.076
10th	1.004	1.045	10th	1.004	1.072
11th	1.004	1.041	11th	1.007	1.068
12th	1.005	1.037	12th	1.005	1.061
13th	1.004	1.032	13th	1.002	1.056
14th	1.004	1.028	14th	1.005	1.054
15th	1.004	1.024	15th	1.002	1.049
16th	1.002	1.020	16th	1.003	1.047
17th	1.002	1.018	17th	1.004	1.044
18th	1.004	1.016	18th	1.003	1.040
19th		1.012	19th		1.037

(2) = Cumulative upward product of column (1).

(4) = Cumulative upward product of column (3).



RHODE ISLAND

APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section H - Factor to Adjust Limited Losses to an Unlimited Basis

(1) Threshold at the Midpoint of the Loss Cost Effective Period*	3,598,864
(2) Statewide Excess Ratio for (1)	0.027
(3) Market Share for Carriers Missing from Large Loss and Catastrophe Call	0.000
(4) Factor to Adjust Limited Losses to an Unlimited Basis = $1.0 / \{1.0 - [(2) \times (1.0 - (3))]\}$	1.028

Section I - Policy Year Large Loss Limits

<u>Experience Year</u>	<u>Policy Year Detrended Limit</u>
2013	3,134,276
2012	3,046,862
2011	2,971,249
2010	2,901,908
2009	2,827,528
2008	2,782,452
2007	2,728,532
2006	2,650,742
2005	2,555,423
2004	2,464,865
2003	2,389,246
2002	2,293,517
2001	2,206,055
2000	2,137,650
1999	2,059,347
1998	1,985,970
1997	1,901,306
1996	1,804,986
1995	1,732,980

* July 24, 2017 is the midpoint of the effective period for which the revised loss costs are being proposed.



RHODE ISLAND

APPENDIX A-III

Policy Year Trend Factors

Section A - Summary of Policy Year Data

(1)	(2)	(3)	(4)	(5)	(6)
Policy Year	Lost-Time Claim Frequency*	Indemnity		Medical	
		Avg Cost Per Case*^	Loss Ratio^	Avg Cost Per Case*^	Loss Ratio^
1999	34.769	15,659	0.544	7,545	0.262
2000	33.570	16,349	0.549	7,401	0.248
2001	32.313	16,913	0.546	7,863	0.254
2002	32.052	15,229	0.488	7,719	0.247
2003	31.291	16,236	0.508	8,346	0.261
2004	29.699	16,214	0.482	8,539	0.254
2005	29.219	16,592	0.485	9,047	0.264
2006	27.721	18,054	0.501	9,507	0.263
2007	26.858	20,007	0.537	10,075	0.271
2008	24.881	22,406	0.558	10,807	0.269
2009	25.531	21,734	0.555	11,171	0.285
2010	27.063	21,109	0.572	11,153	0.302
2011	25.170	20,659	0.520	10,375	0.261
2012	24.762	20,739	0.513	10,603	0.262
2013	23.823	21,235	0.506	10,753	0.256

* Figures have been adjusted to the current wage level.

^ Based on paid losses.

Section B - Summary of Annual Trend Factors

	<u>Indemnity</u>	<u>Medical</u>
(1) Current Approved Annual Loss Ratio Trend Factor	1.000	1.005
(2) Policy Year Loss Ratio Trends		
8-point Exponential Trend	-0.004	-0.005
12-point Exponential Trend	0.008	0.005
15-point Exponential Trend	0.000	0.005
(3) Selected Annual Loss Ratio Trend Factor	1.000	1.005
(4) Length of Trend Period from Midpoint of Policy Year to Midpoint of Effective Period:		
		<u>Years</u>
	Policy Year 2011	5.622
	Policy Year 2012	4.622
	Policy Year 2013	3.622
(5) Trend Factor Applied to Experience Year = (3) ^ (4)	<u>Indemnity</u>	<u>Medical</u>
	Policy Year 2011	1.028
	Policy Year 2012	1.023
	Policy Year 2013	1.018



RHODE ISLAND

APPENDIX A-IV

Carriers Not Included in Policy Year Experience

NCCI maintains several data reporting initiatives and programs to assist carriers to report data and to ensure that the data that is reported to NCCI is complete, accurate, and reported in a timely fashion. Occasionally, a particular carrier's data submission is not available for use in an NCCI filing either because the data was not reported prior to the filing, had quality issues, or NCCI determined that the data that was reported should not be included in the filing based on NCCI's actuarial judgment. All carriers writing at least one-tenth of one percent of the Rhode Island workers compensation written premium volume and whose data is not included in this filing are listed below. The listing is separated by year used in the filing's experience period.

Policy Year 2013

None

Policy Year 2012

None

Policy Year 2011

None



RHODE ISLAND

APPENDIX A-V

Derivation of Industry Group Differentials

Industry group differentials are used to more equitably distribute the overall loss cost level change based on the individual experience of each industry group. The payroll, losses and claim counts used in the calculations below are from NCCI's Workers Compensation Statistical Plan (WCSP) data.

I. Expected Losses

The current expected losses (columns (1) and (2)) are the payroll extended by the pure premiums underlying the latest approved loss costs. The proposed expected losses (3) are the current expected losses adjusted to the proposed level. These adjustments include the proposed experience, trend, benefit and, if applicable, loss-based expense changes as well as any miscellaneous premium adjustments.

Industry Group	(1) Latest Year Current Expected Losses Prior to Adjustment for Change in Off-Balance	(2) Five Year Current Expected Losses Prior to Adjustment for Change in Off-Balance	(3) Five Year Proposed Expected Losses Prior to Adjustment for Change in Off-Balance	(4) Current Ratio of Manual to Standard Premium	(5) Proposed Ratio of Manual to Standard Premium
Manufacturing	30,069,704	143,382,924	136,403,459	1.043	1.053
Contracting	33,251,620	167,668,984	159,529,266	1.091	1.082
Office & Clerical	26,589,345	123,167,248	117,160,965	1.070	1.066
Goods & Services	80,466,242	378,677,903	360,198,820	0.993	0.991
Miscellaneous	31,224,207	149,667,990	142,383,185	1.039	1.029
Statewide	201,601,118	962,565,048	915,675,695		

Industry Group	(6) Latest Year Current Expected Losses Adjusted for Change in Off-Balance (1)x(4)/(5)	(7) Five Year Current Expected Losses Adjusted for Change in Off-Balance (2)x(4)/(5)	(8) Five Year Proposed Expected Losses Adjusted for Change in Off-Balance (3)x(4)/(5)	(9) Current/ Proposed (7)/(8)	(10) Adjustment to Proposed for Current Relativity (9)IG/(9)SW
Manufacturing	29,784,142	142,021,263	135,108,079	1.051	1.000
Contracting	33,528,204	169,063,643	160,856,219	1.051	1.000
Office & Clerical	26,689,117	123,629,414	117,600,594	1.051	1.000
Goods & Services	80,628,636	379,442,137	360,925,760	1.051	1.000
Miscellaneous	31,527,649	151,122,489	143,766,890	1.051	1.000
Statewide	202,157,748	965,278,946	918,257,542	1.051	



RHODE ISLAND

APPENDIX A-V

II. Industry Group Differentials

To calculate the converted indicated balanced losses (11) the reported losses are limited to \$500,000 for a single claim occurrence and \$1,500,000 for each multiple claim occurrence. After the application of limited development, trend and benefit factors, the limited losses are brought to an unlimited level through the application of the expected excess provision. The proposed experience change, applicable loss-based expenses and any miscellaneous premium adjustments are applied to calculate the indicated losses. These indicated losses are then balanced to the expected losses using the factors shown in Appendix B-I, Section A-3.

Industry Group	(11) Converted Indicated Balanced Losses	(12) Indicated/ Expected Ratio (11)/[(8)x(10)]	(13) Indicated Differential (12)IG/(12)SW	(14) Lost-Time Claim Counts
Manufacturing	135,567,181	1.003	1.003	3,583
Contracting	146,877,655	0.913	0.913	2,425
Office & Clerical	107,440,250	0.914	0.914	2,740
Goods & Services	375,770,675	1.041	1.041	12,485
Miscellaneous	152,443,264	1.060	1.060	3,527
Statewide	918,099,025	1.000		

Industry Group	(15) Full Credibility Standard for Lost-Time Claim Counts	(16) Credibility Minimum of 1.000 and ((14)/(15))^0.5	(17) Credibility Weighted Indicated/Expected Ratio [(16)IGx(12)IG] + [1-(16)IG]x(12)SW*	(18) Final Industry Group Differential (17)IG/(17)SW
Manufacturing	12,000	0.55	1.002	0.992
Contracting	12,000	0.45	0.961	0.951
Office & Clerical	12,000	0.48	0.959	0.950
Goods & Services	12,000	1.00	1.041	1.031
Miscellaneous	12,000	0.54	1.032	1.022
Statewide			1.010	1.000

*Statewide ratio (column 17) = $\sum_{IG}[(6)x(17)] \div \sum_{IG}(6)$



RHODE ISLAND

APPENDIX B-I

Distribution of Loss Cost Level Change to Occupational Classification

After determining the required changes in the overall loss cost level for the state and by industry group, the next step in the ratemaking procedure is to distribute these changes among the various occupational classifications. In order to do this, the pure premiums by classification must be adjusted, by policy period, industry group, or on an overall basis, to incorporate the changes proposed in the filing. There are three sets of pure premiums for each classification: indicated, present on rate level, and national pure premiums.

Section A – Calculation of Indicated Pure Premiums

The indicated pure premiums are calculated from the payroll and loss data reported, by class code and policy period, in the Workers Compensation Statistical Plan (WCSP) for the latest available five policy periods. Various adjustments are made to these pure premiums to put them at the level proposed in this filing (Sections A-1 to A-3).

Section A-1 – Calculation of Primary Conversion Factors

1. Limited Loss Development Factors

The following factors are applied to develop the losses from first through fifth report to an ultimate basis.

Policy Period	Indemnity		Medical	
	Likely-to-Develop	Not-Likely-to-Develop	Likely-to-Develop	Not-Likely-to-Develop
1/08-12/08	1.061	1.005	1.164	1.017
1/09-12/09	1.094	1.019	1.181	1.018
1/10-12/10	1.145	1.054	1.179	1.019
1/11-12/11	1.314	1.137	1.246	1.020
1/12-12/12	1.968	1.456	1.358	1.014

2. Factors to Adjust to the Proposed Trend Level

The proposed trend factors are applied to adjust the losses to the proposed level.

Policy Period	Indemnity	Medical
1/08-12/08	1.000	1.044
1/09-12/09	1.000	1.039
1/10-12/10	1.000	1.034
1/11-12/11	1.000	1.028
1/12-12/12	1.000	1.023

3. Factors to Adjust to the Prorated October 1, 2016 Benefit Level

The following factors are applied to adjust the losses to the proposed benefit level.

Policy Period	Fatal	Permanent Total (P.T.)	Permanent Partial (P.P.)	Temporary Total (T.T.)	Medical
1/08-12/08	1.023	1.021	1.044	1.023	1.000
1/09-12/09	1.020	1.019	1.043	1.020	1.000
1/10-12/10	1.018	1.017	1.043	1.018	1.000
1/11-12/11	1.016	1.014	1.027	1.016	1.000
1/12-12/12	1.013	1.011	1.007	1.013	1.000



RHODE ISLAND

APPENDIX B-I

4. Primary Conversion Factors: Indicated Pure Premiums

The factors above, contained within Section A-1, are combined multiplicatively, resulting in the following factors for the Likely-to-Develop (L) and Not-Likely-to-Develop (NL) groupings.

Policy Period	Fatal (L)	Fatal (NL)	P.T.*	P.P. (L)	P.P. (NL)	T.T. (L)	T.T. (NL)	Medical (L)	Medical (NL)
1/08-12/08	1.085	1.028	1.083	1.108	1.049	1.085	1.028	1.215	1.062
1/09-12/09	1.116	1.039	1.115	1.141	1.063	1.116	1.039	1.227	1.058
1/10-12/10	1.166	1.073	1.164	1.194	1.099	1.166	1.073	1.219	1.054
1/11-12/11	1.335	1.155	1.332	1.349	1.168	1.335	1.155	1.281	1.049
1/12-12/12	1.994	1.475	1.990	1.982	1.466	1.994	1.475	1.389	1.037

* Permanent total losses are always assigned to the Likely-to-Develop grouping.

Section A-2 – Expected Excess Provision and Redistribution

After the application of the primary conversion factors, the limited losses are brought to an expected unlimited level through the application of excess loss factors by hazard group. These factors are shown below.

Hazard Group	A	B	C	D	E	F	G
(1) Excess Ratios	0.101	0.131	0.147	0.172	0.204	0.232	0.275
(2) Excess Factors 1/(1-(1))	1.112	1.151	1.172	1.208	1.256	1.302	1.379

As the excess loss factors are on a combined (indemnity and medical) basis, a portion (40%) of the indemnity expected excess losses are redistributed to medical in order to more accurately allocate expected excess losses. Since a portion of the expected excess losses are redistributed in an additive manner, the expected excess factors shown above cannot be combined multiplicatively with either the primary or secondary loss conversion factors.



RHODE ISLAND

APPENDIX B-I

Section A-3 – Calculation of Secondary Conversion Factors

1. Factors to Adjust for Proposed Industry Group Differentials

The following factors are applied to adjust the indicated industry group differentials for the effects of credibility weighting the industry group differentials and weighting the differentials by the latest year expected losses.

	Manufacturing	Contracting	Office and Clerical	Goods and Services	Miscellaneous
(1) Indicated Differentials*	1.003	0.913	0.914	1.041	1.060
(2) Final Differentials**	0.992	0.951	0.950	1.031	1.022
(3) Adjustment (2)/(1)	0.989	1.042	1.039	0.990	0.964

*See Appendix A-V, column (13).

**See Appendix A-V, column (18).

2. Factors to Balance Indicated to Expected Losses

The expected losses are calculated as the pure premium underlying the current loss costs, adjusted to the proposed level and adjusted for the Experience Rating Plan off-balance. The indicated losses are balanced to the expected losses by applying the following factors.

Policy Period	(1) Adjustment of Indicated Losses to Pure Premium at Proposed Level	(2) Current Ratio of Manual to Standard Premium	(3) Proposed Ratio of Manual to Standard Premium	(4) Off-balance Adjustment (2)/(3)	(5) Balancing Indicated to Expected Losses (1)x(4)
1/08-12/08	0.916	1.036	1.038	0.998	0.914
1/09-12/09	0.913	1.035	1.032	1.003	0.916
1/10-12/10	0.903	1.034	1.029	1.005	0.908
1/11-12/11	0.968	1.034	1.024	1.010	0.978
1/12-12/12	1.076	1.034	1.038	0.996	1.072

3. Adjustment for Experience Change

A factor of 0.945 is applied to adjust for the experience change in the proposed loss cost level.

4. Factor to Reflect the Proposed Loss-Based Expense Provisions

A factor of 1.183 is applied to include the proposed loss-based expense provisions.

5. Secondary Conversion Factors: Indicated Pure Premiums

The factors above, contained within section A-3, are combined multiplicatively, resulting in the following factors:

Policy Period	Manufacturing	Contracting	Office and Clerical	Goods and Services	Miscellaneous
1/08-12/08	1.011	1.065	1.062	1.012	0.985
1/09-12/09	1.013	1.067	1.064	1.014	0.987
1/10-12/10	1.004	1.058	1.055	1.005	0.979
1/11-12/11	1.081	1.139	1.136	1.082	1.054
1/12-12/12	1.185	1.249	1.245	1.186	1.155



RHODE ISLAND

APPENDIX B-I

Section B – Calculation of Present on Rate Level Pure Premiums

The present on rate level pure premiums are the pure premiums underlying the current loss costs, adjusted to the proposed level. The data sources for the above-captioned pure premiums are the partial pure premiums underlying the current loss costs.

1. Adjustment for Experience Change

A factor of 0.945 is applied to adjust for the experience change in the proposed loss cost level.

2. Factors to Adjust to the Proposed Trend Level

The pure premiums underlying the current loss costs contain the current trend. The change in trend factors, 1.000 and 1.000, for indemnity and medical, respectively, are applied to adjust to the proposed trend level.

3. Factors to Adjust to the Prorated October 1, 2016 Benefit Level

The pure premiums underlying the current loss costs are at the current September 1, 2013 level. The following factors are applied to adjust to the proposed benefit level.

Effective Date	Indemnity	Medical
September 1, 2014	1.002	1.000
September 1, 2015	1.002	1.000
October 1, 2016 (prorated to August 1, 2016)	1.003	1.000
Combined Benefit Adjustment	1.007	1.000

4. Factors to Include the Proposed Loss-Based Expense Provisions

The pure premiums underlying the current loss costs include the current loss-based expense provisions and must be adjusted to the proposed level.

	(a) Current		(b) Proposed	
	Indemnity	Medical	Indemnity	Medical
(1) Loss Adjustment Expense	1.181	1.181	1.183	1.183
(2) Loss-based Assessment	1.000	1.000	1.000	1.000
(3) = (1) + (2) – 1.000	1.181	1.181	1.183	1.183
(4) Overall Change (3b)/(3a)			1.002	1.002

5. Adjustment to Obtain Expected Losses

The pure premiums underlying the current loss costs reflect the current Experience Rating Plan off-balance. The change in off-balance must be applied.

Industry Group	(1) Current Ratio of Manual to Standard Premium	(2) Proposed Ratio of Manual to Standard Premium	(3) Off-balance Adjustment (1)/(2)
Manufacturing	1.043	1.053	0.991
Contracting	1.091	1.082	1.008
Office & Clerical	1.070	1.066	1.004
Goods & Services	0.993	0.991	1.002
Miscellaneous	1.039	1.029	1.010



RHODE ISLAND

APPENDIX B-I

6. Factors to Adjust for Proposed Industry Group Differentials

The pure premiums underlying the current loss costs are adjusted by the proposed industry group differentials.

Industry Group	(1) Final Differential*	(2) Adjustment to Proposed for Current Relativities**	(3) Adjusted Differential (1)x(2)
Manufacturing	0.992	1.000	0.992
Contracting	0.951	1.000	0.951
Office & Clerical	0.950	1.000	0.950
Goods & Services	1.031	1.000	1.031
Miscellaneous	1.022	1.000	1.022

*See Appendix A-V, column (18).

**See Appendix A-V, column (10).

7. Combined Conversion Factors

The factors above, contained within Section B, are combined multiplicatively, resulting in the following factors.

Industry Group	Indemnity	Medical
Manufacturing	0.938	0.931
Contracting	0.915	0.908
Office & Clerical	0.910	0.903
Goods & Services	0.986	0.978
Miscellaneous	0.985	0.978



RHODE ISLAND

APPENDIX B-I

Section C – Calculation of National Pure Premiums

Finally, there are the national pure premiums, which reflect the countrywide experience for each classification adjusted to state conditions. These pure premiums reflect the countrywide experience for each classification as indicated by the latest available individual classification experience for all states for which the National Council on Compensation Insurance compiles workers compensation data.

Countrywide data is adjusted to Rhode Island conditions in four steps. First, statewide indicated pure premiums are determined for Rhode Island. Second, using Rhode Island payrolls as weights, corresponding statewide-average pure premiums are computed for each remaining state. Third, the ratios of Rhode Island statewide pure premiums to those for other states are used as adjustment factors to convert losses for other states to a basis that is consistent with the Rhode Island indicated pure premiums. The quotient of the countrywide total of such adjusted losses divided by the total countrywide payroll for the classification is the initial pure premium indicated by national relativity. Finally, national pure premiums are balanced to the level of the state indicated pure premiums to ensure unbiased derived by formula pure premiums. Indemnity and medical pure premiums are computed separately.

Section D – Calculation of Derived by Formula Pure Premiums

The indicated, present on rate level and national pure premiums are credibility weighted, and the resulting derived by formula pure premiums are used to determine the final class loss costs.

As for the preceding pure premiums, separate computations are performed for each partial pure premium: indemnity and medical. Each partial formula pure premium is derived by the weighting of the indicated, present on rate level and national partial pure premiums. The weight assigned to the policy year indicated pure premium varies in one-percent intervals from zero percent to one hundred percent, depending upon the volume of expected losses (i.e. the product of the underlying pure premiums and the payroll in hundreds). To achieve full state credibility, a classification must have expected losses of at least: \$19,153,632 for indemnity and \$5,783,185 for medical.

The partial credibilities formula is:

$$z = [(\text{expected losses}) / (\text{full credibility standard})]^{0.4}$$

For the national pure premiums, credibility is determined from the number of lost-time claims. Full credibility standards are: 1,150 lost-time claims for indemnity and 1,000 lost-time claims for medical.

Partial credibilities are assigned using a credibility formula similar to that used for indicated pure premiums but based on the number of national cases. In no case is the national credibility permitted to exceed 50% of the complement of the state credibility.

National Credibility equals the smaller of:

$$[(\text{national cases}) / (\text{full credibility standard})]^{0.4} \text{ and } [(1 - \text{state credibility}) / 2]$$

The residual credibility (100% minus the sum of the state and national credibilities) is assigned to the present on rate level pure premium.

For example, if the state credibility is 40%, the national pure premium is assigned a maximum credibility of 30% $((100-40) / 2)$. The remainder is assigned to the present on rate level pure premium.

The total pure premium shown on the attached Appendix B-III is obtained by adding the indemnity and medical partial pure premiums obtained above and rounding the sum to two decimal places.



RHODE ISLAND

APPENDIX B-II

Adjustments to Obtain Loss Costs

The following items are combined with the derived by formula pure premium to obtain the proposed loss cost:

1. Test Correction Factor

The payrolls are now extended by the loss costs presently in effect and by the indicated loss costs to determine if the required change in manual premium level as calculated in Exhibit I has been achieved. Since at first this calculation may not yield the required results, an iterative process is initiated which continuously tests the proposed loss costs including tentative test correction factors until the required change in manual premium level is obtained. The test correction factor is applied to the derived by formula pure premiums.

The factors referred to above are set out as follows:

	Test Correction Factor
Manufacturing	1.0073
Contracting	1.0067
Office & Clerical	1.0260
Goods & Services	1.0167
Miscellaneous	1.0249

2. Ratios of Manual to Standard Premiums

The ratios of manual to standard premiums by industry group have also been excluded from the classification experience, and it is necessary to apply these factors to the derived by formula pure premiums.

	Ratio of Manual to Standard Premiums
Manufacturing	1.053
Contracting	1.082
Office & Clerical	1.066
Goods & Services	0.991
Miscellaneous	1.029

3. Disease Loadings

The proposed manual loss costs shown in this filing include specific disease loadings for those classifications where they apply. The proposed specific disease loadings are shown on the footnotes page.



RHODE ISLAND

APPENDIX B-II

4. Swing Limits

As a further step, a test is made to make certain that the proposed loss costs fall within the following departures from the present loss costs:

Manufacturing	from 9% above to 21% below
Contracting	from 5% above to 25% below
Office & Clerical	from 5% above to 25% below
Goods & Services	from 13% above to 17% below
Miscellaneous	from 12% above to 18% below

These limits have been calculated in accordance with the following formula:

Max. Deviation = Effect of the final change in loss cost level by industry group plus or minus 15% rounded to the nearest 1%.

The product of the swing limits and the present loss cost sets bounds for the proposed loss cost. If the calculated loss cost falls outside of the bounds, the closest bound is chosen as the proposed loss cost. When a code is limited, the underlying pure premiums are adjusted to reflect the limited loss cost. The classifications which have been so limited are shown below. Note that classifications that are subject to special handling may fall outside of the swing limits.

An illustrative example showing the calculation of a proposed manual class loss cost is attached as Appendix B-III. This example demonstrates the manner in which the partial pure premiums are combined to produce a total pure premium, and shows the steps in the calculation at which the rounding takes place. The loss costs for other classifications are calculated in the same manner.

List of Classifications Limited by the Upper Swing

List of Classifications Limited by the Lower Swing

0034	0035	0036	0037	0042	0106	0113	0401
0913	0918	1438	1463	1748	2114	2121	2386
2388	2585	2623	2702	2759	2799	3180	3223
3516	3561	3685	3821	4038	4459	4470	4493
4670	4683	4692	4740	4741	5191	5221	5223
5348	5473	5474	5610	5703	5705	6003	6045
6319	6400	6882	7230	7232	7370	7600	7610
8006	8015	8037	8072	8264	8265	8279	8602
8725	8745	8754	8833	8842	8856	8869	9012
9040	9058	9093	9170	9182	9403	9516	9519
9620							

0771	2041	2065	2111	2302	2362	2402	2417
3082	3113	3581	3620	3638	3726	3808	4000
4109	4149	4351	4410	4452	4568	4581	4635
4771	4923	5057	5059	5183	6217	6233	6251
6503	6702	6703	6704	7133	7151	7152	7153
7394	7395	7398	7422	7431	7453	7855	8106
8263	8293	8603	8803	8841	8871	9083	9154
9178	9186						



RHODE ISLAND

APPENDIX B-II

Determination of Rating Values on Miscellaneous Values Page

A. Current and Proposed Miscellaneous Values are calculated based on formulas, dependent on the State Average Weekly Wage (SAWW).

	Current	Proposed	Change
1) State Average Weekly Wage (SAWW)	\$883.63 ¹	\$935.02 ²	5.8%
2) Basis of premium applicable in accordance with the Basic Manual footnote instructions for Code 7370 -- "Taxicab Co.":			
Employee operated vehicle ³	\$69,000	\$72,900	5.7%
Leased or rented vehicle ⁴	\$46,000	\$48,600	5.7%
3) Maximum Weekly Payroll applicable in accordance with Basic Manual Rule 2-E-1 -- "Executive Officers" ⁵ and Basic Manual footnote instructions for Code 9178 -- "Athletic Sports or Park: Non-Contact Sports," and Code 9179 -- "Athletic Sports or Park: Contact Sports" ⁶	\$3,500	\$3,700	5.7%
4) Minimum Weekly Payroll applicable in accordance with Basic Manual Rule 2-E-1 -- "Executive Officers" ⁷	\$900	\$950	5.6%

¹ State Average Weekly Wage. Effective September 1, 2013.

² State Average Weekly Wage. Effective September 1, 2015.

³ Underlying formula is: SAWW x 52 x 1.5 (Rounded to the nearest \$100), Item B-1422.

⁴ Underlying formula is: SAWW x 52 (Rounded to the nearest \$100), Item B-1422.

⁵ Underlying formula is: SAWW x 4 (Rounded to the nearest \$100), Item B-1420.

⁶ Underlying formula is: SAWW x 4 (Rounded to the nearest \$100), Item B-1422.

⁷ Underlying formula is: SAWW (Rounded to the nearest \$50), Item B-1420.

B. Loss Elimination Ratios (LERs) continue to be determined using the standard methodology described in the literature (e.g. Gillam,W.R.; and Snader, R.H., "Fundamentals of Individual Risk Rating," 1992, and Rollins, J.; and Washburn,M.J., "A Quantification of Snader's Deductible Safety Factor," 1994). The updated values reflect the experience, trend and development consistent with the Excess Loss Pure Premium Factors (ELPPFs) filed in Item R-1410. A newly enhanced methodology for determining ELPPFs was introduced with "Item R-1408 - 2014 Update to the Retrospective Rating Plan Parameters - Excess Loss Pure Premium Factors and Excess Loss and Allocated Expense Pure Premium Factors."



RHODE ISLAND

APPENDIX B-III

Derivation of Proposed Loss Cost - Code 8810

As previously explained in Appendix B-I, the indicated pure premiums are developed by adjusting the limited losses by a set of conversion factors. The converted losses are then summarized into indemnity and medical and then divided by payroll (in hundreds). The derivation of the indicated pure premium for the above-captioned classification follows:

LIMITED LOSSES (Workers Compensation Statistical Plan)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	1,530,611	1,901,986	180,071	523,122	803,547	1,556,519
01/01/09 - 12/31/09	0	0	0	796,170	1,521,701	565,391	579,111	331,329	1,327,324
01/01/10 - 12/31/10	5,000	0	0	1,362,804	1,387,822	41,656	931,704	578,223	1,788,353
01/01/11 - 12/31/11	0	0	0	461,796	1,336,669	419,870	701,517	432,116	1,470,353
01/01/12 - 12/31/12	0	0	0	270,452	424,469	419,164	600,686	343,119	1,049,357

PRIMARY PARTIAL CONVERSION FACTORS (Appendix B-I, Section A-1)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	1.085	1.028	1.083	1.108	1.049	1.085	1.028	1.215	1.062
01/01/09 - 12/31/09	1.116	1.039	1.115	1.141	1.063	1.116	1.039	1.227	1.058
01/01/10 - 12/31/10	1.166	1.073	1.164	1.194	1.099	1.166	1.073	1.219	1.054
01/01/11 - 12/31/11	1.335	1.155	1.332	1.349	1.168	1.335	1.155	1.281	1.049
01/01/12 - 12/31/12	1.994	1.475	1.990	1.982	1.466	1.994	1.475	1.389	1.037

EXPECTED EXCESS PROVISION AND REDISTRIBUTION (Appendix B-I, Section A-2)

After the application of the primary conversion factors, the limited losses are brought to an expected unlimited level through the application of a hazard group-specific excess loss factor. The factor is shown below:

HAZARD GROUP: C	
Excess Factor	1.172

As the excess loss factor is on a combined (indemnity and medical) basis, the following portion of the indemnity expected excess losses are redistributed to medical in order to more accurately allocate expected excess losses:

Redistribution %	40%
------------------	-----



RHODE ISLAND

APPENDIX B-III

Derivation of Proposed Loss Cost - Code 8810

EXPECTED UNLIMITED LOSSES (Limited Losses x Primary Conversion Factors, then adjusted for the Excess Provision and Redistribution)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	1,871,274	2,201,485	215,579	593,374	1,274,933	2,112,497
01/01/09 - 12/31/09	0	0	0	1,002,361	1,784,824	696,219	663,911	582,717	1,799,299
01/01/10 - 12/31/10	6,433	0	0	1,795,439	1,682,923	53,593	1,103,088	942,241	2,383,810
01/01/11 - 12/31/11	0	0	0	687,377	1,722,660	618,484	894,032	730,516	1,971,680
01/01/12 - 12/31/12	0	0	0	591,462	686,615	922,236	977,625	653,291	1,379,684

SECONDARY CONVERSION FACTORS (Appendix B-I, Section A-3)

Policy Period	INDUSTRY GROUP: Office and Clerical
01/01/08 - 12/31/08	1.062
01/01/09 - 12/31/09	1.064
01/01/10 - 12/31/10	1.055
01/01/11 - 12/31/11	1.136
01/01/12 - 12/31/12	1.245

PAYROLL, FINAL CONVERTED LOSSES (Expected Unlimited Losses x Secondary Conversion Factors)

Policy Period	Payroll	Indemnity Likely	Indemnity Not-Likely	Medical Likely	Medical Not-Likely	Total Indemnity	Total Medical	Total
01/01/08 - 12/31/08	4,606,188,509	2,216,238	2,968,140	1,353,979	2,243,472	5,184,378	3,597,451	8,781,829
01/01/09 - 12/31/09	4,541,370,914	1,807,289	2,605,454	620,011	1,914,454	4,412,743	2,534,465	6,947,208
01/01/10 - 12/31/10	4,803,748,068	1,957,516	2,939,242	994,064	2,514,920	4,896,758	3,508,984	8,405,742
01/01/11 - 12/31/11	4,984,528,459	1,483,458	2,972,562	829,866	2,239,828	4,456,020	3,069,694	7,525,714
01/01/12 - 12/31/12	4,918,659,113	1,884,554	2,071,979	813,347	1,717,707	3,956,533	2,531,054	6,487,587
Total	23,854,495,063	9,349,055	13,557,377	4,611,267	10,630,381	22,906,432	15,241,648	38,148,080
INDICATED PURE PREMIUM						0.096	0.064	0.16

The present on rate level pure premiums are developed by adjusting the pure premiums underlying the current loss cost by the conversion factors calculated in Appendix B-I. The derivation of the present on rate level pure premiums for the above-captioned classification follows:

	Indemnity	Medical	Total
Pure Premiums Underlying Current Loss Cost	0.123	0.077	0.20
Conversion Factors (App. B-I, Section B)	0.910	0.903	xxx
PURE PREMIUMS PRESENT ON RATE LEVEL (Underlying Pure Premiums) x (Conversion Factor)	0.112	0.070	0.18



RHODE ISLAND

APPENDIX B-III

Derivation of Proposed Loss Cost - Code 8810
 Industry Group - Office and Clerical, Hazard Group - C

The loss cost for the above-captioned classification is derived as follows:

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
1. Indicated Pure Premium	0.096	0.064	0.16
2. Pure Premium Indicated by National Relativity	0.090	0.067	0.16
3. Pure Premium Present on Rate Level	0.112	0.070	0.18
4. State Credibilities	100%	100%	xxx
5. National Credibilities	0%	0%	xxx
6. Residual Credibilities = 100% - (4) - (5)	0%	0%	xxx
7. Derived by Formula Pure Premiums = (1) x (4) + (2) x (5) + (3) x (6)	0.096	0.064	0.16
8. Test Correction Factor	1.0260	1.0260	xxx
9. Underlying Pure Premiums = (7) x (8) *	0.094	0.066	0.16
10. Ratio of Manual to Standard Premium			1.066
11. Loss Cost = (9) x (10)			0.17
12. Loss Cost Within Swing Limits			0.17
Current Loss Cost x Swing Limits			
a) Lower bound = 0.21 x 0.750 = 0.16			
b) Upper bound = 0.21 x 1.050 = 0.22			
13. Pure Premiums Underlying Proposed Loss Cost* = ((13TOT) / (9TOT)) x (9) , (13TOT) = (12) / (10)	0.094	0.066	0.16
14. Disease, Catastrophe and/or Miscellaneous Loadings			0.00
15. Final Loaded Loss Cost			0.17

* Indemnity pure premium is adjusted for the rounded total pure premium:
 Indemnity Pure Premium = Total Pure Premium - Medical Pure Premium



RHODE ISLAND

APPENDIX B-IV

I. Determination and Distribution of Premium Level Change to “F” Classifications

The Workers Compensation Statistical Plan (WCSP) data is used to determine the overall “F” classifications (F-class) premium level change as well as the individual change by the various classifications. There are three sets of pure premiums for each classification: indicated, present on rate level, and national pure premiums. All sets of pure premiums are adjusted to the common proposed level that is explained further in this exhibit. These three sets of pure premiums are credibility weighted and the results, the derived by formula pure premiums, are adjusted for additional proposed components (section II) to determine the indicated loss costs. The payrolls are extended by the loss costs presently in effect and the indicated loss costs. The loss costs are then limited to the swing limits based on 15% above and 15% below the current loss costs, which results in the indicated loss cost level change of -0.7%.

Section A – Calculation of F-Class Indicated Pure Premiums

The payroll and loss data reported are from the WCSP data by class code for the latest available five policy periods.

Section A-1 – Calculation of Primary Conversion Factors

1. Factors to Adjust to the Proposed Benefit Levels

The state losses are adjusted to the prorated October 1, 2016 state law level. The federal losses are adjusted to the October 1, 2014 federal law level.

STATE ACT

Policy Period	Fatal	Permanent Total (P.T.)	Permanent Partial (P.P.)	Temporary Total (T.T.)	Medical
1/08 - 12/08	1.023	1.021	1.044	1.023	1.000
1/09 - 12/09	1.020	1.019	1.043	1.020	1.000
1/10 - 12/10	1.018	1.017	1.043	1.018	1.000
1/11 - 12/11	1.016	1.014	1.027	1.016	1.000
1/12 - 12/12	1.013	1.011	1.007	1.013	1.000

FEDERAL ACT

Policy Period	Fatal	Permanent Total (P.T.)	Permanent Partial (P.P.)	Temporary Total (T.T.)	Medical
1/08 - 12/08	1.034	1.025	1.008	1.025	1.000
1/09 - 12/09	1.024	1.020	1.007	1.020	1.000
1/10 - 12/10	1.020	1.017	1.007	1.017	1.000
1/11 - 12/11	1.015	1.013	1.006	1.013	1.000
1/12 - 12/12	1.009	1.008	1.004	1.008	1.000

2. Factors to Adjust to the Proposed Trend Level

The following factors are applied to trend the losses in each policy year to the proposed rating year. The selected annual trends utilized were 1.000 and 1.005 for indemnity and medical, respectively.

Policy Period	Indemnity	Medical
1/08 - 12/08	1.000	1.044
1/09 - 12/09	1.000	1.039
1/10 - 12/10	1.000	1.034
1/11 - 12/11	1.000	1.028
1/12 - 12/12	1.000	1.023



RHODE ISLAND

APPENDIX B-IV

Section A-1 Calculation of Primary Conversion Factors (continued)

3. Limited Loss Development Factors

The following factors are applied to develop the losses from first through fifth report to an ultimate basis utilizing countrywide data.

Policy Period	Indemnity		Medical	
	Likely-to-Develop	Not-Likely-to-Develop	Likely-to-Develop	Not-Likely-to-Develop
1/08 - 12/08	1.131	1.044	1.258	1.029
1/09 - 12/09	1.191	1.058	1.294	1.038
1/10 - 12/10	1.270	1.119	1.346	1.068
1/11 - 12/11	1.521	1.234	1.435	1.069
1/12 - 12/12	2.773	1.760	1.758	1.152

4. Primary Conversion Factors = (1) x (2) x (3)

The factors above contained within Section A-1, are combined multiplicatively, resulting in the following factors for the Likely-to-Develop (L) and Not-Likely-to-Develop (NL) groupings.

STATE ACT

Policy Period	Fatal (L)	Fatal (NL)	P.T.*	P.P. (L)	P.P. (NL)	T.T. (L)	T.T. (NL)	Medical (L)	Medical (NL)
1/08 - 12/08	1.157	1.068	1.155	1.181	1.090	1.157	1.068	1.313	1.074
1/09 - 12/09	1.215	1.079	1.214	1.242	1.103	1.215	1.079	1.344	1.078
1/10 - 12/10	1.293	1.139	1.292	1.325	1.167	1.293	1.139	1.392	1.104
1/11 - 12/11	1.545	1.254	1.542	1.562	1.267	1.545	1.254	1.475	1.099
1/12 - 12/12	2.809	1.783	2.804	2.792	1.772	2.809	1.783	1.798	1.178

FEDERAL ACT

Policy Period	Fatal (L)	Fatal (NL)	P.T.*	P.P. (L)	P.P. (NL)	T.T. (L)	T.T. (NL)	Medical (L)	Medical (NL)
1/08 - 12/08	1.169	1.079	1.159	1.140	1.052	1.159	1.070	1.313	1.074
1/09 - 12/09	1.220	1.083	1.215	1.199	1.065	1.215	1.079	1.344	1.078
1/10 - 12/10	1.295	1.141	1.292	1.279	1.127	1.292	1.138	1.392	1.104
1/11 - 12/11	1.544	1.253	1.541	1.530	1.241	1.541	1.250	1.475	1.099
1/12 - 12/12	2.798	1.776	2.795	2.784	1.767	2.795	1.774	1.798	1.178

* Permanent Total losses are always assigned to the Likely-to-Develop grouping.



RHODE ISLAND

APPENDIX B-IV

Section A-2 – Expected Excess Provision and Redistribution

To reduce distortions in individual class loss cost indications, individual claim amounts are subject to a maximum limit of \$500,000. Multiple claim accidents are limited to three times the individual claim loss limitation. After the application of the primary conversion factors, the limited losses are brought to an expected unlimited level through the application of excess loss factors by hazard group. These factors are shown below.

Hazard Group	A	B	C	D	E	F	G
(1) Excess Ratios	0.101	0.131	0.147	0.172	0.204	0.232	0.275
(2) Excess Factors 1/(1-(1))	1.112	1.151	1.172	1.208	1.256	1.302	1.379

As the excess loss factors are on a combined (indemnity and medical) basis, a portion (40%) of the indemnity expected excess losses are redistributed to medical in order to more accurately allocate expected excess losses. Since a portion of the expected excess losses are redistributed in an additive manner, the expected excess factors shown above cannot be combined multiplicatively with either the primary or secondary loss conversion factors.

Section A-3 – Calculation of Secondary Conversion Factors

The following factors are applied to include the proposed loss-based expenses. The state losses are adjusted to reflect the proposed loss-based expenses. The federal losses are adjusted to reflect the proposed USL&HW Special Fund Assessment and loss adjustment expense. The combined** factors are based on a combined indemnity and medical loss-weighted average of the above loss-based expenses by policy period.

Policy Period	State Act	Federal Act
1/08 - 12/08	1.183	1.228
1/09 - 12/09	1.183	1.270
1/10 - 12/10	1.183	1.183
1/11 - 12/11	1.183	1.183
1/12 - 12/12	1.183	1.234

** See Section B.3 for the indemnity and medical breakdown of the proposed loss-based expenses.



RHODE ISLAND

APPENDIX B-IV

Section B – Present on Rate Level

1. Benefits

The current underlying pure premiums are at the current September 1, 2013 state and October 1, 2012 federal law levels. These pure premiums are adjusted to reflect the weighted effect of state and federal laws which bring losses to the proposed prorated October 1, 2016 state and October 1, 2014 federal law levels. The distribution of state and federal losses in regard to total losses was used to determine the weighted effects.

State Weight (St%)	0.183
Federal Weight (Fed%)	0.817

	Indemnity	Medical	Total
(a) State Laws	1.007	1.000	1.004
(b) Federal Laws	1.005	1.000	1.003
(c) Weighted Laws = [(a)xSt%] + [(b)xFed%]	1.005	1.000	1.003

2. Trend

Since the trend in the current underlying pure premiums is adequate for the current rating year, additional trend is applied to bring the underlyings to the proposed rating year.

Indemnity	Medical
1.000	1.010



RHODE ISLAND

APPENDIX B-IV

Section B – Present on Rate Level (continued)

3. Loss-Based Expenses

The current underlying pure premiums are adjusted to reflect the change in the weighted effect of the loss-based expense provisions.

Proposed:

STATE ACT			
	Indemnity	Medical	Total
(a) Loss Adjustment Expense	1.183	1.183	1.183
(b) Loss-Based Assessment	1.000	1.000	1.000
(c) Total = (a) + (b) - 1	1.183	1.183	1.183

FEDERAL ACT			
	Indemnity	Medical	Total
(d) Loss Adjustment Expense	1.183	1.183	1.183
(e) Loss-Based Assessment	1.110	1.000	1.062
(f) Total = (d) + (e) - 1	1.293	1.183	1.245

	Indemnity	Medical	Total
(g) Weighted Proposed Expenses = [(c) x St%] + [(f) x Fed%]	1.273	1.183	1.234

Current:

STATE			
	Indemnity	Medical	Total
(h) Loss Adjustment Expense	1.181	1.181	1.181
(i) Loss-Based Assessment	1.000	1.000	1.000
(j) Total = (h) + (i) - 1	1.181	1.181	1.181

FEDERAL			
	Indemnity	Medical	Total
(k) Loss Adjustment Expense	1.181	1.181	1.181
(l) Loss-Based Assessment	1.151	1.000	1.081
(m) Total = (k) + (l) - 1	1.332	1.181	1.262

	Indemnity	Medical	Total
(n) Weighted Current Expenses = [(j) x St%] + [(m) x Fed%]	1.304	1.181	1.247

Change:

	Indemnity	Medical	Total
Weighted Expense Change in Loss-Based Expenses = [(g) / (n)]	0.976	1.002	0.990

4. Conversion Factors = (1) x (2) x (3)

The factors have been applied multiplicatively resulting in the following factors.

Indemnity	Medical
0.981	1.012



RHODE ISLAND

APPENDIX B-IV

Section C – National Pure Premiums

The latest three years of state and federal losses for states in which NCCI compiles workers compensation data are separately adjusted to the same level as the indicated and present on rate level pure premiums.

Class Code 9077

For Code 9077, the indicated, national and present on rate level pure premiums were calculated as described previously in Sections A, B and C but using the non-appropriated benefit changes and the federal loss-based expenses.

Section D – Derived by Formula Pure Premiums

The derived by formula pure premiums are calculated by a process similar to that of the industrial codes, which is described in Appendix B-I, Section D. To achieve full state credibility, a classification must have expected losses of at least: \$59,478,750 for indemnity and \$27,898,400 for medical.

II. Calculation of Proposed Loss Costs

The following items are combined with the derived by formula pure premiums to obtain the proposed loss cost:

A. Test Correction Factor **1.0000**

B. Ratio of Manual Premium to Earned Premium **1.074**
(selected based on Rhode Island off-balance analysis)

C. Swing Limits

The classifications which were adjusted by swing limits are as follows:

List of Classifications Limited by the Upper Swing:
7309

List of Classifications Limited by the Lower Swing:
6843 6845 6874



RHODE ISLAND

APPENDIX B-IV

Derivation of Proposed Loss Cost - Code 6824

The indicated pure premiums are developed by adjusting the limited losses by a set of conversion factors. The converted losses are then summarized into indemnity and medical and then divided by payroll (in hundreds). The derivation of the indicated pure premium for the above-captioned classification follows:

STATE ACT - LIMITED LOSSES (Workers Compensation Statistical Plan)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	0	0	0	10,453	0	34,801
01/01/09 - 12/31/09	0	0	0	0	0	0	28,431	0	62,038
01/01/10 - 12/31/10	0	0	0	0	265,913	95,188	63,686	15,186	117,883
01/01/11 - 12/31/11	0	0	0	0	0	0	37,235	0	40,522
01/01/12 - 12/31/12	0	0	0	0	0	0	19,217	0	16,568

FEDERAL ACT - LIMITED LOSSES (Workers Compensation Statistical Plan)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	0	0	0	0	0	0
01/01/09 - 12/31/09	0	0	0	0	0	0	0	0	0
01/01/10 - 12/31/10	0	0	0	0	0	0	0	0	215
01/01/11 - 12/31/11	0	0	0	0	0	0	0	0	476
01/01/12 - 12/31/12	0	0	0	0	0	0	0	0	0

STATE ACT - PRIMARY PARTIAL CONVERSION FACTORS (Appendix B-IV, Section A-1)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	1.157	1.068	1.155	1.181	1.090	1.157	1.068	1.313	1.074
01/01/09 - 12/31/09	1.215	1.079	1.214	1.242	1.103	1.215	1.079	1.344	1.078
01/01/10 - 12/31/10	1.293	1.139	1.292	1.325	1.167	1.293	1.139	1.392	1.104
01/01/11 - 12/31/11	1.545	1.254	1.542	1.562	1.267	1.545	1.254	1.475	1.099
01/01/12 - 12/31/12	2.809	1.783	2.804	2.792	1.772	2.809	1.783	1.798	1.178

FEDERAL ACT - PRIMARY PARTIAL CONVERSION FACTORS (Appendix B-IV, Section A-1)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	1.169	1.079	1.159	1.140	1.052	1.159	1.070	1.313	1.074
01/01/09 - 12/31/09	1.220	1.083	1.215	1.199	1.065	1.215	1.079	1.344	1.078
01/01/10 - 12/31/10	1.295	1.141	1.292	1.279	1.127	1.292	1.138	1.392	1.104
01/01/11 - 12/31/11	1.544	1.253	1.541	1.530	1.241	1.541	1.250	1.475	1.099
01/01/12 - 12/31/12	2.798	1.776	2.795	2.784	1.767	2.795	1.774	1.798	1.178



RHODE ISLAND

APPENDIX B-IV

Derivation of Proposed Loss Cost - Code 6824

EXPECTED EXCESS PROVISION AND REDISTRIBUTION (Appendix B-IV, Section A-2)

After the application of the primary conversion factors, the limited losses are brought to an expected unlimited level through the application of a hazard group-specific excess loss factor. The factor is shown below:

	HAZARD GROUP: F
Excess Factor	1.302

As the excess loss factor is on a combined (indemnity and medical) basis, the following portion of the indemnity expected excess losses are redistributed to medical in order to more accurately allocate expected excess losses:

Redistribution %	40%
------------------	-----

STATE ACT - EXPECTED UNLIM LOSSES (Lim Losses x Primary Conv Factors, then adjusted for the Excess Provision and Redistribution)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	0	0	0	13,187	0	50,016
01/01/09 - 12/31/09	0	0	0	0	0	0	36,237	0	90,786
01/01/10 - 12/31/10	0	0	0	0	366,566	145,386	85,686	42,397	215,719
01/01/11 - 12/31/11	0	0	0	0	0	0	55,156	0	63,629
01/01/12 - 12/31/12	0	0	0	0	0	0	40,475	0	29,553

FEDERAL ACT - EXPECTED UNLIM LOSSES (Lim Losses x Primary Conv Factors, then adjusted for the Excess Provision and Redistribution)

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
01/01/08 - 12/31/08	0	0	0	0	0	0	0	0	0
01/01/09 - 12/31/09	0	0	0	0	0	0	0	0	0
01/01/10 - 12/31/10	0	0	0	0	0	0	0	0	309
01/01/11 - 12/31/11	0	0	0	0	0	0	0	0	681
01/01/12 - 12/31/12	0	0	0	0	0	0	0	0	0

STATE ACT - SECONDARY CONVERSION FACTORS (Appendix B-IV, Section A-3)

	INDUSTRY GROUP: F-Class
Policy Period	
01/01/08 - 12/31/08	1.183
01/01/09 - 12/31/09	1.183
01/01/10 - 12/31/10	1.183
01/01/11 - 12/31/11	1.183
01/01/12 - 12/31/12	1.183

FEDERAL ACT - SECONDARY CONVERSION FACTORS (Appendix B-IV, Section A-3)

	INDUSTRY GROUP: F-Class
Policy Period	
01/01/08 - 12/31/08	1.228
01/01/09 - 12/31/09	1.270
01/01/10 - 12/31/10	1.183
01/01/11 - 12/31/11	1.183
01/01/12 - 12/31/12	1.234



RHODE ISLAND

APPENDIX B-IV

Derivation of Proposed Loss Cost - Code 6824

TOTAL - PAYROLL, FINAL CONVERTED LOSSES

Policy Period	Payroll	Indemnity Likely	Indemnity Not-Likely	Medical Likely	Medical Not-Likely	Total Indemnity	Total Medical	Total
01/01/08 - 12/31/08	4,214,237	0	15,600	0	59,169	15,600	59,169	74,769
01/01/09 - 12/31/09	4,052,991	0	42,868	0	107,400	42,868	107,400	150,268
01/01/10 - 12/31/10	3,858,542	171,992	535,014	50,156	255,562	707,006	305,718	1,012,724
01/01/11 - 12/31/11	2,017,703	0	65,250	0	76,079	65,250	76,079	141,329
01/01/12 - 12/31/12	844,943	0	47,882	0	34,961	47,882	34,961	82,843
Total	14,988,416	171,992	706,614	50,156	533,171	878,606	583,327	1,461,933
INDICATED PURE PREMIUM						5.862	3.892	9.75

The present on rate level pure premiums are developed by adjusting the pure premiums underlying the current loss cost by the conversion factors. The derivation of the present on rate level pure premiums for the above-captioned classification follows:

	Indemnity	Medical	Total
Pure Premiums Underlying Current Loss Cost	3.787	4.283	8.07
Conversion Factors (Section B)	0.981	1.012	xxx
PURE PREMIUMS PRESENT ON RATE LEVEL (Underlying Pure Premiums) x (Conversion Factor)	3.715	4.334	8.05



RHODE ISLAND

APPENDIX B-IV

Derivation of Proposed Loss Cost - Code 6824

Industry Group - F-Class, Hazard Group - F

The loss cost for the above-captioned classification is derived as follows:

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
1. Indicated Pure Premium	5.862	3.892	9.75
2. Pure Premium Indicated by National Relativity	3.713	4.403	8.12
3. Pure Premium Present on Rate Level	3.715	4.334	8.05
4. State Credibilities	16%	22%	xxx
5. National Credibilities	40%	39%	xxx
6. Residual Credibilities = 100% - (4) - (5)	44%	39%	xxx
7. Derived by Formula Pure Premiums = (1) x (4) + (2) x (5) + (3) x (6)	4.058	4.264	8.32
8. Test Correction Factor	1.0000	1.0000	xxx
9. Underlying Pure Premiums = (7) x (8) *	4.056	4.264	8.32
10. Ratio of Manual to Standard Premium			1.074
11. Loss Cost = (9) x (10)			8.94
12. Loss Cost Within Swing Limits			8.94
Current Loss Cost x Swing Limits			
a) Lower bound = 8.59 x 0.850 = 7.31			
b) Upper bound = 8.59 x 1.150 = 9.87			
13. Pure Premiums Underlying Proposed Loss Cost* = ((13TOT) / (9TOT)) x (9) , (13TOT) = (12) / (10)	4.056	4.264	8.32
14. Disease, Catastrophe and/or Miscellaneous Loadings			0.00
15. Final Loaded Loss Cost			8.94

* Indemnity pure premium is adjusted for the rounded total pure premium:
Indemnity Pure Premium = Total Pure Premium - Medical Pure Premium



RHODE ISLAND

APPENDIX C-I

Change in the Minimum and Maximum Weekly Benefits, Effective 09/01/2014

In Rhode Island, maximum and, for certain benefit types, minimum workers compensation indemnity benefit provisions are dependent upon the state average weekly wage (SAWW). The impacts summarized in the table below result from anticipated changes in workers compensation costs due to the change in the SAWW from \$883.63 ("current") to \$905.24 ("revised"), and apply to injuries occurring on or after 09/01/2014.

The approach used in calculating the effects of a change in the SAWW is as follows:

1. Obtain the latest available SAWW from the RI Department of Labor.
2. Calculate the minimum and maximum benefits by benefit payment type that are dependent upon and expressed as a percentage of the current and revised SAWW.
3. Using a countrywide distribution of workers and their wages¹, indexed to the Rhode Island average weekly wage², determine expected current and revised average weekly benefits by benefit payment type (and dependency type, as appropriate)³.
4. Use the above-calculated average weekly benefits to determine the indemnity benefit costs for each injury type (Fatal, Permanent Total, Permanent Partial, and Temporary Total)⁴ prior to and subsequent to the change in the SAWW. Calculate the ratio of the revised indemnity benefit costs to current indemnity benefit costs for each injury type to determine the impact by injury type from the change in the SAWW.
5. Determine the indemnity cost distribution by injury type⁵.
6. Using the indemnity cost distribution (Step 5) and the effects by injury type (Step 4), calculate the effect of the change in SAWW on total indemnity benefit costs.
7. Multiply the impact on total indemnity benefit costs (Step 6) by the percentage of losses attributed to indemnity benefits⁶ to determine the impact of the change in the SAWW on overall benefit costs.

Type of Injury	Percentage of Losses	Effect (%)
Fatal	2.1%	+ 0.3
Permanent Total	3.9%	+ 0.2
Permanent Partial	45.5%	+ 0.2
Temporary Total	14.4%	+ 0.3
Total Indemnity	65.9%	+ 0.2
Medical	34.1%	0.0
Total	100.0%	+ 0.1

¹ Based on NCCI Detailed Claim Information data.

² Forecasted using the Bureau of Labor Statistics Quarterly Census of Employment and Wages, for all private sector employment.

³ For states where the rate of compensation is based on spendable wages, state and federal tax withholding tables are used in conjunction with pertinent assumptions (e.g., number of dependents).

⁴ Various distributions based on internal and external data are employed in determining the impact by type of injury. For example, for Fatal injuries, a countrywide distribution of average ages and dependents by type (e.g., spouse, spouse with one child, parent, etc.) is used in calculating mortality-adjusted annuity values under both the current and revised weekly maximum benefits, with the likelihood of remarriage incorporated as applicable.

⁵ NCCI Unit Statistical Plan data for the 36-month policy period ending 12/31/2010 on the 09/01/2013 law level and developed to an ultimate basis by type of injury.

⁶ NCCI Financial Call data for Rhode Island for Policy Years 2010, 2011, and 2012 projected to 09/01/2014.



RHODE ISLAND

APPENDIX C-II

Change in the Minimum and Maximum Weekly Benefits, Effective 09/01/2015

In Rhode Island, maximum and, for certain benefit types, minimum workers compensation indemnity benefit provisions are dependent upon the state average weekly wage (SAWW). The impacts summarized in the table below result from anticipated changes in workers compensation costs due to the change in the SAWW from \$905.24 ("current") to \$935.02 ("revised"), and apply to injuries occurring on or after 09/01/2015.

The approach used in calculating the effects of a change in the SAWW is as follows:

1. Obtain the latest available SAWW from the RI Department of Labor.
2. Calculate the minimum and maximum benefits by benefit payment type that are dependent upon and expressed as a percentage of the current and revised SAWW.
3. Using a countrywide distribution of workers and their wages¹, indexed to the Rhode Island average weekly wage², determine expected current and revised average weekly benefits by benefit payment type (and dependency type, as appropriate)³.
4. Use the above-calculated average weekly benefits to determine the indemnity benefit costs for each injury type (Fatal, Permanent Total, Permanent Partial, and Temporary Total)⁴ prior to and subsequent to the change in the SAWW. Calculate the ratio of the revised indemnity benefit costs to current indemnity benefit costs for each injury type to determine the impact by injury type from the change in the SAWW.
5. Determine the indemnity cost distribution by injury type⁵.
6. Using the indemnity cost distribution (Step 5) and the effects by injury type (Step 4), calculate the effect of the change in SAWW on total indemnity benefit costs.
7. Multiply the impact on total indemnity benefit costs (Step 6) by the percentage of losses attributed to indemnity benefits⁶ to determine the impact of the change in the SAWW on overall benefit costs.

Type of Injury	Percentage of Losses	Effect (%)
Fatal	1.6%	+ 0.3
Permanent Total	1.7%	+ 0.3
Permanent Partial	46.5%	+ 0.2
Temporary Total	15.6%	+ 0.3
Total Indemnity	65.4%	+ 0.2
Medical	34.6%	0.0
Total	100.0%	+ 0.1

¹ Based on NCCI Detailed Claim Information data.

² Forecasted using the Bureau of Labor Statistics Quarterly Census of Employment and Wages, for all private sector employment.

³ For states where the rate of compensation is based on spendable wages, state and federal tax withholding tables are used in conjunction with pertinent assumptions (e.g., number of dependents).

⁴ Various distributions based on internal and external data are employed in determining the impact by type of injury. For example, for Fatal injuries, a countrywide distribution of average ages and dependents by type (e.g., spouse, spouse with one child, parent, etc.) is used in calculating mortality-adjusted annuity values under both the current and revised weekly maximum benefits, with the likelihood of remarriage incorporated as applicable.

⁵ NCCI Unit Statistical Plan data for the 36-month policy period ending 12/31/2011 on the 09/01/2014 law level and developed to an ultimate basis by type of injury.

⁶ NCCI Financial Call data for Rhode Island for Policy Years 2011, 2012, and 2013 projected to 09/01/2015.



RHODE ISLAND

APPENDIX C-III

Enacted SB 3053, Effective 10/01/2016

Senate Bill 3053 was enacted by the General Assembly on July 1, 2014. As a result of enacted Senate Bill 3053, the maximum workers compensation disability benefits in Rhode Island was increased from 115% to 120% of the SAWW, effective 10/01/2016. The resulting impacts by type of injury are shown below.

<u>Type of Injury</u>	<u>Percentage of Losses^{1,2}</u>	<u>Effect (%)</u>
Fatal	1.6%	+ 0.4
Permanent Total	1.7%	+ 0.3
Permanent Partial	46.5%	+ 0.2
<u>Temporary Total</u>	<u>15.5%</u>	<u>+ 0.4</u>
Total Indemnity	65.3%	+ 0.3
<u>Medical</u>	<u>34.7%</u>	<u>0.0</u>
Total	100.0%	+ 0.2

¹ NCCI Unit Statistical Plan data for the 36-month policy period ending 12/31/2011 on the 09/01/2014 law level and developed to an ultimate basis by type of injury.

² NCCI Financial Call data for Rhode Island for Policy Years 2011, 2012, and 2013 projected to 10/01/2016.



RHODE ISLAND

APPENDIX C-IV

Longshore and Harbor Workers' Compensation Act

Change in the Minimum and Maximum Weekly Benefits, Effective 10/01/2013

In the Longshore And Harbor Workers' Compensation Act , maximum and, for certain benefit types, minimum workers compensation indemnity benefit provisions are dependent upon the national average weekly wage (NAWW). The impacts summarized in the table below result from anticipated changes in workers compensation costs due to the change in the NAWW from \$662.59 ("current") to \$673.34 ("revised"), and apply to injuries occurring on or after 10/01/2013.

The approach used in calculating the effects of a change in the NAWW is as follows:

1. Obtain the latest available NAWW from the United States Department of Labor, Division of Longshore and Harbor Workers' Compensation (DLHWC).
2. Calculate the minimum and maximum benefits by benefit payment type that are dependent upon and expressed as a percentage of the current and revised NAWW.
3. Using a countrywide distribution of workers and their wages¹, indexed to the Longshore And Harbor Workers' Compensation Act average weekly wage², determine expected current and revised average weekly benefits by benefit payment type (and dependency type, as appropriate)³.
4. Use the above-calculated average weekly benefits to determine the indemnity benefit costs for each injury type (Fatal, Permanent Total, Permanent Partial, and Temporary Total)⁴ prior to and subsequent to the change in the NAWW. Calculate the ratio of the revised indemnity benefit costs to current indemnity benefit costs for each injury type to determine the impact by injury type from the change in the NAWW.
5. Determine the indemnity cost distribution by injury type⁵.
6. Using the indemnity cost distribution (Step 5) and the effects by injury type (Step 4), calculate the effect of the change in NAWW on total indemnity benefit costs.
7. Multiply the impact on total indemnity benefit costs (Step 6) by the percentage of losses attributed to indemnity benefits to determine the impact of the change in the NAWW on overall benefit costs.

Type of Injury	Percentage of Losses	Effect (%)
Fatal	1.9%	+ 0.3
Permanent Total	6.3%	+ 0.3
Permanent Partial	36.5%	+ 0.1
Temporary Total	11.8%	+ 0.3
Total Indemnity	56.5%	+ 0.2
Medical	43.5%	0.0
Total	100.0%	+ 0.1

¹ Based on NCCI Detailed Claim Information data.

² Bureau of Labor Statistics Quarterly Census of Employment and Wages, for all private sector employment.

³ For states where the rate of compensation is based on spendable wages, state and federal tax withholding tables are used in conjunction with pertinent assumptions (e.g., number of dependents).

⁴ Various distributions based on internal and external data are employed in determining the impact by type of injury. For example, for Fatal injuries, a countrywide distribution of average ages and dependents by type (e.g., spouse, spouse with one child, parent, etc.) is used in calculating mortality-adjusted annuity values under both the current and revised weekly maximum benefits, with the likelihood of remarriage incorporated as applicable.

⁵ NCCI Unit Statistical Plan data for the 36-month policy period ending 12/31/2010 on the 10/01/2012 law level and developed to an ultimate basis by type of injury.



RHODE ISLAND

APPENDIX C-V

Longshore and Harbor Workers' Compensation Act

Change in the Minimum and Maximum Weekly Benefits, Effective 10/01/2014

In the Longshore And Harbor Workers' Compensation Act , maximum and, for certain benefit types, minimum workers compensation indemnity benefit provisions are dependent upon the national average weekly wage (NAWW). The impacts summarized in the table below result from anticipated changes in workers compensation costs due to the change in the NAWW from \$673.34 ("current") to \$688.51 ("revised"), and apply to injuries occurring on or after 10/01/2014.

The approach used in calculating the effects of a change in the NAWW is as follows:

1. Obtain the latest available NAWW from the United States Department of Labor, Division of Longshore and Harbor Workers' Compensation (DLHWC).
2. Calculate the minimum and maximum benefits by benefit payment type that are dependent upon and expressed as a percentage of the current and revised NAWW.
3. Using a countrywide distribution of workers and their wages¹, indexed to the Longshore And Harbor Workers' Compensation Act average weekly wage², determine expected current and revised average weekly benefits by benefit payment type (and dependency type, as appropriate)³.
4. Use the above-calculated average weekly benefits to determine the indemnity benefit costs for each injury type (Fatal, Permanent Total, Permanent Partial, and Temporary Total)⁴ prior to and subsequent to the change in the NAWW. Calculate the ratio of the revised indemnity benefit costs to current indemnity benefit costs for each injury type to determine the impact by injury type from the change in the NAWW.
5. Determine the indemnity cost distribution by injury type⁵.
6. Using the indemnity cost distribution (Step 5) and the effects by injury type (Step 4), calculate the effect of the change in NAWW on total indemnity benefit costs.
7. Multiply the impact on total indemnity benefit costs (Step 6) by the percentage of losses attributed to indemnity benefits to determine the impact of the change in the NAWW on overall benefit costs.

Type of Injury	Percentage of Losses	Effect (%)
Fatal	1.8%	+ 0.4
Permanent Total	2.7%	+ 0.4
Permanent Partial	39.1%	+ 0.2
Temporary Total	12.3%	+ 0.4
Total Indemnity	55.9%	+ 0.3
Medical	44.1%	0.0
Total	100.0%	+ 0.2

¹ Based on NCCI Detailed Claim Information data.

² Bureau of Labor Statistics Quarterly Census of Employment and Wages, for all private sector employment.

³ For states where the rate of compensation is based on spendable wages, state and federal tax withholding tables are used in conjunction with pertinent assumptions (e.g., number of dependents).

⁴ Various distributions based on internal and external data are employed in determining the impact by type of injury. For example, for Fatal injuries, a countrywide distribution of average ages and dependents by type (e.g., spouse, spouse with one child, parent, etc.) is used in calculating mortality-adjusted annuity values under both the current and revised weekly maximum benefits, with the likelihood of remarriage incorporated as applicable.

⁵ NCCI Unit Statistical Plan data for the 36-month policy period ending 12/31/2011 on the 10/01/2013 law level and developed to an ultimate basis by type of injury.



RHODE ISLAND

APPENDIX C-VI

U.S. Longshore and Harbor Workers' Compensation Act Assessment

The F-class and Program II, Option II maritime class voluntary loss costs include the following provision for the federal assessment:

1.) Estimated Total Expense Needed for 2015 *	110,000,000
2.) Compensation Payments Reported (on indemnity only) in 2014 *	998,653,103
3.) Assessment Rate on Indemnity Losses (1) / (2)	11.0%

Breakdown of Losses Under the Longshore and Harbor Workers Act

4.) Indemnity Losses (Combination of 1st through 3rd reports) #	47,328,763
5.) Medical Losses (Combination of 1st through 3rd reports) #	37,271,647
6.) Total Losses (4) + (5)	84,600,410
7.) Assessment Rate on Total Losses { (3) x (4) } / (6)	6.2%

* Source: U.S. Department of Labor

Source: On-leveled and developed USL&HW losses - statistical plan data