

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

**NCCI PROPOSED WORKERS COMPENSATION
ADVISORY LOSS COSTS
EFFECTIVE 8/1/16**

Prepared for: State of Rhode Island and Providence Plantations
Department of Business Regulation
Cranston, RI

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I. BACKGROUND

On 11/19/15, the National Council on Compensation Insurance, Inc. (“NCCI”) filed for a revision to its Rhode Island workers compensation advisory loss costs to be effective 8/1/16. NCCI proposed an overall change in loss costs of -4.9% for the industrial classes and -0.7% for the Federal (“F”) classifications. For the U.S. Longshore and Harbor Workers (“USL&HW”) compensation percentage that adjusts for differences in benefits and loss-based expenses, NCCI proposed to change the current percentage from 62% to 60%.

The Department of Business Regulation (“the Department”) has retained Milliman, Inc. (“Milliman”) to perform an independent actuarial review of this filing.

The Department of the Attorney General (“AG”) has also performed an independent actuarial review of this filing.

II. SUMMARY OF MILLIMAN FINDINGS

Table 1 summarizes the proposed changes of NCCI, Milliman, and the AG.

Table 1 Rhode Island NCCI Loss Cost Filing Summary of Proposed Changes by Party Effective 8/1/16			
	NCCI	Milliman	AG
Industrial Classes	-4.9%	-7.5%	-13.2%
"F" Classifications	-0.7%	-3.6%	-11.4%
USL&HW %	-1.2%	-1.2%	-1.2%

The following is a summary of the major findings of Milliman's independent actuarial review of this filing.

- **Industrial Classes:** With the exception of the indemnity loss trend, the loss development methodology, and the Loss Adjustment Expense ("LAE") provision, we generally find NCCI's methodology to be within a range of reasonableness and its assumptions to be reasonably supported. Based on our review of the data and information presented in the filing, we recommend (a) lowering the indemnity trend factor from 0.0% to -0.5%; (b) using loss development factors based on the latest five years excluding the highest and lowest years; and (c) lowering the LAE provision from 18.3% to 17.9%. We estimate the overall revised indication to be -7.5% for the industrial classes. Please see Section VII for details.
- **"F" Classifications:** With the exception of the indemnity loss trend and the LAE provision, we generally find NCCI's methodology to be within a range of reasonableness and its assumptions to be reasonably supported. We recommend

the same changes as noted above for the industrial classes. We estimate the overall revised indication to be -3.6% for the “F” classifications.

- **USL&HW:** NCCI’s methodology is reasonable and its assumptions are reasonably supported at this time.

III. SCOPE AND INTENDED PURPOSE

The Department has retained Milliman to review NCCI’s Rhode Island loss cost filing, effective 8/1/16, including the underlying assumptions, actuarial methodology, and reasonableness of the selections.

IV. DISCLOSURES AND LIMITATIONS

A. Disclosures

1. Terminology

Case Reserves and IBNR Reserves. Total loss reserves consist of case reserves (claims administrator's estimates of future payments on individual reported claims) and incurred but not reported ("IBNR") reserves. As used in this report, the terms "IBNR reserves" and "unreported losses" refer to the difference between ultimate losses and case incurred losses as of the evaluation date. As such, they are a provision for unreported claims, changes in incurred values on open claims, and future payments on reopened claims.

Loss Adjustment Expenses. LAE are classified as allocated loss adjustment expenses ("ALAE") and unallocated loss adjustment expenses ("ULAE"). Generally, ALAE include claims settlement costs directly assigned to specific claims, such as legal fees, and ULAE includes other claims administration expenses. The National Association of Insurance Commissioners ("NAIC") categorizes LAE in the Annual Statement as DCCE and AOE. Generally, DCCE includes all defense and litigation-related expenses, whether internal or external to a company, while AOE includes all claims adjusting expenses, whether internal or external to a company.

2. Acknowledgment of Qualifications

John Herzfeld is a Principal of Milliman, a Fellow of the Casualty Actuarial Society, and a Member of the American Academy of Actuaries. Mary Ann McMahon is a Consulting Actuary of Milliman, a Fellow of the Casualty Actuarial Society, and a Member of the American Academy of Actuaries. John and Mary Ann each meet the qualification standards of the American Academy of Actuaries to provide the estimates in this report.

B. Limitations on Distribution and Use of Name

Milliman's work is prepared solely for the use and benefit of the Department in accordance with its statutory and regulatory requirements. Milliman recognizes that materials it delivers to the Department may become public records subject to disclosure to third parties, however, Milliman does not intend to benefit and assumes no duty or liability to any third parties who receive Milliman's work and may include disclaimer language on its work product so stating. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, the Department agrees that it shall not disclose Milliman's work product to third parties without Milliman's prior written consent; provided, however, that the Department may distribute Milliman's work to (i) its professional service providers who are subject to a duty of confidentiality and who agree to not use Milliman's work product for any purpose other than to provide services to the Department, or (ii) any other applicable regulatory or governmental agency, as required.

Any reader of this report agrees not to use Milliman's name, trademarks or service marks, or to refer to Milliman directly or indirectly in any third party communication without Milliman's prior written consent for each such use or release, which consent shall be given in Milliman's sole discretion.

C. General Limitations

1. Reliance on Data

In performing this analysis, we relied on data and other information provided by NCCI. We have not audited or verified this data and information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. In that event, the results of our analysis may not be suitable for the intended purpose.

We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

2. Uncertainty

Actuarial estimates are subject to uncertainty from various sources, including changes in claim reporting patterns, claim settlement patterns, judicial decisions, legislation, and economic conditions.

In estimating the amount of loss cost change required, it is necessary to project future loss and LAE payments. Actual future losses and LAE will not develop exactly as projected and may, in fact, vary significantly from NCCI's projections. Further, the projections make no provision for future emergence of new classes or types of losses not sufficiently represented in NCCI's historical database or that are not yet quantifiable.

3. Variability of Results

NCCI's estimates are based on long term averages. Actual loss experience in any given year may differ from what is suggested by these averages.

V. SUMMARY OF NCCI FILING

A. Industrial Classes

Table 2 summarizes NCCI's proposed changes to its Rhode Island workers compensation advisory loss costs for the industrial classes to be effective 8/1/16.

Table 2 Rhode Island NCCI Loss Cost Filing Proposed Changes - Industrial Classes Effective 8/1/16	
<u>Component</u>	<u>Indication</u>
Change in Experience, Trend, and Benefits	-5.1%
Change in Loss Adjustment Expenses	+0.2%
Proposed Change in Loss Costs	-4.9%

NCCI proposed an overall change of -4.9% in loss costs of the industrial classes. This is derived from a change in experience, trend, and benefits of -5.1% and a change in the LAE provision of +0.2%.

B. "F" Classifications / USL&HW

Table 3 summarizes NCCI's proposed changes to its "F" classifications and the USL&HW percentage to be effective 8/1/16.

Table 3 Rhode Island NCCI Loss Cost Filing Proposed Changes - Other Effective 8/1/16	
<u>Component</u>	<u>Indication</u>
"F" Classifications	-0.7%
USL&HW %	-1.2%

For the "F" classifications, NCCI proposed a loss cost change of -0.7%.

For USL&HW, NCCI proposed to change the percentage that adjusts for differences in benefits and loss-based expenses from 62% to 60%.

C. Industry Group Loss Cost Level Changes

Table 4 below summarizes the distribution of the overall loss cost level change to each industry group as filed by NCCI. The overall change across all classes is designed to balance to the overall aggregate indication.

Table 4 Rhode Island NCCI Loss Cost Filing Proposed Changes - Industry Groups Effective 8/1/16	
<u>Industry Group</u>	<u>Average Group Change</u>
Manufacturing	-5.7%
Contracting	-9.6%
Office and Clerical	-9.7%
Goods and Services	-2.0%
Miscellaneous	-2.8%
Overall	-4.9%

D. Experience Rating Plan Split Point

In experience rating, the split point separates losses into primary and excess components. For the twenty years prior to 2013, the split point had been \$5,000. According to NCCI, experience indicates that the split point should be increased to \$15,000 and the experience rating plan becomes less responsive if the split point is not indexed for claims cost inflation. Any future changes in the split point will be based on countrywide severity changes.

NCCI increased the split point from \$5,000 to \$10,000 in the 2013 filing and then to \$13,500 in the 2014 filing. In the current filing, NCCI has increased the split point to \$16,000, which was based on the selected split point of \$15,000 and adjusted based on current countrywide severity changes. No party has contested these changes and we believe NCCI's implementation of incremental changes to the split point is reasonable.

VI. DISCUSSION OF ATTORNEY GENERAL RECOMMENDATIONS

In its review of the above filing, the AG disagrees with NCCI's proposed indication of -4.9% for the industrial classes and -0.7% for the "F" classes. Instead, the AG recommends alternative indications of -13.2% and -11.4%, respectively. The AG's recommendation is broken down into the following components:

A. Trend Factors

In this year's filing, NCCI selected annual trend factors of 0.0% for indemnity and 0.5% for medical. These trend factors are the same as those selected in the prior filing. The AG argues that NCCI's selected annual indemnity and medical trend factors have no historical basis and are excessive. The AG proposes lower annual trend factors of -1.5% for indemnity and -0.5% for medical. The estimated impact of the AG's proposed change would decrease the indication from -4.9% to -10.6% for the industrial classes. This assumes no changes to any of NCCI's other assumptions.

Indemnity Trend

Regarding the selected indemnity trend factor, the AG makes the following arguments against NCCI's selection:

- NCCI provides no explanation between the graphs provided in the filing and the selected trend factor.
- NCCI's selected trend factor appears to be based on 15 years of data.
 - In Appendix A-III, Section B of the filing, NCCI provides annual trends based on 8, 12, and 15 years of data. In prior filings, NCCI has never provided annual trends based on more than 8 years of data.
 - NCCI does not provide annual trends based on more than 8 years of data in other states.

- In statistics, the R-squared value is a measure of the goodness of fit of the actual data to the selected trend. Values closer to 1.000 indicate a better fit. The R-squared value associated with 15 years of data for indemnity loss ratios is 0.001.
- The approved indemnity trend is at or below -1.5% in the other New England states and is -2.8% on a countrywide basis based on an unweighted average.

The AG recommends giving more weight to trends based on 5, 6, or 7 years of data, which all have greater R-squared values than that for 15 years of data, and selects an indemnity trend factor of -1.5%.

Medical Trend

Regarding the selected medical trend factor, the AG makes the following arguments against NCCI's selection:

- NCCI provides no explanation between the graphs provided in the filing and the selected trend factor.
- NCCI's selected trend factor appears to be based on 15 years of data.
 - In Appendix A-III, Section B of the filing, NCCI provides annual trends based on 8, 12, and 15 years of data. In prior filings, NCCI has never provided annual trends based on more than 8 years of data.
 - NCCI does not provide annual trends based on more than 8 years of data in other states.
 - The R-squared value associated with 15 years of data for medical loss ratios is 0.208.
- The approved medical trend is 0.0% in the other New England states based on an unweighted average and is -0.5% on a countrywide basis based on an unweighted average.

The AG recommends giving more weight to trends based on 5 or 6 years of data which all have greater R-squared values than that for 15 years of data, and selects a medical trend factor of -0.5%.

NCCI counter argues that its selected annual loss ratio trends are based on a thorough review of historical loss ratios, lost-time claim frequency, and severities in Rhode Island as well as actuarial judgment. NCCI states that, while the goodness of fit measure is certainly a consideration, it is inappropriate to use that as the primary determining factor. However, since the AG focuses its argument on that statistic, NCCI provided R-squared values separately for each of frequency, indemnity severity, and medical severity for several time periods.

For both indemnity and medical, the R-squared values for frequency and severity (when reviewed separately) are each the greatest for the 15 year data points, which correspond to the trend factors selected by NCCI. NCCI stated that these have the highest degree of statistical significance. NCCI further notes that the shorter term frequency points are volatile, have lower R-squared values (when frequency and severity are reviewed separately), and should not be relied on for this filing. NCCI makes similar arguments for both the indemnity and medical severity.

NCCI also states that the AG's selected trend factors imply that the 2016 policy year will have the most favorable experience of any policy year in its history.

Please see Section VII for Milliman's detailed recommendation on the selected indemnity and medical trend selections.

B. Loss Adjustment Expense Provision – Industrial Classes

In this year's filing, NCCI is proposing an increase in the selected LAE provision from 18.1% to 18.3%. The AG argues that NCCI's selected LAE provision of 18.3% is

excessive. NCCI's selection is comprised of a DCCE provision of 11.2% and an AOE provision of 7.1%. The AG proposes a lower LAE provision of 17.5%. The AG's selection is comprised of a DCCE provision of 10.5% and an AOE provision of 7.0%, which are both lower than NCCI's provisions. The estimated impact of the AG's proposed change would decrease the indication from -4.9% to -5.6% for the industrial classes. This assumes no changes to any of NCCI's other assumptions.

Regarding NCCI's DCCE selection, the AG compares triangles of ratios of DCCE-to-loss on both incurred and paid bases. These ratios all decrease significantly over time. None of them increase or stay the same. Further, NCCI does not provide an explanation as to why these ratios consistently decrease over time. Therefore, the AG argues that NCCI's estimate of the ultimate ratio of DCCE-to-loss is overstated.

The AG makes a similar argument regarding NCCI's AOE selection.

NCCI counter argues that it has already modified its development selections to be more responsive to the downward trend in the LAE provision. The additional adjustments that the AG has done results in double counting and produces an estimate that is biased low. NCCI further states that the AG overlooked the historical upward trend when comparing the LAE provision for older years to current years. The impact of this growth over time offsets much of the downward trend described by the AG but they make no adjustment for it in their calculations.

Please see Section VII for Milliman's detailed recommendation on the LAE provision.

C. Large Loss Methodology

The AG disagrees with NCCI's large loss methodology. However, since the Department believes NCCI's large loss methodology is reasonable and has been fully vetted for its use in Rhode Island, the AG accedes to the use of a large loss methodology but

recommends a different factor to adjust limited losses to an unlimited basis. The AG provides the following arguments:

1. The excess charge is calculated in an inappropriate manner, using inconsistent data sources and time periods, and contradictory actuarial judgments, resulting in an excess charge that is excessive.
2. NCCI's credit for limiting the amount of paid loss in excess of the large loss limit for the latest three policy years has not happened.
3. NCCI's credit for limiting the amount of paid loss in excess of the large loss limit in the calculation of loss development factors ("LDFs") is almost valueless.
4. Any potential value of the large loss limitation procedure in Rhode Island is diminished by using the procedure of excluding highest and lowest values when calculating LDFs.
5. The premium received by insurers as a result of the large loss limitation procedure is redundant to the catastrophe premium charge and the terrorism premium charge and is grossly excessive.
6. The premium received by insurers as a result of the large loss limitation procedure is not held in a separate account to be available to pay losses in excess of the large loss limit.
7. NCCI's large loss limitation procedure is contrary to Rhode Island statutes.

The AG recommends an alternative factor to adjust limited losses to an unlimited basis. The AG recommends a factor of 1.013, based on a statewide excess ratio of 0.013, while NCCI recommends a factor of 1.028, based on a statewide excess ratio of 0.027. The AG provides a detailed analysis in support of its alternative factor. The estimated impact of the AG's proposed change would decrease the indication from -4.9% to -6.3% for the industrial classes. This assumes no changes to any of NCCI's other assumptions.

NCCI counter argues that many of the AG's arguments have been fully vetted in prior Rhode Island filings. The statewide excess ratio has been calculated based on the data and analysis underlying the excess loss factors that were filed and approved in item R-1410, which will become effective in conjunction with the August 1, 2016 loss cost

filing. It is consistent with the approach used for determining the excess loss factors that have been filed and approved in past Rhode Island loss cost filings. The AG's approach is a different methodology and is inconsistent with other approved filings in Rhode Island.

We agree with NCCI that the substantial majority of the AG's arguments have been fully vetted in prior filings. Similar to the prior filing, the AG agreed with NCCI's large loss methodology but proposed different inputs and assumptions. We believe that NCCI's large loss methodology is reasonable at this time, including their inputs and assumptions.

We note that NCCI uses a large loss methodology in all states where it files loss cost filings except Alaska. Effective with NCCI's 1/1/12 loss cost filing in Alaska, the Director of the Alaska Division of Insurance ordered NCCI to discontinue use of a large loss methodology. The order stated "In the event that a truly large claim does emerge in future years, there are alternative actuarial techniques that can be used to mitigate its impact." We are reluctant to endorse a technique that only reflects large losses after they occur.

Regarding the AG's arguments, we disagree with all seven arguments for the following reasons:

1. NCCI's statewide excess factor is based on the latest approved filing in Rhode Island.
2. The AG believes that the large loss methodology is not valuable to policyholders because there have been no paid losses in excess of the large loss threshold in the experience period used in the filing. Since Rhode Island is a small state, we do not expect there to be large losses that pierce the large loss threshold every year. NCCI's large loss methodology is designed to mitigate the impact of large losses when they occur by capping losses at a certain level and applying a small

load to represent potential large losses. NCCI's large loss methodology will smooth loss cost indications over time by eliminating the fluctuation of large losses.

3. Similar to the previous argument, the limited and unlimited LDFs may be identical at certain evaluations due to the low volume of large losses. Also, this may happen more often at later evaluations as larger claims have already been settled.
4. The Department approved NCCI's large loss methodology in 2004 (DBR No. 04-I-0174). In 2010, NCCI stated that "the application of a large loss methodology is an actuarially accepted methodology" and is different from the selection of LDFs. LDFs are influenced by many elements, including claim reporting patterns and case reserve adequacy. Large losses can increase or decrease LDFs depending on their timing. Even if LDFs could be smoothed of the large loss influence, the large losses could still enter into the rate calculation so a large loss procedure is still necessary.
5. As discussed in recent years, the catastrophe premium charge and the terrorism premium charge are intended to cover different loss exposures than the premium received by insurers as a result of the large loss limitation procedure. The difference between the two provisions is based on frequency. Although large losses generally occur infrequently, catastrophes and terrorism should occur far less frequently than large losses. Consequently, NCCI calculates a separate load for each of them.
6. We believe that the AG's comment about insurer's keeping the premium received as a result of the large loss limitation procedure in a separate account does not conform to Statutory Accounting, to which insurers must comply.

7. The AG argues that the excess charge is for a contingent but extremely unlikely event and that it is contrary to the Rhode Island law that repealed the use of an underwriting profit (and contingency) provision in loss costs in 1998. The AG does not define the term “extremely unlikely” and does not support this statement. Rhode Island Law 27-9-51 defines “excess profits” as follows: “Excess profit has been realized if the underwriting gain is greater than the anticipated underwriting profit plus five percent of earned premiums for the three most recent calendar years.” The AG does not provide support that NCCI’s excess factor would result in excess profits for insurance companies. Further, the Department examines excess profits separately from its review of NCCI’s annual loss cost filing. If companies were earning excess profits, the Department would determine this in its regulatory review of insurance companies that are domiciled in Rhode Island.

Therefore, we believe that NCCI’s large loss methodology and its selected statewide excess factor are reasonable at this time.

D. Loss Development Methodology

In this year’s filing, NCCI’s selected loss development methodology is to give 100% weight to developed paid losses using LDFs based on the average of the latest five years for both indemnity and medical losses. This loss development methodology is different from that used in its prior filing. In its prior filing, NCCI gave 100% weight to developed paid losses using LDFs based on the average of the latest five years *excluding the highest and lowest years* for both indemnity and medical losses. For reasons discussed below, the AG argues against NCCI’s current methodology and recommends returning to the prior methodology. The estimated impact of the AG’s proposed change would decrease the indication from -4.9% to -5.7% for the industrial classes. This assumes no changes to any of NCCI’s other assumptions.

The AG's first argument against NCCI's current methodology is that Rhode Island is a small state and therefore has a greater likelihood of volatility in LDFs. Using a loss development methodology that excludes the highest and lowest years reduces the likelihood that Rhode Island LDFs are unduly influenced by adverse or beneficial loss development in a single policy year. It would remove outliers and not skew loss development results over many years. The AG also points out that NCCI utilized its prior loss development methodology in every filing in Rhode Island for the past several years.

The AG's second argument is that NCCI is unnecessarily reducing objectivity in methodology and unnecessarily increasing loss costs by employing this new technique in this filing. The AG points to NCCI's response to one of Milliman's data requests that asked NCCI to defend its new methodology. NCCI stated that it changed its methodology in the current filing due to the following reasons:

- The 5 year LDFs excluding the highest and lowest years produced a lower level of loss costs than the unweighted averages based on 2 through 5 years.
- The 5 year LDFs excluding the highest and lowest years may understate loss costs.
- Rhode Island LDFs are fairly consistent and well behaved and the 5 year LDFs excluding the highest and lowest years is not necessary.
- NCCI can make selections around factors that appear to be anomalous when needed.
- NCCI does not use a loss development methodology that excludes the highest and lowest years in any other state.

NCCI defends its current methodology in several ways. First, NCCI states that there is no evidence that Rhode Island has volatile loss development and, in fact, the loss experience has been relatively stable with low fluctuations from year to year. NCCI agrees with the AG that the loss development selection should consider stability and this is why NCCI is proposing a long term average of five years.

To further support its new methodology, NCCI references the paper “Downward Bias of Using High-Low Averages for Loss Development Factors” by Cheng-sheng Peter Wu, FCAS. In this paper, Wu states that there is downward bias present for high-low age-to-age averages if the development factors are long-tailed. NCCI notes that workers compensation development factors are some of the longest tailed factors in the insurance industry. Wu recommends using great caution with high-low averages as the excluded outliers may be correct and represent an unlikely event.

Please see Section VII for Milliman’s detailed recommendation on the loss development methodology.

E. “F” Classes

The AG recommends that the indicated change for the “F” classes be revised to reflect the alternative trend factors and LAE provision as presented in items A and B for the industrial classes. The estimated impact of the AG’s proposed changes would decrease the indication from -0.7% to -10.1% for the “F” classes. This assumes no changes to any of NCCI’s other assumptions.

NCCI’s counter arguments presented against items A and B above for the industrial classes apply here. Please see Section VII for Milliman’s recommendation on both the trend factors and the LAE provision.

F. Summary

Combining the AG’s recommendations above results in a proposed indication of -13.2% for the industrial classes and results in a proposed indication of -10.1% for the “F” classes. See the next section, Section VII Milliman Analysis and Comments on NCCI Filing, for Milliman’s recommendations.

VII. MILLIMAN ANALYSIS AND COMMENTS ON NCCI FILING

A. Loss Cost Level Indication

With respect to the treatment of individual large losses, NCCI used the same ratemaking methodology as was used in recent filings of limiting individual large losses to a certain loss threshold (about \$3.6 million in this year's filing). The actual excess incurred loss amount greater than this amount is removed and replaced with an expected excess loss amount. This methodology is intended to stabilize the loss cost indications. According to NCCI, in the experience period used in this year's filing, there were no claims that exceeded the threshold on a paid basis. On a paid plus case basis, there was one claim that exceeded the threshold with a total of approximately \$6.1 million of paid plus case losses above the threshold.

Using this ratemaking methodology, NCCI calculated an indication of the estimated loss cost needed for the prospective year based on the loss experience of policy years 2011, 2012, and 2013 evaluated as of 12/31/14. The proposed indication was based on the following loss development methodology: 100% weight to developed paid losses using LDFs based on the average of the latest five years. This methodology is different than NCCI's prior methodology of giving 100% weight to developed paid losses using LDFs based on the average of the latest five years excluding the highest and lowest years.

We asked NCCI to calculate alternative loss cost level indications based on the same methodology as described above for the treatment of large losses, but using alternative scenarios. These alternative indications are listed below and compared in Table 5. Please note that these alternative indications reflect the overall impact of the proposed change, including the LAE provision.

- a. 100% weight to developed paid losses with LDFs based on the average of the latest five years excluding the highest and lowest years

- b. 100% weight to developed paid losses with LDFs based on the average of the latest three years
- c. 100% weight to the developed paid plus case losses with LDFs based on the average of the latest five years
- d. 100% weight to the developed paid plus case losses with LDFs based on the average of the latest three years
- e. 100% weight to the developed paid plus case losses with LDFs based on the average of the latest five years excluding the highest and lowest years
- f. 50% weight to developed paid losses with LDFs based on the average of the latest three years and 50% weight to developed paid plus case losses with LDFs based on the average of the latest three years
- g. 50% weight to developed paid losses with LDFs based on the average of the latest three years and 50% weight to developed paid plus case losses with LDFs based on the average of the latest five years
- h. 50% weight to developed paid losses with LDFs based on the average of the latest three years and 50% weight to developed paid plus case losses with LDFs based on the average of the latest five years excluding the highest and lowest years
- i. 50% weight to developed paid losses with LDFs based on the average of the latest five years excluding the highest and lowest years and 50% weight to developed paid plus case losses with LDFs based on the average of the latest five years excluding the highest and lowest years
- j. 75% weight to developed paid losses with LDFs based on the average of the latest three years and 25% weight to developed paid plus case losses with LDFs based on the average of the latest five years excluding the highest and lowest years
- k. 25% weight to developed paid losses with LDFs based on the average of the latest three years and 75% weight to developed paid plus case losses with LDFs based on the average of the latest five years
- l. 25% weight to developed paid losses with LDFs based on the average of the latest three years and 75% weight to developed paid plus case losses with LDFs based on the average of the latest five years excluding the highest and lowest years

Table 5	
Rhode Island NCCI Loss Cost Filing	
Industrial Classes	
Alternative Scenarios - Policy Year Basis	
<u>Scenario</u>	<u>Indication</u>
Original (100% Paid - 5 Yr Avg)	-4.9%
100% Paid - 5 Yr Avg excl. Hi/Lo	-5.7%
100% Paid - 3 Yr Avg	-2.4%
100% Paid Plus Case - 5 Yr Avg	-13.4%
100% Paid Plus Case - 3 Yr Avg	-13.6%
100% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	-13.6%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 3 Yr Avg	-8.0%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 5 Yr Avg	-7.9%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	-8.0%
50% Paid - 5 Yr Avg excl. Hi/Lo / 50% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	-9.7%
75% Paid - 3 Yr Avg / 25% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	-5.2%
25% Paid - 3 Yr Avg / 75% Paid Plus Case - 5 Yr Avg	-10.7%
25% Paid - 3 Yr Avg / 75% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	-10.9%

We also asked NCCI to provide an alternative indication based on loss experience and premium for accident years 2012, 2013, and 2014, using the same loss development methodology used in the original filing. Table 6 summarizes this alternative indication. Please note that this alternative indication reflects the overall impact of the proposed change, including the LAE provision.

Table 6 Rhode Island NCCI Loss Cost Filing Industrial Classes Alternative Scenarios - Accident Year Basis	
<u>Accident Year</u>	<u>Indication</u>
2012	-7.0%
2013	-7.1%
2014	-8.8%
Total	-7.6%

In general, we believe that NCCI's selection based upon paid LDFs in the calculation of the loss cost indication is reasonable. Paid LDFs have been relied on for many years in Rhode Island and can be stable and reliable for workers compensation coverage, which typically makes periodic payments on claims.

For the past several years, NCCI has selected paid LDFs based on the last five years excluding the highest and lowest years. In the current filing, NCCI changed its selection to the last five years. NCCI stated a few reasons for this change:

- “When analyzing development, NCCI noted that the average of the latest five years excluding the highest and lowest years (5-yr Xhilo) method resulted in the lowest paid LDFs for both indemnity and medical when compared to the 2-year, 3-year, 4-year and 5-year averages. The 5-year average LDFs are slightly higher than the 5-yr Xhilo but are still lower than almost all other averages calculated.”
- “The 5-yr Xhilo methodology may be appropriate when there is significant volatility in the link ratios and a “default” method is needed to easily eliminate any factors that appear to be outliers. However, at this time, the Rhode Island development triangles are fairly consistent and well-behaved so NCCI does not

believe the 5-yr Xhilo methodology to be necessary or appropriate for this year's filing."

- "There is currently no other NCCI state that utilizes a 5-yr Xhilo development average for all link ratios."

NCCI makes a valid argument against the 5-yr Xhilo methodology by pointing out that it produces the lowest indication (-5.7%) compared to indications based on 2, 3, 4, and 5 year averages. However, we would like to clarify that this is based on paid LDFs only. If you review both paid and "paid plus case" LDFs, it is not the lowest indication. The "paid plus case" LDFs result in much lower indications – as low as -13.6%. Further, when reviewing the indications based on the latest three accident years, instead of policy years, the indication based on the originally selected paid LDFs is -7.6%, and the indication for each individual accident year is -7.0% or lower. The accident year indication can be a leading indicator of the future direction of the loss experience. In this case, it suggests that the loss experience in Rhode Island may continue on a favorable path.

We disagree with NCCI's second and third arguments. The second argument is that Rhode Island's loss experience is consistent and well-behaved, and therefore a methodology that eliminates outliers is not necessary. If there were no outliers in the data, the indications using a five year average both with and without the highest and lowest points should result in a very similar indication. We note that the indications have a difference of 0.8%.

Lastly, NCCI argues that they have not chosen a 5-yr Xhilo methodology in any other state. A 5-yr Xhilo methodology is a generally accepted actuarial methodology. Because it is not currently used in any state does not imply that it could not or should not be used in any state.

We believe that NCCI's prior methodology of using paid LDFs based on the latest five years excluding the highest and lowest years would continue to be a reasonable

methodology for Rhode Island. It would promote both stability and responsiveness in the loss cost indication. Using the prior methodology encourages stability in the loss costs by not re-selecting the LDFs methodology each year. Further, a leading indicator is that Rhode Island experience will continue to be favorable so this methodology would be responsive to the current workers compensation environment in Rhode Island.

The estimated impact of this proposed change would decrease the indication from -4.9% to -5.7% for the industrial classes. This assumes no changes to any of NCCI's other assumptions.

B. Treatment of Large Losses

We believe that NCCI's ratemaking methodology with respect to the treatment of large losses is reasonable and appropriate for use in a small state like Rhode Island. It is a continuation of NCCI's program utilized in prior Rhode Island filings as well as similar to NCCI's program in other states. This methodology should help increase long-term stability in the loss cost level in Rhode Island. If one or more large losses occur in a policy year, it will not cause the loss cost level to increase as significantly in the years that follow. The large loss threshold is approximately \$3.6 million in this year's filing, compared to approximately \$3.4 million in the prior filing. The large loss threshold increases over time based on loss trend and development. We believe the current large loss threshold of approximately \$3.6 million is reasonable at this time.

C. Tail Factors

A "tail factor" is the final LDF that is applied to losses to develop them to an ultimate basis, and is selected for each of medical and indemnity losses. NCCI selects its tail factors based on historical loss information. NCCI's selected the following tail factors:

- Indemnity “paid plus case” of 1.005
- Medical “paid plus case” of 1.030
- Indemnity paid of 1.012
- Medical paid of 1.037

The indemnity “paid plus case” tail factor is the same as the prior filing, and all other tail factors are lower than the prior filing.

We asked NCCI to provide an alternative indication using the prior selected tail factors along with the other assumptions of the original filing. According to NCCI, the alternative indication in this scenario is -4.6%. Please note that these alternative indications reflect the overall impact of the proposed change, including the LAE provision.

Based on the data and information that we received from NCCI, we believe that both the medical and indemnity tail factors are reasonably supported.

D. Trend Factors

NCCI used trend factors to measure expected changes in benefit costs along with expected changes in wages. Trend was determined separately for indemnity and medical benefits. NCCI estimated that the indemnity portion of the total benefit costs would be 66% and the medical portion would be 34%.

In the current filing, NCCI proposed no change to either the indemnity trend factor of 0.0% or the medical trend factor of +0.5%. NCCI’s selections are based on a review of exponential and linear trends applied to Rhode Island historical loss ratios as well as economic data.

For comparison purposes, we asked NCCI to calculate alternative overall indications for each of the following alternative scenarios: (a) -0.5% for the indemnity trend factor and 0.0% for the medical trend factor; and (b) 0.0% for the indemnity trend factor and 0.0% for the medical trend factor. The overall indications are -7.1% for scenario (a) and -5.6% for scenario (b). Please note that these alternative indications reflect the overall impact of the proposed change, including the LAE provision.

NCCI also provided the currently approved indemnity and medical trend factors in other NCCI states, and the exponential and linear trend analyses that were reviewed for Rhode Island along with the goodness-of-fit statistics, or R-squared values.

Regarding NCCI's selected indemnity trend factor of 0.0%, we note that the filed and approved indemnity trend factors in all other states where NCCI submits loss cost filings are all negative. The selected indemnity trend factors for the surrounding New England states are -1.0% for CT, -2.0% for ME, -3.0% for NH, and -1.5% for VT. In addition, the countrywide unweighted average is -2.8%. Rhode Island has the highest indemnity trend factor at 0.0%. Both the AG and NCCI use goodness of fit statistics to support their selections, and they each present valid arguments. We believe that a small state like Rhode Island should not have an indemnity trend that is an outlier. At this time, we believe that the data suggests a small negative indemnity trend, or -0.5%. We believe that the AG's selected trend factor of -1.5% is too low at this time.

We reviewed similar data and information for the medical trend factor and we agree with NCCI's selection of 0.5%. The selected medical trend factors for the surrounding New England states are 1.0% for CT, -1.5% for ME, 1.0% for NH, and -0.5% for VT. In addition, the countrywide unweighted average is -0.5%. Rhode Island's selection medical trend factor of 0.5% is in line with that of the surrounding New England states as well as the underlying data. We believe the AG's selected trend factor of -0.5% is too low at this time.

The estimated impact of this proposed change would decrease the indication from -4.9% to -6.3% for the industrial classes and from -0.7% to -2.5% for the F classes. This assumes no changes to any of NCCI's other assumptions.

E. Loss Adjustment Expense Provision

NCCI's proposed LAE provision is determined in two steps:

1. Countrywide Provision

Using countrywide accident year data obtained from NCCI Call 19 for LAE, separate countrywide ratios for DCCE-to-loss and AOE-to-loss are developed to an ultimate basis based on selected development factors. NCCI selected separate loss, DCCE, and AOE development factors on both paid and incurred bases. NCCI selected a five year average for incurred loss, DCCE, and AOE development factors, which is consistent with its methodology used in the prior filing. According to NCCI, "longer-term averages are used because the incurred amounts include IBNR, which can be somewhat volatile." NCCI selected a two year average for paid DCCE, AOE, and LDFs, which is also consistent with its methodology used in the prior filing. According to NCCI, the reason for the shorter-term averages in its selection of paid factors is due to an observed historical decline in the estimated paid DCCE-to-loss ratios, which was generally attributable to a pattern of decreasing DCCE development factors and increasing LDFs.

After estimating separate ultimate DCCE-to-loss and AOE-to-loss ratios on both paid and incurred bases for each accident year, NCCI applied 50% weight to each of the paid and incurred methods. Finally, NCCI selected a three year average of the results as its selected ultimate DCCE-to-loss and AOE-to-loss ratios. Based on a review of NCCI's analysis, we believe that its selected ultimate AOE-to-loss ratio of 7.1% is

reasonable at this time. However, we believe that its selected countrywide ultimate DCCE-to-loss ratio of 13.0% is high for the following reasons:

- a. Selected Methods – NCCI applied 50% weight to the paid development method, which is generally reasonable for a coverage such as workers compensation, which typically makes periodic payments on claims. However, because the cumulative paid development factors (for both DCCE and loss) are very large for the more recent accident years, there is a higher degree of uncertainty in the estimated ultimate ratios produced by this method for these recent accident years. The resulting estimated ultimate losses are highly leveraged and may be too high or too low. We recommend that in future filings NCCI consider applying more weight to the incurred development method for the more recent accident years, which uses cumulative incurred development factors that are not as large and uncertain, or consider using an alternative method such as the paid expected emergence method (also known as the Bornhuetter-Ferguson method), which blends an expected ultimate amount with actual payments.

- b. Selected Average – NCCI selected a three-year average of historical ultimate DCCE-to-loss ratios. Due to the tendency for the paid development method to be highly leveraged for more recent accident years and NCCI's selected weighting of 50% to this method, we recommend that NCCI select a longer term average. A longer term average will reflect the information that can be obtained from accident years that are more mature and that have been developed to an ultimate basis using more credible cumulative development factors. We note that NCCI selected a two-year average in prior filings and selected a three-year average in the current filing. We believe that NCCI could still select a longer term average.

Based on the above commentary, we recommend a selected ultimate DCCE-to-loss of 12.6% on a countrywide basis, which is lower than NCCI's selection of 13.0%. Our

selection is based on a five-year average of historical ultimate DCCE-to-loss ratios without changing the 50%/50% weighting to the paid and incurred methods.

2. Rhode Island Provision

The countrywide DCCE ratio is converted to a state-specific DCCE ratio by comparing state-specific and countrywide calendar year paid DCCE-to-loss ratios and selecting a state relativity. The countrywide AOE ratio is added to the state-specific DCCE ratio to obtain the selected state-specific LAE allowance.

The selected Rhode Island DCCE relativity of 0.860 is based on a latest three-year average of Rhode Island-to-countrywide paid DCCE-to-loss ratios. We asked NCCI to provide the Rhode Island DCCE relativity based on a latest two-year average. According to NCCI, this relativity is 0.876, which would result in an indicated LAE provision of 18.5%.

Selecting the number of years to use for the average DCCE relativity involves a trade-off between responsiveness to new data and stability relative to the longer-term average. Based on our review of both the filing data and the supplemental information, we believe that the selected Rhode Island DCCE relativity, which is based on a latest three-year average, is reasonable at this time.

Applying this Rhode Island DCCE relativity factor to our selected ultimate DCCE-to-loss ratio of 12.6% results in a ratio of 10.8%, which is lower than NCCI's selection of 11.2%.

The estimated impact of this proposed change would decrease the indication from -4.9% to -5.3% for the industrial classes, and from -0.7% to -1.1% for the "F" classes. This assumes no changes to any of NCCI's other assumptions.

F. Summary

With respect to the following major areas of review, we believe that NCCI's methodology in this year's is reasonable at this time:

- weighting of standard actuarial loss development methodologies
- treatment of large losses
- selection of AOE component of the LAE provision
- selection of medical trend factor

Please note that for convenience we use the term "reasonable" in this report as equivalent to our understanding of not excessive, inadequate or unfairly discriminatory as stated in Rhode Island law and regulations.

With respect to the following major areas of review, we recommend changes to NCCI's methodology:

- selection of LDFs
- selection of DCCE component of the LAE provision
- selection of indemnity trend factor

As previously stated, we recommend that NCCI use LDFs based on a five year average excluding the highest and lowest years; lower the countrywide DCCE provision from 13.0% to 12.6%; and lower its selected indemnity trend factor from 0.0% to -0.5%.

The estimated impact of these proposed changes would decrease the indication from -4.9% to -7.5% for the industrial classes, and from -0.7% to -3.6% for the "F" classes.

VIII. GLOSSARY OF INSURANCE TERMS

Adjusting and Other Expenses (“AOE”): the portion of loss adjustment expenses that covers all claims adjusting expenses, whether internal or external to an insurance company

Case Reserves: claims administrator’s estimates of future payments on claims that have been reported to the insurance company for a particular period at a specific point in time.

Defense and Cost Containment Expenses (“DCCE”): the portion of loss adjustment expenses that covers all defense and litigation-related expenses, whether internal or external to an insurance company

Incurred But Not Reported (“IBNR”) Reserves: the provision for unreported claims, changes in incurred values on open claims, and future payments on reopened claims.

Loss Adjustment Expenses (“LAE”): the sum of allocated loss adjustment expenses (“ALAE”) and unallocated loss adjustment expenses (“ULAE”); generally, ALAE includes claims settlement costs directly assigned to specific claims, such as legal fees, and ULAE includes other claims administration expenses.

Loss Cost: ultimate losses divided by payroll (in \$100 increments) and usually (but not always) includes LAE.

Loss Development Factors (“LDFs”): factors used to develop paid or “paid plus case” losses from their values at specific evaluation ages to their ultimate values; LDFs are estimated by reviewing historical experience.

Paid Losses: losses for a particular period that have been paid on all known claims.

“Paid Plus Case” Losses: the sum of all paid losses and case reserves for a particular period at a specific point in time; also called incurred losses or case incurred losses.

Premium On-Leveling: the process of estimating what historical premium levels would be, had the insurance been written today.

Tail Factor: a final LDF that is applied to losses to develop them to an ultimate basis, and is selected for each of medical and indemnity losses.

Trend Factors: factors used to adjust the losses and exposures for any underlying trends that are expected to produce changes over time (e.g., an indemnity trend factor accounts for expected growth in indemnity benefits as compared to wages, a medical trend factor accounts for expected growth in medical costs).

Ultimate Losses: the sum of paid losses, case reserves, and IBNR reserves for a particular period at a specific point in time; until all claims are closed, any calculation of ultimate losses is an estimate.