STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

NCCI PROPOSED WORKERS COMPENSATION ADVISORY LOSS COSTS EFFECTIVE 8/1/14

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

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I. BACKGROUND

On 11/25/13, the National Council on Compensation Insurance, Inc. (“NCCI”) filed for a revision to its Rhode Island workers compensation advisory loss costs to be effective 8/1/14. NCCI proposed an overall change in loss costs of +3.0% for the industrial classes and +5.9% 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 no change to the current percentage of 62%.

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

II. SUMMARY OF MILLIMAN FINDINGS

Table 1 summarizes the proposed changes of NCCI, Milliman, and the Department of the Attorney General ("AG").

Table 1
Rhode Island NCCI Loss Cost Filing
Summary of Proposed Changes by Party
Effective 8/1/14

	NCCI	Milliman	AG
Industrial Classes	+3.0%	+2.5%	-1.3%
"F" Classifications	+5.9%	+5.4%	-1.1%
USL&HW %	0.0%	0.0%	0.0%

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 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 support of the LAE provision, instead of NCCI's proposed LAE provision of 18.7%, we recommend an LAE provision of 18.1%. This recommended provision is composed of a Defense and Cost Containment Expense ("DCCE") provision of 10.9% (a decrease from NCCI's selection of 11.5%) and an Adjusting and Other Expense ("AOE") provision of 7.2% (no change to NCCI's selection). We estimate the overall revised indication for the industrial classes to be +2.5%. Please see Section VI for details.

- **"F" Classifications:** With the exception of 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 selected LAE provision as noted above for the industrial classes. We estimate the overall revised indication for the "F" classifications to be +5.4%.

- **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 8/1/14, 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 to 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 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.

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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 8/1/14.

Table 2
Rhode Island NCCI Loss Cost Filing
Proposed Changes - Industrial Classes
Effective 8/1/14

Component	Indication
Change in Experience, Trend, and Benefits	+2.6%
Change in Loss Adjustment Expenses	+0.4%
Proposed Change in Loss Costs	+3.0%

NCCI proposed an overall change of +3.0% in loss costs of the industrial classes. This is derived from a change in experience, trend, and benefits of +2.6% and a change in the LAE provision of +0.4%.

B. "F" Classifications / USL&HW

Table 3 summarizes NCCI's proposed changes to its "F" classifications and the USL&HW percentage to be effective 8/1/14.

Table 3 Rhode Island NCCI Loss Cost Filing Proposed Changes - Other Effective 8/1/14	
Component	Indication
"F" Classifications	+5.9%
USL&HW %	0.0%

For the “F” classifications, NCCI proposed a loss cost change of +5.9%.

For USL&HW, NCCI proposed no change to the percentage that adjusts for differences in benefits and loss-based expenses (62%).

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 8/1/14	
Industry Group	Average Group Change
Manufacturing	-0.5%
Contracting	+2.9%
Office and Clerical	+0.6%
Goods and Services	+5.2%
Miscellaneous	+3.1%
Overall	+3.0%

D. Experience Rating Plan Split Point

In experience rating, the split point separates losses into primary and excess components. Until last year's filing, the split point had been $5,000 for about twenty years. According to NCCI, experience indicates that the split point should be increased to $15,000 as the experience rating plans becomes less responsive if the split point is not indexed for claim cost inflation. In last year's filing, NCCI increased the split point to $10,000. In this year's filing, NCCI has increased the split point to $13,500 and no party has contested this issue. 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 +3.0% for the industrial classes and +5.9% for the "F" classes. Instead, the AG recommends alternative indications of -1.3% and -1.1%, respectively. The AG's recommendation is broken down into the following components:

A. Premium Adjustment Factors

The AG argues that NCCI consistently selects an average expected modification factor ("mod") that is less than the actual average mod when actual data becomes available. This artificial understatement of the average expected mod causes loss costs to be too high in direct proportion to the amount of error. The AG assumes that this understatement of the average expected mod, and thus the overstatement of the loss costs, will continue. The AG recommends that NCCI's selected premium adjustment factors be increased to account for the average understatement in the average expected mod over the last six years. The AG selected alternative premium adjustment factors. The estimated impact of the AG's proposed change would decrease the indication from +3.0% to +1.5% for the industrial classes.

NCCI counter argues that the AG does not demonstrate a shortcoming in NCCI's methodology. NCCI notes that the AG does not express any disagreement with the application of an off-balance adjustment factor, but objects to the factors that are applied based on a comparison of the selected target off-balance in prior filings and the actual mod for the corresponding rating year. The off-balance shown in the AG's exhibit reflects the overall average mod, including both intra- and inter-state rated risks. As a result of including inter-state mods, the comparison will be influenced by changes in experience rating factors in other states. The overall actual mod in a given year may be expected to differ from the overall target mod for a number of reasons, including the use of a new year of experience in the mod calculations, the mix of intra- and inter-state risks, and the distribution of experience rated versus non-rated risks.

We agree with NCCI's methodology of selecting premium adjustment factors and believe that NCCI provides a reasonable explanation for the average expected mod being consistently lower than the average actual mod as data becomes available. We disagree with the AG's opinion that NCCI will continue to understate the average expected mod and thus overstate the loss costs. Therefore, we recommend no change to NCCI's selection.

B. Loss Adjustment Expense Provision – Industrial Classes

The AG disagrees with NCCI's selected LAE provision of +18.7% and proposes a lower provision of 17.2%. The AG's provision is comprised of a DCCE provision of 10.1% and an AOE provision of 7.1%. The estimated impact of the AG's proposed change would decrease the indication from +3.0% to +1.7% for the industrial classes. The AG provides the following arguments:

1. For its LAE analysis (performed on a countrywide basis), NCCI develops loss, DCCE, and AOE data including the IBNR estimates of individual insurers. For its Rhode Island indication, NCCI uses its own estimates of IBNR instead of that estimated by individual insurers. NCCI does not provide support for its IBNR estimates.

2. NCCI does not provide support for its tail factors for loss, DCCE, and AOE.

3. It is inappropriate for NCCI to determine a provision for the DCCE component of LAE as some insurers do not distinguish separate case and IBNR loads for DCCE.

4. For AOE, NCCI is using data that includes large deductible policies. It does not reduce AOE by the large deductible, only the large deductible provision so NCCI's estimate of AOE is overstated.

5. Comparing triangles of ratios of DCCE-to-loss on both incurred and paid bases shows that these ratios decrease significantly over time. Therefore, NCCI's estimate of the ultimate ratio of DCCE-to-loss is overstated.

6. NCCI uses an incurred method to estimate LAE, which produces a higher estimate. Paid data is more objective (i.e., it is a summary of payments made) while incurred including IBNR data is more subjective (i.e., it is a reflection of NCCI adding IBNR to the IBNR already determined by insurers). From 24 months on, using a paid method is less excessive than an incurred method.

7. The availability of AOE data is less than that for DCCE. Similar to its argument for DCCE, the AG argues that using an incurred method to estimate the AOE load results in an excessive provision. The AG recommends using the paid method.

NCCI counter argues that the application of LDFs is a standard actuarial procedure and that NCCI provided support for its tail factors. NCCI also notes the Rhode Island statute states that loss costs must include LAE so it is absolutely necessary for NCCI to determine a provision for DCCE. NCCI correctly accounts for large deductible policies in estimating its AOE provision. Loss development methods using both paid and incurred data are valid actuarial techniques and each provides viable estimates of the LAE provision. NCCI states that it modified its development selections to be more responsive to the downward trend in the LAE provision.

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

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

1. We would like to clarify our statement in last year's report that "NCCI no longer collects data that includes IBNR." NCCI eliminated IBNR from the state-specific financial call data that is used to determine the overall indication for Rhode Island. The allocations of IBNR by state often resulted in unusual changes in reserves so NCCI would have to investigate further. NCCI has not eliminated IBNR from the countrywide call data that is used to determine the LAE provision as allocations by state are not necessary and similar distortions in reserves do not result. We believe that NCCI's approach of (a) estimating IBNR reserves for its Rhode Island indication and (b) using the IBNR estimates of individual insurers for its LAE analysis is reasonable. NCCI did provide support for its IBNR estimates in the interrogatories.

2. NCCI provided support for its tail factors for loss, DCCE, and AOE.

3. NCCI should estimate a provision for the DCCE component of the LAE provision. It would be illogical and incomplete for NCCI to eliminate its component of the LAE provision.

4. NCCI makes an adjustment for the large deductibles policies in the AOE provision that is reasonable.

5. Although it is true that NCCI's estimated DCCE-to-loss ratios have decreased over time, this does not imply that the current selected DCCE-to-loss ratio is automatically overstated. A more thorough review of the analysis is necessary. Please see Section VI for Milliman's recommendation for the DCCE component of the LAE provision.

6. The AG's conclusion is that, since the incurred method produces an LAE estimate that is higher than that produced by the paid method, the incurred method overstates the results and should not be used. However, one could also conclude that the paid method understates the results and should not be used. The AG's logic is not convincing. Milliman performed an independent review of the LAE analysis and our recommendation is summarized in Section VI.

7. The AG's conclusion about NCCI's methodology with respect to AOE is the same as that presented in #5. Again, the AG's logic is not convincing. We performed an independent review of the LAE analysis and our recommendation is summarized in Section VI.

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, such that the resulting excess charge is excessive.

2. The excess charge fails to consider model risk.

3. 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.

4. NCCI's credit for limiting the amount of paid loss in excess of the large loss limit in the calculation of LDFs is almost valueless.
5. NCCI's countrywide data reaffirms that the premium received by insurers as a result of the large loss limitation procedure is grossly excessive.
6. 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.
7. 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.
8. 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.

The AG recommends an alternative factor to adjust limited losses to an unlimited basis. The AG recommends a factor of 1.029, based on a statewide excess ratio of 0.028, while NCCI recommends a factor of 1.045, based on a statewide excess ratio of 0.043. 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 +3.0% to +1.3% for the industrial classes.

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-1406 (filed in May 2013, approved in July 2013). 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. NCCI also argues that the AG's calculation is based on policy years 2007 through 2011, which are heavily impacted by the recession. NCCI argues that a longer-term average is needed for the calculation.

We agree with NCCI that the substantial majority of the AG's arguments have been fully vetted in prior filings. This year, 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 eight arguments for the following reasons:

1. Regarding the AG's alternative calculation of the statewide excess factor, we note the following:

    - The AG's calculation is based on a short period of time (policy years 2007 through 2011). During this time, the economy was in a recession, which will impact the underlying data reviewed to make selections.
    - The AG's selections of indemnity and medical trends are at the lower end of a range of reasonableness.
    - NCCI's statewide excess factor is based on the latest approved filing in Rhode Island.

2. One could argue that NCCI's model does not account for model risk. However, the AG fails to prove that their methodology accounts for model risk. We believe that the AG simply provides an alternative method to estimate the excess factor.

Our comments on the AG's alternative method are presented in item #1 above. In addition, accounting for model risk could increase the large loss adjustment.

3. 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.

4. 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.

5. In insurance, premium dollars are received up front and losses are paid out over time. Workers compensation is a long-tailed coverage with some losses being paid over thirty years. On a paid basis, it is reasonable and possible that losses from policy years 2006 to 2010 have not reached into the excess layer yet. In light of this, we do not believe that the AG makes a strong argument that the premium received by insurers as a result of the excess charge is "grossly excessive."

6. 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.

7. As discussed last year, 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.

8. Finally, 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.

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

D. Loss Adjustment Expense Provision – "F" Classes

The AG recommends that the indicated change for the "F" classes be revised to reflect the alternative LAE provision presented as described in item B above (i.e., LAE provision for the industrial classes). The estimated impact of the AG's proposed changes would decrease the indication from +5.9% to +4.6% for the "F" classes.

NCCI's counter arguments presented against item B above (i.e., LAE provision for the industrial classes) apply here. Please see Section VI for Milliman's recommendation on the LAE provision.

E. Summary

Combining the AG's recommendations above (using alternative premium adjustment factors, a lower LAE provision, and lower factor to adjust limited losses to an unlimited basis) results in a proposed indication of -1.3% for the industrial classes and results in a proposed indication of -1.1% for the "F" classes.

We believe that NCCI's selected premium adjustment factors are reasonable despite the AG's arguments to the contrary. We believe that NCCI's selected ultimate DCCE-to-loss ratio of 12.7% is high and recommend a provision of 11.5% (see next section, Section VII Milliman Analysis and Comments on NCCI Filing, for details). This results in a LAE provision of 18.1% (as compared to NCCI's provision of 18.7%, and the AG's recommendation of 17.2%). Finally, we believe that NCCI's factor to adjust limited losses to an unlimited basis is reasonable.

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 used in recent filings of limiting individual large losses to a certain loss threshold (about $3.4 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 were four claims that exceeded the threshold with a total of approximately $6 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 2009, 2010, and 2011 evaluated as of 12/31/12. The proposed indication was based on the following loss development methodology: 100% weight to developed paid losses using loss development factors ("LDFs") based on the average of the latest five years excluding the highest and lowest years for both indemnity and medical losses. This methodology is consistent with NCCI's methodology in recent Rhode Island filings.

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 under the heading "2014 Filing." 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

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

	2014 Filing		2013 Filing		2012 Filing	
Scenario	Overall Indicated Rate Change	Change From Original Indication	Overall Indicated Rate Change	Change From Indication	Overall Indicated Rate Change	Change From Indication
Original	+3.0%	N/A	+8.0%	N/A	+6.4%	N/A
100% Paid - 5 Yr Avg	+3.6%	+0.6%	+7.9%	-0.1%	+6.6%	+0.2%
100% Paid - 3 Yr Avg	+4.9%	+1.9%	+8.1%	+0.1%	+7.1%	+0.7%
100% Paid Plus Case - 5 Yr Avg	+0.5%	-2.5%	+6.9%	-1.1%	+10.9%	+4.5%
100% Paid Plus Case - 3 Yr Avg	+2.7%	-0.3%	+9.9%	+1.9%	+11.5%	+5.1%
100% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	+1.1%	-1.9%	+6.8%	-1.2%	+10.1%	+3.7%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 3 Yr Avg	+3.8%	+0.8%	+9.0%	+1.0%	+9.3%	+2.9%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 5 Yr Avg	+2.7%	-0.3%	+7.5%	-0.5%	+9.0%	+2.6%
50% Paid - 3 Yr Avg / 50% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	+3.0%	+0.0%	+7.5%	-0.5%	+8.6%	+2.2%
50% Paid - 5 Yr Avg excl. Hi/Lo / 50% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	+2.1%	-0.9%	+7.4%	-0.6%	+8.3%	+1.9%
75% Paid - 3 Yr Avg / 25% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	+3.9%	+0.9%	+7.8%	-0.2%	+7.9%	+1.5%
25% Paid - 3 Yr Avg / 75% Paid Plus Case - 5 Yr Avg	+1.6%	-1.4%	+7.2%	-0.8%	+10.0%	+3.6%
25% Paid - 3 Yr Avg / 75% Paid Plus Case - 5 Yr Avg excl. Hi/Lo	+2.0%	-1.0%	+7.1%	-0.9%	+9.4%	+3.0%

Table 5 summarizes NCCI's original and alternative indications for the current and prior two filings. The table also shows the differential between the original and alternative indications in each filing. For the 2014 and 2013 filings, NCCI's selected methodology (i.e., original indication) is in a similar range compared with the alternative indications. In other words, it is not an outlier, either high or low. For the 2012 filing, NCCI's selected methodology is the lowest of all of the indications. Based on this information, we believe that NCCI's selected methodology is reasonable at this time.

We also asked NCCI to provide an alternative indication based on loss experience and premium for accident years 2010, 2011, and 2012, using the same loss development methodology used in the original filing. Table 6 summarizes these alternative indications. Please note that these alternative indications reflect 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	
Accident Year	Indication
2010	+1.9%
2011	+9.6%
2012	-6.1%
Total	+1.8%

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.

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 $3.4 million in this year's filing, compared to approximately $3.3 million in last year's filing. The large loss threshold increases over time based on loss trend and development. We believe the current large loss threshold of approximately $3.4 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 paid medical tail factor of 1.041 corresponds to the latest eight-year average; this is lower than last year’s eight-year average tail factor of 1.049. NCCI’s selected paid indemnity tail factor of 1.017 corresponds to the latest eight-year average; this is also lower than last year’s eight-year average tail factor of 1.019.

We asked NCCI to provide an alternative indication using last year’s selected tail factors along with the other assumptions of the original filing. According to NCCI, the alternative indication in this scenario is +3.3%. Please note that these alternative indications reflect the overall impact of the proposed change, including the LAE provision.

We also tested the impact of using a five-year average excluding the highest and lowest years for the medical and indemnity tail factors. We estimate that there would be no impact on the indemnity tail factor and only a small increase in the medical tail factor.

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

D. Trend

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 65% and the medical portion would be 35%.

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) 0.0% for the indemnity trend factor and 0.0% for the medical trend factor; and (b) -0.5% for the indemnity trend factor and 0.0% for the medical trend factor. The overall indications are +2.1% for scenario (a) and +0.6% 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. In general, the selected indemnity and medical trend factors for Rhode Island are similar to those used in other states, and they appear reasonable based on a review of the exponential and linear trend analyses for Rhode Island and the corresponding goodness-of-fit statistics.

We note that the selection of trend factors is one of the least mathematical components of the loss cost indication. There is significant judgment involved in selecting the indemnity and medical trend factors. However, based on the historical indemnity and medical loss information provided in the filing as well as the supplemental information provided for other states, we believe that the trend factors utilized in NCCI's filing are reasonable at this time.

E. Loss Adjustment Expenses

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 DCCE, AOE, and loss development factors on both paid and incurred bases. NCCI selected a five year average for incurred DCCE, AOE, and loss development factors, which is consistent with its methodology used in last year's 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 loss development factors, which is also consistent with its methodology used in last year's 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 loss development factors.

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 two 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 7.2% is reasonable at this time. However, we believe that its selected ultimate DCCE-to-loss ratio of 12.7% is high for the following reasons:

a. <u>Selected Methods</u> – 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. <u>Selected Average</u> – NCCI selected a two-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.

Based on the above commentary, we recommend a selected ultimate DCCE-to-loss of 12.1% on a countrywide basis, which is lower than NCCI's selection of 12.7%. 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 0.904 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 0.889, 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 12.1% results in a ratio of 10.9%, which is lower than NCCI's selection of 11.5%.

F. Summary

NCCI's methodology in this year's filing is consistent with that used in last year's filing in terms of the following major areas of review:

- weighting of standard actuarial loss development methodologies
- selection of loss development factors
- treatment of large losses
- selection of trend factors

We believe that NCCI's methodology with respect to these areas is reasonable at this time. 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.

Based on our review of the data and information presented in support of the LAE provision, we recommend lowering the selected LAE provision from 18.7% to 18.1%. This provision is composed of a DCCE provision of 10.9% (a decrease from NCCI's selection of 11.5%) and an AOE provision of 7.2% (no change to NCCI's selection). We estimate the overall revised indication for the industrial classes to be +2.5% and for the "F" classes to be +5.4%.

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.