



## **ACTUARIAL PEER REVIEW**

# **WORKERS COMPENSATION RATEMAKING PROCESSES OF THE NATIONAL COUNCIL ON COMPENSATION INSURANCE, INC.**

STATE OF FLORIDA  
OFFICE OF INSURANCE REGULATION

DECEMBER 2015

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## Introduction

### Scope

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) has been engaged by the Office of Insurance Regulation, State of Florida, (the FLOIR) to conduct an independent actuarial peer review of the ratemaking processes of the National Council on Compensation Insurance, Inc. (NCCI), in Florida, as required by Section 627.285, Florida Statutes.<sup>1,2</sup>

Specifically, Oliver Wyman has been engaged to review the following:

1. Methodologies, thought processes, judgments and assumptions used to determine statewide rate level changes, including, but not limited to:
  - database (paid loss versus paid loss plus case reserve or other)
  - loss development methodology and selections
  - experience periods
  - trend calculations
  - premium development calculations
  - premium adjustments
  - benefit on-level adjustments
  - expense provisions
  - profit and contingencies provisions
  - impact of experience rating off-balance
2. Methodologies, thought processes, judgments and assumptions used to distribute statewide rate level changes to industry groups.
3. Methodologies, thought processes, judgments and assumptions used to determine individual workers compensation classification rates.

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<sup>1</sup> Section 627.285 states that: “..... at least once every other year contract for an independent actuarial peer review and analysis of the ratemaking processes of any licensed rating organization that makes rate filings for workers compensation insurance, and the rating organization shall fully cooperate in the peer review. The contract shall require submission of a final report to the commission, the President of the Senate, and the Speaker of the House of Representatives by February 1.”

<sup>2</sup> NCCI is the licensed agency responsible for collecting statistical information and submitting applications for revised workers compensation rates and rating values on behalf of NCCI’s member or affiliated insurance companies.

4. Methodologies, thought processes, judgments and assumptions used to determine the impact of legislative changes, benefit-level adjustments, and legislative proposals.<sup>3,4,5</sup>

## Overview of the NCCI Ratemaking Methodology

The result of the workers compensation ratemaking process is a revised manual premium rate for each of over 500 individual workers compensation employer classifications. The final premium rate for an individual employer is the published manual workers compensation rate multiplied by the specific employer's experience modification.<sup>6</sup> NCCI maps classifications into five industry groups.<sup>7</sup> The premium rate for each classification incorporates the combined impact of statewide average experience, the experience of the industry group to which it belongs, and the experience of the individual classification itself. The NCCI ratemaking methodology employed in Florida is composed of four general steps:

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<sup>3</sup> Since implementation of SB 50A on October 1, 2003, there have been no material law changes affecting workers compensation costs in Florida with the exception of the Florida Supreme Court Decision, *Emma Murray v. Mariner Health and ACE USA*, and HB 903, which reversed the legislative impact of this court decision, effective July 1, 2009.

<sup>4</sup> Minor benefit level changes implemented in Florida periodically include adjustments to physician fee schedules, hospital fee schedules, and changes to the maximum weekly benefit.

<sup>5</sup> SB 662 became effective July 1, 2013. The primary intent of the legislation was to control the cost of repackaged or relabeled prescription medications when dispensed by physicians. NCCI estimated a 1% savings on medical benefits which translated into an overall savings of 0.7%. Similar legislation has been passed in other NCCI states with similar estimated savings. For example, NC SB744 became effective in August, 2014, and addressed similar issues with estimated medical savings of 0.8% and overall savings of 0.4%. Alternatively, PA Act 184 of 2014 became effective in PA in December of 2014, and addressed similar issues with estimated medical savings of 1.2% and overall savings of .64%. Of note is that NCCI is not the licensed statistical agent in PA. The Pennsylvania Compensation Rating Bureau is the licensed statistical agent in PA and estimated similar savings for a similar law in that jurisdiction.

<sup>6</sup> Experience rating is the final step in the process of determining premium charges for individual employers. Experience rating recognizes that the premium rate for a specific classification represents the average premium rate for all employers in that classification. Experience rating is the process by which the premium rate, for a specific employer, is adjusted to reflect that employer's own loss experience relative to the average loss experience in the employer's classification. In its simplest form, experience rating is a measurement of an employer's actual loss experience to the employer's expected loss experience. Expected loss experience is based on the average loss experience of all employers in a classification. The result of the experience rating process is the experience modification. An experience modification greater than unity, or 1.000, is commonly referred to as a "debit mod" and means the specific employer has loss experience greater than the classification average. Conversely, an experience modification less than unity is commonly referred to as a "credit mod" and means the specific employer has loss experience less than the classification average.

<sup>7</sup> The five industry groups are:

Manufacturing, Contracting, Office and Clerical, Goods and Services, Miscellaneous

### **Step 1: Calculation of Statewide Rate Change**

The statewide rate change is the average rate change for all classifications combined. This step relies primarily on Aggregate Financial Call data.<sup>8</sup> Contributing elements to the statewide rate change include, but are not necessarily limited to:

**Loss Experience:** Is the actuarial forecast of the final cost of benefits for a group of claims greater than or less than what is expected in current premium rates?

**Trend:**<sup>9</sup> Are benefits increasing at a rate greater than or less than wages?

**Benefit Changes:** Have there been any changes to workers compensation benefits since the prior rate examination?

**Claim Adjustment Expense (LAE)**<sup>10</sup> Is the expected cost of LAE greater than or less than the provision in current premium rates?

**Other Insurance Company Expenses:** Is the expected cost of insurance company expenses greater than or less than provisions in current premium rates?

**Taxes and Assessments:** Is the expected cost of taxes and assessments greater than or less than the provisions in current premium rates?

**Profit and Contingencies:** Is the economic/actuarial forecast of reasonable insurance company profit greater than or less than the provision in current premium rates?

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<sup>8</sup> NCCI collects, tabulates, checks, and edits combined statewide workers compensation experience for use in an actuarial analysis to determine, on an average statewide basis, whether rates need to be increased, or decreased. NCCI publishes detailed instructions as to how insurance carriers should respond to the various data requests.

<sup>9</sup> Premium rates are almost exclusively measured relative to payroll (in units of \$100). There is an a priori assumption in premium rates that benefit costs (meaning the combined impact of changes to the number of claims, or frequency, and the cost per claim, or severity) will increase at the rate of wage inflation. Therefore, if actuarial analysis shows that benefit costs are increasing at a rate less than wage inflation, the indicated trend will be negative, or less than zero. Similarly, if actuarial analysis shows that benefit costs are increasing at a rate greater than wage inflation, the indicated trend will be positive, or greater than zero. If benefit costs are increasing at exactly the same rate as wage inflation, the indicated trend will be exactly zero.

<sup>10</sup> Claim adjustment expense is commonly referred to as loss adjustment expense (LAE). LAE is the total cost of adjusting claims, including overhead costs of maintaining a claims adjustment staff and claim defense costs. Claim defense costs generally include, but are not limited to, legal fees, court fees, and the cost of investigations. Currently, NCCI partitions the provision for LAE into Defense and Cost Containment Expenses (DCCE) and All Other Expenses (AOE). DCCE is roughly comparable to expenses previously categorized as Allocated Loss Adjustment Expense (ALAE). AOE is roughly comparable to expenses previously referred to as ULAE.

## **Step 2: Distribution of Statewide Rate Change to Industry Groups**

NCCI distributes the statewide rate change to each of the five industry groups based on the relative loss experience of each individual industry group.<sup>11</sup> In many respects, allocation of the statewide rate change to the five industry groups is an exercise in experience rating at the industry group level. Actual loss experience by industry group is measured against expected loss experience. If the measurement shows that for a specific industry group actual loss experience exceeded expected, that industry group is allocated a rate level change greater than the statewide average. The converse of this statement is true as well. The weighted average of the rate changes for each of the five industry groups must equal the statewide rate change calculated in Step 1. The allocation to industry groups relies primarily on Workers Compensation Statistical Plan (WCSP) Data.<sup>12</sup>

## **Step 3: Distribution of Industry Group Rate Changes to Classifications**

NCCI distributes the industry group change to each individual classification within the specific industry group. NCCI bases the distribution on the actual loss experience of each individual classification, and relies on WCSP data. The weighted average of the rate changes for all classifications in an individual industry group must equal the industry group rate change calculated in Step 2.

Note that NCCI does not directly calculate classification rates.<sup>13</sup> Rather, the starting point in the NCCI ratemaking process is current manual rates. The process described in steps 1, 2, and 3 above represents a rate relativity system. An overall statewide rate need is determined by examining statewide combined data, which generates an indicated statewide rate level change in step 1. If not for consideration of rate relativities, the process would stop here, and NCCI would apply the same calculated rate change to the current rate for each classification. Steps 2 and 3, however, consider how the *relative* actual loss experience for each individual classification has changed

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<sup>11</sup> For example, if the average statewide rate change is a 5.0% increase, and the manufacturing industry group has much greater loss experience than expected, while the other four industry groups have lower loss experience than expected, the manufacturing industry group might be allocated a 10% rate increase, while the other four industry groups might be allocated a 2% rate increase. The weighted average for all five industry groups must equal the statewide 5.0% increase.

<sup>12</sup> WCSP data is a database of individual claim experience and policy specific information collected, tabulated, checked, and edited by NCCI. Information is collected in sufficient detail such that workers compensation experience can be allocated to individual classifications, and therefore, to the five industry groups. WCSP data is the basis for allocating the statewide rate level change to the five industry groups as well as to all individual classifications.

<sup>13</sup> This statement applies to industrial classifications, which comprise the bulk of the workers compensation classifications. This is not the case for Federal classifications (F-Classes). F-classes represent classifications where claims may be filed under the United States Longshoreman and Harbor Workers Act. This is a federal jurisdiction administered by Office of Workers Compensation Programs, United States Department of Labor. Workers injured on or near coastal or inland waterways have the option to file claims under either the Federal act or the Florida state act. Occupations include ship manufacturing and repair, stevedoring, etc. NCCI calculates rates for F-classes somewhat differently than for industrial classifications. Unlike industrial classifications, premium rates for F-classes are calculated directly from Workers Compensation Statistical Plan data.

since the prior rate application. In the simplest sense, if the most recently available data indicated that every classification, relative to each other, behaved exactly as expected, then the rate for every classification would be increased by the exact same amount, the calculated statewide rate change. This, of course, does not reflect reality, and illustrates the need for step 2 and step 3. These steps measure how the loss experience for each individual class changed relative to each other. This is why, even with very small or zero percent statewide rate change, some classifications might increase by 15%, and other classifications might decrease by 15%.<sup>14</sup>

#### **Step 4: Calculation of Rating Values**

The final step of the ratemaking process is the calculation of the required rating values for the experience rating program, retrospective rating programs<sup>15</sup>, and other programs that individual insureds may voluntarily elect to subscribe to.

### **General Approach to this Review**

The general approach to this review was as follows:

1. Identification of data and methodology used
2. Assessment of appropriateness of data and methodology used
  - Is the methodology a commonly applied actuarial technique?
  - Is it appropriate in the circumstances of its use by NCCI?
  - Does it meet Actuarial Standards of Practice?
  - Is data appropriate for methodologies employed?
  - What additional methodologies were available?
3. Assessment of consistency of methodologies used
  - What changes to methodology were made in the past, and why?
  - Were any changes to methodology justified with clear and unbiased communication to all parties?
  - What was the impact of the change in the methodology?
4. Is there evidence of bias in the ratemaking process?

The review process was as follows:

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<sup>14</sup> 15% represents what is referred to as the swing limit. The swing limit is the maximum allowable change (up or down, relative to the industry group change) in any year to the rate for a single classification. Swing limits are discussed later in this report.

<sup>15</sup> Retrospective rating represents a type of insurance program where a specific employer's premium is based on actual loss experience under the program, subject to certain maximum and minimum premiums and limits on the cost of individual claims. Retrospective premiums are periodically recalculated for years after the actual insurance policy expired. The recalculation reflects the most recently available actual loss experience under the program.

1. Review initial documentation provided by NCCI.
2. Issue requests for additional information from NCCI.
3. Discuss questions and concerns with the Florida Office of Insurance Regulation.<sup>16</sup>
4. Issue Draft Report to Florida Office of Insurance Regulation.
5. Consider comments from Florida Office of Insurance Regulation and NCCI.
6. Issue Final Report

This assignment was not used as a vehicle to substitute Oliver Wyman's professional opinions for those of NCCI. Oliver Wyman conducted an objective review with the goal of identifying those areas where, in Oliver Wyman's opinion, NCCI's documentation was incomplete or where inappropriate actuarial judgments were made, or where additional investigation by NCCI into specific issues was warranted. Oliver Wyman's findings that specific processes, judgments, or assumptions are reasonable, or Oliver Wyman's lack of issue with the same, do not necessarily mean that Oliver Wyman endorses them or would take the same approach if Oliver Wyman were to conduct its own independent analysis of rate needs in the state of Florida.

Oliver Wyman's report to the FLOIR consists of the text and charts in this document.

A complete list of documents and data provided is attached at the end of this report. Applicable Considerations and Limitations are attached as well.

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<sup>16</sup> Oliver Wyman's contact during the course of this review was Ms. Cyndi Cooper, ACAS, MAAA Actuary, Florida Office of Insurance Regulation

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## Executive Summary

### Principal Conclusions

1. **The NCCI ratemaking process (in Florida<sup>17</sup>) is based on commonly applied actuarial methodologies that are supported in actuarial literature as well as by frequency of usage by credentialed actuaries.**
  - a. The NCCI ratemaking process draws from a group of actuarial methodologies employed by NCCI and other ratemaking organizations in other states.
  - b. Actuarial methodologies used by NCCI are appropriate within the context of their use in the NCCI ratemaking process in Florida.
  - c. Oliver Wyman considers the Standards of Practice established by the Casualty Actuarial Society as the governing body of documentation used to determine whether the NCCI ratemaking process in Florida is compliant with applicable actuarial standards of practice. Actuarial methodologies used by NCCI are consistent with:
    - The Statement of Principles Regarding Property and Casualty Insurance Ratemaking, as published by the Casualty Actuarial Society
    - The Statement of Principles Regarding Risk Classification, as published by the Casualty Actuarial Society
    - The Code of Professional Conduct, as published by the Casualty Actuarial Society
    - Elements of the NCCI ratemaking methodology are included in the current Syllabus of Examinations.

Oliver Wyman reviewed the key elements and selected specific details of the NCCI ratemaking process. Oliver Wyman based its conclusion on this review. Oliver Wyman did not conduct an exhaustive examination of every method and calculation employed by NCCI. Additionally, while Oliver Wyman tested the behavior of certain rating values over time for reasonableness, Oliver Wyman did not examine the detailed calculations of all of these elements during this review. These issues are not material as respects the conclusion above.

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<sup>17</sup> This report addresses the NCCI ratemaking processes and methodologies in the state of Florida, only. Unless otherwise stated, any references to the NCCI ratemaking process or ratemaking methodologies are specific to the state of Florida.

**2. The NCCI ratemaking process is based on data that is appropriate as respects the actuarial methodologies used in the ratemaking process.**

- a. The financial call data collected by NCCI is appropriate for the actuarial methodologies used by NCCI to calculate the statewide rate change.
- b. The WCSP data collected by NCCI is appropriate for the actuarial methodologies used by NCCI to distribute the statewide change to the five industry groups and the individual classifications in each industry group.

The financial call data and WCSP data are the primary data sets used by NCCI in the ratemaking process. Each set of data has advantages and limitations. The ratemaking processes employed by the NCCI tend to maximize the advantages of each set of data, and tend to minimize the impact of limitations of each set of data.

**3. The general NCCI ratemaking process is consistent over time. However, judgments and assumptions as respects specific decisions on methodology and the selection of actuarial parameters may vary between rate applications.**

- a. The general ratemaking process employed by NCCI and the specific algorithms used in the NCCI rate application have generally been consistent over time, with the following notable exceptions.
  - In 2010, NCCI implemented a material change to the method by which NCCI distributes the statewide rate change to individual classifications. This change was made in most (if not all) states where NCCI provides advisory ratemaking and statistical services, and has been generally referred to as the changes to class ratemaking. Oliver Wyman has opined in the past that this change represented a material improvement to the ratemaking process. However, there are concerns discussed in the section on recommendations.
  - For rates and rating values effective January 1, 2012, NCCI changed a key element of the methodology used to determine the statewide rate indication. Specifically, the experience period was changed from the most recent two calendar-accident years to the most recent two policy years. NCCI justified this change by identifying concerns that calendar-accident year premium data will be distorted by the economic disruption. Oliver Wyman's concerns with the change, as well as specific concerns with NCCI's calculation of premium development factors (required for policy year data) were explained in detail in Oliver Wyman's prior peer review (report dated January, 2014), and will not be repeated here, except for the comment that premium development factors continued to be underestimated by NCCI in subsequent rate applications, though the impact has decreased and is likely immaterial at this point in time. The causative factor of the underestimates appear to be the inclusion of premium development data from policy years impacted by the economic disruption in the 2007 to 2009 time period. Oliver Wyman's prior peer review had recommended that the calendar-accident year based methodology be reinstated at a point in time when the difference between results using policy year data and calendar/accident year data is not material. Given that NCCI still

uses the policy year based methodology, and has consistently done so since the change was made, it is reasonable at this point to continue using this approach. However, any changes to the policy year methodology that might be proposed in the future should be thoroughly reviewed to ensure that there is a compelling reason to change and that the revised methodology does not replace one potential distortion with another.<sup>18</sup>

- b. Certain specific judgments and assumptions vary between rate applications. In general, specific judgments and assumptions are a matter of professional actuarial opinion. There is a concern that relying on varying judgments and assumptions regarding key actuarial parameters (the most important of which is trend) rather than a consistent selection methodology over time increases the potential for generating rate level indications based on predetermined notions, rather than objective statistical measurements. Conversely, there are arguments that fixing all aspects of the ratemaking methodology may lead to illogical results when changes occur to the workers compensation system. This author, as respects statewide ratemaking, has generally recommended that methodologies and selection criteria for key actuarial parameters such as trend be fixed over time unless there is a compelling reason to change. Nevertheless, this is Oliver Wyman's professional opinion. Oliver Wyman finds nothing inherently improper with NCCI's *general approach* to ratemaking as respects this issue. Additionally, NCCI's trend selections for the most recent three rate applications (rates and rating values effective 1/1/14, 1/1/15, and 1/1/16) were reasonable.

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<sup>18</sup> The basis for the change to policy year data was NCCI's concern that audit premium adjustments in a specific calendar year are generally due to policies not written in that year. When audit premium adjustments are consistent over time, there is minimal or no distortion to calendar-accident year data. However, the economic disruption materially changed the volume of audit premium, leading to concerns of potential distortion to calendar-accident year data. Oliver Wyman's concern in the prior peer review was NCCI's statement that:

*"Policy year premium is not subject to such distortion since the audit premium adjustments are recorded in the same year the policy was written."*

This statement is not correct because premium development factors, which are required for the policy year methodology, are distorted by changes to audit premium adjustments. As noted in the text, the distortion manifested itself through NCCI's consistent understatement of premium development for policy year data. NCCI effectively replaced distorted calendar-accident year data with policy year data that was subsequently distorted by understated premium development factors.

## **Recommendations**

- 1. NCCI should consider an actuarial methodology that quantitatively provides a trend selection based on observed empirical trends. Numerous approaches exist that provide reasonable results over time. Such approaches have been used by NCCI in the past. If such an approach were included in future rate applications, judgmental departures from that approach could be justified by NCCI if there were compelling reasons to do so.**
- 2. Oliver Wyman's primary concern with the revised class ratemaking methodology implemented in 2010 is the substitution of theoretical excess loss ratios for actual data to provide for losses excess the \$500,000 per claim limit. This concern has been addressed in past reports and will not be repeated here. However, an additional concern is the fixed \$500,000 per claim limit. Over time, the impact of inflation will increase the volume of loss experience above the limit, and decrease the volume of loss experience below the limit, effectively giving more weight to the excess ratios, and less weight to empirical data. Oliver Wyman recommends that NCCI report to the FLOIR, based on Florida data, what the impact of keeping the limit fixed over time has been on the portion of available data below limit, as well as what the potential impact has been, if any, on the differentials between classification rates. If the impact is measurable, consideration should be given to inflating the limit over time to reflect the impact of severity inflation.**
- 3. Embedded in the credits for small deductibles and coinsurance is a 0.9 safety factor. The purpose of the safety factor is to compensate insurers for the risk that employers who elect to participate in these programs do not reimburse insurers for the applicable deductible or coinsurance charges. The safety factor decreases the credits (and therefore increases the premium charged) for employers who elect to participate in these programs. Therefore, the lower the safety factor, the lower the credit, and the higher the premium charge. A safety factor of 1.0 has no impact on the premium credit, and a safety factor of 0.0 eliminates the premium credit altogether. The safety factor is therefore a contingency provision in addition to what is already included in the underwriting profit and contingencies provision underlying rates. NCCI explained that 0.9 safety factor dates back to the early 1990s. At that time, NCCI proposed a 0.7 safety factor and the Florida regulator approved a 0.9 safety factor. The safety factor has not been reviewed since. In this sense, the 0.9 value is not reasonable given that there is no current empirical support for this value. Oliver Wyman recommends that NCCI provide robust data on these programs that demonstrates the need for the safety factor and that NCCI then use this data to calculate an empirically based value for the safety factor in future applications.**

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## Discussion

### Statewide Rate Indication

#### Introduction

Contributing elements to the statewide rate change include

*Loss Experience*  
*Benefit Changes*  
*Trend*  
*Loss Adjustment Expense*  
*Other Insurance Company Expenses*  
*Taxes and Assessments*  
*Profit and Contingencies*

Each is discussed individually.

#### Loss Experience

The analysis of loss experience generates a forecast of the final expected cost of claims with dates of loss during the specified experience periods. Key considerations in this process are the selection of experience periods, database, and methods used to forecast the expected cost of claims.

##### Experience Period

There are generally two types of experience periods available for analysis, policy year and calendar/accident year. Each experience period has two key components: losses and premium. The definition of each component varies with the experience period under consideration. Each component, as well as other information specific to each experience period, is provided below:

##### *Policy Year Experience*

*Losses:* Loss experience mapped to a specific policy year is due to claims covered by policies written during that year. Policy year periods in NCCI applications are calendar years. Therefore, claims covered by policies written during 2011 generate losses associated with policy year 2011 (PY2011). Losses must be developed, or adjusted,

to a final cost basis. Loss development adjustments are required because the final cost of the group of claims associated with a specific policy year will not be known until after all claims are reported, paid, and closed. This will not occur until 50 or more years after the end of the policy year.<sup>19</sup> Loss development is a standard part of all NCCI applications and is discussed later in this section.

*Premium:* Premium mapped to a specific policy year is premium associated with policies written during the specified policy year period. Therefore, premium associated with PY2013 is the total premium associated with policies written during 2013. Policy year premium must be developed, or adjusted, to reflect the anticipated impact of premium adjustments over time. Premium adjustments are primarily due to the anticipated impact of premium audits, which generally occur within 12 months after a typical policy has expired.<sup>20</sup> Therefore, policy year premium used to determine the experience indication is an estimate equal to premium reported to NCCI by the insurance carriers multiplied by a premium development factor.<sup>21</sup>

*Premium to Loss Experience Matching:* Policy year experience maximizes the matching of losses to the premium insuring those losses. For PY2013, for example, a common group of insurance policies generates the loss experience and premium reported to NCCI.

*Maturity of Experience:* Policy year experience extends over a 24 month period because only policies written on January 1 will have claims with dates of loss exclusively in the year of writing. Using PY2013 as an example, a policy written on January 1, 2013 will provide coverage for claims with dates of loss from January 1, 2013 through December 31, 2013. On the other hand, a policy written on December 31, 2013 will provide coverage for claims with dates of loss from December 31, 2013

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<sup>19</sup> Loss development is a standard actuarial approach and is required for the analysis of numerous types of casualty exposures besides workers compensation, such as general liability, medical professional liability, automobile liability, etc. However, loss development for workers compensation claims generally has the longest durations of all casualty exposures given that permanent total disability income benefits, the most expensive but least frequent of workers compensation claims, are payable to age 75 in Florida. In other states, benefits are for the lifetime of the claimant.

<sup>20</sup> Audits are typically within six months after policy expiration. An audit generally is a reassessment of payroll to determine actual payroll during the policy period. Insurers use estimated payroll to determine the initial premium payment prior to policy inception. Premium is recalculated using actual payroll. The difference between premium based on audited payroll and premium based on estimated payroll is the reason why policy year premium changes over time. NCCI uses premium development factors to incorporate the estimate of audit adjustments on policy year premium reported to NCCI by insurance carriers (see the following footnote).

<sup>21</sup> As noted in the preceding footnote, the auditing process requires a recalculation of policy year premium using audited (actual) payroll, causing policy year premium to change from amounts initially reported to NCCI by the insurance carriers. Premium development factors reflect the impact of the auditing process and measure the change to reported policy year premium over time. In a simple example, a factor of 1.021 multiplied against policy year premium provides an estimate of the impact of future audit adjustments. Historical premium development data is presented in Appendix A-II of the NCCI application.

through December 30, 2014. Therefore, approximately half the claims associated with PY2013 will have dates of loss in 2013. The other half will have dates of loss in 2014. The average date of loss is approximately December 31, 2013.<sup>22</sup>

*Policy Year Data Available for the January 1, 2016 Application:* The two most recent policy years available for use in the most recent rate application are PY2012 and PY2013, both with data valued as of December 31, 2014. December 31, 2014 is 12 months after the last possible date of loss (December 31, 2013) for a claim in PY2012. PY2012, valued as of December 31, 2014, is therefore said to be at a *second report*. Analogously, December 31, 2014 is the last possible date of loss for a claim in PY2013. PY2013, valued as of December 31, 2014, is therefore said to be at a *first report*. The average date of loss of claims data from policy years 2012 and 2013 is June 30, 2013.<sup>23</sup> This benchmark is important for a comparison with the calendar/accident year approach.

#### *Calendar/Accident Year Experience*

*Losses:* Loss experience mapped to a specific accident year is due to claims with dates of loss in a specific calendar year. Therefore, claims associated with accident year 2013 (AY2013) have dates of loss in 2013. Loss experience must be developed, or adjusted, to a final cost basis, just as with policy year loss experience.

*Premium:* Premium mapped to a specific accident year is calendar year earned premium.<sup>24</sup> This basis of calendar/accident year premium assumes that premium earned during a specific period provides for the cost of insuring claims with dates of loss during that same period. However, the initial calculation of earned premium is *not* adjusted for the impact of premium audits on underlying policies. Rather, premium adjustments due to audit are considered earned in the year the premium adjustments are made, rather than recalculating premium earned by the underlying policies with the audit adjustments. Therefore, once calculated, calendar year earned premium is fixed, prior to consideration of data quality edits that may be made by NCCI at future

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<sup>22</sup> This would be the case if policies are written and incepted evenly over the year, and if claims occur evenly over the policy periods. As this is not the case, the average date of loss is generally close to, but not exactly equal to, December 31.

<sup>23</sup> The average date of loss of claims associated with PY2012 is December 31, 2012. The average date of loss of claims associated with PY2013 is December 31, 2013. The average of these two dates is June 30, 2013.

<sup>24</sup> Earned premium during a specific calendar year for an individual policy is equal to the total written premium for that policy multiplied by a ratio representing the portion of the policy term in the specific calendar year relative to the total policy term. An example is a policy written on October 1, 2013 for \$100,000. \$25,000 (25%) of the premium was earned in 2013, and \$75,000 was earned in 2014. In the simplest sense, total calendar year 2014 earned premium that could be used in the rate application is an extension of this calculation for all policies that had any portion of their policy term in 2014.

dates. This leads to an imprecise match between earned premium and underlying loss data in calendar/accident year experience. There are two related reasons for the mismatch, explained below using AY2014 as an example:

1. AY2014 earned premium is not adjusted for the impact of future audit adjustments. Therefore, audit adjustments for policies with earned premium in 2014 are attributed to future calendar accident year data.
2. Audit adjustments in 2014 to policies without earned premium in 2014 are counted as earned premium in 2014.

*Premium to Loss Experience Matching:* The imprecision in the match between earned premium and underlying loss data in calendar/accident year experience is minor if the impact of audit adjustments is relatively constant over time. Essentially, the two sources of mismatch discussed above will offset one another. The mismatch of excluding or not anticipating future audit adjustments for the year in question is offset by including audit adjustments for prior years, and the impact on measured loss ratios is immaterial.

*Maturity of Loss Experience:* Calendar/accident year experience extends over a 12 month period because calendar year earned premium is matched to losses generated by claims with dates of loss in the specified calendar year. Using calendar/accident year 2013 (AY2013) as an example, the average date of loss is approximately June 30, 2013.<sup>25</sup>

*Calendar/Accident Year Data Available for the January 1, 2016 Application:* The two most recent calendar/accident years available for use in the most recent rate application are AY2013 and AY2014. Therefore, the average date of loss of claims data associated with a calendar/accident year approach would be December 31, 2013.<sup>26</sup> Therefore, calendar/accident year data is roughly 6 months more recent than available policy year data.

### *Comparison and Discussion*

There are advantages and disadvantages to the use of either experience period. Calendar/Accident year experience represents the most recent experience available for analysis and is therefore a better indicator of current conditions.<sup>27</sup> Equally

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<sup>25</sup> This is the case if premium is earned and if claims occur evenly over the calendar year. As this is usually not the case, the average date of loss is generally close but not exactly equal to, June 30.

<sup>26</sup> The average dates of loss of claims associated with AY2013 and AY2014 are June 30, 2013, and June 30, 2014. The average of these two dates is December 31, 2013.

<sup>27</sup> From a statistical viewpoint, arguments have been made that the advantage of using the more recent calendar/accident year data is somewhat offset by greater volatility because this data is six months less mature than policy year data. Oliver Wyman's experience has been that this is not an issue when examining potential variability of the indicated statewide change due to experience, trend, and benefits. The averaging process used to select loss development factors as well as the inherent variation of underlying loss experience tends to overwhelm any additional variability due to loss

important, calendar/accident year experience reduces the reliance on trend by approximately six months. This latter issue is important in situations such as Florida where trend is a selected value, rather than a calculated value using a standard methodology.

A disadvantage of calendar/accident year experience is the concern regarding the imprecise match of premium to losses. As noted earlier, in a steady state situation when the impact of audit adjustments is relatively constant over time this is usually not a material issue. Another mitigating factor is the requirement of premium development factors for policy year data. To the extent that policy year premium develops at rates greater than or less than anticipated by premium development factors, policy year premium data will essentially be mismatched as well because the anticipated impact of audit adjustments embedded in the premium development factors will have been misestimated.

Calendar/accident year experience had been the basis for rate applications in Florida since the early 1990s.<sup>28</sup> For rates and rating values effective January 1, 2012, NCCI changed the experience period and utilized the most recent two policy years. The underlying argument for the basis of this change was unexpectedly large and negative audit adjustments embedded in the calendar/accident year experience that was available for that application, AY2009 and AY2010.

Oliver Wyman's opinion is that this change to methodology was not warranted because the unexpectedly negative audit adjustments that NCCI asserts was not contemplated by calendar/accident year data also distorted policy year data through selected policy year premium development factors that were either too low, or possibly too high, depending on the rate application. This concern was discussed at length in Oliver Wyman's prior review. Given that NCCI continues to use policy year methods, and the distortion to premium development factors due to the period of economic disruption is well into the data history, the use of policy year methods should continue, at this point, unless there is a compelling reason to change.

### Database

NCCI has several types of loss data (available from NCCI's financial calls) that may be used to forecast the final cost of claims. NCCI has historically relied on the following:

Paid Loss data

Paid Loss plus Case Reserve data

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experience that is six months more recent and therefore six months less mature. Additionally, consistent use of a specific methodology over time, as had been done in Florida for decades (before NCCI precipitated a change to policy year experience) will eliminate the impact of statistical fluctuation, no matter how small.

<sup>28</sup> This statement is based on documentation reviewed by Oliver Wyman in the proceedings for rates effective January 1, 2014 and rates effective January 1, 2013. Oliver Wyman did not check the methodology used in every application going back to the 1990s.

Paid loss data relies exclusively on benefit payments. Paid loss plus case reserve data relies on benefit payments and case reserves. Case reserves are the most recent estimates by claims professionals of the unpaid costs on open reported cases. Therefore, the use of paid loss data, as opposed to paid loss plus case reserve data, excludes the most recently available information on expected future costs embedded in case reserves. Paid loss data relies much more heavily on loss development factors for forecasting purposes, whereas paid loss plus case reserve data essentially substitutes case reserves, the most recently available information on the expected future costs of individual claims, for a substantial portion of paid loss development. Paid loss data is distorted by changes in claim payment (settlement) patterns while paid loss plus case reserve data is also distorted by changes to case reserve levels.

Documentation provided to Oliver Wyman indicates that NCCI has considered the impact of the changes in Florida's workers compensation environment on data used to determine statewide rate level indication, and the process, judgments, and assumptions are reasonable from an actuarial perspective.

Currently, NCCI bases the rate level indication on an average of the paid loss plus case reserve experience approach and the paid loss approach. Currently, NCCI uses paid loss data to a 19<sup>th</sup> report, after which a calculated loss development factor for a 19<sup>th</sup> to ultimate value is applied. This is the same approach as used for paid loss plus case reserve data.

#### Loss Development

Loss development factors (LDFs) measure the growth in losses associated with a group of claims over time. Claims are generally grouped by experience period, either policy year or calendar/accident year. LDFs are selected using some type of average of the most recent observations available. Such averages could include the most recent five observations, or the most recent five observations excluding the highest and lowest values, or the most recent three or two observations, etc. All of these averaging techniques are appropriate and reasonable in the context of the current and recent applications. NCCI has used an average of the three most recently available observations, which is reasonable.

Oliver Wyman also examined the method and calculation of what are termed the 19<sup>th</sup> to ultimate report LDFs. These factors estimate growth beyond a 19<sup>th</sup> report, the last report for which NCCI collects loss development data. The calculation and results are similar to NCCI practice in other states and are reasonable. The selected value is an all year average of available calculations.

#### Premium Adjustment

For accident year analysis, calendar year earned premium is matched with loss experience. A number of adjustments to earned premium data are required to bring premium to current cost levels. These include an adjustment to remove premium generated by the expense constant, an adjustment to reflect historical rate changes, and an adjustment to remove the impact on premium of variations in the effect of the

experience rating program. The adjustment procedure is a standard NCCI calculation in Florida and other states, and is reasonable.

### Off-Balance

Experience rating is the final step in determining the premium rate for a specific employer. Experience rating recognizes that the manual loss cost for a specific workers compensation classification is actually the average for all employers with payroll in that classification. Relative to the manual loss cost, the actual loss experience of some employers will be greater, while actual loss experience will be lower for others. The purpose of the experience rating plan is to forecast how each individual employer will perform relative to the average for that employer's classification. The forecast is, conceptually, a very simple measurement. Each employer's recent actual loss experience is measured against what would have been expected based on the average for the employer's classification. The result of this measurement is the employer's experience modification. If an individual employer has greater than average loss experience for its classification, that employer is assigned an experience modification greater than 1.000 (also known as a debit modification). If an individual employer has lower than average loss experience, that employer is assigned an experience modification less than 1.000 (also known as a credit modification). If an individual employer is too small to be experience rated, that employer is assigned an experience modification of 1.000.

The statewide average experience modification is the average experience modification across all employers in a state. The statewide average experience modification is also known as the "off-balance" to the experience rating plan. The term off-balance is used because in theory, the statewide average experience modification should balance to 1.000. In practice, this means that total debits (additional premium) for greater than average loss experience from employers with debit (greater than 1.000) experience modifications would be equal to total credits (reduced premium) for less than average loss experience from employers with credit (less than 1.000) experience modifications. To the extent that the statewide experience modification does not average to 1.000, an "off-balance" is said to exist.

Off-balance must fluctuate over time, if only because of statistical variance, as the experience modification for each employer is a forecast based on each employer's historical experience and the historical experience of all employers in a specific classification. NCCI, as part of the ratemaking process, adjusts experience rating plan parameters to ensure that the off-balance in Florida is reasonably close to a selected target. The process of implementing such an adjustment is straightforward. NCCI will adjust underlying experience rating parameters to ensure that the selected target off-balance is achieved based on test calculations by NCCI.

To the extent that the measured off-balance in a specific experience period (policy year or calendar/accident year) differs from the target, an adjustment to the experience period premium is required. Consider a simple example using a fictitious policy year. Assume PY2013 has a measured off-balance of 0.920. NCCI selects a target off-

balance of 0.960. This means that all else being equal, had the off-balance in PY2013 been measured at 0.960, there would have been 4.3% more premium collected in PY2013 because the average experience rating modification would have been 4.3% greater ( $0.960/0.920 = 1.043$ , or 4.3%). Conceptually, this example illustrates that off-balance adjustments are revenue neutral, meaning that to the extent an off-balance adjustment increases premium expected to be collected through the experience rating plan, manual rates are decreased by the same amount. The opposite is true as well: To the extent that an off-balance adjustment decreases premium expected to be collected through the experience rating plan, manual rates are increased by the same amount. The impact of the off-balance adjustment in the example above is to decrease the PY2013 loss ratio by 4.3%. If there had been an identical impact on PY2012, then all else being equal, the statewide rate level indication would have been 4.3% lower than the indication without the off-balance adjustment.

The selection of an off-balance target is as much a policy/political issue as it is an actuarial issue. Actuarial literature suggests that an experience rating plan should be balanced. NCCI targets an average off-balance of 0.963 (for rates and rating values effective January 1, 2016). Had NCCI selected a target off-balance of 0.990, indicated rates would be approximately 3.6% lower because increasing the target off-balance from 0.963 to 0.990 will increase, through the experience rating process, premium by approximately 3.6%. Therefore, manual rates would have to be decreased by 3.6% to ensure that there is no net impact on revenue.

NCCI has argued that a lower target is necessary due to the poor performance of small employers. A lower target elevates manual rates and therefore premium charged to smaller employers, who generally will not benefit due to experience rating. Additionally, a potential issue for regulators is that increasing the target average off-balance from the current 0.963, even modestly, could create situations where some employers will swing from a credit mod (viewed favorably) to a debit mod (viewed unfavorably). This is especially important for the construction industry, where contracts possibly may not be awarded if a specific employer has an experience modification greater than some published benchmark, often 1.000.

Counter arguments would be that the smallest employers receive the least service from insurance carriers, and are therefore at a disadvantage. The impact of several percentage points on rate level potentially could have greater meaning to the smallest employers as opposed to others. Additionally, from an actuarial perspective, it is questionable as to whether an employer's experience modification should be used for the purpose of awarding contracts. There are numerous variables underlying an employer's experience modification. Most notably is the published manual rate for a specific classification is, by definition, an average, and the fact that a specific employer in a specific classification has experience greater than the average does not mean that employer has an unsafe workplace.

#### Large Deductible and Standard Experience

NCCI analyzes loss experience generated by large deductible policies and loss experience generated by standard polices separately. The results from each analysis

are combined to produce a statewide rate level indication. The argument to include large deductible experience is that classification rates and rating values, including experience rating parameters, are based on the experience of all employers in a state. Therefore the experience of all employers in a state should be used to determine statewide rate level. On the other hand, in other jurisdictions, large deductible experience is excluded from experience used to determine statewide rate level. The argument in these jurisdictions is that large deductible experience is generated by employers that assume such a large portion of their underlying risk exposure that published insurance rates are not relevant to them. Rather, the experience used to determine statewide rate level should be based on those employers for which published premium rates are most relevant.

Both approaches (including or excluding large deductible experience) have merit, and are reasonable.

## **Benefit Changes**

### *Adjustment of Losses to Current and Expected Future Benefit Levels*

Historical losses, for the purpose of the experience indication and the calculation of trend, must be adjusted to reflect changes in benefit levels at the time the losses were incurred to the period during which the prospective rates will be in effect. The NCCI calculation is a standard actuarial procedure.

## **Trend**

Trend forecasts the anticipated annual percentage change in loss ratios. Loss ratio trends represent the combined effect of changes in the incidence of claims over time, or frequency, as well as the change in the average cost per claim, or severity, over time.

Trend, as respects workers compensation loss ratios, measures the change in loss experience relative to wage inflation. That is, a 0% loss ratio trend does not imply that workers compensation costs are not increasing. Rather, a 0% loss ratio trend implies that workers compensation costs are increasing at the same rate as wages. A loss ratio trend greater (less) than 0% implies workers compensation costs are increasing at a rate greater (less) than wage inflation.

NCCI conducted a detailed analysis of trend factors separately for medical and indemnity loss experience. Concerns regarding the judgmental selection of trend were discussed earlier in this report. As noted earlier, NCCI trend selections for the most recent applications were reasonable.

## **Loss Adjustment Expense**

LAE is calculated as a ratio to loss, and is the sum of two components, all other expense (AOE) and defense and cost containment expense (DCCE). Countrywide ratios of AOE and DCCE to loss are calculated. The countrywide ratio of AOE is assumed to apply in Florida. The countrywide ratio of DCCE to loss is adjusted by a relativity of Florida experience to countrywide experience. The relativity is based on a comparison of the ratio of paid DCCE to paid loss in Florida to the same calculated using countrywide data. The approach in Florida is reasonable.

## **Other Insurance Company Expenses**

Other insurance company expenses include the provisions for production expense and general expense. The provision for production expense includes commission and brokerage costs, and other acquisition costs. The methodology used by NCCI is reasonable. The resulting provisions generally do not vary by significant amounts over time.

## **Taxes and Assessments**

Taxes and assessments are based on actual charges in Florida. The only exception is the miscellaneous tax provision of 0.30%. The miscellaneous tax provision is a catch all provision for taxes, licenses and fees not specifically provided for. It is common ratemaking practice to include this provision, and the value of 0.30% is not unreasonable.

## **Profit and Contingencies Provision**

The profit and contingencies provision provides the insurance company the required return on equity, after taking into account the investment income earned on premium payments until losses and expenses are actually paid. The approach and model used by NCCI is a commonly applied approach. While Oliver Wyman may disagree with certain judgments and assumptions in the modeling procedure, these are issues of either policy or professional judgment, not of actuarial reasonableness. Additionally, certain benchmark parameters, such as the cost of capital target and investment income parameters, are not actuarial in nature and therefore outside the scope of this review.

## **Distribution to Industry Groups**

NCCI distributes the statewide rate change to each of the five industry groups based on the relative loss experience of each individual industry group. The distribution is such that the weighted average final change to each industry group is equal to the statewide rate change. The industry groups are Manufacturing, Contracting, Office and Clerical, Goods and Services, and Miscellaneous. The distribution relies on a measurement, for each industry group, of actual losses to expected losses for each individual industry group. The process results in industry group differentials. The differentials are equivalent to “experience modifications” for each industry group, measuring the loss experience of each industry group relative to expectations. If each industry group performed exactly as expected, then the industry group differentials will all be 1.000, and each industry group will receive a rate change equal to the statewide average.

NCCI calculates the industry group differentials by adjusting actual losses for trend, development, experience rating, etc. Additionally, NCCI uses a credibility procedure to limit the impact of the procedure on a specific industry group with relatively low loss volume. In Florida, however, all industry groups are fully credible. The procedure is identical to procedures used in other NCCI states that Oliver Wyman has examined, and is reasonable. Note that with the application for revised rates and rating values effective January 1, 2015, wage trend adjustments were removed from the calculation of industry group differentials. The basis for this change was NCCI research showing that the impact of wage trend adjustments is not material.

Industry group differentials are not expected to vary materially from 1.000, especially for larger states such as Florida. This was the case for applications for rates effective January 1, 2015. For the most recent application, effective January 1, 2016, the industry group differential for manufacturing, contracting, and office and clerical were, 0.971, 1.030, and 0.967, respectively. These values are somewhat greater in distance from 1 than expected.

## Distribution to Individual Classifications

### Introduction

The final step in the ratemaking process is the distribution of the industry group changes to the individual workers compensation classifications comprising each industry group. NCCI bases the distribution on the loss experience of each individual classification. As noted earlier, the approach for industrial classifications is a rate relativity system. NCCI's application gives the appearance of a direct calculation of rates for individual classifications, but this is not precisely the case. Rather, the relative behavior of the loss experience of an individual classification (to the loss experience of all classifications in a specific industry group) is the primary determinant of the final rate for that classification.

Rates for individual classifications are calculated in a four step process:

#### *Calculation of the pure premium*

The pure premium is the expected cost of indemnity and medical benefits per \$100 payroll during the period when rates will be in effect.

#### *Conversion of the pure premium to a manual rate*

The provisions for expense and profit (and contingencies) are added to the pure premiums to produce a manual premium rate.

#### *Application of swing limits and correction factors*

Rate changes to individual classifications are limited to a range of +15% to -15% around the industry group change. A final adjustment using what is termed the test correction factor ensures that the average rate change to all classifications in an industry group equals the product of the statewide rate change and the calculated industry group differential.

#### *Disease Loadings*

Loadings for diseases unique to specific classifications are applied.

### Class Ratemaking

The overall process described above is the same general process NCCI has used for many years and is reasonable and actuarially sound. With respect to the detailed calculation of pure premiums underlying the rates for individual classifications, NCCI implemented material changes approximately five years ago. Oliver Wyman has opined in past peer reviews that these changes represented a material improvement to class ratemaking. This opinion has not changed. The NCCI class ratemaking methodology is reasonable and actuarially sound.

Oliver Wyman has expressed concerns regarding the substitution of theoretical excess loss ratios for actual data to provide for losses excess the \$500,000 per claim limit, which is part of the changes to class ratemaking implemented by NCCI. While this approach is reasonable from an actuarial perspective, there is a concern regarding the \$500,000 limit, which has been fixed since implementation of the changes and is not adjusted annually for inflation. Therefore, with the passage of time, a greater portion of class experience (due to inflation) will be above \$500,000. The impact is that over time, the relative weight of excess ratios for costs above \$500,000 in the calculation of class rates will increase, and the relative weight of empirical loss experience below the \$500,000 limit will decrease.

## **Application of Swing Limits and Test Correction Factors**

In Florida, the rate change to an individual classification is limited to a range within 15% of the change to the industry group to which the classification belongs. For example, if a specific industry group has a 12% rate increase, the rate change for each classification in that industry group can be no greater than 27% ( $= 12\% + 15\%$ ) or less than -3% ( $= 12\% - 15\%$ ). Because of the limiting procedure, as well as other processes within the ratemaking calculation, the resulting average rate change for all classifications in an industry group may not precisely equal the required industry group change. This is addressed by calculation of a test correction factor (TCF) that is applied to each individual classification rate in the industry group to ensure that the required industry group change is achieved. The calculation of the TCF is an iterative procedure, because no individual classification rate is permitted to violate the swing limit test. The TCF ensures that the impact of using swing limits is revenue neutral. Therefore, the implementation of swing limits by NCCI is actuarially sound. The precise value of the swing limit, or even the use of swing limits at all, is primarily a matter of policy with the regulator, and is dependent on the size of the range of swing in class rates that will be accepted in a specific jurisdiction.

## **Disease Loadings**

The last step is addition of specific disease loadings for individual classifications to which disease loading apply.

## Rating Values

Oliver Wyman's examination was limited to the examination of certain rating values. The calculation of these factors was not examined in detail. Rather, the factors were examined for reasonableness:

Expected Loss Rates    D Ratios    Excess Loss Factors

The values of these factors appear to be reasonable, notwithstanding concerns regarding the use of excess loss ratios (which are the basis for the excess loss factors) for class ratemaking.

Note that the calculation of excess loss factors was changed to better reflect the revised ratemaking methodology. The overall approach is the same, however, claims are partitioned into the categories used in the revised ratemaking methodology.

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## Documentation and Information

The following is list of documents utilized for the purpose of this report. In addition to documents listed below, Oliver Wyman may have relied on internal data sources, insurance industry data sources, or other information not specifically listed below.

### NCCI Annual Statistical Bulletins

Florida Workers Compensation Rate Application and related documents for rates effective January 1, 2014

- Filing Documents
- Hearing Documents
- Interrogatories and Correspondence

Florida Workers Compensation Rate Application and related documents for rates effective January 1, 2015

- Filing Documents
- Hearing Documents
- Interrogatories and Correspondence

Florida Workers Compensation Rate Application and related documents for rates effective January 1, 2016

- Filing Documents

### Miscellaneous Other Documents

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## Considerations and Limitations

- **Data Verification (Claim and Exposure)** – For our analysis, we relied on data and information provided by NCCI without independent audit. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions may need to be revised.
- **Rounding and Accuracy** – Our models may retain more digits than those displayed. In addition, the results of certain calculations may be presented in the exhibits with more or less digits than would be considered significant. As a result, it should be recognized that (i) there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts, and (ii) calculation results may not have been adjusted to reflect the precision of the calculation.
- **Unanticipated Changes** – Our conclusions are based on an analysis of the data and on the estimation of the outcome of many contingent events. Future costs were developed from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new classes of losses or types of losses not sufficiently represented in historical databases or which are not yet quantifiable.
- **Uncertainty Inherent in Projections** – While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events, and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, no assurance can be given that the emergence of actual losses will correspond to the projections in this analysis.
- **Other Issues** – Any issues not specifically addressed in this report should not be construed as acceptance by Oliver Wyman of the methodologies and judgments associated with those issues.

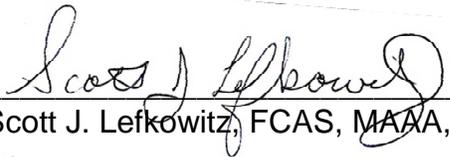
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## Acknowledgement

I, Scott J. Lefkowitz, am a Partner for Oliver Wyman Actuarial Consulting Inc. I am a member of the American Academy of Actuaries, a Fellow of the Casualty Actuarial Society, and a Fellow of the Conference of Consulting Actuaries.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

  
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