



# Connecticut

## Voluntary Loss Costs, Assigned Risk Rates, and Rating Values Filing

Proposed Effective January 1, 2023

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**Justin Moulton, CPCU, WCP, AR**  
Regulatory Division

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September 13, 2022

Andrew N. Mais  
Insurance Commissioner  
Connecticut Insurance Department  
153 Market Street  
Hartford, CT 06103

**Re: Connecticut Voluntary Loss Costs, Assigned Risk Rates, and Rating Values Filing—  
Proposed Effective January 1, 2023**

Dear Commissioner Mais:

In accordance with applicable Connecticut statutes and regulations, we are filing for your consideration and approval voluntary loss costs, assigned risk rates, and rating values to become effective January 1, 2023 for new and renewal policies.

This filing proposes an overall average decrease of 3.0% to the current voluntary loss cost level and no change to the current assigned risk rate level. These changes are applicable to new and renewal business only.

Reported COVID-19-related claims have been excluded from the data on which this filing is based to better reflect the conditions likely to prevail during the proposed effective period. After a comprehensive review, NCCI has determined that its general ratemaking methodologies (such as the use of the chain ladder development method, exponential trend fit model, etc.) remain appropriate for use in this year's filing. In some areas, NCCI has made selections due to potential COVID-19 pandemic-related effects on the underlying data to better reflect the conditions likely to prevail in the filing's proposed effective period.

This filing is made exclusively on behalf of the companies that have given valid consideration for the express purpose of fulfilling regulatory rate or pure premium filing requirements and other private use of this information.

In the enclosed appendix is a list of companies, which as of the time this filing is submitted, are eligible to reference this information. The inclusion of a company on this list merely indicates that the company, or the group to which it belongs, is affiliated with NCCI in this state, or has licensed this information as a non-affiliate, and is not intended to indicate whether the company is currently writing business or is even licensed to write business in this state.



**Justin Moulton, CPCU, WCP, ARe**  
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September 13, 2022

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

Sincerely,

A handwritten signature in black ink that reads "Justin Moulton". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Justin Moulton  
State Relations Executive, CPCU, WCP, ARe

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## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Actuarial Certification

I, Robert Moss, am an Actuary I for the National Council on Compensation Insurance, Inc. I am an Associate of the Casualty Actuarial Society and a member of the American Academy of Actuaries, and I meet the Qualification Standards of the American Academy of Actuaries to provide the actuarial report contained herein.

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

A handwritten signature in black ink that reads "Robert J. Moss". The signature is written in a cursive style with a large, sweeping initial "R".

Robert Moss, ACAS, MAAA  
Actuary I  
Actuarial and Economic Services



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Disclosures

##### Purpose of the Report

The purpose of this report is to provide the proposed voluntary loss costs and assigned risk rates for workers compensation policies in Connecticut, proposed to be effective January 1, 2023.

The intended users of this report are:

- The Connecticut Insurance Department
- Affiliated carriers, for their reference in determining workers compensation rates

##### Scope

The prospective loss costs are intended to cover the indemnity and medical benefits provided under the system, as well as some of the expenses associated with providing these benefits (loss adjustment expenses). They do not, however, contemplate any other costs associated with providing workers compensation insurance (such as commissions, taxes, etc.).

Each insurance company offering workers compensation insurance in Connecticut must file a loss cost multiplier to be applied to the approved prospective loss costs to compute the final workers compensation rates they intend to charge. This multiplier is intended to cover the other costs associated with providing workers compensation insurance that are not already part of the prospective loss costs.

Employers unable to secure coverage in the voluntary market can apply for such coverage in the assigned risk market. The proposed assigned risk rates are intended to cover the indemnity and medical benefits provided under the system, the expenses associated with providing these benefits (loss adjustment expenses), and any other costs associated with providing workers compensation insurance (such as commissions, taxes, etc.).

NCCI utilizes widely accepted general ratemaking methodologies in the calculation of voluntary loss costs and assigned risk rates. After in-depth review and analysis, as well as a thorough assessment of COVID-19 impacts, NCCI has determined that the continued use of its ratemaking methodologies remains appropriate, including:

- Experience base determination
- Chain ladder development method
- Trending procedure
- Expense calculation
- Application of indemnity and medical benefit changes



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Disclosures

See *COVID-19 Pandemic-related Considerations* in the Additional Proposed Changes section for additional information regarding potential COVID-19 pandemic-related effects.

#### Data Sources

##### Key Dates

Financial Data Valuation Date	December 31, 2021
Financial Call Data Cutoff Date	July 12, 2022
Unit Statistical Plan Data Cutoff Date	July 26, 2022
Filing Preparation Date	August 18, 2022

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

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

In some areas, NCCI's analysis also relies on other data sources, which are reviewed for reasonableness and are referenced in the filing where applicable. Events that have occurred after the Filing Preparation Date that may have a material impact on workers compensation costs in this jurisdiction have not been considered in the analysis.

#### Data Exclusions

NCCI maintains several data reporting initiatives and programs to assist carriers to report data and to ensure that the data that is reported to NCCI is complete, accurate, and reported in a timely fashion. Occasionally, a carrier's data submission is not available for use in an NCCI filing either because the data was not reported prior to the filing, had quality issues, or NCCI determined that the data that was reported should not be included in the filing based on NCCI's actuarial judgment.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Disclosures

In this year's filing, data for all carriers writing at least one-tenth of one percent of the Connecticut workers compensation written premium volume have been included in the experience period on which this filing is based.

NCCI categorizes catastrophic events as those that incur aggregate workers compensation losses in excess of \$50 million per occurrence. NCCI's standard ratemaking methodology excludes catastrophe-related losses from the calculation of loss costs since these events are not considered to be predictive of future experience. Consistent with this catastrophe methodology, NCCI is proposing to treat COVID-19 claims with accident dates between December 1, 2019 through December 31, 2021 as a catastrophe in this filing. These reported claims have been excluded from Financial Call Data and Unit Statistical Plan Data for use in ratemaking to better reflect the conditions expected to prevail in the filing's proposed effective period.

Other exclusions are made for the purposes of analysis, but do not have a material impact on the proposed changes in this filing.

#### Risks and Uncertainty

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

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

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

The course of the COVID-19 pandemic and related considerations, such as future economic conditions and the labor market, contribute additional uncertainty when estimating future costs.





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

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## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### **Part 1 Filing Overview**

- Executive Summary
- Overview of Methodology
- Summary of Selections
- Additional Proposed Changes



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Executive Summary

Based on its review of the most recently available data, NCCI has proposed the following overall average workers compensation voluntary loss cost and assigned risk rate changes in Connecticut to become effective January 1, 2023.

#### Key Components

Experience, Trend, and Benefit Change	-3.2%
<u>Loss Adjustment Expense Change</u>	<u>+0.2%</u>
<b>Proposed Change in Overall Voluntary Loss Cost Level*</b>	<b>-3.0%</b>
<u>Assigned Risk Loss Cost Multiplier Change</u>	<u>+3.1%</u>
<b>Proposed Change in Overall Assigned Risk Rate Level</b>	<b>0.0%</b>

\*The loss cost change varies by classification code, each of which belongs to one of five Industry Groups.

#### Items of Note:

- This filing is based on premium and loss experience for Policy Years 2019 and 2020 evaluated as of December 31, 2021. Reported COVID-19-related claims have been excluded from the data on which this filing is based.
  - Several adjustments were made in this filing as a result of the COVID-19 pandemic. See *COVID-19 Pandemic-Related Considerations* in the Additional Proposed Changes for additional information.
- Despite a small uptick in the latest policy year, Connecticut's lost-time claim frequency has generally declined when viewed over the most recent eight years.
- After adjusting to a common wage level, Connecticut's indemnity and medical average cost per case figures have experienced relatively more variability in recent years with large increases in Policy Year 2019 followed by moderate to large decreases in Policy Year 2020.

#### Proposed Changes in Voluntary Loss Cost Level by Industry Group:

<u>Industry Group</u>	<u>Average Change</u>	<u>Maximum Increase</u>	<u>Maximum Decrease</u>
Manufacturing	-2.5%	+18%	-22%
Contracting	-4.6%	+15%	-25%
Office and Clerical	-5.3%	+15%	-25%
Goods and Services	-2.8%	+17%	-23%
Miscellaneous	-0.7%	+19%	-21%

The voluntary market loss cost level decrease along with the proposed change in the factor to convert from voluntary loss costs to assigned risk rates results in no change to the overall average assigned risk rate level.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Overview of Methodology

##### Aggregate Ratemaking

NCCI's approach to determining the proposed overall average loss cost level change utilizes widely accepted ratemaking methodologies. The approach employed in this filing includes the following steps:

- The reported historical premium totals are projected to an ultimate basis and adjusted to the current pure premium level
- The excess loss portion of individual large claims are removed from reported aggregate losses, based on a Connecticut-specific large loss threshold
- The reported historical limited indemnity and medical loss totals are projected to an ultimate basis and adjusted to the current benefit level
- Ratios of losses to pure premium are projected to the cost levels expected in the loss cost effective period and adjusted to an unlimited basis via the application of an excess ratio (with excess ratios at limits beyond \$50 million set equal to zero)
- Proposed benefit level and/or expense changes are applied to the projected cost ratios

The indicated average loss cost level change is calculated for the years in the filing's experience period. If the final projected cost ratios are greater (less) than 1.000, then an increase (decrease) in the average loss cost level is indicated.

##### Class Ratemaking

Once the proposed overall average voluntary loss cost level change has been determined, NCCI separately determines loss costs per \$100 of payroll for each workers compensation job classification (class); the loss costs and year-over-year changes vary by class. Three sets of pure premiums are combined as part of each class code's loss cost calculation based on the volume of available data for that job classification. The three sets of pure premiums are:

- State-specific payroll and loss experience ("indicated")
- Currently approved pure premium adjusted to the proposed level ("present on rate level")
- Countrywide experience adjusted to state conditions ("national")

##### Assigned Risk Rates

The proposed assigned risk rates are then determined for each job classification as the product of the classification's voluntary loss cost and a loss cost multiplier (LCM). The LCM incorporates the indicated assigned risk market expense need, changes to the assigned risk differential, and the proposed uncollectible premium provision.

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



**CONNECTICUT**

**Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023**

**Summary of Selections**

The following is a summary of selections underlying the voluntary loss costs and assigned risk rates proposed to be effective January 1, 2023, along with the selections underlying the currently approved filing effective January 1, 2022.

<b><u>Voluntary Loss Costs</u></b>	<b><u>Currently Approved January 1, 2022</u></b>	<b><u>Proposed Effective January 1, 2023</u></b>
Experience Period	Policy Years 2018 and 2019	Policy Years 2019 and 2020
Premium Development	3-yr avg	3-yr avg*
Loss Experience Base	Indemnity: Paid+Case Medical: Avg Paid and P+C	Indemnity: Paid+Case Medical: Avg Paid and P+C
Loss Development - Paid	Indemnity: N/A Medical: 2-yr avg	Indemnity: N/A Medical: 3-yr avg
Loss Development - Paid+Case	Indemnity: 5-yr avg Medical: 5-yr avg	Indemnity: 5-yr avg Medical: 5-yr avg
Tail Factor – Indemnity	1.065	1.065
Tail Factor – Medical	1.040	1.035
Trend Factor – Indemnity Loss Ratio	0.960	0.965
Trend Factor – Medical Loss Ratio	0.955	0.950
Base Threshold for Limiting Losses	\$6,910,746	\$7,003,029
Excess Ratio	2.3%	2.4%
Loss-based Expense Provision	19.9%	20.1%
Classification Swing Limits (applied by Industry Group)	+/-20%	+/-20%

<b><u>Assigned Risk Rates</u></b>	<b><u>Currently Approved January 1, 2022</u></b>	<b><u>Proposed Effective January 1, 2023</u></b>
Assigned Risk Differential	1.439	1.491
Permissible Loss Ratio (PLR)	0.713	0.715
Uncollectible Premium Provision (UPP)	1.040	1.040
Servicing Carrier Allowance (SCA)	19.4%	19.4%
Profit and Contingencies Provision (P&C)	1.0%	1.0%

\* A selection was made for the 1st/2nd premium development factor. Refer to Appendix A-II.



## Connecticut

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Additional Proposed Changes

##### COVID-19 Pandemic-Related Considerations

###### Overview

The COVID-19 pandemic has been affecting the general population, workplace, and economy for more than two years. In consideration of possible pandemic-related impacts on the Connecticut workers compensation system, NCCI has thoroughly analyzed various aspects of the utilized ratemaking methodologies and considered how they may be impacted. Considerations on various components of the ratemaking calculations are described below, including potential COVID-19 pandemic-related effects.

After a comprehensive review, NCCI has determined that the continued use of widely accepted general ratemaking methodologies (such as the use of the chain ladder development method, exponential trend fit model, etc.) remain appropriate for use in this year’s filing. In some areas, NCCI has made selections due to potential COVID-19 pandemic-related effects on the underlying data to better reflect the conditions likely to prevail in the filing’s proposed effective period.

###### COVID-19 Claim Data

NCCI categorizes catastrophic events as those that incur aggregate workers compensation losses of more than \$50 million per occurrence. NCCI’s ratemaking methodology excludes catastrophe-related losses from the calculation of loss costs since these events are not considered to be predictive of future experience. Pandemics have the potential to be a catastrophic peril on workers compensation system costs. Consistent with NCCI’s actuarial catastrophe methodology, NCCI is proposing to treat all COVID-19 claims with accident dates between December 1, 2019 and December 31, 2021 as catastrophe-related. Since the nature of the COVID-19 pandemic and its impact on the workers compensation system has changed over time, all reported COVID-19 claims from this historical period have been excluded from the ratemaking data (including reviews of the experience period and trend) to better reflect the conditions expected to prevail in the filing’s proposed effective period.

Below is a summary of COVID-19 related losses and lost-time claim counts in Connecticut, as reported in NCCI’s Financial Call 31 as of year-end 2021.

<u>Year</u>	<u>COVID-19 Lost-Time Claim Counts</u>	<u>COVID-19 Paid + Case Losses</u>
PY 2019	300	9,586,780
PY 2020	437	5,138,906
AY 2020	688	14,228,360
AY 2021	110	662,018

*Excludes large deductible and expense-only claims.*

Reported COVID-19-related losses would have represented about a 3% share of the reported paid+case losses in Connecticut’s experience period.



## Connecticut

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Additional Proposed Changes

##### Determination of the Experience Period

This year’s analysis included a review of various experience periods and an assessment of possible pandemic claim-related impacts. The most recent five policy year and calendar-accident year projected loss ratios are shown below, using paid+case loss ratios for indemnity and an average of paid and paid+case loss ratios for medical.

<u>Policy Year</u>	<u>Loss Ratio</u>	<u>Calendar-Accident Year</u>	<u>Loss Ratio</u>
2016	0.928	2017	0.978
2017	1.042	2018	0.999
2018	0.947	2019	1.010
2019	0.984	2020	0.910
2020	0.952	2021	0.942

*Based on NCCI’s Financial Call data reported through 12/31/2021, on-leveled, developed to an ultimate report, and trended to the prospective period.*

*Calendar-Accident Year 2019–2021 loss ratios include a premium audit adjustment due to changes in audit activity primarily attributable to the COVID-19 pandemic-related recession.*

The relatively favorable loss ratio experience observed in Policy Year 2020 and in Calendar-Accident Year 2020 in Connecticut are likely impacted by pandemic-related effects, although not to the same extent as observed in some NCCI states. It is likely that some of the improved loss ratio experience observed in these years may reflect trends that could persist into the future. Such persistent factors include the shift to remote work and reduced business travel affecting some sectors. However, it is possible that other pandemic-related effects may not persist during the proposed effective period, including:

- Sustained change to employment levels in certain industries
- Reported decline in less severe injuries, including medical-only claims
- Reduction in the total number of medical evaluations, treatments, and/or procedures
- Social distancing and other temporary safety measures to separate workers
- Fewer reported claims due to the pandemic-related recession

Policy year loss ratios in Connecticut have been historically relied upon for their more exact match between premiums and losses. In this filing, data for the two most recently available full policy years was once again selected as the most appropriate period on which to base this year’s filing. The use of a two-year experience period continues to provide a balance between stability and responsiveness and to reflect the conditions likely to prevail in the proposed effective period.

The decrease in medical-only claims is particularly notable in Connecticut, with Policy Year 2020 exhibiting about a 23% decrease in medical-only claim counts and 18% decrease in incurred medical losses. This drop in medical-only claims accounts for an approximate -1% impact on the Policy Year 2020 medical loss ratio and an approximate -0.5% impact on the indication, assuming the historically-



## Connecticut

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Additional Proposed Changes

approved two-year experience period. Although claims by injury type can experience year-to-year volatility, medical-only losses are expected to be stable over time because of the large volume. NCCI has proposed a switch from a 2-year average to a 3-year average for medical paid loss development in response to this decline in medical-only claims, as well as changes in medical paid development at the latest valuation. See “Loss Development” section below.

Given the many factors detailed above, as well as the relatively limited impact of pandemic-related factors on the overall statewide experience for Connecticut and proposed changes to medical paid loss development averaging, no adjustments were made to the experience period in this year’s loss cost filing. The continued use of a two-year experience period provides the best balance between stability and responsiveness.

#### Premium Development

Premium at an ultimate report is estimated by incorporating a review of historical patterns of premium development over time—primarily due to payroll audits. Premium development link ratios are used from first through fifth report, after which NCCI assumes no further development occurs.

The COVID-19 pandemic resulted in an economic contraction that reduced employment levels and payrolls in 2020, followed by rapid growth in 2021. Premium development is expected to be similar to historical periods as the observed employment level changes in 2020 and 2021 are anticipated to have a minimal impact on workers compensation ultimate premium estimates. Therefore, a three-year average of historical premium development factors was selected. Despite the minimal impact, a selection was made for the 1<sup>st</sup>-2<sup>nd</sup> premium development factor that better reflects the expected premium development for PY 2020.

#### Loss Development

Loss development factors are needed since reported paid losses and case reserves on claims change over time until all claims are closed. Loss development factors are calculated based on a review of how paid losses and case reserve estimates changed over time for claims from previous years. Fewer reported minor injuries, postponement of medical treatments, changes in inflation, operational impacts to claims handling, and changes in return-to-work outcomes are among the pandemic-related factors that had the potential to impact historical patterns of indemnity and medical loss development.

As aforementioned, the mix of claims reported in Policy Year 2020 includes a lower proportion of medical-only claims compared with historical periods. When minor claims—which tend to have lower development—are removed from historical periods, the overall development factor increases. This implies that development factors from historical periods, with higher volumes of medical-only claims, may be lower than what may be appropriate for Policy Year 2020. Additionally, continued use of a 2-year average for medical paid development would have resulted in relatively lower loss development overall when compared with prior valuations, which may have been partly due to pandemic-related factors. In response to these changes, NCCI is proposing to move from a 2-year average to a 3-year average for medical paid loss development projections.





## Connecticut

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Additional Proposed Changes

##### Trend

Indemnity and medical loss ratio, severity, and claim frequency trends were analyzed by NCCI. The trend review focused on the most recent fifteen policy years and the most recent five calendar-accident years of data. Policy year data is given greater consideration by NCCI in forecasting future workers compensation experience because policy year data reflects a relatively better match between exposure and losses. Loss ratios are relied upon as they are less impacted by shifts in the industry mix since these impacts to frequency and severity tend to offset.

It is possible that some portion of the improved loss ratio experience may be expected to continue going forward as the COVID-19 pandemic may have permanently altered aspects of the workplace and economy. However, the improved experience may also be partly related to some COVID-19 pandemic-related effects which may not persist during the effective period of the proposed loss costs and rates:

- During the pandemic, workers may have reported fewer medical-only claims, or postponed medical evaluations and/or surgeries. NCCI's Medical Data Call shows lower utilization of evaluation and management as well as surgery services in service year 2021.
- Fewer work-related motor vehicle accidents occurred during 2020, possibly related to decreased exposure to business deliveries and travel.
- Employment levels have rebounded from the lows observed in 2020. The Great Reshuffle has increased the share of short-tenured workers (i.e., employees with one year or less at their current employer) in some industries, which NCCI studies have shown to be associated with higher injury frequency and claim costs. The increased prevalence of short-tenured workers may continue as new industry segments expand, but it is likely to recede toward historical norms in most economic sectors.
- The Connecticut economy has seen a shift across industries and an increase in demand for new workers in transportation and warehousing, and construction employment.
- Education and Health Services and Leisure and Hospitality, both major industries in Connecticut, have experienced slower employment recovery than other industries in the state.
- In the historical trend period, medical price inflation, as measured by the Chain-Weighted Personal Healthcare index, grew at a rate of approximately 1.5% per year from 2011 to 2020. However, the forecasted changes over the next ten years are higher—approximately 2.5% per year.

In general, long-term patterns of improving loss ratios have been observed over the most recent 15 years of loss experience in Connecticut. However, given recent changes in the loss ratios for both indemnity and medical, the selected annual loss ratio trends in this year's filing give greater consideration to shorter term patterns.

Additionally, when reviewing trends for this filing, there was a more notable impact in the most recent year for the medical loss ratios. Ultimately, NCCI utilized an approach to medical loss ratio trend selection where instead of (initially) picking a single trend factor that would apply to all policy years, consideration was given that pre-pandemic policy years may require a different trend factor selection than the years partially and totally impacted by the pandemic. While different sets of trend factors



## Connecticut

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Additional Proposed Changes

were applied during the analysis phase, this filing proposes a single trend factor which is applicable to all years in the filing's experience period.

NCCI analyzes a variety of trend estimates and ultimately selected trend factors that most appropriately project the latest observed experience to the level expected to exist when the proposed loss costs will be in effect. See Appendix A-III for additional trend information.

#### Experience Rating

The Expected Loss Rates (ELRs) in this filing reflect a frequency trend which contemplates an observed COVID-19 pandemic-related decline in claim frequency. See Part 2 of the filing for more explanation of the ELR calculation.

#### Calendar Year Wage Adjustments

NCCI's standard methodology is to adjust frequency and severity values included in its loss cost filings to a common wage level before analyzing trends that may be present in those values. This practice allows NCCI to analyze trends over and above changes that may be due solely to wage inflation. In this year's filing, the frequency and severity values have been adjusted to the Calendar Year 2021 average weekly wage (AWW) level using data from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW).

In addition to the traditional growth in wages/salaries that may be expected to occur each year, the observed 2019-to-2020 and 2020-to-2021 AWW changes were also impacted by COVID-19 pandemic-related shifts in employment across industry sectors. While a change in industry-sector mix occurs to a small degree each year, its impact on the 2020 and 2021 AWW changes was unusually large, due to pandemic-related job losses, followed by wage growth in relatively low-wage industries. Therefore, in this year's ratemaking analysis, the 2020 and 2021 AWW values were adjusted to exclude the estimated impact of the pandemic-related, industry-sector mix change.

The AWW for Policy Year 2020 is calculated as a weighted average of Calendar Years 2020 and 2021 and was thereby affected by the adjustment. The estimated AWW for Policy Year 2020 with and without the industry-sector mix change adjustment is \$1,429 and \$1,466, respectively, for Connecticut. This adjustment, the impact of which is expected to be immaterial, is reflected in the frequency and severity values shown in Appendix A-III Trend Factors.

The PY 2020 frequency and severity values are the only portion of the filing impacted by the Calendar Year 2021 AWW adjustment described above.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Part 2 Proposed Values

- Proposed Voluntary Loss Costs for Inclusion in the Basic Manual
- Proposed Assigned Risk Rates for Inclusion in the Residual Market Manual
- Proposed Values for Inclusion in the Experience Rating Plan Manual
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## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Proposed Voluntary Loss Costs for Inclusion in the Basic Manual

The following pages include proposed:

- Voluntary loss costs by class code, along with associated footnotes
- Advisory miscellaneous values, such as:
  - Catastrophe and Terrorism provisions
  - Maximum and minimum weekly payroll applicable for select class codes
  - Premium determination for Partners and Sole Proprietors
  - United States Longshore and Harbor Workers' Compensation Coverage Percentage

Please note the following in connection with this filing:

- As a result of Item R-1420, the retrospective rating plan parameters were updated.

**ADVISORY LOSS COSTS - NOT RATES**

**CONNECTICUT**

Advisory loss costs exclude all expense provisions except loss adjustment expense.

Original Printing

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Effective January 1, 2023

CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST
0005	2.22	2039	3.04	2731	3.44	3257	1.87	4061	-	4692	0.62	5551	12.82
0008	2.12	2041	2.99	2735	3.49	3270	1.82	4062	2.07	4693	0.71	5604	1.94
0016	4.00	2065	2.35	2759	4.11	3300	4.29	4101	1.99	4703	1.47	5606	0.98
0034	3.14	2070	4.32	2790	1.57	3303	2.22	4109	0.37	4717	1.82	5610	4.31
0035	1.88	2081	2.79	2797	2.91	3307	2.30	4110	0.82	4720	1.48	5645	11.21
0036	3.16	2089	2.70	2799	4.57	3315	3.25	4111	2.14	4740	0.73	5703	9.69
0037	3.33	2095	3.72	2802	4.27	3334	2.42	4113	-	4741	2.41	5705	18.10
0042	5.33	2105	3.63	2835	2.98	3336	2.61	4114	2.29	4751	2.15	5951	0.36
0050	4.72	2110	3.13	2836	2.91	3365	4.67	4130	3.13	4771N	2.58	6003	7.41
0059D	0.16	2111	1.94	2841	3.14	3372	2.81	4131	3.68	4777	6.76	6005	6.08
0065D	0.02	2112	3.33	2881	2.52	3373	3.92	4133	2.08	4825	0.52	6017	-
0066D	0.02	2114	1.79	2883	2.67	3383	1.28	4149	0.70	4828	1.31	6018	2.51
0067D	0.02	2121	1.12	2915	2.56	3385	1.67	4206	2.96	4829	0.96	6045	4.81
0079	2.12	2130	1.79	2916	2.64	3400	2.97	4207	1.97	4902	1.94	6204	7.18
0083	4.33	2131	1.35	2923	1.71	3507	2.58	4239	2.16	4923	1.02	6206	2.37
0106	7.52	2143	2.33	2960	4.06	3515	1.85	4240	2.38	5020	4.23	6213	1.77
0113	3.67	2157	5.34	3004	1.04	3548	1.21	4243	2.18	5022	6.90	6214	1.50
0170	3.67	2172	1.35	3018	3.03	3559	2.87	4244	2.62	5037	7.01	6216	4.79
0251	3.04	2174	2.39	3022	3.46	3574	1.77	4250	1.72	5040	11.21	6217	3.23
0401	9.32	2211	5.94	3027	2.18	3581	0.83	4251	2.50	5057	5.11	6229	3.69
0771N	0.46	2220	2.27	3028	2.44	3612	1.96	4263	2.38	5059	12.90	6233	2.10
0908P	126.00	2286	-	3030	6.40	3620	2.19	4273	2.36	5069	-	6235	4.87
0913P	470.00	2288	3.27	3040	4.27	3629	1.23	4279	2.39	5102	4.97	6236	5.58
0917	3.17	2302	1.65	3041	3.81	3632	1.96	4282	-	5146	4.09	6237	1.31
0918	0.96	2305	2.24	3042	4.95	3634	1.63	4283	1.47	5160	2.42	6251D	4.39
1005	4.97	2361	1.60	3064	2.86	3635	1.39	4299	1.96	5183	2.90	6252D	2.38
1164D	2.61	2362	2.04	3076	2.88	3638	1.59	4304	3.94	5188	2.77	6306	4.29
1165D	2.32	2380	1.74	3081D	4.09	3642	1.07	4307	1.42	5190	2.34	6319	2.74
1320	1.44	2386	-	3082D	3.30	3643	1.44	4351	0.99	5191	0.85	6325	2.53
1322	7.59	2388	1.17	3085D	4.92	3647	2.31	4352	1.26	5192	2.83	6400	4.88
1430	3.40	2402	2.19	3110	3.90	3648	1.33	4360	-	5213	7.03	6503	2.05
1438	3.94	2413	1.96	3111	1.53	3681	0.87	4361	0.51	5215	5.53	6504	2.39
1452	2.11	2416	1.94	3113	1.67	3685	1.01	4410	2.61	5221	4.34	6702M*	3.52
1463	6.15	2417	1.22	3114	2.33	3719	0.83	4420	3.20	5222	6.63	6703M*	5.40
1472	2.64	2501	2.08	3118	1.43	3724	3.48	4431	1.16	5223	5.15	6704M*	3.92
1624D	2.31	2503	1.40	3119	0.91	3726	3.24	4432	1.11	5348	4.13	6801F	3.89
1642	2.33	2534	-	3120	-	3803	2.12	4439	-	5402	5.84	6811	3.87
1654	3.91	2560	-	3122	1.61	3807	2.01	4452	2.53	5403	6.12	6824F	6.56
1655	-	2570	3.00	3126	1.72	3808	2.95	4459	2.35	5437	4.61	6826F	2.84
1699	2.42	2585	3.63	3131	1.52	3821	4.94	4470	2.14	5443	3.30	6834	2.06
1701	2.53	2586	2.32	3132	2.55	3822	3.27	4484	2.15	5445	4.41	6836	2.50
1710	2.91	2587	2.18	3145	1.95	3824	2.80	4493	2.40	5462	5.48	6843F	5.28
1741	-	2589	1.71	3146	2.66	3826	1.03	4511	0.38	5472	4.77	6845F	2.84
1747	3.09	2600	4.24	3169	3.07	3827	1.70	4557	1.94	5473	7.03	6854	3.70
1748	4.15	2623	4.97	3175	-	3830	1.42	4558	1.91	5474	5.35	6872F	4.93
1803D	6.45	2651	1.23	3179	1.95	3851	1.79	4568	1.97	5478	3.67	6874F	8.38
1853	-	2660	2.06	3180	1.96	3865	2.79	4581	0.85	5479	8.01	6882	2.82
1860	-	2670	-	3188	1.64	3881	3.30	4583	3.07	5480	4.81	6884	3.76
1924	2.28	2683	-	3220	2.16	4000	4.09	4611	0.84	5491	1.56	7016M	2.20
1925	2.79	2688	1.56	3223	-	4021	3.92	4635	2.50	5506	5.33	7024M	2.44
2002	2.78	2701	9.67	3224	3.20	4024D	3.98	4653	1.42	5507	4.59	7038M	3.70
2003	3.35	2702	17.22	3227	2.22	4034	5.04	4665	6.46	5508	-	7046M	3.97
2014	5.26	2709	7.14	3240	-	4036	2.05	4670	-	5509	5.27	7047M	3.37
2016	3.07	2710	6.42	3241	2.62	4038	2.27	4683	2.81	5535	5.39	7050M	5.67
2021	2.98	2714	3.68	3255	2.27	4053	-	4686	1.90	5537	3.38	7090M	4.11

**REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES**

Refer to the Classification codes section of the *Basic Manual* for any state specific classification phraseology.

\* Refer to the Footnotes Page for additional information on this class code.

**CONNECTICUT**

**ADVISORY LOSS COSTS - NOT RATES**

Advisory loss costs exclude all expense provisions except loss adjustment expense.

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CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST	CLASS CODE	LOSS COST
7097	—	7711	23.24	8399	—	9060	1.03						
7098M	4.41	7720	2.42	8500	5.33	9061	0.98						
7099M	6.09	7723	1.36	8601	0.20	9063	0.63						
7133	3.12	7731*	2.65	8602	0.94	9077F	3.89						
7151M	3.79	7855	2.90	8603	0.06	9082	0.83						
7152M	5.81	8001	1.70	8606	1.48	9083	0.87						
7153M	4.21	8002	1.43	8709F	6.05	9084	1.15						
7219	6.10	8006	1.84	8719	2.61	9088a	a						
7222	6.02	8008	0.79	8720	1.18	9089	0.71						
7225	5.77	8010	1.40	8721	0.20	9093	1.07						
7228	—	8013	0.33	8723	0.07	9101	2.75						
7229	—	8015	0.67	8725	1.91	9102	2.20						
7230	6.10	8017	1.40	8726F	1.37	9154	1.18						
7231	7.34	8018	2.89	8734M	0.26	9156	1.62						
7232	6.83	8021	2.28	8737M	0.23	9170	11.32						
7309F	6.24	8031	1.77	8738M	0.35	9178	4.02						
7313F	2.52	8032	1.58	8742	0.19	9179	11.79						
7317F	3.92	8033	1.67	8745	2.76	9180	4.36						
7327F	11.64	8037	1.53	8748	0.41	9182	2.07						
7333M	2.03	8039	1.28	8754	0.60	9186	10.19						
7335M	2.25	8044	2.67	8755	0.26	9220	4.03						
7337M	3.11	8045	0.71	8799	0.34	9402	3.08						
7350F	6.29	8046	2.39	8800	1.15	9403	6.87						
7360	3.29	8047	0.72	8803	0.05	9410	2.91						
7370	3.75	8058	1.99	8805M	0.11	9501	2.70						
7380	5.73	8072	0.53	8810	0.08	9505	2.96						
7382	2.71	8102	1.66	8814M	0.10	9516	2.36						
7390	10.51	8103	3.24	8815M	0.15	9519	3.45						
7394M	3.15	8106	3.98	8820	0.10	9521	2.61						
7395M	3.50	8107	2.58	8824	2.47	9522	1.81						
7398M	4.83	8111	1.83	8825	—	9534	3.98						
7402	0.09	8116	2.19	8826	1.68	9554	6.25						
7403	2.57	8203	5.79	8829	—	9586	0.45						
7405N	1.02	8204	3.98	8831	0.88	9600	2.18						
7420	5.25	8209	3.16	8832	0.31	9620	1.00						
7421	0.53	8215	3.20	8833	0.62								
7422	1.04	8227	3.63	8835	1.57								
7425	1.54	8232	4.57	8842	2.18								
7431N	0.69	8233	2.69	8855	0.10								
7445N	0.55	8235	3.74	8856	0.31								
7453N	0.37	8263	5.43	8864	1.59								
7502	1.43	8264	4.65	8868	0.26								
7515	0.94	8265	5.33	8869	0.63								
7520	1.90	8279	4.41	8871	0.05								
7538	2.41	8288	6.33	8901	0.14								
7539	1.12	8291	3.55	9012	0.69								
7540	2.33	8292	3.18	9014	2.20								
7580	2.20	8293	8.28	9015	2.38								
7590	3.80	8304	4.62	9016	1.80								
7600	4.81	8350	6.24	9019	2.18								
7605	1.98	8380	2.04	9033	2.96								
7607	0.09	8381	1.40	9040	2.69								
7610	0.25	8385	2.43	9044	1.02								
7705	3.62	8392	1.85	9052	1.80								
7710	3.43	8393	1.91	9058	1.28								

**REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES**

Refer to the Classification codes section of the *Basic Manual* for any state specific classification phraseology.

\* Refer to the Footnotes Page for additional information on this class code.

Effective January 1, 2023

FOOTNOTES

- a Advisory loss cost for each individual risk must be obtained from NCCI Customer Service or the Rating Organization having jurisdiction.
- D Advisory loss cost for classification already includes the specific disease loading shown in the table below. See the **Basic Manual** rule, Supplemental and supplementary loading.

Disease			Disease			Disease		
Code No.	Loading	Symbol	Code No.	Loading	Symbol	Code No.	Loading	Symbol
0059D	0.16	S	1165D	0.01	S	3085D	0.04	S
0065D	0.02	S	1624D	0.01	S	4024D	0.01	S
0066D	0.02	S	1803D	0.16	S	6251D	0.01	S
0067D	0.02	S	3081D	0.03	S	6252D	0.01	S
1164D	0.02	S	3082D	0.03	S			

S=Silica

- F Advisory loss cost provides for coverage under the United States Longshore and Harbor Workers Compensation Act and its extensions.
- M Risks are subject to Admiralty Law or Federal Employers Liability Act (FELA). However, the published loss cost is for risks that voluntarily purchase standard workers compensation and employers liability coverage.
- N This code is part of a ratable / non-ratable group shown below. The statistical non-ratable code and corresponding advisory loss cost are applied in addition to the basic classification when determining premium.

Class Code	Non-Ratable Element Code
4771	0771
7405	7445
7431	7453

- P Classification is computed on a per capita basis.

**\* Class Codes with Specific Footnotes**

- 6702 Loss cost and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class loss cost and elr each x 1.215.
- 6703 Loss cost and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class loss cost and elr each x 1.863.
- 6704 Loss cost and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class loss cost and elr each x 1.35.
- 7731 Loss cost per Service Response.

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES

Effective January 1, 2023

ADVISORY MISCELLANEOUS VALUES

**Advisory Loss Elimination Ratios** - The following percentages are applicable by deductible amount and hazard group for total losses on a per claim basis. They do not include a safety factor.

Deductible Amount	Total Losses						
	HAZARD GROUP						
	A	B	C	D	E	F	G
\$1,000	7.6%	5.8%	4.5%	3.8%	2.9%	2.3%	1.9%
\$5,000	18.8%	15.5%	12.8%	11.2%	9.0%	7.3%	6.3%
\$10,000	26.5%	22.7%	19.2%	17.1%	14.0%	11.8%	10.3%

<b>Basis of premium</b> applicable in accordance with the <b>Basic Manual</b> notes for Code 7370 --"Taxicab Co.":	
Employee operated vehicle.....	\$117,700
Leased or rented vehicle.....	\$78,500
<b>Catastrophe (other than Certified Acts of Terrorism)</b> - (Advisory Loss Cost).....	0.01
<b>Maximum Weekly Payroll</b> applicable in accordance with the <b>Basic Manual</b> rule, Rule for premium determination of executive officers and the <b>Basic Manual</b> notes for Code 9178 -- "Athletic Sports or Park: Noncontact Sports," and Code 9179 -- "Athletic Sports or Park: Contact Sports".....	\$1,500
<b>Maximum Weekly Payroll</b> applicable in accordance with the <b>Basic Manual</b> rules, Rule for premium determination of executive officers and Rule for premium determination of members of LLCs.....	\$3,000
<b>Minimum Weekly Payroll</b> applicable in accordance with the <b>Basic Manual</b> rules, Rule for premium determination of executive officers and Rule for premium determination of members of LLCs.....	\$1,500
<b>Premium Determination for Partners and Sole Proprietors</b> in accordance with the <b>Basic Manual</b> rule, Rule for premium determination for partners or sole proprietors (Annual Payroll).....	\$78,500
<b>Terrorism</b> - (Advisory Loss Cost) .....	0.025
<b>United States Longshore and Harbor Workers' Compensation Coverage Percentage</b> applicable only in connection with the <b>Basic Manual</b> rule, Federal coverages.....	50%
(Multiply a Non-F classification loss cost by a factor of 1.50 to adjust for the difference in state and federal benefits only.)	
<b>Workers Compensation Administration Funds Assessment factors</b> applicable in accordance with the <b>Basic Manual</b> rule, Rule for applying the Connecticut Workers Compensation Administration Fund Assessment factors	
Industrial Classifications and Maritime/FELA (Program I and Program II State Act).....	2.4%
F Classifications and Maritime/FELA (Program II USL Act).....	3.2%

**Experience Rating Eligibility**

A risk qualifies for experience rating on an intrastate basis when it meets the premium eligibility requirements for the state in which it operates. The eligibility amount varies by rating effective date. The **Experience Rating Plan Manual** should be referenced for the latest approved eligibility amounts by state and by effective date.





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Proposed Assigned Risk Rates for Inclusion in the Residual Market Manual

The following pages include proposed:

- Assigned risk rates and minimum premiums by class code, along with associated footnotes
- Miscellaneous values, such as:
  - Catastrophe and Terrorism provisions
  - Expense Constant and Minimum Premium parameters
  - Maximum and minimum weekly payroll applicable for select class codes
  - Premium determination for Partners and Sole Proprietors
  - United States Longshore and Harbor Workers' Compensation Coverage Percentage

**WORKERS COMPENSATION AND EMPLOYERS LIABILITY**

*Effective January 1, 2023*

**APPLICABLE TO ASSIGNED RISK POLICIES ONLY**

CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM
0005	4.01	1443	2039	5.49	1500	2731	6.21	1500	3257	3.38	1242	4061	-	-
0008	3.83	1386	2041	5.40	1500	2735	6.30	1500	3270	3.29	1213	4062	3.74	1357
0016	7.22	1500	2065	4.24	1500	2759	7.42	1500	3300	7.74	1500	4101	3.59	1309
0034	5.67	1500	2070	7.80	1500	2790	2.83	1066	3303	4.01	1443	4109	0.67	374
0035	3.39	1245	2081	5.04	1500	2797	5.25	1500	3307	4.15	1488	4110	1.48	634
0036	5.70	1500	2089	4.87	1500	2799	8.26	1500	3315	5.87	1500	4111	3.86	1395
0037	6.01	1500	2095	6.71	1500	2802	7.71	1500	3334	4.37	1500	4113	-	-
0042	9.61	1500	2105	6.55	1500	2835	5.38	1500	3336	4.71	1500	4114	4.13	1482
0050	8.53	1500	2110	5.65	1500	2836	5.25	1500	3365	8.44	1500	4130	5.65	1500
0059D	0.29	-	2111	3.50	1280	2841	5.67	1500	3372	5.07	1500	4131	6.64	1500
0065D	0.04	-	2112	6.01	1500	2881	4.55	1500	3373	7.08	1500	4133	3.75	1360
0066D	0.04	-	2114	3.23	1194	2883	4.82	1500	3383	2.31	899	4149	1.26	563
0067D	0.04	-	2121	2.02	806	2915	4.62	1500	3385	3.01	1123	4206	5.34	1500
0079	3.83	1386	2130	3.23	1194	2916	4.77	1500	3400	5.36	1500	4207	3.56	1299
0083	7.82	1500	2131	2.44	941	2923	3.09	1149	3507	4.66	1500	4239	3.90	1408
0106	13.57	1500	2143	4.21	1500	2960	7.33	1500	3515	3.34	1229	4240	4.30	1500
0113	6.62	1500	2157	9.64	1500	3004	1.88	762	3548	2.18	858	4243	3.93	1418
0170	6.62	1500	2172	2.44	941	3018	5.47	1500	3559	5.18	1500	4244	4.73	1500
0251	5.49	1500	2174	4.31	1500	3022	6.25	1500	3574	3.19	1181	4250	3.10	1152
0401	16.82	A	2211	10.72	1500	3027	3.93	1418	3581	1.50	640	4251	4.51	1500
0771N	0.83	-	2220	4.10	1472	3028	4.40	1500	3612	3.54	1293	4263	4.30	1500
0908P	227.00	352	2286	-	-	3030	11.55	1500	3620	3.95	1424	4273	4.26	1500
0913P	848.00	973	2288	5.90	1500	3040	7.71	1500	3629	2.22	870	4279	4.31	1500
0917	5.72	1500	2302	2.98	1114	3041	6.88	1500	3632	3.54	1293	4282	-	-
0918	1.73	650	2305	4.04	1453	3042	8.93	1500	3634	2.94	1101	4283	2.65	1008
1005	8.97	1500	2361	2.89	1085	3064	5.16	1500	3635	2.51	963	4299	3.54	1293
1164D	4.71	1500	2362	3.68	1338	3076	5.20	1500	3638	2.87	1078	4304	7.11	1500
1165D	4.19	1500	2380	3.14	1165	3081D	7.38	1500	3642	1.93	778	4307	2.56	979
1320	2.60	992	2386	-	-	3082D	5.95	1500	3643	2.60	992	4351	1.79	733
1322	13.69	1500	2388	2.11	835	3085D	8.88	1500	3647	4.17	1494	4352	2.27	886
1430	6.14	1500	2402	3.95	1424	3110	7.04	1500	3648	2.40	928	4360	-	-
1438	7.11	1500	2413	3.54	1293	3111	2.76	1043	3681	1.57	662	4361	0.92	454
1452	3.81	1379	2416	3.50	1280	3113	3.01	1123	3685	1.82	742	4410	4.71	1500
1463	11.10	1500	2417	2.20	864	3114	4.21	1500	3719	1.50	640	4420	5.78	1500
1472	4.77	1500	2501	3.75	1360	3118	2.58	986	3724	6.29	1500	4431	2.09	829
1624D	4.17	1494	2503	2.53	970	3119	1.64	685	3726	5.86	1500	4432	2.00	800
1642	4.21	1500	2534	-	-	3120	-	-	3803	3.83	1386	4439	-	-
1654	7.06	1500	2560	-	-	3122	2.91	1091	3807	3.63	1322	4452	4.57	1500
1655	-	-	2570	5.42	1500	3126	3.10	1152	3808	5.32	1500	4459	4.24	1500
1699	4.37	1500	2585	6.55	1500	3131	2.74	1037	3821	8.92	1500	4470	3.86	1395
1701	4.57	1500	2586	4.19	1500	3132	4.60	1500	3822	5.90	1500	4484	3.88	1402
1710	5.25	1500	2587	3.93	1418	3145	3.52	1286	3824	5.05	1500	4493	4.33	1500
1741	-	-	2589	3.09	1149	3146	4.80	1500	3826	1.86	755	4511	0.69	381
1747	5.58	1500	2600	7.65	1500	3169	5.54	1500	3827	3.07	1142	4557	3.50	1280
1748	7.49	1500	2623	8.97	1500	3175	-	-	3830	2.56	979	4558	3.45	1264
1803D	11.64	1500	2651	2.22	870	3179	3.52	1286	3851	3.23	1194	4568	3.56	1299
1853	-	-	2660	3.72	1350	3180	3.54	1293	3865	5.04	1500	4581	1.53	650
1860	-	-	2670	-	-	3188	2.96	1107	3881	5.96	1500	4583	5.54	1500
1924	4.12	1478	2683	-	-	3220	3.90	1408	4000	7.38	1500	4611	1.52	646
1925	5.04	1500	2688	2.82	1062	3223	-	-	4021	7.08	1500	4635	4.51	1500
2002	5.02	1500	2701	17.45	1500	3224	5.78	1500	4024D	7.19	1500	4653	2.56	979
2003	6.05	1500	2702	31.08	1500	3227	4.01	1443	4034	9.10	1500	4665	11.66	1500
2014	9.49	1500	2709	12.89	1500	3240	-	-	4036	3.70	1344	4670	-	-
2016	5.54	1500	2710	11.59	1500	3241	4.73	1500	4038	4.10	1472	4683	5.07	1500
2021	5.38	1500	2714	6.64	1500	3255	4.10	1472	4053	-	-	4686	3.43	1258

**REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES**

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\* Refer to the Footnotes Page for additional information on this class code.

Effective January 1, 2023

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM
4692	1.12	518	5551	23.14	1500	7097	-	-	7711	41.95	1500	8399	-	-
4693	1.28	570	5604	3.50	1280	7098M	7.96	1500	7720	4.37	1500	8500	9.62	1500
4703	2.65	1008	5606	1.77	726	7099M	10.99	1500	7723	2.45	944	8601	0.36	275
4717	3.29	1213	5610	7.79	1500	7133	5.63	1500	7731*	4.78	6250	8602	1.70	704
4720	2.67	1014	5645	20.24	1500	7151M	6.84	1500	7855	5.24	1500	8603	0.11	195
4740	1.32	582	5703	17.49	1500	7152M	10.49	1500	8001	3.07	1142	8606	2.67	1014
4741	4.35	1500	5705	32.66	1500	7153M	7.60	1500	8002	2.58	986	8709F	10.92	1500
4751	3.88	1402	5951	0.65	368	7219	11.01	1500	8006	3.32	1222	8719	4.71	1500
4771N	4.66	1500	6003	13.37	1500	7222	10.87	1500	8008	1.43	618	8720	2.13	842
4777	12.20	1500	6005	10.97	1500	7225	10.41	1500	8010	2.53	970	8721	0.36	275
4825	0.94	461	6017	-	-	7228	-	-	8013	0.60	352	8723	0.13	202
4828	2.36	915	6018	4.53	1500	7229	-	-	8015	1.21	547	8725	3.45	1264
4829	1.73	714	6045	8.69	1500	7230	11.01	1500	8017	2.53	970	8726F	2.47	950
4902	3.50	1280	6204	12.95	1500	7231	13.25	1500	8018	5.22	1500	8734M	0.47	310
4923	1.84	749	6206	4.28	1500	7232	12.33	1500	8021	4.12	1478	8737M	0.42	294
5020	7.65	1500	6213	3.19	1181	7309F	11.26	1500	8031	3.19	1181	8738M	0.63	362
5022	12.45	1500	6214	2.71	1027	7313F	4.55	1500	8032	2.85	1072	8742	0.34	269
5037	12.65	1500	6216	8.66	1500	7317F	7.08	1500	8033	3.01	1123	8745	4.98	1500
5040	20.24	1500	6217	5.84	1500	7327F	21.01	1500	8037	2.76	1043	8748	0.74	397
5057	9.22	1500	6229	6.67	1500	7333M	3.66	1331	8039	2.31	899	8754	1.08	506
5059	23.29	1500	6233	3.79	1373	7335M	4.06	1459	8044	4.82	1500	8755	0.47	310
5069	-	-	6235	8.80	1500	7337M	5.61	1500	8045	1.28	570	8799	0.61	355
5102	8.98	1500	6236	10.06	1500	7350F	11.35	1500	8046	4.31	1500	8800	2.08	826
5146	7.39	1500	6237	2.36	915	7360	5.94	1500	8047	1.30	576	8803	0.09	189
5160	4.37	1500	6251D	7.94	1500	7370	6.77	1500	8058	3.59	1309	8805M	0.20	224
5183	5.24	1500	6252D	4.30	1500	7380	10.34	1500	8072	0.96	467	8810	0.14	205
5188	5.01	1500	6306	7.75	1500	7382	4.89	1500	8102	3.00	1120	8814M	0.18	218
5190	4.22	1500	6319	4.95	1500	7390	18.97	1500	8103	5.85	1500	8815M	0.27	246
5191	1.53	650	6325	4.57	1500	7394M	5.69	1500	8106	7.18	1500	8820	0.18	218
5192	5.11	1500	6400	8.82	1500	7395M	6.32	1500	8107	4.66	1500	8824	4.46	1500
5213	12.68	1500	6503	3.70	1344	7398M	8.72	1500	8111	3.30	1216	8825	-	-
5215	9.97	1500	6504	4.31	1500	7402	0.16	211	8116	3.95	1424	8826	3.03	1130
5221	7.84	1500	6702M*	6.35	1500	7403	4.64	1500	8203	10.45	1500	8829	-	-
5222	11.96	1500	6703M*	9.75	1500	7405N	1.84	1066	8204	7.18	1500	8831	1.59	669
5223	9.29	1500	6704M*	7.08	1500	7420	9.48	1500	8209	5.70	1500	8832	0.56	339
5348	7.46	1500	6801F	7.02	1500	7421	0.96	467	8215	5.78	1500	8833	1.12	518
5402	10.53	1500	6811	6.99	1500	7422	1.88	762	8227	6.56	1500	8835	2.83	1066
5403	11.04	1500	6824F	11.84	1500	7425	2.78	1050	8232	8.25	1500	8842	3.93	1418
5437	8.33	1500	6826F	5.13	1500	7431N	1.25	774	8233	4.86	1500	8855	0.18	218
5443	5.97	1500	6834	3.72	1350	7445N	0.99	-	8235	6.75	1500	8856	0.56	339
5445	7.97	1500	6836	4.51	1500	7453N	0.67	-	8263	9.80	1500	8864	2.87	1078
5462	9.88	1500	6843F	9.53	1500	7502	2.58	986	8264	8.39	1500	8868	0.47	310
5472	8.62	1500	6845F	5.13	1500	7515	1.70	704	8265	9.62	1500	8869	1.14	525
5473	12.68	1500	6854	6.68	1500	7520	3.43	1258	8279	7.96	1500	8871	0.09	189
5474	9.65	1500	6872F	8.90	1500	7538	4.35	1500	8288	11.43	1500	8901	0.25	240
5478	6.63	1500	6874F	15.13	1500	7539	2.02	806	8291	6.41	1500	9012	1.25	560
5479	14.45	1500	6882	5.09	1500	7540	4.21	1500	8292	5.74	1500	9014	3.97	1430
5480	8.69	1500	6884	6.79	1500	7580	3.97	1430	8293	14.95	1500	9015	4.30	1500
5491	2.82	1062	7016M	3.97	1430	7590	6.86	1500	8304	8.34	1500	9016	3.25	1200
5506	9.61	1500	7024M	4.40	1500	7600	8.68	1500	8350	11.26	1500	9019	3.93	1418
5507	8.29	1500	7038M	6.68	1500	7605	3.57	1302	8380	3.68	1338	9033	5.34	1500
5508	-	-	7046M	7.17	1500	7607	0.16	211	8381	2.53	970	9040	4.86	1500
5509	9.50	1500	7047M	6.08	1500	7610	0.45	304	8385	4.39	1500	9044	1.84	749
5535	9.72	1500	7050M	10.23	1500	7705	6.53	1500	8392	3.34	1229	9052	3.25	1200
5537	6.11	1500	7090M	7.42	1500	7710	6.19	1500	8393	3.45	1264	9058	2.31	899

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES

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\* Refer to the Footnotes Page for additional information on this class code.

**WORKERS COMPENSATION AND EMPLOYERS LIABILITY**

Effective January 1, 2023

**APPLICABLE TO ASSIGNED RISK POLICIES ONLY**

CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM	CLASS CODE	RATE	MIN PREM
9060	1.86	755												
9061	1.77	726												
9063	1.14	525												
9077F	7.02	1500												
9082	1.50	640												
9083	1.57	662												
9084	2.08	826												
9088a	a	a												
9089	1.28	570												
9093	1.93	778												
9101	4.96	1500												
9102	3.97	1430												
9154	2.13	842												
9156	2.92	1094												
9170	20.43	1500												
9178	7.26	1500												
9179	21.28	1500												
9180	7.87	1500												
9182	3.74	1357												
9186	18.39	1500												
9220	7.27	1500												
9402	5.56	1500												
9403	12.40	1500												
9410	5.25	1500												
9501	4.87	1500												
9505	5.34	1500												
9516	4.26	1500												
9519	6.23	1500												
9521	4.71	1500												
9522	3.27	1206												
9534	7.19	1500												
9554	11.27	1500												
9586	0.81	419												
9600	3.93	1418												
9620	1.81	739												

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\* Refer to the Footnotes Page for additional information on this class code.

Effective January 1, 2023

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

FOOTNOTES

- a Rate for each individual risk must be obtained by NCCI Customer Service or the Rating Organization having jurisdiction.
- A Minimum Premium \$100 per ginning location for policy minimum premium computation.
- D Rate for classification already includes the specific disease loading shown in the table below. See the **Basic Manual** rule, Supplemental and supplementary loading.

Disease			Disease			Disease		
Code No.	Loading	Symbol	Code No.	Loading	Symbol	Code No.	Loading	Symbol
0059D	0.29	S	1165D	0.02	S	3085D	0.07	S
0065D	0.04	S	1624D	0.02	S	4024D	0.02	S
0066D	0.04	S	1803D	0.29	S	6251D	0.02	S
0067D	0.04	S	3081D	0.05	S	6252D	0.02	S
1164D	0.04	S	3082D	0.05	S			

S=Silica

- F Rate provides for coverage under the United States Longshore and Harbor Workers Compensation Act and its extensions.
- M Risks are subject to Admiralty Law or Federal Employers Liability Act (FELA). However, the published rate is for risks that voluntarily purchase standard workers compensation and employers liability coverage. The listed codes of 6702, 6703, 6704, 7151, 7152, 7153, 8734, 8737, 8738, 8805, 8814, and 8815 under the Federal Employers' Liability Act (FELA) for employees of interstate railroads are not applicable in the residual market.
- N This code is part of a ratable / non-ratable group shown below. The statistical non-ratable code and corresponding rate are applied in addition to the basic classification when determining premium.

Class Code	Non-Ratable Element Code
4771	0771
7405	7445
7431	7453

- P Classification is computed on a per capita basis.

**\* Class Codes with Specific Footnotes**

- 6702 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class rate and elr each x 1.215.
- 6703 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class rate and elr each x 1.863.
- 6704 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class rate and elr each x 1.35.
- 7731 Rate per Service Response.

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES

Effective January 1, 2023

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

MISCELLANEOUS VALUES

**Basis of premium** applicable in accordance with the **Basic Manual** notes for Code 7370 --"Taxicab Co.":

Employee operated vehicle.....	\$117,700
Leased or rented vehicle.....	\$78,500

**Catastrophe (other than Certified Acts of Terrorism) - (Assigned Risk)**..... 0.01

**Expense Constant** applicable for policies with the following classification in accordance with the **Basic Manual** rule:

Per Capita Codes Only.....	\$125
All Other.....	\$160

**Loss Sensitive Rating Plan (LSRP) - The factors which are used in the calculation of the LSRP** are as follows:

Basic Premium Factor	0.40
Minimum Premium Factor	0.75
Maximum Premium Factor	1.75
Loss Conversion Factor	1.201
Tax Multiplier	1.015

Loss Development Factors	
1st Adjustment	0.28
2nd Adjustment	0.19
3rd Adjustment	0.14
4th Adjustment	0.11

**Maximum Minimum Premium**..... \$1,500

**Maximum Weekly Payroll** applicable in accordance with the **Basic Manual** rule, Rule for premium determination of executive officers and the **Basic Manual** notes for Code 9178 -- "Athletic Sports or Park: Noncontact Sports," and Code 9179 -- "Athletic Sports or Park: Contact Sports"..... \$1,500

**Maximum Weekly Payroll** applicable in accordance with the **Basic Manual** rules, Rule for premium determination of executive officers and Rule for premium determination of members of LLCs..... \$3,000

**Minimum Premium Multiplier**..... 320

**Minimum Weekly Payroll** applicable in accordance with the **Basic Manual** rules, Rule for premium determination of executive officers and Rule for premium determination of members of LLCs..... \$1,500

**Premium Determination for Partners and Sole Proprietors** in accordance with the **Basic Manual** rule, Rule for premium determination for partners or sole proprietors (Annual Payroll)..... \$78,500

**Premium Discount Percentages - (See the Basic Manual rule, Premium discount.)** The following premium discounts are applicable to Standard Premiums:

First	\$10,000	-
Next	\$190,000	5.1%
Next	\$1,550,000	6.5%
Over	\$1,750,000	7.5%

**Premium Reduction Percentages - The following percentages are applicable by deductible amount and hazard group for total losses on a per claim basis:**

Deductible Amount	Total Losses HAZARD GROUP						
	A	B	C	D	E	F	G
\$1,000	5.6%	4.3%	3.3%	2.8%	2.1%	1.7%	1.4%
\$5,000	13.9%	11.4%	9.5%	8.3%	6.6%	5.4%	4.7%
\$10,000	19.6%	16.8%	14.2%	12.6%	10.3%	8.7%	7.6%

Effective January 1, 2023

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

MISCELLANEOUS VALUES (cont.)

Terrorism (Assigned Risk).....	0.03
<b>United States Longshore and Harbor Workers' Compensation Coverage Percentage</b> applicable only in connection with the <b>Basic Manual</b> rule, Federal coverages.....	50%
(Multiply a Non-F classification rate by a factor of 1.50 to adjust for the difference in state and federal benefits only.)	
<b>Workers Compensation Administration Funds Assessment factors</b> applicable in accordance with the <b>Basic Manual</b> rule, Rule for applying the Connecticut Workers Compensation Administration Fund Assessment factors	
Industrial Classifications and Maritime/FELA (Program I and Program II State Act).....	2.4%
F Classifications and Maritime/FELA (Program II USL Act).....	3.2%

**Experience Rating Eligibility**

A risk qualifies for experience rating on an intrastate basis when it meets the premium eligibility requirements for the state in which it operates. The eligibility amount varies by rating effective date. The **Experience Rating Plan Manual** should be referenced for the latest approved eligibility amounts by state and by effective date.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Proposed Values for Inclusion in the Experience Rating Plan Manual

The following pages include proposed values for inclusion in the Experience Rating Plan Manual:

- Description of Expected Loss Rates and D-ratios
- Expected Loss Rates and D-ratios by class code
- Description of the Weighting and Ballast values
- Table of Weighting Values
- Table of Ballast Values
- Experience Rating Premium Eligibility Amounts





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Proposed Rating Values

##### Description of Expected Loss Rates and D-ratios

An expected loss rate for a classification is used to estimate the expected losses per \$100 of payroll during the experience rating period for risks within that classification. These expected losses are then compared with the actual losses of a risk during the experience rating period to determine the experience modification (mod).

The actual losses reflect the loss data during the experience rating period. Expected losses and actual losses must be at the same level to enable an appropriate comparison for purposes of the experience mod calculation. As such, the proposed loss costs are adjusted to reflect the average loss levels of the proposed effective rating period. This is accomplished through the application of ELR factors to the proposed underlying pure premiums. These ELR factors, calculated by hazard group (HG), remove the effects of the following: loss development, expected losses in excess of the State Accident Limit, a portion of medical-only losses, benefit changes, trend, loss-based expenses, experience, and assigned risk programs.

An adjustment is made to the ELR factors so that the resulting ELRs produce an expected experience rating off-balance that equals the targeted experience rating off-balance used in the calculation of the overall loss cost level change for the state.

The final ELR for each classification is calculated as follows:

$$\text{ELR} = \{(\text{HG indemnity ELR factor}) \times (\text{indemnity pure premium}) + (\text{HG medical ELR factor}) \times (\text{medical pure premium})\} \times \text{Manual/Standard Ratio}$$

In experience rating, losses are divided into primary and excess portions. For each claim, losses below the split point are primary losses, while losses above the split point are excess losses. The d-ratio represents the estimated ratio of expected primary losses to expected total losses for a classification. The d-ratio is used to determine the expected primary losses to be used in the experience mod calculation.

D-ratio factors are calculated separately for indemnity and medical losses by hazard group and are based on the latest three years of Unit Statistical Data. A comparison of the resulting d-ratio factors across hazard groups is done to ensure that the factors monotonically decrease from hazard group A to hazard group G. If they do not, an adjustment is made by averaging the d-ratio factors over adjacent hazard groups. The final D-ratio for each classification is calculated as follows:

$$\text{D-ratio} = \{(\text{HG indemnity d-ratio factor}) \times (\text{indemnity pure premium}) + (\text{HG medical d-ratio factor}) \times (\text{medical pure premium})\} / \text{total pure premium}$$

Effective January 1, 2023

TABLE OF EXPECTED LOSS RATES AND DISCOUNT RATIOS  
APPLICABLE TO ALL POLICIES

CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO
0005	1.67	0.36	2039	2.29	0.36	2731	2.58	0.36	3257	1.40	0.36	4061	1.50	0.32
0008	1.59	0.36	2041	2.24	0.36	2735	2.65	0.36	3270	1.37	0.36	4062	1.50	0.32
0016	2.73	0.29	2065	1.71	0.32	2759	3.09	0.36	3300	3.44	0.38	4101	1.44	0.32
0034	2.30	0.32	2070	3.11	0.32	2790	1.26	0.38	3303	1.66	0.36	4109	0.28	0.36
0035	1.39	0.33	2081	2.20	0.37	2797	2.31	0.38	3307	1.69	0.33	4110	0.61	0.36
0036	2.33	0.35	2089	2.02	0.36	2799	3.29	0.32	3315	2.41	0.35	4111	1.60	0.36
0037	2.26	0.28	2095	2.70	0.32	2802	3.12	0.32	3334	1.72	0.32	4113	1.60	0.36
0042	3.84	0.32	2105	2.85	0.37	2835	2.37	0.38	3336	1.87	0.32	4114	1.65	0.32
0050	3.18	0.28	2110	2.38	0.36	2836	2.30	0.37	3365	2.92	0.26	4130	2.35	0.36
0059	0.05	0.26	2111	1.45	0.36	2841	2.38	0.36	3372	2.05	0.32	4131	2.75	0.36
0065	0.01	0.28	2112	2.49	0.36	2881	1.97	0.37	3373	2.93	0.36	4133	1.67	0.38
0066	0.01	0.32	2114	1.42	0.37	2883	1.99	0.36	3383	0.96	0.36	4149	0.55	0.37
0067	0.01	0.32	2121	0.89	0.38	2915	1.72	0.28	3385	1.31	0.37	4206	2.21	0.36
0079	1.55	0.32	2130	1.31	0.32	2916	1.80	0.29	3400	2.22	0.36	4207	1.24	0.26
0083	3.19	0.33	2131	1.00	0.36	2923	1.34	0.37	3507	1.89	0.32	4239	1.38	0.26
0106	4.85	0.26	2143	1.82	0.37	2960	2.92	0.32	3515	1.36	0.33	4240	1.89	0.38
0113	2.81	0.36	2157	3.93	0.35	3004	0.66	0.26	3548	0.91	0.36	4243	1.59	0.32
0170	2.81	0.36	2172	0.89	0.28	3018	1.96	0.26	3559	2.09	0.32	4244	1.78	0.28
0251	2.22	0.32	2174	1.81	0.36	3022	2.58	0.36	3574	1.32	0.36	4250	1.25	0.32
0401	6.02	0.26	2211	4.02	0.28	3027	1.47	0.28	3581	0.62	0.36	4251	1.86	0.36
0771	-	-	2220	1.65	0.32	3028	1.64	0.28	3612	1.42	0.32	4263	1.73	0.32
0908	91.97	0.32	2286	1.65	0.32	3030	4.36	0.28	3620	1.47	0.28	4273	1.74	0.33
0913	340.36	0.32	2288	2.46	0.36	3040	3.08	0.32	3629	0.89	0.32	4279	1.62	0.28
0917	2.50	0.37	2302	1.22	0.33	3041	2.75	0.32	3632	1.42	0.32	4282	1.62	0.28
0918	0.69	0.32	2305	1.51	0.28	3042	3.62	0.32	3634	1.19	0.32	4283	1.09	0.35
1005	2.88	0.23	2361	1.18	0.33	3064	2.07	0.32	3635	1.01	0.32	4299	1.43	0.32
1164	1.54	0.23	2362	1.53	0.36	3076	2.14	0.36	3638	1.18	0.36	4304	2.86	0.32
1165	1.36	0.23	2380	1.33	0.36	3081	2.95	0.32	3642	0.79	0.36	4307	1.12	0.37
1320	0.90	0.26	2386	1.57	0.36	3082	2.22	0.28	3643	0.97	0.28	4351	0.73	0.36
1322	4.48	0.23	2388	0.94	0.38	3085	3.57	0.32	3647	1.68	0.32	4352	0.94	0.36
1430	2.31	0.28	2402	1.49	0.28	3110	2.88	0.33	3648	1.04	0.37	4360	0.17	0.28
1438	2.61	0.28	2413	1.44	0.33	3111	1.14	0.36	3681	0.66	0.36	4361	0.38	0.36
1452	1.39	0.28	2416	1.46	0.36	3113	1.21	0.32	3685	0.76	0.36	4410	1.96	0.36
1463	3.68	0.23	2417	0.92	0.36	3114	1.69	0.32	3719	0.49	0.23	4420	2.02	0.26
1472	1.78	0.28	2501	1.57	0.36	3118	1.12	0.37	3724	2.09	0.23	4431	0.91	0.37
1624	1.45	0.26	2503	1.03	0.35	3119	0.74	0.42	3726	1.92	0.23	4432	0.87	0.37
1642	1.57	0.28	2534	1.57	0.36	3120	1.37	0.36	3803	1.57	0.35	4439	1.39	0.32
1654	2.62	0.28	2560	1.57	0.36	3122	1.25	0.37	3807	1.49	0.36	4452	1.85	0.32
1655	1.57	0.28	2570	2.23	0.36	3126	1.25	0.32	3808	2.11	0.32	4459	1.59	0.28
1699	1.65	0.28	2585	2.63	0.32	3131	1.12	0.33	3821	3.35	0.28	4470	1.55	0.32
1701	1.61	0.26	2586	1.76	0.36	3132	1.92	0.36	3822	2.48	0.36	4484	1.61	0.36
1710	1.93	0.28	2587	1.61	0.35	3145	1.44	0.33	3824	2.10	0.36	4493	1.74	0.32
1741	1.61	0.26	2589	1.25	0.32	3146	1.96	0.33	3826	0.76	0.33	4511	0.28	0.32
1747	2.11	0.29	2600	3.10	0.35	3169	2.32	0.36	3827	1.27	0.36	4557	1.30	0.28
1748	2.86	0.29	2623	3.37	0.28	3175	2.32	0.36	3830	1.04	0.33	4558	1.39	0.32
1803	4.25	0.28	2651	0.93	0.36	3179	1.45	0.36	3851	1.34	0.36	4568	1.31	0.28
1853	1.61	0.26	2660	1.63	0.37	3180	1.48	0.36	3865	2.18	0.37	4581	0.56	0.26
1860	1.62	0.28	2670	1.17	0.36	3188	1.20	0.32	3881	2.37	0.32	4583	1.96	0.26
1924	1.70	0.36	2683	1.57	0.36	3220	1.57	0.32	4000	2.60	0.26	4611	0.63	0.36
1925	2.05	0.33	2688	1.17	0.36	3223	1.48	0.36	4021	2.86	0.32	4635	1.58	0.26
2002	2.06	0.36	2701	6.04	0.26	3224	2.47	0.37	4024	2.67	0.28	4653	1.05	0.36
2003	2.40	0.32	2702	10.31	0.23	3227	1.64	0.35	4034	3.40	0.28	4665	4.32	0.28
2014	3.61	0.29	2709	4.53	0.26	3240	1.40	0.36	4036	1.38	0.28	4670	2.04	0.32
2016	2.34	0.36	2710	4.33	0.28	3241	1.99	0.36	4038	1.77	0.37	4683	2.04	0.32
2021	2.19	0.32	2714	2.78	0.36	3255	1.80	0.38	4053	1.50	0.32	4686	1.29	0.28

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES

Effective January 1, 2023

TABLE OF EXPECTED LOSS RATES AND DISCOUNT RATIOS  
APPLICABLE TO ALL POLICIES

CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO
4692	0.47	0.36	5551	7.72	0.23	7097	1.43	0.23	7711	15.15	0.26	8399	2.10	0.36
4693	0.53	0.36	5604	1.22	0.26	7098	2.62	0.23	7720	1.62	0.28	8500	3.60	0.28
4703	1.06	0.32	5606	0.59	0.23	7099	3.62	0.23	7723	0.88	0.26	8601	0.13	0.26
4717	1.43	0.37	5610	2.89	0.28	7133	1.98	0.26	7731	1.91	0.32	8602	0.63	0.28
4720	1.08	0.32	5645	6.83	0.23	7151	2.41	0.26	7855	1.92	0.28	8603	0.04	0.36
4740	0.43	0.23	5703	6.57	0.28	7152	3.69	0.26	8001	1.28	0.36	8606	0.93	0.26
4741	1.74	0.32	5705	11.72	0.28	7153	2.68	0.26	8002	1.08	0.36	8709F	3.20	0.22
4751	1.47	0.28	5951	0.28	0.36	7219	3.82	0.26	8006	1.43	0.37	8719	1.62	0.26
4771	1.65	0.26	6003	4.63	0.26	7222	3.71	0.26	8008	0.62	0.37	8720	0.75	0.26
4777	4.42	0.26	6005	4.06	0.28	7225	3.80	0.28	8010	1.05	0.36	8721	0.14	0.28
4825	0.35	0.28	6017	4.21	0.23	7228	3.82	0.26	8013	0.24	0.32	8723	0.05	0.32
4828	0.83	0.26	6018	1.63	0.28	7229	3.82	0.26	8015	0.49	0.32	8725	1.28	0.28
4829	0.61	0.26	6045	3.18	0.28	7230	4.34	0.32	8017	1.10	0.37	8726F	0.79	0.27
4902	1.48	0.36	6204	4.55	0.26	7231	5.24	0.32	8018	2.14	0.35	8734	0.18	0.28
4923	0.76	0.33	6206	1.40	0.23	7232	4.21	0.26	8021	1.72	0.36	8737	0.15	0.28
5020	2.66	0.26	6213	1.04	0.23	7309F	3.30	0.22	8031	1.32	0.36	8738	0.24	0.28
5022	4.11	0.23	6214	0.95	0.26	7313F	1.33	0.22	8032	1.18	0.36	8742	0.13	0.28
5037	4.18	0.23	6216	2.84	0.23	7317F	2.07	0.22	8033	1.31	0.37	8745	2.01	0.32
5040	6.74	0.23	6217	1.94	0.23	7327F	6.16	0.22	8037	1.25	0.42	8748	0.26	0.26
5057	2.99	0.23	6229	2.45	0.28	7333	1.18	0.23	8039	1.03	0.38	8754	0.44	0.33
5059	7.75	0.23	6233	1.23	0.23	7335	1.31	0.23	8044	1.98	0.36	8755	0.17	0.28
5069	7.75	0.23	6235	2.89	0.23	7337	1.81	0.23	8045	0.53	0.36	8799	0.26	0.36
5102	3.12	0.26	6236	3.68	0.28	7350F	3.48	0.24	8046	1.80	0.36	8800	0.88	0.36
5146	2.72	0.28	6237	0.82	0.26	7360	2.20	0.28	8047	0.54	0.36	8803	0.03	0.28
5160	1.45	0.23	6251	2.73	0.26	7370	2.80	0.36	8058	1.50	0.36	8805	0.08	0.36
5183	1.83	0.26	6252	1.39	0.23	7380	3.79	0.28	8072	0.42	0.38	8810	0.06	0.36
5188	1.75	0.26	6306	2.74	0.26	7382	1.96	0.32	8102	1.25	0.36	8814	0.07	0.36
5190	1.48	0.26	6319	1.64	0.23	7390	7.74	0.35	8103	2.38	0.32	8815	0.11	0.36
5191	0.57	0.28	6325	1.51	0.23	7394	1.88	0.23	8106	2.70	0.28	8820	0.07	0.28
5192	2.06	0.32	6400	3.29	0.28	7395	2.09	0.23	8107	1.65	0.26	8824	1.99	0.41
5213	4.21	0.23	6503	1.51	0.35	7398	2.88	0.23	8111	1.34	0.33	8825	1.34	0.38
5215	3.71	0.28	6504	1.79	0.36	7402	0.07	0.35	8116	1.60	0.32	8826	1.34	0.38
5221	2.72	0.26	6702	2.33	0.28	7403	1.90	0.35	8203	4.17	0.32	8829	1.99	0.41
5222	3.91	0.23	6703	3.58	0.28	7405	0.74	0.35	8204	2.93	0.33	8831	0.73	0.43
5223	3.43	0.28	6704	2.59	0.28	7420	3.05	0.23	8209	2.38	0.36	8832	0.23	0.36
5348	2.74	0.28	6801F	2.24	0.27	7421	0.36	0.28	8215	2.19	0.29	8833	0.46	0.36
5402	4.39	0.36	6811	2.63	0.28	7422	0.64	0.26	8227	2.29	0.26	8835	1.17	0.36
5403	3.86	0.26	6824F	3.78	0.27	7425	0.93	0.25	8232	3.06	0.28	8842	1.75	0.41
5437	2.92	0.26	6826F	1.64	0.27	7431	0.42	0.26	8233	1.74	0.28	8855	0.08	0.36
5443	2.42	0.32	6834	1.54	0.36	7445	-	-	8235	2.68	0.32	8856	0.22	0.35
5445	2.62	0.23	6836	1.81	0.32	7453	-	-	8263	4.00	0.33	8864	1.27	0.38
5462	3.65	0.28	6843F	2.79	0.22	7502	0.96	0.28	8264	3.15	0.28	8868	0.21	0.38
5472	2.84	0.23	6845F	1.50	0.22	7515	0.56	0.23	8265	3.44	0.26	8869	0.51	0.38
5473	4.17	0.23	6854	2.33	0.26	7520	1.37	0.32	8279	2.87	0.26	8871	0.03	0.35
5474	3.20	0.23	6872F	2.61	0.22	7538	1.44	0.23	8288	4.71	0.33	8901	0.09	0.28
5478	2.30	0.26	6874F	4.43	0.22	7539	0.71	0.26	8291	2.57	0.32	9012	0.47	0.28
5479	5.47	0.29	6882	1.81	0.26	7540	1.41	0.23	8292	2.39	0.36	9014	1.64	0.36
5480	3.01	0.26	6884	2.33	0.26	7580	1.48	0.28	8293	6.19	0.36	9015	1.71	0.32
5491	1.00	0.26	7016	1.29	0.23	7590	2.58	0.28	8304	2.94	0.26	9016	1.37	0.36
5506	3.35	0.26	7024	1.43	0.23	7600	3.16	0.28	8350	3.92	0.26	9019	1.49	0.29
5507	2.89	0.26	7038	2.35	0.24	7605	1.25	0.26	8380	1.47	0.32	9033	2.17	0.32
5508	2.89	0.26	7046	2.36	0.23	7607	0.07	0.35	8381	1.02	0.32	9040	2.11	0.37
5509	3.36	0.26	7047	1.97	0.23	7610	0.17	0.28	8385	1.76	0.32	9044	0.81	0.37
5535	3.26	0.23	7050	3.62	0.24	7705	2.62	0.32	8392	1.45	0.37	9052	1.41	0.37
5537	2.26	0.28	7090	2.62	0.24	7710	2.19	0.26	8393	1.28	0.28	9058	1.03	0.41

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES

Effective January 1, 2023

TABLE OF EXPECTED LOSS RATES AND DISCOUNT RATIOS  
APPLICABLE TO ALL POLICIES

CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO	CLASS CODE	ELR	D RATIO
9060	0.82	0.37												
9061	0.77	0.37												
9063	0.50	0.38												
9077F	2.44	0.35												
9082	0.67	0.42												
9083	0.71	0.42												
9084	0.91	0.38												
9088	a	a												
9089	0.58	0.38												
9093	0.86	0.38												
9101	2.15	0.37												
9102	1.60	0.32												
9154	0.89	0.36												
9156	1.28	0.37												
9170	7.27	0.26												
9178	3.48	0.44												
9179	9.61	0.42												
9180	3.29	0.33												
9182	1.60	0.37												
9186	6.77	0.26												
9220	2.92	0.32												
9402	1.95	0.26												
9403	4.38	0.26												
9410	2.20	0.36												
9501	1.85	0.29												
9505	2.15	0.32												
9516	1.68	0.32												
9519	2.28	0.28												
9521	1.74	0.28												
9522	1.40	0.37												
9534	2.37	0.23												
9554	3.96	0.26												
9586	0.36	0.37												
9600	1.62	0.36												
9620	0.68	0.28												

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS TO ALL CLASS CODES



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Proposed Rating Values

##### Description of the Weighting and Ballast Values

###### Table of Weighting Values

The weighting value determines the volume of actual and expected excess losses that will enter the experience modification formula. The weighting value increases as expected losses increase with larger insureds receiving a larger weighting value. The weighting value for various levels of expected losses is provided in the Table of Weighting Values. The table is updated in each experience filing based on the state reference point.

The state reference point is calculated based on Unit Statistical Data as the state average cost per case for the experience rating period multiplied by 250. The state reference point serves to determine how much credibility is assigned to the losses of an individual risk and as an index of claim cost differences by state. The state per claim accident limitation shown on the Table of Weighting Values is 10% of the state reference point.

###### Table of Ballast Values

The ballast value is a stabilizing value designed to limit the effect of any actual loss experience on the experience rating modification. It is added to both the numerator and denominator in the experience modification calculation and increases as expected losses increase. The ballast value for various levels of expected loss ranges is provided in the Table of Ballast Values. The table is updated based on the state reference point. The G value used in the ballast formula is the state reference point divided by 250,000, rounded to the nearest 0.05.

Effective January 1, 2023  
**TABLE OF WEIGHTING VALUES**  
**APPLICABLE TO ALL POLICIES**  
*Experience Rating Program - ERA*

Expected Losses			Weighting Values	Expected Losses			Weighting Values
0	--	2,806	0.04	1,582,393	--	1,669,676	0.44
2,807	--	11,343	0.05	1,669,677	--	1,762,014	0.45
11,344	--	20,064	0.06	1,762,015	--	1,859,858	0.46
20,065	--	28,972	0.07	1,859,859	--	1,963,717	0.47
28,973	--	38,076	0.08	1,963,718	--	2,074,165	0.48
38,077	--	63,686	0.09	2,074,166	--	2,191,849	0.49
63,687	--	94,799	0.10	2,191,850	--	2,317,507	0.50
94,800	--	122,473	0.11	2,317,508	--	2,451,977	0.51
122,474	--	149,420	0.12	2,451,978	--	2,596,222	0.52
149,421	--	176,370	0.13	2,596,223	--	2,751,348	0.53
176,371	--	203,651	0.14	2,751,349	--	2,918,635	0.54
203,652	--	231,450	0.15	2,918,636	--	3,099,575	0.55
231,451	--	259,890	0.16	3,099,576	--	3,295,908	0.56
259,891	--	289,067	0.17	3,295,909	--	3,509,689	0.57
289,068	--	319,060	0.18	3,509,690	--	3,743,352	0.58
319,061	--	349,938	0.19	3,743,353	--	3,999,807	0.59
349,939	--	381,770	0.20	3,999,808	--	4,282,560	0.60
381,771	--	414,620	0.21	4,282,561	--	4,595,876	0.61
414,621	--	448,555	0.22	4,595,877	--	4,944,996	0.62
448,556	--	483,642	0.23	4,944,997	--	5,336,429	0.63
483,643	--	519,951	0.24	5,336,430	--	5,778,364	0.64
519,952	--	557,556	0.25	5,778,365	--	6,281,252	0.65
557,557	--	596,535	0.26	6,281,253	--	6,858,637	0.66
596,536	--	636,971	0.27	6,858,638	--	7,528,398	0.67
636,972	--	678,952	0.28	7,528,399	--	8,314,634	0.68
678,953	--	722,574	0.29	8,314,635	--	9,250,625	0.69
722,575	--	767,939	0.30	9,250,626	--	10,383,660	0.70
767,940	--	815,156	0.31	10,383,661	--	11,783,286	0.71
815,157	--	864,345	0.32	11,783,287	--	13,556,139	0.72
864,346	--	915,635	0.33	13,556,140	--	15,874,478	0.73
915,636	--	969,166	0.34	15,874,479	--	19,035,842	0.74
969,167	--	1,025,090	0.35	19,035,843	--	23,602,247	0.75
1,025,091	--	1,083,574	0.36	23,602,248	--	30,778,014	0.76
1,083,575	--	1,144,799	0.37	30,778,015	--	43,694,379	0.77
1,144,800	--	1,208,965	0.38	43,694,380	--	73,832,540	0.78
1,208,966	--	1,276,290	0.39	73,832,541	--	224,523,273	0.79
1,276,291	--	1,347,014	0.40	224,523,274	AND OVER		0.80
1,347,015	--	1,421,405	0.41				
1,421,406	--	1,499,756	0.42				
1,499,757	--	1,582,392	0.43				

(a) G	13.40
(b) State Per Claim Accident Limitation	\$335,500
(c) State Multiple Claim Accident Limitation	\$671,000
(d) USL&HW Per Claim Accident Limitation	\$574,500
(e) USL&HW Multiple Claim Accident Limitation	\$1,149,000
(f) Employers Liability Accident Limitation	\$55,000
(g) Primary/Excess Loss Split Point	\$18,500
(h) USL&HW Act -- Expected Loss Factor -- Non-F Classes	1.50
<i>(Multiply a Non-F classification ELR by the USL&amp;HW Act - Expected Loss Factor of 1.50.)</i>	

Effective January 1, 2023  
**TABLE OF BALLAST VALUES**  
**APPLICABLE TO ALL POLICIES**  
*Experience Rating Plan - ERA*

Expected Losses	Ballast Values	Expected Losses	Ballast Values	Expected Losses	Ballast Values
0 -- 72,076	33,500	2,312,854 -- 2,379,815	268,000	4,657,174 -- 4,724,163	502,500
72,077 -- 124,050	40,200	2,379,816 -- 2,446,779	274,700	4,724,164 -- 4,791,154	509,200
124,051 -- 183,768	46,900	2,446,780 -- 2,513,745	281,400	4,791,155 -- 4,858,145	515,900
183,769 -- 246,767	53,600	2,513,746 -- 2,580,713	288,100	4,858,146 -- 4,925,136	522,600
246,768 -- 311,298	60,300	2,580,714 -- 2,647,682	294,800	4,925,137 -- 4,992,128	529,300
311,299 -- 376,640	67,000	2,647,683 -- 2,714,653	301,500	4,992,129 -- 5,059,119	536,000
376,641 -- 442,454	73,700	2,714,654 -- 2,781,625	308,200	5,059,120 -- 5,126,111	542,700
442,455 -- 508,566	80,400	2,781,626 -- 2,848,599	314,900	5,126,112 -- 5,193,103	549,400
508,567 -- 574,878	87,100	2,848,600 -- 2,915,574	321,600	5,193,104 -- 5,260,096	556,100
574,879 -- 641,329	93,800	2,915,575 -- 2,982,550	328,300	5,260,097 -- 5,327,088	562,800
641,330 -- 707,880	100,500	2,982,551 -- 3,049,527	335,000	5,327,089 -- 5,394,081	569,500
707,881 -- 774,508	107,200	3,049,528 -- 3,116,505	341,700	5,394,082 -- 5,461,074	576,200
774,509 -- 841,194	113,900	3,116,506 -- 3,183,484	348,400	5,461,075 -- 5,528,067	582,900
841,195 -- 907,925	120,600	3,183,485 -- 3,250,463	355,100	5,528,068 -- 5,595,060	589,600
907,926 -- 974,693	127,300	3,250,464 -- 3,317,444	361,800	5,595,061 -- 5,662,054	596,300
974,694 -- 1,041,490	134,000	3,317,445 -- 3,384,425	368,500	5,662,055 -- 5,729,047	603,000
1,041,491 -- 1,108,311	140,700	3,384,426 -- 3,451,407	375,200	5,729,048 -- 5,796,041	609,700
1,108,312 -- 1,175,152	147,400	3,451,408 -- 3,518,390	381,900	5,796,042 -- 5,863,035	616,400
1,175,153 -- 1,242,011	154,100	3,518,391 -- 3,585,374	388,600	5,863,036 -- 5,930,029	623,100
1,242,012 -- 1,308,883	160,800	3,585,375 -- 3,652,358	395,300	5,930,030 -- 5,997,023	629,800
1,308,884 -- 1,375,768	167,500	3,652,359 -- 3,719,342	402,000	5,997,024 -- 6,064,017	636,500
1,375,769 -- 1,442,664	174,200	3,719,343 -- 3,786,327	408,700	6,064,018 -- 6,131,011	643,200
1,442,665 -- 1,509,568	180,900	3,786,328 -- 3,853,313	415,400	6,131,012 -- 6,198,006	649,900
1,509,569 -- 1,576,481	187,600	3,853,314 -- 3,920,299	422,100	6,198,007 -- 6,265,000	656,600
1,576,482 -- 1,643,401	194,300	3,920,300 -- 3,987,286	428,800	6,265,001 -- 6,331,995	663,300
1,643,402 -- 1,710,327	201,000	3,987,287 -- 4,054,273	435,500	6,331,996 -- 6,398,500	670,000
1,710,328 -- 1,777,258	207,700	4,054,274 -- 4,121,260	442,200		
1,777,259 -- 1,844,195	214,400	4,121,261 -- 4,188,248	448,900		
1,844,196 -- 1,911,136	221,100	4,188,249 -- 4,255,236	455,600		
1,911,137 -- 1,978,081	227,800	4,255,237 -- 4,322,225	462,300		
1,978,082 -- 2,045,029	234,500	4,322,226 -- 4,389,214	469,000		
2,045,030 -- 2,111,981	241,200	4,389,215 -- 4,456,203	475,700		
2,111,982 -- 2,178,935	247,900	4,456,204 -- 4,523,193	482,400		
2,178,936 -- 2,245,893	254,600	4,523,194 -- 4,590,183	489,100		
2,245,894 -- 2,312,853	261,300	4,590,184 -- 4,657,173	495,800		

For Expected Losses greater than \$6,398,500, the Ballast Value can be calculated using the following formula (rounded to the nearest 1):

$$\text{Ballast} = (0.10)(\text{Expected Losses}) + 2500(\text{Expected Losses})(13.40) / (\text{Expected Losses} + (700)(13.40))$$

G = 13.40

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS.

# NATIONAL COUNCIL ON COMPENSATION INSURANCE, INC.

## CONNECTICUT—UPDATE TO EXPERIENCE RATING PREMIUM ELIGIBILITY AMOUNTS

### EXPERIENCE RATING PLAN MANUAL—2003 EDITION RULE 2—EXPERIENCE RATING ELEMENTS AND FORMULA A. PREMIUM ELIGIBILITY

#### 2. State Subject Premium Eligibility Amounts

A risk qualifies for experience rating when its subject premium, developed in its experience period, meets or exceeds the minimum eligibility amount shown in the State Table of Subject Premium Eligibility Amounts in Rule 2-A-2-c. *Refer to Rule 2-E-1 to determine a risk's experience period.*

- a. A risk qualifies for experience rating if its data within the most recent 24 months of the experience period develops a subject premium of at least the amount shown in Column A.
- b. A risk may not qualify according to Rule 2-A-2-a. If it has more than the amount of experience referenced in Rule 2-A-2-a, then to qualify for experience rating the risk must develop an average annual subject premium of at least the amount shown in Column B. *Refer to Rule 2-A-3 to determine average annual subject premium.*
- c. A risk's rating effective date determines the applicable Column A and Column B subject premium eligibility amounts required to qualify for experience rating. *Refer to Rule 2-B for rating effective date determination.*

**State Table of Subject Premium Eligibility Amounts**

State	Rating Effective Date	Column A (\$)	Column B (\$)
CT	<u>7/1/23 and after</u>	<u>13,500</u>	<u>6,750</u>
	<u>7/1/22 - 6/30/23</u>	<u>12,500</u>	<u>6,250</u>
	<u>7/1/21 - 6/30/22</u>	<u>12,000</u>	<u>6,000</u>

NOTE: This exhibit revises the Connecticut experience rating subject premium eligibility amounts shown in the State Table of Subject Premium Eligibility Amounts in NCCI's *Experience Rating Plan Manual* national Rule 2-A-2-c. The content shown in this table is not a complete replacement of the existing State Table of Subject Premium Eligibility Amounts. The premium eligibility amounts are applicable to all policies.





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

### Proposed Values for Inclusion in the Retrospective Rating Plan Manual

The following pages include values for inclusion in the Retrospective Rating Plan Manual, such as:

- Average Cost per Case
- Excess Loss Pure Premium Factors
- Retrospective Pure Premium Development Factors

Effective January 1, 2023

1. Average Cost per Case by Hazard Group

A	B	C	D	E	F	G
8,739	11,972	16,375	19,488	27,588	34,542	43,819

Average Cost per Case including ALAE by Hazard Group

A	B	C	D	E	F	G
9,734	13,323	18,206	21,659	30,603	38,289	48,553

2.

**Excess Loss Pure Premium Factors**  
(Applicable to New and Renewal Policies)

Per Accident Limitation	Hazard Groups						
	A	B	C	D	E	F	G
\$10,000	0.614	0.646	0.675	0.692	0.717	0.736	0.749
\$15,000	0.567	0.600	0.634	0.654	0.683	0.706	0.722
\$20,000	0.528	0.563	0.599	0.621	0.655	0.680	0.699
\$25,000	0.496	0.532	0.570	0.593	0.629	0.657	0.678
\$30,000	0.468	0.505	0.544	0.568	0.607	0.636	0.659
\$35,000	0.445	0.481	0.522	0.546	0.587	0.617	0.641
\$40,000	0.424	0.460	0.501	0.526	0.568	0.600	0.625
\$50,000	0.388	0.424	0.466	0.492	0.536	0.569	0.597
\$75,000	0.325	0.360	0.402	0.427	0.474	0.510	0.540
\$100,000	0.282	0.315	0.357	0.381	0.430	0.466	0.497
\$125,000	0.249	0.281	0.322	0.346	0.395	0.431	0.462
\$150,000	0.224	0.255	0.295	0.318	0.367	0.403	0.434
\$175,000	0.204	0.233	0.272	0.295	0.344	0.379	0.410
\$200,000	0.187	0.215	0.254	0.275	0.324	0.359	0.390
\$225,000	0.173	0.200	0.238	0.259	0.307	0.341	0.372
\$250,000	0.161	0.187	0.224	0.244	0.292	0.326	0.356
\$275,000	0.150	0.176	0.211	0.231	0.279	0.312	0.342
\$300,000	0.141	0.166	0.201	0.220	0.267	0.300	0.329
\$325,000	0.133	0.157	0.191	0.210	0.256	0.288	0.317
\$350,000	0.126	0.149	0.182	0.200	0.247	0.278	0.307
\$375,000	0.120	0.142	0.175	0.192	0.238	0.269	0.297
\$400,000	0.114	0.136	0.168	0.184	0.230	0.260	0.288
\$425,000	0.108	0.130	0.161	0.177	0.222	0.252	0.279
\$450,000	0.104	0.125	0.155	0.171	0.216	0.245	0.272
\$475,000	0.099	0.120	0.150	0.165	0.209	0.238	0.264
\$500,000	0.095	0.115	0.145	0.160	0.203	0.232	0.258
\$600,000	0.082	0.100	0.128	0.141	0.183	0.210	0.234
\$700,000	0.072	0.089	0.115	0.127	0.167	0.192	0.215
\$800,000	0.064	0.080	0.104	0.116	0.154	0.178	0.200
\$900,000	0.058	0.073	0.096	0.106	0.143	0.166	0.187
\$1,000,000	0.053	0.067	0.089	0.099	0.134	0.156	0.176
\$2,000,000	0.029	0.038	0.053	0.059	0.085	0.101	0.114
\$3,000,000	0.020	0.027	0.038	0.042	0.064	0.076	0.087
\$4,000,000	0.015	0.020	0.030	0.033	0.052	0.062	0.071
\$5,000,000	0.012	0.016	0.025	0.027	0.043	0.052	0.060
\$6,000,000	0.010	0.014	0.021	0.023	0.037	0.045	0.052
\$7,000,000	0.008	0.012	0.018	0.020	0.032	0.039	0.045
\$8,000,000	0.007	0.010	0.015	0.017	0.028	0.035	0.040
\$9,000,000	0.006	0.009	0.013	0.015	0.025	0.031	0.036
\$10,000,000	0.005	0.008	0.012	0.013	0.022	0.028	0.032

Effective January 1, 2023

**Excess Loss and Allocated  
Expense Pure Premium Factors**  
(Applicable to New and Renewal Policies)

Per Accident Limitation	Hazard Groups						
	A	B	C	D	E	F	G
\$10,000	0.691	0.725	0.756	0.775	0.801	0.821	0.834
\$15,000	0.640	0.677	0.713	0.734	0.766	0.790	0.806
\$20,000	0.599	0.637	0.676	0.699	0.735	0.762	0.782
\$25,000	0.564	0.603	0.644	0.669	0.708	0.737	0.759
\$30,000	0.534	0.574	0.617	0.643	0.684	0.715	0.739
\$35,000	0.508	0.548	0.592	0.619	0.662	0.695	0.721
\$40,000	0.485	0.525	0.570	0.597	0.642	0.676	0.704
\$50,000	0.447	0.486	0.532	0.560	0.607	0.643	0.673
\$75,000	0.377	0.415	0.461	0.489	0.540	0.578	0.611
\$100,000	0.328	0.365	0.411	0.438	0.491	0.530	0.564
\$125,000	0.293	0.328	0.373	0.399	0.453	0.492	0.526
\$150,000	0.264	0.298	0.342	0.368	0.422	0.461	0.495
\$175,000	0.242	0.274	0.317	0.342	0.396	0.434	0.469
\$200,000	0.223	0.254	0.296	0.321	0.374	0.412	0.446
\$225,000	0.207	0.237	0.278	0.302	0.355	0.392	0.426
\$250,000	0.193	0.222	0.263	0.286	0.338	0.375	0.409
\$275,000	0.181	0.210	0.249	0.271	0.323	0.360	0.393
\$300,000	0.170	0.198	0.237	0.258	0.310	0.346	0.378
\$325,000	0.161	0.188	0.226	0.247	0.298	0.333	0.365
\$350,000	0.153	0.179	0.216	0.236	0.287	0.322	0.354
\$375,000	0.145	0.171	0.207	0.227	0.277	0.311	0.343
\$400,000	0.138	0.164	0.199	0.218	0.268	0.302	0.333
\$425,000	0.132	0.157	0.192	0.210	0.260	0.293	0.323
\$450,000	0.127	0.151	0.185	0.203	0.252	0.284	0.314
\$475,000	0.121	0.145	0.178	0.196	0.244	0.277	0.306
\$500,000	0.117	0.140	0.173	0.190	0.238	0.269	0.299
\$600,000	0.101	0.122	0.153	0.169	0.215	0.245	0.272
\$700,000	0.089	0.108	0.137	0.152	0.196	0.225	0.251
\$800,000	0.079	0.098	0.125	0.139	0.181	0.208	0.233
\$900,000	0.072	0.089	0.115	0.128	0.169	0.195	0.219
\$1,000,000	0.065	0.082	0.106	0.118	0.158	0.183	0.206
\$2,000,000	0.035	0.045	0.063	0.070	0.100	0.118	0.134
\$3,000,000	0.024	0.032	0.045	0.050	0.075	0.089	0.102
\$4,000,000	0.017	0.024	0.035	0.039	0.060	0.072	0.082
\$5,000,000	0.014	0.019	0.029	0.032	0.050	0.060	0.069
\$6,000,000	0.011	0.016	0.024	0.027	0.042	0.052	0.060
\$7,000,000	0.009	0.013	0.020	0.023	0.037	0.045	0.052
\$8,000,000	0.008	0.012	0.018	0.020	0.032	0.040	0.046
\$9,000,000	0.007	0.010	0.015	0.017	0.029	0.035	0.041
\$10,000,000	0.006	0.009	0.014	0.015	0.025	0.032	0.037

3.

**Retrospective Pure Premium Development Factors**

With Loss Limit			Without Loss Limit			4th & Subsequent Adjustment
1st Adj.	2nd Adj.	3rd Adj.	1st Adj.	2nd Adj.	3rd Adj.	
0.10	0.06	0.05	0.33	0.22	0.17	0.00



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### **Part 3 Supporting Exhibits**

- Exhibit I – Determination of the Indicated Loss Cost Level Change
- Exhibit II – Workers Compensation Loss Adjustment Expense Provision
- Appendix A – Factors Underlying the Proposed Loss Cost Level Change
- Appendix B – Calculations Underlying the Loss Cost Change by Classification
- Appendix C – Memoranda for Laws and Assessments
- Appendix D – Determination of Assigned Risk Rates



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Exhibit I – Determination of the Indicated Loss Cost Level Change

NCCI analyzed the emerging experience of Connecticut workers compensation policies in recent years. The primary focus of our analysis was on premiums and losses from the proposed experience period, as shown on the next few pages.

During this year's analysis, which included an assessment of pandemic claim-related impacts, the use of paid plus case data for estimating the ultimate indemnity losses, and a combination of both paid and paid plus case data for estimating the ultimate medical losses, were selected as most appropriate to best reflect the conditions likely to prevail in the proposed effective period. This is consistent with prior filings made in Connecticut.

NCCI uses the following general methodology to determine the indicated change based on experience, trend, and benefits for each of the policy years in the experience period:

1. Reported standard earned premium at the Designated Statistical Reporting (DSR) level is developed to an ultimate basis and adjusted (via on-level factors) to the current pure premium level.
2. Reported indemnity and medical losses are limited by a large loss threshold, developed to an ultimate report, and adjusted (via on-level factors) to the current benefit level.
3. Limited indemnity and medical cost ratios excluding trend and benefits are calculated as adjusted losses (step 2) divided by premium available for benefit costs (step 1).
4. Trend factors are applied to the indemnity and medical cost ratios to reflect anticipated changes in the amount of indemnity and medical benefits as compared with anticipated changes in the amount of workers' wages between (i) the years in filing's experience period and (ii) the period during which the proposed loss costs will be in effect.
5. Limited losses are adjusted to an unlimited basis via a non-catastrophe excess ratio (with excess ratios at limits beyond \$50 million set equal to zero).
6. The impact of proposed benefit changes is then applied.
7. The separate indemnity and medical cost ratios including benefit changes are then summed to yield the indicated change based on experience, trend, and benefits.

The indicated change based on experience, trend, and benefits for this filing is calculated as the average of the indicated changes for each of the individual policy years in the experience period. Lastly, the impact of the change in loss adjustment expense is applied to determine the indicated overall average loss cost level change. The detailed calculations can be found on the following pages.



## CONNECTICUT

### EXHIBIT I

#### Determination of Indicated Loss Cost Level Change

##### Section A - Policy Year 2020 Experience

##### Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$442,616,169
(2) Premium On-level Factor (Appendix A-I)	0.681
(3) Pure Premium Available for Benefit Costs = (1) x (2)	\$301,421,611

##### Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$179,291,866
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Adjusted Limited Indemnity Losses = (4) x (5)	\$179,291,866
(7) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (6) / (3)	0.595
(8) Factor to Reflect Indemnity Trend (Appendix A-III)	0.899
(9) Projected Limited Indemnity Cost Ratio = (7) x (8)	0.535
(10) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.025
(11) Projected Indemnity Cost Ratio = (9) x (10)	0.548
(12) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(13) Projected Indemnity Cost Ratio including Benefit Changes = (11) x (12)	0.548

##### Medical Benefit Cost:

(14) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$137,279,138
(15) Medical Loss On-level Factor (Appendix A-I)	1.010
(16) Adjusted Limited Medical Losses = (14) x (15)	\$138,651,929
(17) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (16) / (3)	0.460
(18) Factor to Reflect Medical Trend (Appendix A-III)	0.857
(19) Projected Limited Medical Cost Ratio = (17) x (18)	0.394
(20) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.025
(21) Projected Medical Cost Ratio = (19) x (20)	0.404
(22) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(23) Projected Medical Cost Ratio including Benefit Changes = (21) x (22)	0.404

##### Total Benefit Cost:

(24) Indicated Change Based on Experience, Trend and Benefits = (13) + (23)	0.952
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## CONNECTICUT

### EXHIBIT I

#### Determination of Indicated Loss Cost Level Change

##### Section B - Policy Year 2019 Experience

###### Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$454,333,437
(2) Premium On-level Factor (Appendix A-I)	0.668
(3) Pure Premium Available for Benefit Costs = (1) x (2)	\$303,494,736

###### Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$186,174,687
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Adjusted Limited Indemnity Losses = (4) x (5)	\$186,174,687
(7) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (6) / (3)	0.613
(8) Factor to Reflect Indemnity Trend (Appendix A-III)	0.867
(9) Projected Limited Indemnity Cost Ratio = (7) x (8)	0.531
(10) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.025
(11) Projected Indemnity Cost Ratio = (9) x (10)	0.544
(12) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(13) Projected Indemnity Cost Ratio including Benefit Changes = (11) x (12)	0.544

###### Medical Benefit Cost:

(14) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$156,909,462
(15) Medical Loss On-level Factor (Appendix A-I)	1.019
(16) Adjusted Limited Medical Losses = (14) x (15)	\$159,890,742
(17) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (16) / (3)	0.527
(18) Factor to Reflect Medical Trend (Appendix A-III)	0.814
(19) Projected Limited Medical Cost Ratio = (17) x (18)	0.429
(20) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.025
(21) Projected Medical Cost Ratio = (19) x (20)	0.440
(22) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(23) Projected Medical Cost Ratio including Benefit Changes = (21) x (22)	0.440

###### Total Benefit Cost:

(24) Indicated Change Based on Experience, Trend and Benefits = (13) + (23)	0.984
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## CONNECTICUT

### EXHIBIT I

#### Determination of Indicated Loss Cost Level Change

##### Section C - Indicated Change Based on Experience, Trend, and Benefits

(1) Policy Year 2020 Indicated Change Based on Experience, Trend, and Benefits	0.952
(2) Policy Year 2019 Indicated Change Based on Experience, Trend, and Benefits	0.984
(3) Indicated Change Based on Experience, Trend, and Benefits* = (1) x 50.0% + (2) x 50.0%	0.968

\* The weight applied to each loss ratio in the experience period does not vary by year.

##### Section D - Application of the Change in Loss-based Expenses

(1) Indicated Loss Cost Level Change	0.968
(2) Effect of the Change in Loss-based Expenses (Exhibit II)	1.002
(3) Indicated Change Modified to Reflect the Change in Loss-based Expenses = (1) x (2)	0.970

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

Industry Group Differentials (Appendix A-IV):

Manufacturing	1.005
Contracting	0.984
Office & Clerical	0.976
Goods & Services	1.002
Miscellaneous	1.024

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

Industry Group	(1) Final Overall Loss Cost Level Change	(2) Industry Group Differential	(3) = (1) x (2) Final Loss Cost Level Change by Industry Group	
Manufacturing	0.970	1.005	0.975	(-2.5%)
Contracting	0.970	0.984	0.954	(-4.6%)
Office & Clerical	0.970	0.976	0.947	(-5.3%)
Goods & Services	0.970	1.002	0.972	(-2.8%)
Miscellaneous	0.970	1.024	0.993	(-0.7%)
Overall	0.970	1.000	0.970	(-3.0%)





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Exhibit II – Workers Compensation Loss Adjustment Expense Provision

The proposed loss costs include a provision for loss adjustment expenses (LAE).

LAE is included in the loss costs by using a ratio of loss adjustment expense dollars to loss dollars (called the “LAE provision”). These expenses are directly associated with the handling of workers compensation claims. The LAE provision is comprised of two components: Defense and Cost Containment Expenses (DCCE) and Adjusting and Other Expenses (AOE).

NCCI uses the following general methodology to determine the proposed LAE provision based on data for private carriers and removing the reported COVID-19-related losses.

1. Based on Connecticut-specific data obtained from NCCI’s Policy Year Financial Call, ratios of paid DCCE to paid losses by policy year are developed to an ultimate basis. The proposed DCCE provision is based on the ultimate projected DCCE ratios by policy year.
2. The proposed AOE ratio is based on countrywide data reported to NCCI on its Call for Loss Adjustment Expense. The nature of AOE generally precludes its accurate allocation to specific jurisdictions.
3. The proposed LAE provision is the sum of the separate DCCE and AOE ratio components.

The calculation of the loss adjustment expense provision is shown on the following pages.



**CONNECTICUT**

**EXHIBIT II**

**Workers Compensation Loss Adjustment Expense Provision**

**Section A - Proposed Change in Connecticut Loss Adjustment Expense Provision**

NCCI proposes a 20.1% loss adjustment expense allowance as a percentage of losses. This represents a 0.2% increase from the currently approved loss adjustment expense provision.

	(1)	(2)
<u>Connecticut Provisions</u>	<u>Current Approved</u>	<u>Proposed</u>
AOE	9.4%	<b>9.4%</b>
DCCE	10.5%	<b>10.7%</b>
<b>Total LAE</b>	<b>19.9%</b>	<b>20.1%</b>

Proposed Change in Connecticut LAE Provision	1.002
= [1.0 + (2)] / [1.0 + (1)] - 1	<b>0.2%</b>

**Section B - Selection of AOE Provision**

The adjusting and other expense data by accident year shown below is based on countrywide data for private carriers. NCCI's countrywide selection for the AOE provision is 9.4%.

<u>Accident Year</u>	<u>Ultimate AOE Ratio</u>
2017	9.2%
2018	9.2%
2019	9.6%
2020	10.0%
2021	9.3%
<b>Countrywide Selected</b>	<b>9.4%</b>
<b>Connecticut Selected</b>	<b>9.4%</b>



**CONNECTICUT**

**EXHIBIT II**

**Workers Compensation Loss Adjustment Expense Provision**

**Section C - Selection of DCCE Provision**

<u>Policy Year</u>	(1) Reported Ratio of Paid DCCE to Paid Losses	(2) Age to Ultimate Development Factor	(3) Ultimate DCCE Ratio
2016	11.2%	1.002	11.2%
2017	10.3%	1.001	10.3%
2018	11.1%	1.001	11.1%
2019	10.5%	1.001	10.5%
2020	9.7%	1.074	10.4%
<b>Connecticut Selected</b>			<b>10.7%</b>

(2) Section D

(3) = (1) x (2)

**Section D - Summary of Paid DCCE to Paid Loss Ratio Development Factors**

<u>Report</u>	(1) (2) <u>DCCE Ratio Development</u>	
	<u>To Next Report</u>	<u>To Ultimate</u>
1st	1.073	1.074
2nd	1.000	1.001
3rd	1.000*	1.001
4th	0.999	1.001
5th	0.994	1.002
6th	0.990	1.008
7th	0.998	1.018
8th	0.996	1.020
9th	1.002	1.024
10th	1.002	1.022
11th	1.002	1.020
12th	1.001	1.018
13th	1.000	1.017
14th	1.000	1.017
15th	1.000	1.017
16th	0.999	1.017
17th	1.000	1.018
18th	1.003	1.018
19th		1.015*

(1) Section E

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

\*Selection



**CONNECTICUT**

**EXHIBIT II**

**Workers Compensation Loss Adjustment Expense Provision**

**Section E - Paid DCCE to Paid Loss Ratio Development Factors**

<u>Valuation</u>	<u>1st/2nd</u>	<u>2nd/3rd</u>	<u>3rd/4th</u>	<u>4th/5th</u>	<u>5th/6th</u>	<u>6th/7th</u>
12/31/2019	1.071	0.980	0.982	1.006	0.990	0.989
12/31/2020	1.065	0.998	1.005	1.002	0.998	0.994
12/31/2021	1.084	1.021	0.971	0.988	0.995	0.987
Average	1.073	1.000	1.000*	0.999	0.994	0.990

<u>Valuation</u>	<u>7th/8th</u>	<u>8th/9th</u>	<u>9th/10th</u>	<u>10th/11th</u>	<u>11th/12th</u>	<u>12th/13th</u>
12/31/2019	0.999	0.996	1.008	1.003	1.003	1.002
12/31/2020	0.999	0.990	1.001	1.000	1.002	1.002
12/31/2021	0.996	1.002	0.996	1.004	1.000	0.999
Average	0.998	0.996	1.002	1.002	1.002	1.001

<u>Valuation</u>	<u>13th/14th</u>	<u>14th/15th</u>	<u>15th/16th</u>	<u>16th/17th</u>	<u>17th/18th</u>	<u>18th/19th</u>
12/31/2019	0.995	1.003	1.000	1.000	1.002	1.003
12/31/2020	1.004	1.000	1.001	0.999	1.000	1.000
12/31/2021	1.000	0.997	1.000	0.999	0.999	1.005
Average	1.000	1.000	1.000	0.999	1.000	1.003

\* A selection was made for the 3rd/4th Paid DCCE to Paid Loss Ratio development factor.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

##### Appendix A-I Determination of Policy Year On-level Factors

NCCI uses premium and loss on-level factors to adjust historical policy year experience to current loss cost/rate and benefit levels, respectively.

Premium on-level factors are adjustment factors that reflect the cumulative impact of all premium level changes that have occurred during and after the individual year being on-leveled. To calculate a weighted average, NCCI utilizes a monthly premium distribution for Connecticut based on an analysis of policies reported in the Unit Statistical Plan Data. Additional adjustments applied as part of the premium on-level factor calculation include:

- Adjustment for Expense Constant Removal: This factor removes premium collected via the charged expense constant.
- Adjustment for Expense Removal: This factor is applied to remove expenses from the reported assigned risk and voluntary DSR level premium totals—serving to make the separate market premiums more comparable.
- Uncollectible Premium Provision to Gross Premium Factor: This factor is applied to the assigned risk market premium to account for the difference between gross premium as reported and the ultimate premium that is collected.
- Experience Rating Off-Balance Adjustment Factor: This factor reflects the relative difference between the average experience rating modification for the historical year being on-leveled and the average experience rating modification targeted in the filing.

Loss on-level factors are adjustment factors that reflect the cumulative impact of all included benefit level changes that have occurred during and after the individual year of data being on-leveled.

Note: For NCCI ratemaking purposes, proposed benefit level changes that (i) do not impact the experience period of the filing and (ii) have not yet been approved are included in Exhibit I, rather than in the loss on-level calculation.



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APPENDIX A-I

Determination of Policy Year On-level Factors

Section A - Factor Adjusting 2020 Policy Year Assigned Risk Premium to Present Assigned Risk Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Date	Rate Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Constant Removal @	Adj. For Expense Removal	UPP Adj. to Gross Premium Factor	Premium Adjustment Factor (5)x(6)x(7)x(8)
NR 01/01/20	Base	1.000	1.000	1.000	0.905	0.948	0.713	0.962	0.589
NR 01/01/21	0.986	0.986							
NR 01/01/22	0.918	0.905							
				1.000					

Section B - Factor Adjusting 2020 Policy Year Voluntary Premium to Present Voluntary Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Date	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Constant Removal @	Adj. For Expense Removal	UPP Adj. to Gross Premium Factor	Premium Adjustment Factor (5)x(6)x(7)x(8)
NR 01/01/20	Base	1.000	1.000	1.000	0.844	1.000	0.834	1.000	0.704
NR 01/01/21	0.982	0.982							
NR 01/01/22	0.859	0.844							
				1.000					

Section C - Factor Adjusting 2020 Policy Year Assigned Risk Premium and Voluntary Premium to Present Statewide Level

(1) Assigned Risk Market Share PY 2020	0.075
(2) Voluntary Market Share PY 2020	0.925
(3) Assigned Risk Standard Premium Adjustment Factor (See Sec. A)	0.589
(4) Voluntary Standard Premium Adjustment Factor (See Sec. B)	0.704
(5) Premium Adjustment Factor = [(1)x(3)]/1.527+(2)x(4) #	0.680
(6) Experience Rating Off-balance Adjustment Factor*	1.001
(7) Final Premium Adjustment Factor = (5)x(6)	0.681

NR New and renewal business.

@ Eliminates premium derived from expense constants.

# Current premium index (assigned risk-to-voluntary) = 1.527

\* = 1.001 = 0.959 / 0.958 = (Targeted Off-balance) / (Off-balance for Policy Year 2020)



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APPENDIX A-I

Determination of Policy Year On-level Factors

Section D - Factor Adjusting 2020 Policy Year Indemnity Losses to Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
07/15/19	Base	1.000	0.051	0.051	1.000
04/01/20	1.000	1.000	0.723	0.723	
04/01/21	1.000	1.000	0.128	0.128	
06/23/21	1.000	1.000	0.024	0.024	
07/15/21	1.000	1.000	0.074	0.074	
				<u>1.000</u>	

Section E - Factor Adjusting 2020 Policy Year Medical Losses to Present Benefit Level

	(1)	(2)	(3)	(4)	(5)
Date	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
07/15/19	Base	1.000	0.051	0.051	1.010
04/01/20	1.008	1.008	0.723	0.729	
04/01/21	1.012	1.020	0.128	0.131	
06/23/21	1.000	1.020	0.024	0.024	
07/15/21	1.000	1.020	0.074	0.075	
				<u>1.010</u>	



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APPENDIX A-I

Determination of Policy Year On-level Factors

Section F - Factor Adjusting 2019 Policy Year Assigned Risk Premium to Present Assigned Risk Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Date	Rate Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Constant Removal @	Adj. For Expense Removal	UPP Adj. to Gross Premium Factor	Premium Adjustment Factor (5)x(6)x(7)x(8)
NR 01/01/19	Base	1.000	1.000	1.000	0.865	0.948	0.713	0.962	0.563
NR 01/01/20	0.955	0.955							
NR 01/01/21	0.986	0.942							
NR 01/01/22	0.918	0.865							
				1.000					

Section G - Factor Adjusting 2019 Policy Year Voluntary Premium to Present Voluntary Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Date	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Constant Removal @	Adj. For Expense Removal	UPP Adj. to Gross Premium Factor	Premium Adjustment Factor (5)x(6)x(7)x(8)
NR 01/01/19	Base	1.000	1.000	1.000	0.819	1.000	0.834	1.000	0.683
NR 01/01/20	0.971	0.971							
NR 01/01/21	0.982	0.954							
NR 01/01/22	0.859	0.819							
				1.000					

Section H - Factor Adjusting 2019 Policy Year Assigned Risk Premium and Voluntary Premium to Present Statewide Level

(1) Assigned Risk Market Share PY 2019	0.072
(2) Voluntary Market Share PY 2019	0.928
(3) Assigned Risk Standard Premium Adjustment Factor (See Sec. F)	0.563
(4) Voluntary Standard Premium Adjustment Factor (See Sec. G)	0.683
(5) Premium Adjustment Factor = [(1)x(3)]/1.527+(2)x(4) #	0.661
(6) Experience Rating Off-balance Adjustment Factor*	1.011
(7) Final Premium Adjustment Factor = (5)x(6)	0.668

NR New and renewal business.

@ Eliminates premium derived from expense constants.

# Current premium index (assigned risk-to-voluntary) = 1.527

\* = 1.011 = 0.959 / 0.949 = (Targeted Off-balance) / (Off-balance for Policy Year 2019)





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APPENDIX A-I

Determination of Policy Year On-level Factors

Section I - Factor Adjusting 2019 Policy Year Indemnity Losses to Present Benefit Level

Date	(1) Benefit Level Change	(2) Cumulative Index	(3) Weight	(4) Product (2)x(3)	(5) Adj. Factor Present Index/ Sum Column (4)
10/01/18	Base	1.000	0.051	0.051	1.000
04/01/19	1.000	1.000	0.137	0.137	
07/15/19	1.000	1.000	0.587	0.587	
04/01/20	1.000	1.000	0.225	0.225	
04/01/21	1.000	1.000			
06/23/21	1.000	1.000			
07/15/21	1.000	1.000			
				1.000	

Section J - Factor Adjusting 2019 Policy Year Medical Losses to Present Benefit Level

Date	(1) Benefit Level Change	(2) Cumulative Index	(3) Weight	(4) Product (2)x(3)	(5) Adj. Factor Present Index/ Sum Column (4)
10/01/18	Base	1.000	0.051	0.051	1.019
04/01/19	1.008	1.008	0.137	0.138	
07/15/19	1.001	1.009	0.587	0.592	
04/01/20	1.008	1.017	0.225	0.229	
04/01/21	1.012	1.029			
06/23/21	1.000	1.029			
07/15/21	1.000	1.029			
				1.010	



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

##### Appendix A-II Determination of Premium and Losses Developed to an Ultimate Report

Development factors are used to project premium and limited losses to an ultimate report. In general, the ultimate development factors are based on a chain-ladder approach that utilizes average link ratios for several maturities and the application of a tail factor, as shown on the following pages.

##### Limited Large Loss Methodology

To limit volatility on the loss cost level indications due to the impact of extraordinary large losses, a limited large loss methodology is utilized. A base threshold for the large loss limitation is determined by the volume of premium in the state as well as the number of years used in the experience period. It is calculated as one percent of the total volume of premium from the state's experience period underlying the currently approved filing. The base threshold is detrended by policy year to reflect the inflationary impact on claim costs due to wage inflation. The wage index used is based on the Connecticut average weekly wages from the Quarterly Census of Employment and Wages. Detrended thresholds are used in the experience period, trend period, and loss development period. Indemnity and medical losses are limited to the year-specific detrended large loss thresholds.

Limited indemnity and medical losses are used to calculate estimated losses at an ultimate report. A statewide, non-catastrophe excess ratio is used to adjust the limited losses to an unlimited basis. The excess ratios are non-catastrophe because excess ratios at limits beyond \$50 million are set equal to zero. The excess ratio is derived from Connecticut's Retrospective Rating Plan Parameters.

##### Development

For premium development, link ratios are used from 1<sup>st</sup> through 5<sup>th</sup> report, after which it is assumed no further development occurs.

For indemnity and medical loss development, link ratios calculated from limited losses are used from 1<sup>st</sup> through 19<sup>th</sup> report. For indemnity and medical loss development past the 19<sup>th</sup> report, a 19<sup>th</sup>-to-ultimate "tail" factor is used to reflect all future expected loss emergence.

In analyzing losses for the purpose of Aggregate Ratemaking, NCCI reviews both "paid" and "paid plus case" loss data, which is (i) the benefit amounts already paid by insurers on reported claims and (ii) the benefit amounts already paid by insurers on reported claims plus the amounts set aside to cover future payments on those claims. To best reflect the conditions likely to prevail in the proposed effective period, this filing utilizes paid plus case data for estimating the



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

ultimate indemnity losses, and a combination of both paid and paid plus case data for estimating the ultimate medical losses.

Loss development factors are needed since paid losses and case reserve estimates on a given claim change over time until the claim is finally closed. The loss development factors are based on how paid losses and case reserve estimates changed over time for claims from older years.

The specific development link ratio selections underlying this filing are shown below:

- A three-year average of historical premium development factors
  - The selected 1<sup>st</sup>/2<sup>nd</sup> premium development link ratio balances the development likely to occur in the prospective period with the historical three-year average
- A three-year average of historical paid loss development factors through a 19<sup>th</sup> report
- A five-year average of historical paid plus case loss development factors through a 19<sup>th</sup> report

These development factors were selected to strike a balance between being responsive to observed changes and promoting stability in the selected development factors from one filing to the next. See *COVID-19 Pandemic-related Considerations* in the Additional Proposed Changes section for specific development selections related to potential COVID-19 pandemic-related effects.

#### 19<sup>th</sup>-to-Ultimate Tail Factor

Tail factors are calculated separately for indemnity and medical unlimited losses by comparing the changes in the volume of policy year losses that occur on policy years reported after a 19<sup>th</sup> report to the volume of policy year losses at the 19<sup>th</sup> report. To adjust for these differences in the volume of losses between policy years, a growth adjustment factor is applied. The tail factors are brought from an unlimited basis to a limited basis through the application of a tail adjustment factor, which is based on countrywide data and the state specific large loss threshold.

The calculation of indemnity and medical paid plus case 19<sup>th</sup>-to-ultimate tail factors utilizes all available experience for the years prior to the tail attachment point and is calculated for the most recent ten available policy years. Loss development tail factors from a 19<sup>th</sup> report to ultimate were judgmentally selected in this filing based on a review of the ten most recently available factors.

Paid plus case data is used in the calculation of 19<sup>th</sup>-to-ultimate loss development factors since it is most reflective of the expected ultimate losses. Since this filing utilizes paid plus case data for indemnity losses, the selected paid plus case tail factor is appropriate. For medical losses, both paid and paid plus case data are utilized, so the selected paid plus case loss development



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

tail factor is converted to a paid basis using paid-to-paid plus case ratios. The medical conversion ratio was selected based on a review of historical conversion ratios. The selection of the medical conversion ratio considers the relatively higher medical conversion ratios for the latest valuation of data.



## CONNECTICUT

### APPENDIX A-II

#### Determination of Premium and Losses Developed to an Ultimate Report

##### Section A - Premium and Loss Summary Valued as of 12/31/2021

###### Policy Year 2020

(1) Standard Earned Premium	\$441,732,704
(2) Factor to Develop Premium to Ultimate	1.002
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$442,616,169
(4) Limited Indemnity Paid+Case Losses	\$87,974,419
(5) Limited Indemnity Paid+Case Development Factor to Ultimate	2.038
(6) Limited Indemnity Paid+Case Losses Developed to Ultimate = (4)x(5)	\$179,291,866
(7) Limited Medical Paid Losses	\$67,728,867
(8) Limited Medical Paid Development Factor to Ultimate	2.097
(9) Limited Medical Paid Losses Developed to Ultimate = (7)x(8)	\$142,027,434
(10) Limited Medical Paid+Case Losses	\$107,661,122
(11) Limited Medical Paid+Case Development Factor to Ultimate	1.231
(12) Limited Medical Paid+Case Losses Developed to Ultimate = (10)x(11)	\$132,530,841
(13) Policy Year 2020 Limited Medical Losses Developed to Ultimate = [(9)+(12)]/2	\$137,279,138

###### Policy Year 2019

(1) Standard Earned Premium	\$454,333,437
(2) Factor to Develop Premium to Ultimate	1.000
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$454,333,437
(4) Limited Indemnity Paid+Case Losses	\$123,786,361
(5) Limited Indemnity Paid+Case Development Factor to Ultimate	1.504
(6) Limited Indemnity Paid+Case Losses Developed to Ultimate = (4)x(5)	\$186,174,687
(7) Limited Medical Paid Losses	\$103,618,341
(8) Limited Medical Paid Development Factor to Ultimate	1.556
(9) Limited Medical Paid Losses Developed to Ultimate = (7)x(8)	\$161,230,139
(10) Limited Medical Paid+Case Losses	\$137,839,913
(11) Limited Medical Paid+Case Development Factor to Ultimate	1.107
(12) Limited Medical Paid+Case Losses Developed to Ultimate = (10)x(11)	\$152,588,784
(13) Policy Year 2019 Limited Medical Losses Developed to Ultimate = [(9)+(12)]/2	\$156,909,462



**CONNECTICUT**

**APPENDIX A-II**

**Determination of Premium and Losses Developed to an Ultimate Report**

**Section B - Premium Development Factors**

<u>Policy Year</u>	<u>1st/2nd</u>	<u>Policy Year</u>	<u>2nd/3rd</u>	<u>Policy Year</u>	<u>3rd/4th</u>	<u>Policy Year</u>	<u>4th/5th</u>
2017	0.999	2016	0.999	2015	1.000	2014	1.000
2018	1.004	2017	0.999	2016	1.000	2015	1.000
2019	0.992	2018	0.999	2017	1.002	2016	1.000
Selected*	1.002	Average	0.999	Average	1.001	Average	1.000

Summary of Premium Development Factors

<u>1st/5th</u>	<u>2nd/5th</u>	<u>3rd/5th</u>	<u>4th/5th</u>
1.002	1.000	1.001	1.000

\* A judgmental selection was made for the 1st/2nd premium development factor to reflect the impact of the COVID-19 related recession on premium development.



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APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section C - Limited Medical Paid Loss Development Factors

Policy Year	<u>1st/2nd</u>	Policy Year	<u>2nd/3rd</u>	Policy Year	<u>3rd/4th</u>	Policy Year	<u>4th/5th</u>
2017	1.368	2016	1.143	2015	1.070	2014	1.036
2018	1.312	2017	1.130	2016	1.054	2015	1.027
2019	1.363	2018	1.104	2017	1.090	2016	1.044
Average	1.348	Average	1.126	Average	1.071	Average	1.036
Policy Year	<u>5th/6th</u>	Policy Year	<u>6th/7th</u>	Policy Year	<u>7th/8th</u>	Policy Year	<u>8th/9th</u>
2013	1.035	2012	1.027	2011	1.022	2010	1.019
2014	1.023	2013	1.030	2012	1.020	2011	1.023
2015	1.024	2014	1.025	2013	1.009	2012	1.012
Average	1.027	Average	1.027	Average	1.017	Average	1.018
Policy Year	<u>9th/10th</u>	Policy Year	<u>10th/11th</u>	Policy Year	<u>11th/12th</u>	Policy Year	<u>12th/13th</u>
2009	1.007	2008	1.012	2007	1.008	2006	1.009
2010	1.013	2009	1.008	2008	1.010	2007	1.008
2011	1.012	2010	1.010	2009	1.005	2008	1.013
Average	1.011	Average	1.010	Average	1.008	Average	1.010
Policy Year	<u>13th/14th</u>	Policy Year	<u>14th/15th</u>	Policy Year	<u>15th/16th</u>	Policy Year	<u>16th/17th</u>
2005	1.013	2004	1.005	2003	1.005	2002	1.005
2006	1.005	2005	1.003	2004	1.007	2003	1.007
2007	1.003	2006	1.009	2005	1.006	2004	1.010
Average	1.007	Average	1.006	Average	1.006	Average	1.007
Policy Year	<u>17th/18th</u>	Policy Year	<u>18th/19th</u>				
2001	1.006	2000	1.005				
2002	1.003	2001	1.005				
2003	1.006	2002	1.002				
Average	1.005	Average	1.004				



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APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section D - Limited Indemnity Paid + Case Loss Development Factors

Policy Year	<u>1st/2nd</u>	Policy Year	<u>2nd/3rd</u>	Policy Year	<u>3rd/4th</u>	Policy Year	<u>4th/5th</u>
2015	1.338	2014	1.158	2013	1.072	2012	1.036
2016	1.349	2015	1.158	2014	1.065	2013	1.048
2017	1.362	2016	1.150	2015	1.064	2014	1.038
2018	1.359	2017	1.150	2016	1.077	2015	1.042
2019	1.366	2018	1.171	2017	1.062	2016	1.041
Average	1.355	Average	1.157	Average	1.068	Average	1.041
Policy Year	<u>5th/6th</u>	Policy Year	<u>6th/7th</u>	Policy Year	<u>7th/8th</u>	Policy Year	<u>8th/9th</u>
2011	1.028	2010	1.015	2009	1.017	2008	1.010
2012	1.046	2011	1.015	2010	1.007	2009	0.997
2013	1.043	2012	1.015	2011	1.016	2010	1.013
2014	1.016	2013	1.023	2012	1.013	2011	1.019
2015	1.024	2014	1.012	2013	1.017	2012	1.012
Average	1.031	Average	1.016	Average	1.014	Average	1.010
Policy Year	<u>9th/10th</u>	Policy Year	<u>10th/11th</u>	Policy Year	<u>11th/12th</u>	Policy Year	<u>12th/13th</u>
2007	1.013	2006	1.012	2005	1.012	2004	1.004
2008	1.007	2007	1.009	2006	1.002	2005	0.998
2009	1.006	2008	0.999	2007	1.009	2006	1.003
2010	1.008	2009	1.012	2008	1.012	2007	1.008
2011	1.016	2010	1.007	2009	1.010	2008	1.002
Average	1.010	Average	1.008	Average	1.009	Average	1.003
Policy Year	<u>13th/14th</u>	Policy Year	<u>14th/15th</u>	Policy Year	<u>15th/16th</u>	Policy Year	<u>16th/17th</u>
2003	1.005	2002	1.000	2001	0.999	2000	0.999
2004	1.005	2003	1.002	2002	1.005	2001	0.995
2005	1.004	2004	0.998	2003	1.003	2002	1.006
2006	1.003	2005	1.005	2004	0.998	2003	1.001
2007	1.002	2006	1.000	2005	1.000	2004	1.017
Average	1.004	Average	1.001	Average	1.001	Average	1.004
Policy Year	<u>17th/18th</u>	Policy Year	<u>18th/19th</u>				
1999	1.004	1998	1.003				
2000	1.003	1999	1.003				
2001	1.002	2000	1.000				
2002	1.002	2001	1.002				
2003	1.003	2002	1.002				
Average	1.003	Average	1.002				





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APPENDIX A-II

Determination of Premium and Losses Developed to an Ultimate Report

Section E - Limited Medical Paid + Case Loss Development Factors

Policy Year	<u>1st/2nd</u>	Policy Year	<u>2nd/3rd</u>	Policy Year	<u>3rd/4th</u>	Policy Year	<u>4th/5th</u>
2015	1.097	2014	1.020	2013	1.038	2012	1.016
2016	1.136	2015	1.025	2014	1.007	2013	1.019
2017	1.115	2016	1.040	2015	1.004	2014	1.018
2018	1.055	2017	1.041	2016	1.004	2015	1.003
2019	1.158	2018	1.029	2017	1.007	2016	1.002
Average	1.112	Average	1.031	Average	1.012	Average	1.012

Policy Year	<u>5th/6th</u>	Policy Year	<u>6th/7th</u>	Policy Year	<u>7th/8th</u>	Policy Year	<u>8th/9th</u>
2011	1.014	2010	0.993	2009	1.000	2008	1.011
2012	0.999	2011	1.010	2010	1.003	2009	0.992
2013	1.019	2012	1.000	2011	1.011	2010	1.008
2014	0.993	2013	0.998	2012	1.012	2011	1.002
2015	1.002	2014	1.009	2013	1.005	2012	1.011
Average	1.005	Average	1.002	Average	1.006	Average	1.005

Policy Year	<u>9th/10th</u>	Policy Year	<u>10th/11th</u>	Policy Year	<u>11th/12th</u>	Policy Year	<u>12th/13th</u>
2007	1.007	2006	1.000	2005	1.008	2004	1.000
2008	0.996	2007	0.994	2006	0.998	2005	1.004
2009	1.004	2008	1.007	2007	1.002	2006	1.001
2010	1.006	2009	0.998	2008	1.016	2007	1.006
2011	1.004	2010	0.993	2009	0.999	2008	0.998
Average	1.003	Average	0.998	Average	1.005	Average	1.002

Policy Year	<u>13th/14th</u>	Policy Year	<u>14th/15th</u>	Policy Year	<u>15th/16th</u>	Policy Year	<u>16th/17th</u>
2003	1.011	2002	0.989	2001	0.984	2000	0.997
2004	1.003	2003	1.003	2002	1.004	2001	0.992
2005	0.998	2004	1.002	2003	1.000	2002	1.006
2006	0.998	2005	1.001	2004	0.994	2003	1.002
2007	1.000	2006	0.996	2005	0.997	2004	1.003
Average	1.002	Average	0.998	Average	0.996	Average	1.000

Policy Year	<u>17th/18th</u>	Policy Year	<u>18th/19th</u>
1999	1.004	1998	1.004
2000	1.001	1999	0.999
2001	1.002	2000	1.002
2002	0.999	2001	1.004
2003	1.000	2002	1.003
Average	1.001	Average	1.002



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**APPENDIX A-II**

**Determination of Premium and Losses Developed to an Ultimate Report**

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

**Indemnity Paid+Case Data for Matching Companies**

(1) Policy Year	(2) <u>Losses for Policy Year</u> 19th Report	(3) <u>Losses for Policy Year</u> 20th Report	(4) <u>Losses for All Prior Policy Years</u> Previous	(5) <u>Losses for All Prior Policy Years</u> Current	(6) Factor to Adjust Losses for Prior Policy Years	(7) Indicated 19th-to-Ult Development for Policy Year
1992	173,755,199	174,798,681	3,535,570,754	3,546,234,083	1.316	1.053
1993	135,386,411	135,239,482	3,721,136,501	3,736,342,854	1.726	1.064
1994	122,415,525	122,354,079	3,871,203,569	3,886,232,413	1.909	1.064
1995	113,817,954	114,177,802	4,005,788,708	4,017,051,757	2.009	1.052
1996	126,705,721	126,897,455	4,130,518,682	4,139,232,424	1.732	1.041
1997	149,206,465	150,189,849	4,264,033,202	4,278,850,907	1.409	1.077
1998	149,708,274	150,694,029	4,429,040,756	4,442,176,978	1.315	1.073
1999	148,261,652	148,293,152	4,456,195,299	4,471,762,090	1.142	1.092
2000	175,634,276	176,329,901	4,537,247,438	4,550,541,941	0.866	1.091
2001	142,221,703	143,826,707	4,715,870,933	4,722,800,724	0.976	1.061
Selected Indemnity 19th-to-Ultimate Loss Development Factor						1.065

**Medical Paid+Case Data for Matching Companies**

(8) Policy Year	(9) <u>Losses for Policy Year</u> 19th Report	(10) <u>Losses for Policy Year</u> 20th Report	(11) <u>Losses for All Prior Policy Years</u> Previous	(12) <u>Losses for All Prior Policy Years</u> Current	(13) Factor to Adjust Losses for Prior Policy Years	(14) Indicated 19th-to-Ult Development for Policy Year
1992	106,335,410	107,192,180	1,571,865,804	1,577,651,892	1.001	1.062
1993	96,693,019	97,165,194	1,684,630,196	1,684,047,701	1.160	1.000
1994	91,368,551	91,086,660	1,780,977,194	1,791,033,757	1.266	1.084
1995	83,451,149	83,539,241	1,881,583,695	1,886,914,499	1.403	1.047
1996	111,739,962	111,359,915	1,970,073,399	1,972,788,087	1.039	1.020
1997	95,944,030	96,330,529	2,082,740,916	2,087,168,032	1.222	1.042
1998	103,340,130	103,268,435	2,183,498,561	2,186,775,082	1.110	1.028
1999	109,180,143	108,447,992	2,224,150,900	2,227,967,333	0.976	1.029
2000	121,359,556	121,175,295	2,283,072,251	2,279,852,297	0.819	0.966
2001	103,911,420	104,982,842	2,393,340,503	2,390,752,833	0.934	0.984
Selected Medical 19th-to-Ultimate Loss Development Factor						1.035

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

(14) = 1 + [(10) - (9) + ((12) - (11)) / (13)] / (9)

Columns (4) and (11) are valued as of the date at which the given policy year is at a 19th report.

Columns (5) and (12) are valued as of the date at which the given policy year is at a 20th report.



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Determination of Premium and Losses Developed to an Ultimate Report

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

Policy Year	Medical Paid-to-Paid + Case Ratio 19th Report
1998	0.958
1999	0.965
2000	0.957
2001	0.966
2002	0.959
Selected	0.965

	<u>Indemnity</u>	<u>Medical</u>
(1) Paid+Case 19th-to-Ultimate Loss Development Factor (Section F)	1.065	1.035
(2) Factor to Adjust 19th-to-Ultimate Development Factor to a Limited Basis	0.649	0.649
(3) Limited Paid+Case 19th-to-Ultimate Loss Development Factor = [(1)-1]x(2)+1	1.042	1.023
(4) Limited Paid-to-Paid+Case Ratio (Section G)	N/A	0.965
(5) Limited Paid 19th-to-Ultimate Loss Development Factor = (3) / (4)	N/A	1.060

Section H - Summary of Limited Paid Loss Development Factors

Report	<u>Medical Paid Loss Development</u>	
	<u>to Next Report</u>	<u>to Ultimate</u>
1st	1.348	2.097
2nd	1.126	1.556
3rd	1.071	1.382
4th	1.036	1.290
5th	1.027	1.245
6th	1.027	1.212
7th	1.017	1.180
8th	1.018	1.160
9th	1.011	1.139
10th	1.010	1.127
11th	1.008	1.116
12th	1.010	1.107
13th	1.007	1.096
14th	1.006	1.088
15th	1.006	1.082
16th	1.007	1.076
17th	1.005	1.069
18th	1.004	1.064
19th		1.060

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



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Determination of Premium and Losses Developed to an Ultimate Report

Section I - Summary of Limited Paid+Case Loss Development Factors

Report	(1) Indemnity Paid+Case Loss Development		Report	(3) Medical Paid+Case Loss Development	
	to Next Report	to Ultimate		to Next Report	to Ultimate
1st	1.355	2.038	1st	1.112	1.231
2nd	1.157	1.504	2nd	1.031	1.107
3rd	1.068	1.300	3rd	1.012	1.074
4th	1.041	1.217	4th	1.012	1.061
5th	1.031	1.169	5th	1.005	1.048
6th	1.016	1.134	6th	1.002	1.043
7th	1.014	1.116	7th	1.006	1.041
8th	1.010	1.101	8th	1.005	1.035
9th	1.010	1.090	9th	1.003	1.030
10th	1.008	1.079	10th	0.998	1.027
11th	1.009	1.070	11th	1.005	1.029
12th	1.003	1.060	12th	1.002	1.024
13th	1.004	1.057	13th	1.002	1.022
14th	1.001	1.053	14th	0.998	1.020
15th	1.001	1.052	15th	0.996	1.022
16th	1.004	1.051	16th	1.000	1.026
17th	1.003	1.047	17th	1.001	1.026
18th	1.002	1.044	18th	1.002	1.025
19th		1.042	19th		1.023

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

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



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**APPENDIX A-II**

**Determination of Premium and Losses Developed to an Ultimate Report**

**Section J - Factor to Adjust Limited Losses to an Unlimited Basis**

(1) Threshold at the Midpoint of the Loss Cost Effective Period*	7,003,029
(2) Statewide Excess Ratio for (1)	0.024
(3) Market Share for Carriers Missing from Large Loss and Catastrophe Call	0.000
(4) Factor to Adjust Limited Losses to an Unlimited Basis = $1.0 / \{1.0 - [(2) \times (1.0 - (3))]\}$	1.025

**Section K - Policy Year Large Loss Limits**

Experience Year	Policy Year Detrended Limit
2020	6,086,393
2019	5,786,588
2018	5,555,908
2017	5,434,783
2016	5,366,570
2015	5,329,361
2014	5,251,538
2013	5,127,765
2012	5,068,032
2011	5,012,245
2010	4,896,290
2009	4,747,223
2008	4,726,137
2007	4,749,627
2006	4,594,541
2005	4,377,162
2004	4,204,072
2003	4,011,558
2002	3,847,926
2001	3,812,301
2000	3,748,875
1999	3,553,485
1998	3,359,943

\* December 4, 2023 is the midpoint of the effective period for which the revised loss costs are being proposed.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

##### Appendix A-III Trend Factors

The proposed loss costs and assigned risk rates are intended for use with policies with effective dates in the proposed effective period. However, the data underlying this filing is based on the years in the experience period. Thus, it is necessary to use trend factors that forecast how much future Connecticut workers compensation experience will differ from historical experience.

Trend factors measure anticipated changes in the amount of indemnity and medical benefits as compared with anticipated changes in the amount of workers' wages. For example, if benefit costs are expected to grow faster than wages, then a trend factor greater than zero is indicated. Conversely, if wages are expected to grow faster than benefit costs, then a trend factor less than zero is indicated.

##### Overview of Methodology

NCCI separately analyzes a measure of the number of workplace injuries (claim frequency) and the average indemnity and medical costs of each of these injuries (claim severity). Premium, lost-time claim counts, and losses used in these frequency and severity calculations are developed to ultimate and adjusted for changes in the level of workers' wages over time using the United States Bureau of Labor Statistics Quarterly Census of Employment and Wages for Connecticut. Note that medical-only claim counts are excluded from the claim frequency and severity calculations, but the losses associated with medical-only claims are included.

In order to estimate the average annual percentage changes in the loss ratios, exponential curves are fit to the historical data points. Consideration in the trend factor selections include a review of loss ratio patterns observed over an extended period of time, along with other pertinent considerations including, but not limited to, changes in system benefits and administration, economic environment, credibility of state data, and prior trend approach and selection.

The trend lengths displayed on the following exhibits are calculated by comparing the average accident date for the effective period of the proposed loss costs to each of the policy years in the experience period. The average accident dates are based on a Connecticut distribution of policy writings by month and assume a uniform probability of loss over the coverage period.

##### Considerations Underlying Trend Selections in this Filing

The trend factors selected in this filing are meant to recognize the impact the changes in benefits and inflation will have on loss ratios between the time period of the historical data on which the filing is based and the midpoint of the proposed loss cost effective period. Trends using the most recent 15 policy years are reviewed to allow one to evaluate changes over an



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix A – Factors Underlying the Proposed Loss Cost Level Change

extended period of time, including both economic and non-economic factors, and to mitigate short-term anomalous year-to-year changes.

The indicated exponential loss ratio trend fits for both indemnity and medical for which the selection in this filing is based on are displayed on the following pages. The alternate exponential fits shown for the medical loss ratios exclude the latest policy year. These exhibits show the underlying frequency and severity components, as well as the exponential trend fits for periods ranging from 5 to 15 years for loss ratios. These figures have been adjusted to the common wage level and are based on paid plus case data for indemnity losses, and an average of paid and paid plus case data for medical losses.

Both the selected annual indemnity loss ratio and medical loss ratio trends are based more heavily on mid-term adjusted exponential trend fits because they are less volatile and less influenced by variability in more recent years. See *COVID-19 Pandemic-Related Considerations* in the Additional Proposed Changes section for specific trend considerations related to potential COVID-19 pandemic-related effects.

As shown on the following pages, lost-time claim frequency has steadily declined over the past ten policy years. The relatively small increase in claim frequency in the most recent policy year may be driven, to some extent, by the impact of the COVID-19 pandemic and the larger than typical decrease seen from Policy Year 2018 to Policy Year 2019. The data in the chart reflects premiums at today's loss cost and wage levels.

After adjusting to a common wage level, the indemnity average cost per case figures appear to be relatively stable over the long-term, while the medical average cost per case figures have exhibited more variability in recent years with a slight downward trend since 2013.

Note that the claim frequency and average cost per case values are adjusted to the wage level of the most recent experience year to remove the effects of inflation.



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APPENDIX A-III

Policy Year Trend Factors

Section A - Calculation of Annual Loss Ratio Trend Factors

(1) Selected Annual Loss Ratio Trends: Indemnity Medical  
-3.5% -5.0%

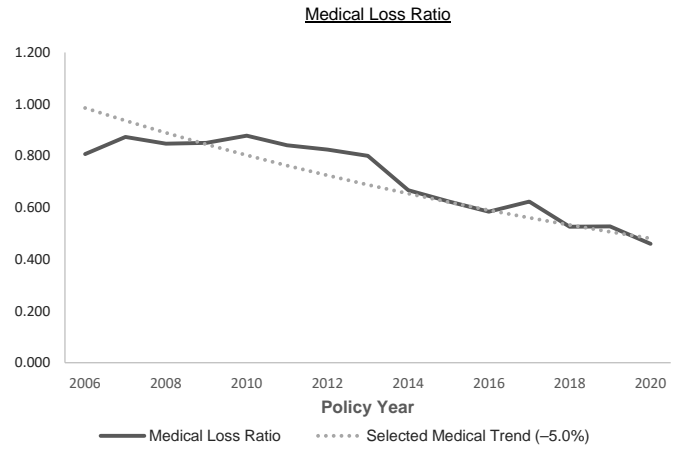
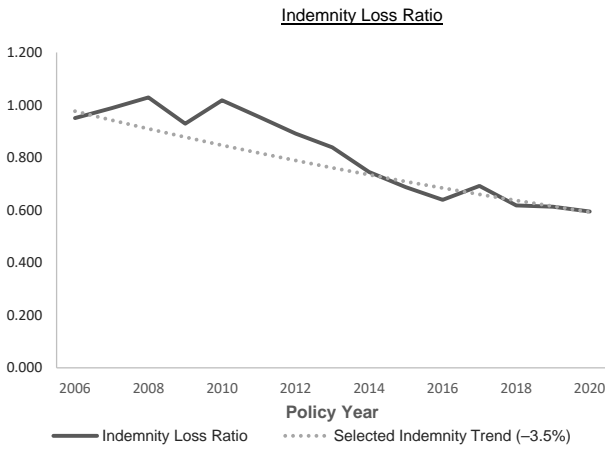
(2) Length of Trend Period from Midpoint of Policy Year to Midpoint of Effective Period:

PY 2020      PY 2019  
Trend Length:      3.001              4.001

(3) Trend Factors Applied to Experience Year Loss Ratios =  $[1 + (1)] ^ (2)$

PY 2020      PY 2019  
Indemnity:      0.899              0.867  
Medical:          0.857              0.814

Section B - Loss Ratio Trend Data



Policy Year	Indemnity Loss Ratio <sup>^</sup>
2006	0.950
2007	0.988
2008	1.029
2009	0.929
2010	1.018
2011	0.955
2012	0.891
2013	0.839
2014	0.745
2015	0.687
2016	0.639
2017	0.692
2018	0.618
2019	0.613
2020	0.595

# of Years in Fit	Exponential Fits
15	-4.2%
14	-4.6%
13	-4.9%
12	-5.0%
11	-5.4%
10	-5.1%
9	-4.8%
8	-4.2%
7	-3.3%
6	-2.7%
5	-2.6%

<sup>^</sup>Based on paid+case losses

Policy Year	Medical Loss Ratio <sup>^^</sup>
2006	0.807
2007	0.873
2008	0.847
2009	0.850
2010	0.878
2011	0.841
2012	0.824
2013	0.800
2014	0.667
2015	0.624
2016	0.584
2017	0.623
2018	0.526
2019	0.527
2020	0.460

# of Years in Fit	Exponential Fits	Alternate Exponential Fits*
15	-4.4%	N/A
14	-5.0%	-4.1%
13	-5.3%	-4.7%
12	-5.8%	-5.0%
11	-6.2%	-5.5%
10	-6.4%	-6.0%
9	-6.5%	-6.2%
8	-6.3%	-6.3%
7	-5.4%	-6.0%
6	-5.6%	-4.5%
5	-6.2%	-4.3%

<sup>^^</sup>Based on an average of paid and paid+case losses

\*Exponential Fits excluding the latest Policy Year



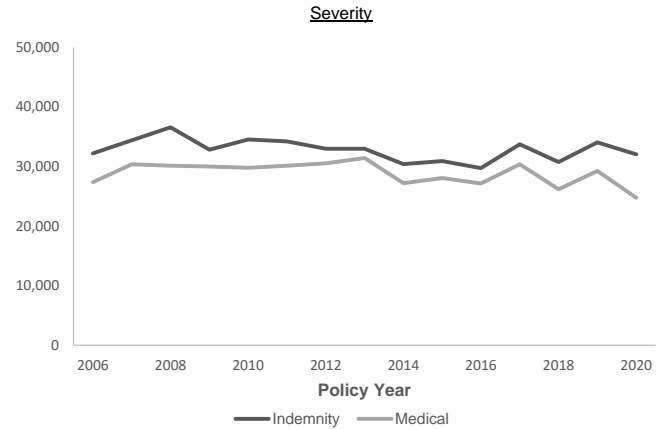
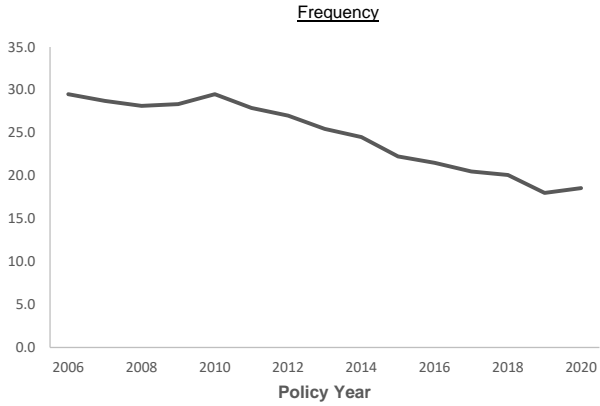


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APPENDIX A-III

Policy Year Trend Factors

Section C - Frequency and Severity Trend Data



Policy Year	Claim Frequency†	# of Years in Fit	Exponential Fits
2006	29.505		
2007	28.720		
2008	28.146		
2009	28.336		
2010	29.496	15	-3.7%
2011	27.892	14	-3.9%
2012	26.996	13	-4.2%
2013	25.458	12	-4.6%
2014	24.510	11	-4.9%
2015	22.244	10	-4.9%
2016	21.504	9	-4.9%
2017	20.493	8	-4.8%
2018	20.087	7	-4.6%
2019	18.003	6	-4.1%
2020	18.565	5	-4.1%

† Per million of on-leveled, wage-adjusted premium

Policy Year	Severity		# of Years in Fit	Exponential Fits	
	Indemnity*	Medical**		Indemnity	Medical
2006	32,205	27,363			
2007	34,394	30,368			
2008	36,586	30,121			
2009	32,807	30,007			
2010	34,539	29,789	15	-0.6%	-0.7%
2011	34,210	30,134	14	-0.8%	-1.1%
2012	32,984	30,540	13	-0.8%	-1.2%
2013	32,974	31,432	12	-0.5%	-1.3%
2014	30,395	27,216	11	-0.5%	-1.4%
2015	30,905	28,065	10	-0.3%	-1.6%
2016	29,741	27,160	9	0.2%	-1.7%
2017	33,734	30,374	8	0.6%	-1.7%
2018	30,739	26,189	7	1.4%	-0.8%
2019	34,062	29,253	6	1.4%	-1.6%
2020	32,039	24,777	5	1.6%	-2.2%

\*Adjusted to a common wage level, based on paid+case losses

\*\*Adjusted to a common wage level, based on an average of paid and paid+case losses



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**APPENDIX A-IV**

**Derivation of Industry Group Differentials**

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

**I. Expected Losses**

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

Industry Group	(1) Latest Year Current Expected Losses Prior to Adjustment for Change in Off-Balance	(2) Five Year Current Expected Losses Prior to Adjustment for Change in Off-Balance	(3) Five Year Proposed Expected Losses Prior to Adjustment for Change in Off-Balance	(4) Current Ratio of Manual to Standard Premium	(5) Proposed Ratio of Manual to Standard Premium
Manufacturing	87,637,889	428,827,691	415,173,783	1.129	1.133
Contracting	105,996,645	505,814,425	490,328,702	1.110	1.111
Office & Clerical	62,598,642	305,781,240	295,793,180	1.129	1.132
Goods & Services	214,472,936	1,010,771,620	978,505,971	1.032	1.033
Miscellaneous	97,461,502	452,168,719	438,600,090	1.086	1.090
Statewide	568,167,615	2,703,363,695	2,618,401,726		

Industry Group	(6) Latest Year Current Expected Losses Adjusted for Change in Off-Balance (1)x(4)/(5)	(7) Five Year Current Expected Losses Adjusted for Change in Off-Balance (2)x(4)/(5)	(8) Five Year Proposed Expected Losses Adjusted for Change in Off-Balance (3)x(4)/(5)	(9) Current/ Proposed (7)/(8)	(10) Adjustment to Proposed for Current Relativity (9)IG/(9)SW
Manufacturing	87,328,488	427,313,736	413,708,033	1.033	1.001
Contracting	105,901,238	505,359,146	489,887,362	1.032	1.000
Office & Clerical	62,432,745	304,970,866	295,009,276	1.034	1.002
Goods & Services	214,265,315	1,009,793,139	977,558,724	1.033	1.001
Miscellaneous	97,103,845	450,509,384	436,990,548	1.031	0.999
Statewide	567,031,631	2,697,946,271	2,613,153,943	1.032	



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**APPENDIX A-IV**

**II. Industry Group Differentials**

To calculate the converted indicated balanced losses (11) the reported losses are limited to \$500,000 for a single claim occurrence and \$1,500,000 for each multiple claim occurrence. After the application of limited development, trend and benefit factors, the limited losses are brought to an unlimited level through the application of the expected excess provision. The expected excess loss provisions are non-catastrophe and the excess ratios at a loss limit of \$50 million are set equal to zero. The proposed experience change, applicable loss-based expenses and any miscellaneous premium adjustments are applied to calculate the indicated losses. These indicated losses are then balanced to the expected losses using the factors shown in Appendix B-I, Section A-3.

Industry Group	(11) Converted Indicated Balanced Losses	(12) Indicated/ Expected Ratio (11)/[(8)x(10)]	(13) Indicated Differential (12)IG/(12)SW	(14) Lost-Time Claim Counts
Manufacturing	416,844,586	1.007	1.008	8,198
Contracting	479,012,546	0.978	0.979	5,539
Office & Clerical	285,418,513	0.966	0.967	5,615
Goods & Services	981,506,636	1.003	1.004	25,125
Miscellaneous	450,048,628	1.031	1.032	7,597
Statewide	2,612,830,909	0.999		

Industry Group	(15) Full Credibility Standard for Lost-Time Claim Counts	(16) Credibility Minimum of 1.000 and ((14)/(15))^0.5	(17) Credibility Weighted Indicated/Expected Ratio [(16)IGx(12)IG] + [1-(16)IG]x(12)SW*	(18) Final Industry Group Differential (17)IG/(17)SW
Manufacturing	12,000	0.83	1.006	1.005
Contracting	12,000	0.68	0.985	0.984
Office & Clerical	12,000	0.68	0.977	0.976
Goods & Services	12,000	1.00	1.003	1.002
Miscellaneous	12,000	0.80	1.025	1.024
Statewide			1.001	1.000

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



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### APPENDIX A-IV

#### III. Description of Industry Group Differentials

Column (2) reflects the indemnity and medical combined expected losses calculated as five years of payroll (in hundreds) extended separately by indemnity and medical pure premiums underlying the latest approved loss costs. Column (3) adjusts the current expected losses to the proposed level by applying the components of the proposed loss cost level change. These components are applied separately for indemnity and medical, where possible. These adjustments are reflected in Appendix B-I, Section B.

Column (4) shows the current manual premium to standard premium ratios that were calculated using the latest five years of WCSP data used in the currently approved Connecticut filing. Column (5) shows the proposed manual premium to standard premium ratios calculated using the latest five years of manual premium and experience modification factors reported in the WCSP data used in the proposed Connecticut filing. "Proposed" ratio refers to the fact that these ratios are based on the latest available WCSP data in the proposed filing, and they are used to adjust the proposed industry group differentials to reflect the latest available impact of experience rating by industry group. The differences between columns (4) and (5) relate to the different periods of data being used, which are rolling 5-year periods.

Columns (6), (7), and (8) are based on columns (1), (2), and (3), respectively, and include an adjustment for the change in the average experience rating off-balance by Industry Group (IG). The adjustment for the change in the average experience rating off-balance by IG is reflected by multiplying columns (1), (2), and (3) by the ratio of column (4) to column (5). The ratio of column (4) to column (5) adjusts the current and proposed expected losses (and therefore the IG differentials) to reflect the latest available impact of experience rating by industry group.

The expected losses in column (6) are used as the IG weights when determining the statewide average Credibility Weighted Indicated-to-Expected Ratio in column (17).

The expected losses in columns (7) and (8) are used to determine the relative IG changes from the prior filing to the proposed filing in column (9). Since the indicated IG relativities in column (9) reflect a statewide average that differs from 1.000, the calculation in column (10) ensures that the indicated changes by IG balance to the overall proposed statewide loss cost level change.

Column (13) normalizes the indicated to expected ratios determined in column (12) to determine differentials before credibility weighting. The credibilities are calculated for each industry group using actual lost-time cases (column (14)) and the full credibility standard. The full credibility standard (column (15)) is determined based on an analysis of five successive years of five industry group differential fluctuations across 36 states. In column (16), the credibility is 1.00 when lost-time claims exceed 12,000. The final differentials reflected in column (18) are the normalized credibility weighted industry group differentials calculated in column (17).



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix B – Calculations Underlying the Loss Cost Change by Classification

NCCI separately determines voluntary loss costs for each workers compensation classification. The proposed change from the current loss cost will vary depending on the classification. The following are the general steps utilized to determine the industrial classification loss costs:

1. Calculate industry group differentials, which are used to more equitably distribute the proposed overall average loss cost level change based on the individual experience of each industry group
2. For each classification, determine the indicated pure premiums based on the most recently-available five policy periods of Connecticut payroll and loss experience
3. Indicated pure premiums are credibility-weighted with present on rate level pure premiums and national pure premiums to generate derived by formula pure premiums
4. Final adjustments include the application of a test correction factor, the ratio of manual-to-standard premium, swing limits, and where applicable, any additional loads



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**APPENDIX B-I**

**Distribution of Loss Cost Level Change to Occupational Classification**

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

**Section A – Calculation of Indicated Pure Premiums**

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

**Section A-1 – Calculation of Primary Conversion Factors**

**1. Limited Loss Development Factors\***

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

Policy Period	Indemnity		Medical	
	Likely-to-Develop	Not-Likely-to-Develop	Likely-to-Develop	Not-Likely-to-Develop
8/15-7/16	1.203	1.135	1.068	1.034
8/16-7/17	1.261	1.175	1.091	1.037
8/17-7/18	1.368	1.264	1.126	1.047
8/18-7/19	1.655	1.435	1.213	1.063
8/19-7/20	2.613	1.861	1.471	1.107

\*The likely/not-likely development factors reflect a 60% likely / 40% not-likely distribution of the total tail development.

**2. Factors to Adjust to the Proposed Trend Level**

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

Policy Period	Indemnity	Medical
8/15-7/16	0.769	0.686
8/16-7/17	0.797	0.722
8/17-7/18	0.826	0.760
8/18-7/19	0.856	0.800
8/19-7/20	0.887	0.842

**3. Factors to Adjust to the Proposed Benefit Level**

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

Policy Period	Fatal	Permanent Total (P.T.)	Permanent Partial (P.P.)	Temporary Total (T.T.)	Medical
8/15-7/16	1.021	1.019	1.021	1.019	1.044
8/16-7/17	1.021	1.019	1.021	1.019	1.039
8/17-7/18	1.017	1.013	1.014	1.013	1.030
8/18-7/19	1.010	1.001	1.000	1.001	1.022
8/19-7/20	1.010	1.000	1.000	1.000	1.013



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**APPENDIX B-I**

**4. Primary Conversion Factors: Indicated Pure Premiums**

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

Policy Period	Fatal (L)	Fatal (NL)	P.T.*	P.P. (L)	P.P. (NL)	T.T. (L)	T.T. (NL)	Medical (L)	Medical (NL)
8/15-7/16	0.945	0.891	0.943	0.945	0.891	0.943	0.889	0.765	0.741
8/16-7/17	1.026	0.956	1.024	1.026	0.956	1.024	0.954	0.818	0.778
8/17-7/18	1.149	1.062	1.145	1.146	1.059	1.145	1.058	0.881	0.820
8/18-7/19	1.431	1.241	1.418	1.417	1.228	1.418	1.230	0.992	0.869
8/19-7/20	2.341	1.667	2.318	2.318	1.651	2.318	1.651	1.255	0.944

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

**Section A-2 – Expected Excess Provision and Redistribution**

After the application of the primary conversion factors, the limited losses are brought to an expected unlimited level through the application of excess loss factors by hazard group. The expected excess loss provisions are non-catastrophe and the excess ratios at a loss limit of \$50 million are set equal to zero. These factors are shown below.

Hazard Group	A	B	C	D	E	F	G
(1) Excess Ratios	0.108	0.131	0.167	0.185	0.237	0.271	0.303
(2) Excess Factors 1/(1-(1))	1.121	1.151	1.200	1.227	1.311	1.372	1.435

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



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**APPENDIX B-I**

**Section A-3 – Calculation of Secondary Conversion Factors**

**1. Factors to Adjust for Proposed Industry Group Differentials**

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

	Manufacturing	Contracting	Office and Clerical	Goods and Services	Miscellaneous
(1) Indicated Differentials*	1.008	0.979	0.967	1.004	1.032
(2) Final Differentials**	1.005	0.984	0.976	1.002	1.024
(3) Adjustment (2)/(1)	0.997	1.005	1.009	0.998	0.992

\*See Appendix A-IV, column (13).

\*\*See Appendix A-IV, column (18).

**2. Factors to Balance Indicated to Expected Losses**

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

Policy Period	(1) Adjustment of Indicated Losses to Pure Premium at Proposed Level	(2) Current Ratio of Manual to Standard Premium	(3) Proposed Ratio of Manual to Standard Premium	(4) Off-balance Adjustment (2)/(3)	(5) Balancing Indicated to Expected Losses (1)x(4)
8/15-7/16	0.923	1.082	1.079	1.003	0.926
8/16-7/17	0.885	1.082	1.090	0.993	0.879
8/17-7/18	0.824	1.082	1.094	0.989	0.815
8/18-7/19	0.864	1.082	1.086	0.996	0.861
8/19-7/20	0.882	1.081	1.074	1.007	0.888

**3. Adjustment for Experience Change**

A factor of 0.966 is applied to adjust for the experience change in the proposed loss cost level.

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

A factor of 1.201 is applied to include the proposed loss-based expense provisions.

**5. Secondary Conversion Factors: Indicated Pure Premiums**

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

Policy Period	Manufacturing	Contracting	Office and Clerical	Goods and Services	Miscellaneous
8/15-7/16	1.071	1.080	1.084	1.072	1.066
8/16-7/17	1.017	1.025	1.029	1.018	1.012
8/17-7/18	0.943	0.950	0.954	0.944	0.938
8/18-7/19	0.996	1.004	1.008	0.997	0.991
8/19-7/20	1.027	1.035	1.039	1.028	1.022





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**APPENDIX B-I**

**Section B – Calculation of Present on Rate Level Pure Premiums**

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

**1. Adjustment for Experience Change**

A factor of 0.966 is applied to adjust for the experience change in the proposed loss cost level.

**2. Factors to Adjust to the Proposed Trend Level**

The pure premiums underlying the current loss costs contain the current trend. The change in trend factors, 1.019 and 0.981, for indemnity and medical, respectively, are applied to adjust to the proposed trend level.

**3. Factors to Adjust to the Proposed Benefit Level**

The following factors are applied to adjust the pure premiums underlying the current loss costs to the proposed benefit level.

Effective Date	Indemnity	Medical
April 1, 2022	1.000	1.001
July 15, 2022	1.000	0.999
Combined Benefit Adjustment	1.000	1.000

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

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

	(a) Current		(b) Proposed	
	Indemnity	Medical	Indemnity	Medical
(1) Loss Adjustment Expense	1.199	1.199	1.201	1.201
(2) Loss-based Assessment	1.000	1.000	1.000	1.000
(3) = (1) + (2) – 1.000	1.199	1.199	1.201	1.201
(4) Overall Change (3b)/(3a)			1.002	1.002

**5. Adjustment to Obtain Expected Losses**

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

Industry Group	(1) Current Ratio of Manual to Standard Premium	(2) Proposed Ratio of Manual to Standard Premium	(3) Off-balance Adjustment (1)/(2)
Manufacturing	1.129	1.133	0.996
Contracting	1.110	1.111	0.999
Office & Clerical	1.129	1.132	0.997
Goods & Services	1.032	1.033	0.999
Miscellaneous	1.086	1.090	0.996



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**APPENDIX B-I**

**6. Factors to Adjust for Proposed Industry Group Differentials**

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

Industry Group	(1) Final Differential*	(2) Adjustment to Proposed for Current Relativities**	(3) Adjusted Differential (1)x(2)
Manufacturing	1.005	1.001	1.006
Contracting	0.984	1.000	0.984
Office & Clerical	0.976	1.002	0.978
Goods & Services	1.002	1.001	1.003
Miscellaneous	1.024	0.999	1.023

\*See Appendix A-IV, column (18).

\*\*See Appendix A-IV, column (10).

**7. Combined Conversion Factors**

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

Industry Group	Indemnity	Medical
Manufacturing	0.988	0.952
Contracting	0.969	0.934
Office & Clerical	0.961	0.926
Goods & Services	0.988	0.952
Miscellaneous	1.005	0.968



## CONNECTICUT

### APPENDIX B-I

#### Section C – Calculation of National Pure Premiums

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

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

#### Section D – Calculation of Derived by Formula Pure Premiums

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

As for the preceding pure premiums, separate computations are performed for each partial pure premium: indemnity and medical. Each partial formula pure premium is derived by the weighting of the indicated, present on rate level and national partial pure premiums. The weight assigned to the policy year indicated pure premium varies in one-percent intervals from zero percent to one hundred percent, depending upon the volume of expected losses (i.e. the product of the underlying pure premiums and the payroll in hundreds). To achieve full state credibility, a classification must have expected losses of at least: \$46,037,513 for indemnity and \$18,574,248 for medical.

The partial credibilities formula is:

$$z = [ (\text{expected losses}) / (\text{full credibility standard}) ]^{0.5}$$

For the national pure premiums, credibility is determined from the number of lost-time claims. Full credibility standards are: 2,300 lost-time claims for indemnity and 2,000 lost-time claims for medical.

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

National Credibility equals the smaller of:

$$[ (\text{national cases}) / (\text{full credibility standard}) ]^{0.5} \text{ and } [ (1 - \text{state credibility}) / 2 ]$$

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

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

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



## CONNECTICUT

### APPENDIX B-II

#### Adjustments to Obtain Loss Costs

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

##### 1. Test Correction Factor

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

The factors referred to above are set out as follows:

	Test Correction Factor
Manufacturing	1.0011
Contracting	0.9996
Office & Clerical	0.9880
Goods & Services	0.9951
Miscellaneous	0.9809

##### 2. Ratios of Manual to Standard Premiums

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

	Ratio of Manual to Standard Premiums
Manufacturing	1.133
Contracting	1.111
Office & Clerical	1.132
Goods & Services	1.033
Miscellaneous	1.090

##### 3. Disease Loadings

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



## CONNECTICUT

### APPENDIX B-II

#### 4. Swing Limits

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

Manufacturing	from 18% above to 22% below
Contracting	from 15% above to 25% below
Office & Clerical	from 15% above to 25% below
Goods & Services	from 17% above to 23% below
Miscellaneous	from 19% above to 21% below

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

Max. Deviation = Effect of the final change in loss cost level by industry group plus or minus 20% rounded to the nearest 1%.

The product of the swing limits and the present loss cost sets bounds for the proposed loss cost. If the calculated loss cost falls outside of the bounds, the closest bound is chosen as the proposed loss cost. When a code is limited, the underlying pure premiums are adjusted to reflect the limited loss cost. The classifications which have been so limited are shown below. Note that classifications that are subject to special handling may fall outside of the swing limits. A code listed below with an asterisk indicates the code's swing limit was adjusted by one cent before being applied; this is only performed when the upper and lower bounds calculated by the swing limit are equal.

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

List of Classifications Limited by the Upper Swing

List of Classifications Limited by the Lower Swing

0170 1747 2014 3126 4206 4751

3042 5040

#### 5. Connecticut Contracting Classification Premium Adjustment Program (CCPAP)

For classifications eligible for the CCPAP, the last step in producing the final proposed loss costs is to apply a factor of 1.001 to offset the credits payable under the CCPAP.

A list of the eligible class codes can be found under the **Basic Manual** state pricing programs.



**CONNECTICUT**

**APPENDIX B-III**

**Derivation of Proposed Loss Cost - Code 8810**

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

**LIMITED LOSSES (Workers Compensation Statistical Plan)**

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
08/01/15 - 07/31/16	0	0	0	2,042,353	3,245,489	901,263	2,641,476	2,258,907	6,782,686
08/01/16 - 07/31/17	0	0	0	1,732,561	2,233,188	1,004,575	1,226,369	2,382,720	5,290,733
08/01/17 - 07/31/18	0	0	316,628	968,983	2,430,349	701,004	2,115,878	1,689,890	6,881,366
08/01/18 - 07/31/19	0	0	0	1,287,698	1,569,739	1,050,845	1,485,891	1,826,611	5,425,320
08/01/19 - 07/31/20	0	4,000	0	1,082,712	978,026	1,093,180	1,292,411	2,145,660	3,884,072

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

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
08/01/15 - 07/31/16	0.945	0.891	0.943	0.945	0.891	0.943	0.889	0.765	0.741
08/01/16 - 07/31/17	1.026	0.956	1.024	1.026	0.956	1.024	0.954	0.818	0.778
08/01/17 - 07/31/18	1.149	1.062	1.145	1.146	1.059	1.145	1.058	0.881	0.820
08/01/18 - 07/31/19	1.431	1.241	1.418	1.417	1.228	1.418	1.230	0.992	0.869
08/01/19 - 07/31/20	2.341	1.667	2.318	2.318	1.651	2.318	1.651	1.255	0.944

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

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

	HAZARD GROUP: C
Excess Factor	1.200

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

Redistribution %	40%
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APPENDIX B-III

Derivation of Proposed Loss Cost - Code 8810

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

Policy Period	Fatal Likely	Fatal Not-Likely	Permanent Total	Permanent Partial Likely	Permanent Partial Not-Likely	Temporary Total Likely	Temporary Total Not-Likely	Medical Likely	Medical Not-Likely
08/01/15 - 07/31/16	0	0	0	2,162,183	3,239,572	952,123	2,630,741	2,297,434	6,453,784
08/01/16 - 07/31/17	0	0	0	1,991,433	2,391,735	1,152,424	1,310,688	2,564,856	5,206,431
08/01/17 - 07/31/18	0	0	406,148	1,244,029	2,883,330	899,199	2,507,876	1,969,755	7,159,886
08/01/18 - 07/31/19	0	0	0	2,044,154	2,159,511	1,669,339	2,047,490	2,441,086	5,960,932
08/01/19 - 07/31/20	0	7,470	0	2,811,616	1,808,953	2,838,800	2,390,438	3,637,123	4,702,771

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

Policy Period	INDUSTRY GROUP: Office and Clerical
08/01/15 - 07/31/16	1.084
08/01/16 - 07/31/17	1.029
08/01/17 - 07/31/18	0.954
08/01/18 - 07/31/19	1.008
08/01/19 - 07/31/20	1.039

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

Policy Period	Payroll	Indemnity Likely	Indemnity Not-Likely	Medical Likely	Medical Not-Likely	Total Indemnity	Total Medical	Total
08/01/15 - 07/31/16	25,629,257,761	3,375,908	6,363,419	2,490,418	6,995,902	9,739,327	9,486,320	19,225,647
08/01/16 - 07/31/17	25,794,132,032	3,235,029	3,809,793	2,639,237	5,357,417	7,044,822	7,996,654	15,041,476
08/01/17 - 07/31/18	25,751,832,355	2,432,105	5,143,211	1,879,146	6,830,531	7,575,316	8,709,677	16,284,993
08/01/18 - 07/31/19	25,647,539,854	3,743,201	4,240,657	2,460,615	6,008,619	7,983,858	8,469,234	16,453,092
08/01/19 - 07/31/20	24,817,849,591	5,870,782	4,370,929	3,778,971	4,886,179	10,241,711	8,665,150	18,906,861
<b>Total</b>	<b>127,640,611,593</b>	<b>18,657,025</b>	<b>23,928,009</b>	<b>13,248,387</b>	<b>30,078,648</b>	<b>42,585,034</b>	<b>43,327,035</b>	<b>85,912,069</b>
<b>INDICATED PURE PREMIUM</b>						<b>0.033</b>	<b>0.034</b>	<b>0.07</b>

The pure premiums shown were calculated using unrounded losses, while the converted losses have been rounded for display purposes.

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

	Indemnity	Medical	Total
Pure Premiums Underlying Current Loss Cost	0.032	0.038	0.07
Conversion Factors (App. B-I, Section B)	0.961	0.926	xxx
<b>PURE PREMIUMS PRESENT ON RATE LEVEL (Underlying Pure Premiums) x (Conversion Factor)</b>	<b>0.031</b>	<b>0.035</b>	<b>0.07</b>



**CONNECTICUT**

**APPENDIX B-III**

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

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

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
1. Indicated Pure Premium	0.033	0.034	0.07
2. Pure Premium Indicated by National Relativity	0.039	0.038	0.08
3. Pure Premium Present on Rate Level	0.031	0.035	0.07
4. State Credibilities	94%	100%	xxx
5. National Credibilities	3%	0%	xxx
6. Residual Credibilities = 100% - (4) - (5)	3%	0%	xxx
7. Derived by Formula Pure Premiums = (1) x (4) + (2) x (5) + (3) x (6)	0.033	0.034	0.07
8. Test Correction Factor	0.9880	0.9880	xxx
9. Underlying Pure Premiums = (7) x (8) *	0.036	0.034	0.07
10. Ratio of Manual to Standard Premium			1.132
11. Loss Cost = (9) x (10)			0.08
12. Loss Cost Within Swing Limits			0.08
Current Loss Cost x Swing Limits			
a) Lower bound = 0.08 x 0.750 = 0.06			
b) Upper bound = 0.08 x 1.150 = 0.09			
13. Pure Premiums Underlying Proposed Loss Cost* = ((13TOT) / (9TOT)) x (9) , (13TOT) = (12) / (10)	0.036	0.034	0.07
14. Disease, Catastrophe and/or Miscellaneous Loadings			0.00
15. Final Loaded Loss Cost			0.08

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





## CONNECTICUT APPENDIX B-IV

WCSP data is used to determine the F-Classification (F-Class) loss costs. The latest year of WCSP payroll is extended by both the current and proposed loss costs. Based on \$1,580,542 of payroll, the overall loss cost level change in Connecticut is -17.8%.

### I. Overview of Methodology

- Ten years of F-Class losses\* across all states for which the National Council on Compensation Insurance compiles workers compensation ratemaking data are converted and adjusted to a countrywide level and used with ten years of F-Class countrywide payroll to determine the F-class countrywide pure premiums at both an overall and individual classification level.
- F-class code countrywide relativities are then calculated by comparing the F-class countrywide pure premiums by class to the overall countrywide F-class pure premium. The relativity values were updated in this filing and are reflected in the table in Section II.
- A single state primary base pure premium is calculated by applying a countrywide to state relativity factor to bring the F-class overall countrywide pure premium to the Connecticut proposed level.
- A final base pure premium is calculated by bringing the primary base pure premium to the proposed Connecticut trend and benefit levels, and applying any applicable expenses and/or offsets.
- Final F-Class loss costs are calculated by applying the countrywide relativity by class code to the final base pure premium and applying swing limits.

\*Losses are limited to \$500,000 for a single claim occurrence and \$1,500,000 for each multiple claim occurrence. Texas data is included for policies effective 1/1/2013 and subsequent.



**CONNECTICUT  
APPENDIX B-IV**

II. The F-class code countrywide relativities:

<b>Class Code</b>	<b>(1) 10-Year Countrywide Payroll</b>	<b>(2) 10-Year Expected Unlimited Countrywide Losses</b>	<b>(3) = (2)/((1)/100) Countrywide Pure Premium</b>	<b>(4) = (3)/(3)Overall Countrywide Relativity</b>
6006	319,348,635	16,099,739	5.04	1.686
6801*	25,149,359	317,541	1.26	1.000
6824	458,135,225	16,228,862	3.54	1.184
6825	282,951,707	2,983,160	1.05	0.351
6826	131,202,370	2,614,329	1.99	0.666
6828*	32,547,556	295,888	0.91	1.000
6829*	14,486,717	215,799	1.49	1.000
6843	1,175,200,155	47,728,908	4.06	1.358
6845	261,305,795	5,703,096	2.18	0.729
6872	1,586,157,671	60,116,329	3.79	1.268
6873*	33,323,113	1,109,521	3.33	1.000
6874	119,940,848	5,708,295	4.76	1.592
7309	899,444,077	33,043,808	3.67	1.227
7313	694,325,089	10,328,694	1.49	0.498
7317	1,259,736,448	35,680,681	2.83	0.946
7327	53,442,740	4,022,190	7.53	2.518
7350	673,451,636	20,606,788	3.06	1.023
8709	404,943,249	4,647,082	1.15	0.385
8726	703,002,097	5,536,694	0.79	0.264
9077*	442,283	3,517	0.80	1.000
<b>Overall</b>	<b>9,128,536,770</b>	<b>272,990,921</b>	<b>2.99</b>	

\*Relativities for class codes with a limited amount of data are set to 1.000.

III. Swing Limits

The proposed loss costs are limited to the swing limits based on 20% above and 20% below the current loss costs.

Classifications Limited by the Upper Swing  
NONE

Classifications Limited by the Lower Swing  
6824      6826      6874      7309  
7313      7317      7327      7350  
8709      8726



**CONNECTICUT  
APPENDIX B-IV**

**Derivation of State Base Pure Premium**

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
1. Overall Countrywide Pure Premium			2.99
2. State Act Pure Premium Relativity Factor			1.534
3. Countrywide State Act Weight			24%
<b>4. Primary Base Pure Premium</b> = [(1) x (2) x (3)] + [(1) x (1 - (3))]			<b>3.37</b>
5. Countrywide Weights	50%	50%	100%
6. Trend Factors	0.967	0.954	xx
7. Weighted Benefits	1.000	1.000	xx
8. Weighted Loss-Based Expenses	1.201	1.201	xx
<b>9. Secondary Base Pure Premium</b> = (4tot) x (5) x (6) x (7) x (8)	1.957	1.931	<b>3.89</b>
10. Additional Offsets			1.000
<b>11. Final Base Pure Premium</b> = (9) x (10)			<b>3.89</b>



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APPENDIX B-IV**

**Derivation of Proposed Loss Cost - Code 6872**  
Industry Group - F-Class, Hazard Group - G

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

1. Connecticut's Final Base Pure Premium	3.89
2. Countrywide Class Code 6872 Relativity (Section II)	1.268
3. Loss Cost = (1) x (2)	4.93
4. Loss Cost Within Swing Limits	4.93
Current Loss Cost x Swing Limits	
a) Lower bound = 6.00 x 0.80 = 4.80	
a) Upper bound = 6.00 x 1.20 = 7.20	
5. Disease, Catastrophe and/or Miscellaneous Loadings	0.00
6. Final Loaded Loss Cost	4.93



**CONNECTICUT**

**APPENDIX B-IV**

**Computation of Workers' Compensation Commission Administrative Assessment**

I. INDUSTRIAL CLASSIFICATIONS

1.	WC Commission Assessment as a Percentage of Losses (source: CT WCC)	3.29%
2.	Proposed Permissible Loss Ratio (Appendix D, Section A)	71.5%
3.	Proposed Assessment as a Percentage of Premium = (1) x (2)	2.4%

II. "F" CLASSIFICATIONS

4.	2022 USL&HW Assessments on Total Losses (Appendix B-IV)	4.8%
5.	Percent of "F" Class Losses under State Act (Appendix B-IV)	24.0%
6.	Percent of "F" Class Losses under Federal Act = ( 1 - (5))	76.0%
7.	Assessments as a Percentage of Premium = { [(1) x (5)] + [(4) x (6)] } x (2)	3.2%

Per the Connecticut Insurance Department, we are proposing the following:

I. INDUSTRIAL CLASSIFICATIONS

1.	Proposed Assessment as a Percentage of Premium = (3)	2.4%
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II. "F" CLASSIFICATIONS

2.	Assessments as a Percentage of Premium = (7)	3.2%
----	--	------

Note: The Workers' Compensation Commission Administrative Assessment is NOT part of the loss costs or assigned risk rates. The Connecticut Insurance Department requests that NCCI calculate the annual assessment for Industrial Codes and "F" Classifications as a percent of premium.



**CONNECTICUT**

**APPENDIX B-IV**

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

1.) Assessment Rate on Indemnity Losses *	8.8%
2.) Assessment Rate on Total Losses #	4.8%

\* Calculated using data provided by the U.S. Department of Labor

# Calculated using U.S. Department of Labor data and on-leveled and developed USL&HW losses - statistical plan data



## CONNECTICUT

### APPENDIX B-V

#### Calculation of Factor to Convert Loss Costs to Assigned Risk Rates

A factor of  $1.805 = [(1.491 / 1.201) / 0.715] \times 1.040$  is applied to the loss costs in order to convert to assigned risk rates. The proposed assigned risk differential (1.491) is applied. Next, since the loss costs include a provision for loss adjustment expenses, that provision (1.201) is removed and assigned risk expenses are loaded through application of the permissible loss ratio (0.715). A provision for uncollectible premium (1.040) is also applied.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix C – Memoranda for Laws and Assessments

The purpose of this appendix is to provide details on changes affecting workers compensation benefit costs that are not yet reflected in the on-level factors shown in Appendix A-I. Such changes may result from annual updates in medical reimbursement levels or other changes that directly affect worker compensation benefit levels. In addition, changes to the administration of the workers compensation system, including benefit levels, may result from specific regulatory, legislative, or judicial action. The overall effect of benefit changes displayed within this appendix is calculated as of the benefit effective date, which may differ from the overall impact on the filing as shown in the Executive Summary.

The following changes affecting Connecticut benefit levels are detailed in this section of the filing:

- Annual Updates to the Medical Fee Schedule





## CONNECTICUT

### APPENDIX C-I

#### ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES EFFECTIVE APRIL 1, 2022

**NCCI estimates that the changes to Connecticut's medical fee schedule, effective April 1, 2022, will result in a negligible<sup>1</sup> increase on overall workers compensation system costs.**

#### SUMMARY OF CHANGES

The changes to the medical fee schedule published by the Connecticut Workers' Compensation Commission (WCC) are summarized below.

- Update the hospital inpatient fee schedule to be based on 174% of Medicare's 2022 Inpatient Prospective Payment System (IPPS). Prior to April 1, 2022, hospital inpatient services were subject to a maximum reimbursement rate of 174% of the 2021 IPPS.
- Update the hospital outpatient and hospital-based ambulatory surgical center<sup>2</sup> (ASC) fee schedule to be based on 210% of Medicare's 2022 Outpatient Prospective Payment System (OPPS). Prior to April 1, 2022, hospital outpatient and hospital-based ASC services were subject to a maximum reimbursement rate of 210% of the 2021 OPPS.
- Update the non-hospital-based ASC fee schedule to be based on 195% of Medicare's 2022 OPPS. Prior to April 1, 2022, non-hospital-based ASC services were subject to a maximum reimbursement rate of 195% of the 2021 OPPS.

#### ACTUARIAL ANALYSIS

NCCI's methodology to evaluate the impact of medical fee schedule changes includes three major steps:

1. Calculate the percentage change in maximum reimbursements
  - Compare the prior and revised maximum reimbursements by procedure code to determine the percentage change by procedure code. For hospital inpatient services, the prior and revised maximum reimbursements are compared by episode.
  - Calculate the weighted-average percentage change in maximum reimbursements for the fee schedule using observed payments by procedure code as weights. For hospital inpatient services, the observed payments by episode are used as weights. For hospital outpatient services, Connecticut's hospital outpatient fee schedule follows Medicare rules which contain a comprehensive payment policy that packages payment for adjunctive and secondary items, services, and procedures into the primary procedure under certain circumstances. For this analysis, the hospital outpatient experience is aggregated according to the packaging rules, where applicable.

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<sup>1</sup> Negligible is defined in this document to be an impact smaller in magnitude than +/-0.1%.

<sup>2</sup> NCCI's medical data call does not capture the information necessary to determine the ownership of ASC facilities. In this analysis, NCCI assumes that all ASC services are non-hospital based.



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APPENDIX C-I

ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES  
EFFECTIVE APRIL 1, 2022

2. Determine the share of costs that are subject to the fee schedule
  - The share is based on a combination of fields, such as procedure code, provider type, and place of service, as reported on the NCCI Medical Data Call, to categorize payments that are subject to the fee schedule.
  - Any potential impact from the share of costs not subject to the fee schedule will be realized in future claim experience and reflected in subsequent NCCI loss cost filings, as appropriate.
  
3. Estimate the price level change as a result of the revised fee schedule
  - NCCI research by David Colón and Paul Hendrick, “The Impact of Fee Schedule Updates on Physician Payments” (2018), suggests that approximately 80% of the change in maximum reimbursements for physician fee schedules is realized on payments impacted by the change.
  - For facility fee schedule changes, a price realization factor of 80% is assumed.

In this analysis, NCCI relies primarily on two data sources:

- Detailed medical data underlying the calculations in this analysis are based on NCCI’s Medical Data Call for Connecticut for Service Year 2020. Reported medical experience for COVID-19 claims as reported in NCCI Call 31 for Large Loss and Catastrophe have been excluded from the data on which this analysis is based.
- The share of benefit costs attributed to medical benefits is based on NCCI’s Financial Call data for Connecticut from Policy Years 2018 and 2019 projected to the effective date of the benefit changes.

**SUMMARY OF IMPACTS**

The impacts from the fee schedule changes in Connecticut, effective April 1, 2022, are summarized below.

Type of Service	(A) Impact on Type of Service	(B) Share of Medical Costs	(C) = (A) x (B) Impact on Medical Costs
Hospital Inpatient	+0.4%	14.4%	+0.1%
Hospital Outpatient	-0.2%	12.9%	Negligible Decrease
ASC	-0.2%	14.0%	Negligible Decrease
<b>(D) Combined Impact on Medical Costs = Total of (C)</b>			<b>+0.1%</b>
<b>(E) Medical Costs as a Share of Overall Costs</b>			<b>46%</b>
<b>(F) Combined Impact on Overall Costs = (D) x (E)</b>			<b>Negligible Increase</b>

Refer to the appendix for the share of costs subject to the fee schedule and the weighted-average change in MARs by type of service.



**CONNECTICUT**

**APPENDIX C-I**

**ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES  
EFFECTIVE APRIL 1, 2022**

**ADDITIONAL CONSIDERATIONS**

In Connecticut, the reimbursement for ASC services varies depending on the ownership of the facility. Hospital-based ASCs are subject to a maximum reimbursement based on Medicare's OPPS packaging rules. Non-hospital-based ASCs use Multiple Procedure Payment Reduction, which reduces the payment for second and subsequent procedures by 50%.

**APPENDIX**

Share of costs subject to the fee schedule and the weighted-average percentage change in MARs by type of service:

<b>Type of Service</b>	<b>Share of Costs Subject to the Fee Schedule</b>	<b>Percentage Change in MARs</b>	<b>Impact after 80% Price Realization</b>
Hospital Inpatient	76.7%	+0.5%	+0.4%
Hospital Outpatient	94.8%	-0.2%	-0.2%
ASC	99.2%	-0.3%	-0.2%



## CONNECTICUT

### APPENDIX C-II

#### ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES EFFECTIVE JULY 15, 2022

NCCI estimates that the changes to the medical fee schedule in Connecticut, effective July 15, 2022, will result in a negligible<sup>1</sup> decrease on overall workers compensation system costs.

#### SUMMARY OF CHANGES

The quantified changes to the 2022 Connecticut Practitioner Fee Schedule include revised maximum allowable reimbursements (MARs) for physician services.

#### ACTUARIAL ANALYSIS

NCCI's methodology to evaluate the impact of medical fee schedule changes includes three major steps:

1. Calculate the percentage change in maximum reimbursements
  - Compare the prior and revised maximum reimbursements by procedure code to determine the percentage change by procedure code.
  - Calculate the weighted-average percentage change in maximum reimbursements for the fee schedule using observed payments by procedure code as weights.
2. Determine the share of costs that are subject to the fee schedule
  - The share is based on a combination of fields, such as procedure code, provider type, and place of service, as reported on the NCCI Medical Data Call, to categorize payments that are subject to the fee schedule.
  - Any potential impact from the share of costs not subject to the fee schedule will be realized in future claim experience and reflected in subsequent NCCI loss cost filings, as appropriate.
3. Estimate the price level change as a result of the revised fee schedule
  - NCCI research by David Colón and Paul Hendrick, "The Impact of Fee Schedule Updates on Physician Payments" (2018), suggests that approximately 80% of the change in maximum reimbursements for physician fee schedules is realized on payments impacted by the change.

In this analysis, NCCI relies primarily on two data sources:

- Detailed medical data underlying the calculations in this analysis are based on NCCI's Medical Data Call for Connecticut for Service Year 2020. Reported medical experience for COVID-19 claims as reported in NCCI Call 31 for Large Loss and Catastrophe have been excluded from the data on which this analysis is based.

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<sup>1</sup> Negligible is defined in this document to be an impact smaller in magnitude than +/-0.1%.



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APPENDIX C-II

ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES  
EFFECTIVE JULY 15, 2022

- The share of benefit costs attributed to medical benefits is based on NCCI's Financial Call data for Connecticut from Policy Years 2018 and 2019 projected to the effective date of the benefit changes.

**SUMMARY OF IMPACTS**

The impact of Connecticut's practitioner fee schedule change, effective July 15, 2022, is summarized below.

Type of Service	(A) Impact on Type of Service	(B) Share of Medical Costs	(C) = (A) x (B) Impact on Medical Costs
Physician	-0.2%	40.6%	-0.1%
Medical Costs as a Share of Overall Costs (D)			46%
<b>Combined Impact on Overall Costs (E) = (C) x (D)</b>			<b>Negligible Decrease</b>

Refer to the appendix for the weighted-average changes in MARs by physician practice category.

**NON-QUANTIFIED CHANGES**

Maximum reimbursements for custom orthotics and prosthetics are also governed by the fee schedule in Connecticut. The share of these payments with a MAR makes up a small portion of medical costs. Therefore, the impact on overall costs due to updating the fee schedule for these services is not anticipated to be material. As such, any potential impact from this change will be realized in future loss experience and reflected in subsequent NCCI loss cost filings in Connecticut.



CONNECTICUT

APPENDIX C-II

ANALYSIS OF CONNECTICUT MEDICAL FEE SCHEDULE CHANGES  
EFFECTIVE JULY 15, 2022

APPENDIX

*Weighted-Average Percentage Change in MARs Prior to Price Realization by Physician Practice Category*

<b>Physician Practice Category</b>	<b>Share of Physician Costs</b>	<b>Percentage Change in MARs</b>
Anesthesia	3.0%	–
Surgery	27.7%	–
Radiology	8.5%	-0.8%
Pathology & Laboratory	0.4%	-0.1%
Physical Medicine	29.7%	-0.1%
General Medicine	2.8%	-0.3%
Evaluation & Management	23.0%	-0.6%
Physician Payments with no specific MAR	4.9%	–
<b>Total</b>	<b>100.0%</b>	<b>-0.2%</b>



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix D – Determination of Assigned Risk Rates

##### Overall Proposed Change to Assigned Risk Rate Level

NCCI applies an assigned risk loss cost multiplier (LCM) to the voluntary market loss costs to calculate the assigned risk rates. This factor accounts for differences in the components included in the assigned risk rates versus those in the voluntary market loss costs. The key components of the assigned risk loss cost multiplier are the assigned risk differential, assigned risk market expenses (as reflected in the assigned risk permissible loss ratio (PLR)), and the uncollectible premium provision (UPP). Voluntary market loss-based expenses (LBE) must also be removed in the calculation since the servicing carrier allowance already contemplates these expenses for the assigned risk market. The assigned risk loss cost multiplier formula is as follows:

$$\text{Assigned Risk Loss Cost Multiplier} = (\text{AR Differential}) \div (\text{Voluntary LAE}) \div (\text{PLR}) \times \text{UPP}$$

The proposed changes to assigned risk rates, as well as the detailed calculations, can be found on the following pages.

##### Assigned Risk Differential

The primary purpose of the loss cost differential is to ensure equity between the assigned risk and voluntary markets. To help ensure a self-funded assigned risk market—one that does not require subsidization by participants in the voluntary market—the adequacy of the loss cost differential is reviewed.

In Connecticut, as is usually the case, the combined experience for employers in the assigned risk market is typically worse than that of employers in the voluntary market. Therefore, during the assigned risk ratemaking process, a surcharge called the assigned risk differential is applied to those in the assigned risk market to recognize this disparity.

To derive the indicated differential, loss ratios are calculated for both the (i) assigned risk market and (ii) voluntary market by individual year as follows:

$$\frac{(\text{total on-leveled losses})}{(\text{total on-leveled, developed standard premium at the voluntary level})}$$

For each individual policy year, the assigned risk loss ratio is divided by the statewide loss ratio to produce loss ratio relativities. These loss ratio relativities are reviewed for ten individual years so that changes in the actual differentials can be observed over a long period of time. When selecting the assigned risk differential, the impact of additional premium that is already expected to be generated due to other assigned risk programs (e.g., removal of premium discounts, Assigned Risk Adjustment Program) is also reflected in the calculation.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix D – Determination of Assigned Risk Rates

Based on this year's review, an increase to the current assigned risk loss cost differential from 1.439 to 1.491 is being proposed. The data underlying this calculation is shown in Appendix D – Derivation of Assigned Risk Differential.

#### Assigned Risk Expenses

Provisions for expense items related to the writing of workers compensation insurance not already contemplated in the loss costs must be included in the final assigned risk rates. These include:

- **Servicing Carrier Allowance (SCA):** This is the market-based cost paid to the assigned risk market servicing carriers as a percentage of final net collected premium that is intended to compensate for expenses incurred in handling the assigned risk business. The average SCA is determined through a competitive bid process and typically includes provisions for such items as general (overhead), production, and loss-based expenses.
- **Assigned Risk Administration Expense:** Reflects NCCI Plan Administration Expenses, NWCRA Pool Administration Expenses, and Servicing Carrier Other Expenses. It is selected based on a review of expenses as a percentage of premium over the past ten years.
- **Average Commission:** Based on a weighted average of the most recently available two policy years.
- **Profit and Contingency Provision:** Insurers should have an opportunity to earn a fair rate of return on the capital supporting all of their workers compensation business, including the funds supplied to the assigned risk market. Therefore, assigned risk rate filings should contemplate the inclusion of a fair and reasonable profit and contingency (P&C) provision. A reasonable return helps to ensure equity in the residual market and continued participation in the voluntary market, particularly in light of the long-tail nature of the workers compensation line.

The proposed P&C provision in this year's filing was selected based on the results of NCCI's Internal Rate of Return (IRR) model, which estimates the time series of expected future cash flows including premium, losses, expenses, investment income and taxes, for a representative insurer underwriting workers compensation coverage. In determining the P&C provision, NCCI reviews both the static and dynamic P&C estimates as indicated by the IRR model. The static and dynamic P&C individual estimates allow the reflection of current interest rates as well as forecasts of the future level of interest rates. The selection is based on a review of both these estimates while also considering stability in this filing component. NCCI is proposing no change to the profit and contingencies provision of 1.0%.





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Appendix D – Determination of Assigned Risk Rates

Note that the expense components that are based on net premium are converted to a standard premium basis excluding the impact of expense constants. Then the total assigned risk expenses are used to determine the Permissible Loss Ratio (PLR):

$$PLR = 100\% - (\text{provision for Assigned Risk Expenses})$$

The calculation of assigned risk expenses can be found in Appendix D – Expense Components of Assigned Risk Rate.

#### Uncollectible Premium Provision

The purpose of the uncollectible premium provision is to make available sufficient funds in the rate structure to offset the policy premium ultimately determined to be uncollectible. Based on a review of historical ratios of ultimate gross premium to ultimate collected premium in Connecticut's assigned risk market, NCCI is proposing no change to the uncollectible premium provision of 1.040.

The data underlying this provision is shown in Appendix D – Calculation of Ultimate Uncollectible Premium Provision.



## CONNECTICUT

### APPENDIX D

#### Determination of Assigned Risk Rate Level Change

##### Section A - Derivation of the Assigned Risk Loss Cost Multiplier

This filing proposes a 0.0% overall average change to the current assigned risk rate level. For all classifications, an assigned risk multiplier is applied to the voluntary loss costs proposed effective January 1, 2023 in order to convert to assigned risk rates.

(1) Current Assigned Risk Loss Cost Multiplier	1.750
(2) Proposed Assigned Risk Loss Cost Differential (See Section B)	1.491
(3) Proposed Voluntary Loss-based Expense Provision (Exhibit II)	20.1%
(4) Indicated Assigned Risk Permissible Loss Ratio (See Section C)	71.5%
(5) Proposed Uncollectible Premium Provision (See Section F)	1.040
(6) Indicated Assigned Risk Loss Cost Multiplier = $\{(2) / [1.0 + (3)]\} / (4) \times (5)$	1.805
(7) Indicated Change in the Assigned Risk Loss Cost Multiplier = $[(6) / (1)] - 1.0$	3.1%
(8) Proposed Voluntary Loss Cost Level Change (Exhibit I)	-3.0%
(9) Indicated Assigned Risk Rate Level Change = $\{[1.0 + (7)] \times [1.0 + (8)]\} - 1.0$	<b>0.0%</b>



CONNECTICUT

APPENDIX D

Determination of Assigned Risk Rates

Section B - Derivation of Assigned Risk Differential  
Experience Valued as of 12/31/2021

Policy Year	(1) Standard Pure Premium		(3) Unlimited Undeveloped Paid+Case Losses	
	Assigned Risk	Statewide	Assigned Risk	Statewide
2011	6,114,192	251,141,236	14,763,365	407,690,037
2012	8,402,553	246,657,974	20,916,993	392,103,462
2013	11,264,574	249,209,636	46,587,836	380,635,037
2014	11,702,494	256,943,788	24,875,310	327,388,624
2015	12,201,025	270,988,597	21,934,922	320,516,010
2016	11,304,773	274,756,131	17,805,182	301,636,221
2017	11,864,998	279,848,669	15,378,490	330,340,465
2018	12,008,559	293,677,150	19,035,056	278,794,399
2019	12,059,327	299,892,879	24,477,129	264,245,232
2020	12,355,188	300,032,204	15,559,476	196,712,152

Policy Year	(5) = (3) / (1) Pure Premium Ratio		(7) = (5) / (6) Assigned Risk to Statewide Relativity	(8) = (7) / Impact of ARAP^ Indicated Assigned Risk Differential
	Assigned Risk	Statewide		
2011	2.415	1.623	1.488	1.402
2012	2.489	1.590	1.565	1.475
2013	4.136	1.527	2.709	2.553
2014	2.126	1.274	1.669	1.573
2015	1.798	1.183	1.520	1.433
2016	1.575	1.098	1.434	1.352
2017	1.296	1.180	1.098	1.035
2018	1.585	0.949	1.670	1.574
2019	2.030	0.881	2.304	2.172
2020	1.259	0.656	1.919	1.809
			10-year average	1.638
			10-year xhilo	1.599
			Current Assigned Risk Differential	1.439*
			<b>Proposed Assigned Risk Differential</b>	<b>1.491*</b>
			Proposed Change in Assigned Risk Differential	1.036

^ Impact of the Assigned Risk Adjustment Program (ARAP) = 1.061

\* Includes the impact of reduced premium discounts.



## CONNECTICUT

### APPENDIX D

#### Determination of Assigned Risk Rates

##### Section C - Expense Components of Assigned Risk Rate

The assigned risk expense provision including loss-based expenses is derived directly from the servicing carrier allowance, since this is the market-based cost to the assigned risk plan to have the plan serviced. The average commission rate, the profit and contingency provision, a provision for administrative expenses, and all taxes and assessments not included in the servicing carrier allowance must be added to the allowance to derive an average expense provision as a percentage of standard premium excluding the expense constants.

	<u>Expense Provisions Underlying Proposed Rates</u>
(1) Expense Constant	\$160
(2) Weighted-Average of Servicing Carrier Allowance Bids	19.4%
(3) Premium Tax	1.5%
(4) Assigned Risk Administration Expense (See Section E)	4.5%
(5) Premium Discount as a Percentage of Standard Premium Excluding the Expense Constant (See Section D)	1.5%
(6) Expense Constant Premium as a Percentage of Standard Premium Excluding the Expense Constant (See Section D)	5.5%
(7) Servicing Carrier Allowance, Taxes and Administrative Expense Converted to a Standard Premium Excluding Expense Constant Basis = [(2) + (3) + (4)] × [1 - (5) + (6)] + (5) - (6)	22.4%
(8) Average Commission (See Section D)	5.1%
(9) Profit and Contingency Provision (See Section G)	1.0%
(10) Total Expense Provision in Rate = (7) + (8) + (9)	28.5%
(11) Permissible Loss Ratio in Rate = 1 - (10)	71.5%
(12) Current Permissible Loss Ratio in Rate	71.3%
(13) Impact on Rate due to Change in Expenses = (12) / (11) - 1	-0.3%



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Determination of Assigned Risk Rates

Section D - Derivation of Premium Discount, Expense Constant and Commission as a Percentage of Premium

Premium Distribution by Layer for Assigned Risk Policies for Policy Years 2020 & 2021

	(1)	(2)	(3) <sup>1</sup>	(4) <sup>1</sup>
Portion of Total Standard Premium	Standard Premium Excl Exp Cnst	Standard Premium Excl Exp Cnst Distribution	Commission Scale <sup>2</sup>	Premium Discounts
First 1,000	18,837,927	31.4%	8.0%	--
Next 4,000	16,997,329	28.4%	5.0%	--
Next 5,000	6,338,918	10.6%	3.0%	--
Next 90,000	14,930,145	24.9%	3.0%	5.1%
Next 100,000	1,900,467	3.2%	2.0%	5.1%
Next 1,550,000	873,970	1.5%	2.0%	6.5%
Over 1,750,000	0	0.0%	2.0%	7.5%
Total	59,878,756	100.0%	5.1%	1.5%

(5) Expense Constant Premium as % of Standard Premium Excluding Expense Constant <sup>3</sup> = 5.5%

<sup>1</sup> Totals represent weighted averages based on column (2).

<sup>2</sup> Commissions paid in Connecticut are based on standard premium excluding expense constant premium. Source NCCI's Residual Market Manual, Producers fees.

<sup>3</sup> Based on assigned risk policy and premium totals for policy years 2020 & 2021 using the dominant state method for the classification of multistate policies.



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Determination of Assigned Risk Rates

Section E - Derivation of NCCI Plan Administration Expenses, NWCRA Pool Administration Expenses, and Servicing Carrier Other Expenses

Calendar Year	(1) Net Written Premium <sup>1</sup>	(2) Expenses	(3) Expenses as % of NWP = (2)/(1)
2012	27,947,446	1,686,226	6.0%
2013	40,119,761	1,625,692	4.1%
2014	41,749,644	1,635,357	3.9%
2015	40,258,766	1,492,000	3.7%
2016	30,795,342	1,314,112	4.3%
2017	26,113,613	1,221,283	4.7%
2018	26,638,105	1,352,311	5.1%
2019	19,291,124	1,248,810	6.5%
2020	17,917,073	1,224,224	6.8%
2021	20,796,265	1,091,213	5.2%
		Selected	4.5%

<sup>1</sup> Gross of uncollectible premium.



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Determination of Assigned Risk Rates

Section F - Calculation of Ultimate Uncollectible Premium Provision (UPP)

Section 1 - Gross Premium as of 12/31/2021 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Gross
2006								28,559	28,559
2007							24,382	23,695	23,695
2008						18,674	18,670	18,679	18,679
2009					15,214	15,214	15,211	15,211	15,211
2010				15,741	15,745	15,749	15,748	15,747	15,747
2011			17,568	17,555	17,560	17,559	17,557	17,528	17,528
2012		28,658	28,426	28,286	28,304	28,292	28,288	28,288	28,288
2013	37,624	37,209	36,913	36,828	36,818	36,894	36,892	36,891	36,891
2014	43,192	42,990	42,722	42,332	42,269	42,265	42,263		42,263
2015	41,931	42,113	42,056	42,072	42,081	42,048			42,048
2016	28,608	28,475	28,483	28,301	28,321				28,321
2017	28,754	27,418	27,276	27,874					27,874
2018	24,448	24,172	24,182						24,109
2019	18,982	17,693							17,604
2020	19,579								19,070

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2010						1.000	1.000	
2011					1.000	1.000	0.998	
2012				1.001	1.000	1.000	1.000	
2013			0.998	1.000	1.002	1.000	1.000	
2014		0.994	0.991	0.999	1.000	1.000		
2015	1.004	0.999	1.000	1.000	0.999			
2016	0.995	1.000	0.994	1.001				
2017	0.954	0.995	1.022					
2018	0.989	1.000						
2019	0.932							
5-Yr Avg	0.975	0.998	1.001	1.000	1.000	1.000	1.000	
5-Yr Avg x H/L	0.979	0.998	0.997	1.000	1.000	1.000	1.000	
Selected	0.979	0.998	0.997	1.000	1.000	1.000	1.000	1.000
Ultimate	0.974	0.995	0.997	1.000	1.000	1.000	1.000	1.000

Section 2 - Collected Premium as of 12/31/2021 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Collected	Gross / Collected
2006								26,750	26,750	1.068
2007							22,093	22,078	22,078	1.073
2008						17,271	17,276	17,286	17,286	1.081
2009					14,778	14,783	14,801	14,802	14,802	1.028
2010				14,605	14,763	14,893	14,906	14,944	14,944	1.054
2011			16,286	16,330	16,349	16,346	16,458	16,488	16,488	1.063
2012		26,696	26,788	26,795	26,830	26,843	26,878	26,893	26,893	1.052
2013	36,881	35,733	35,494	35,441	35,719	35,789	35,814	35,819	35,819	1.030
2014	42,426	41,051	40,880	40,894	40,899	40,968	40,967		41,049	1.030
2015	40,827	40,353	40,131	40,217	40,204	40,194			40,315	1.043
2016	27,567	27,019	26,397	26,496	26,625				26,732	1.059
2017	27,631	25,759	25,798	26,259					26,416	1.055
2018	23,855	23,364	23,299						23,486	1.027
2019	18,657	17,044							17,112	1.029
2020	19,207								18,592	1.026

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2010						1.001	1.003	
2011					1.000	1.007	1.002	
2012				1.001	1.001	1.001	1.001	
2013			0.999	1.008	1.002	1.001	1.000	Current UPP
2014		0.996	1.000	1.000	1.002	1.000		
2015	0.988	0.995	1.002	1.000	1.000			Selected UPP
2016	0.980	0.977	1.004	1.005				
2017	0.932	1.002	1.018					Impact of Change in UPP
2018	0.979	0.997						
2019	0.914							
5-Yr Avg	0.959	0.993	1.005	1.003	1.001	1.002	1.002	
5-Yr Avg x H/L	0.964	0.996	1.002	1.002	1.001	1.001	1.002	
Selected	0.964	0.996	1.002	1.002	1.001	1.001	1.002	1.000
Ultimate	0.968	1.004	1.008	1.006	1.004	1.003	1.002	1.000

Source: Residual Market data reported to NCCI by Pool servicing carriers.



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**APPENDIX D - Determination of Assigned Risk Rates**

**Section G - Derivation of the Indicated Profit and Contingency Provision**

**Overview**

According to actuarial principles, insurance rates should provide for the cost of capital through an underwriting profit and contingency (P&C) provision, after accounting for investment and other income. NCCI considered Actuarial Standard of Practice #30 *Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking* in choosing to employ an Internal Rate of Return (IRR) model to estimate a P&C provision. The cost of capital and investment income assumptions used in the model are estimated using market-based financial methods for investors of securities with a similar risk profile to workers compensation insurance companies. Note that the assumptions used in this IRR model, including the cost of capital and investment income assumptions, may or may not be applicable to any individual insurance company in this state.

The IRR model is based on the principle that the internal rate of return from an investment opportunity equals the investor's cost of capital if the sum of all cash flows from that investment, discounted at the cost of capital, equals zero. In the case of workers compensation insurance, cash flows to the capital providers are comprised of insurance cash flows, investment income, and commitment and release of capital in support of the insurance transaction.

- The insurance cash flows are estimated based on premiums earned less payments for losses and expenses, as included in this rate filing, after recognizing the impact of federal income taxes.
- Investment income on reserves and surplus depends on an after-tax return on investment (RoI), which is estimated using a combination of current financial market data and forecasts.
- The cost of capital used is a weighted average cost of capital (WACC), expressed as a percentage of capital, which takes into account both debt and equity components of a representative insurer's capital structure.

**IRR Model Inputs and Results**

The model estimates the P&C provision necessary in order for the proposed rates to cover the cost of capital. The P&C provision is estimated using two different assumptions regarding the return on investment and cost of capital:

- The "Static" estimate of the P&C provision assumes that the return on investment and the WACC do not change over time. Static estimates of the return on investment and the WACC are derived using data through the first quarter of 2022.
- The "Dynamic" estimate assumes that the return on investment and WACC vary over time. Dynamic estimates are derived using data through the first quarter of 2022, with forecasts from May of that year. The starting point for the Dynamic estimates is January 1, 2023.

The following table summarizes the inputs and results of the model under these two scenarios.

TABLE 1: IRR MODEL INPUTS AND RESULTS

<u>Inputs:</u>		
(1)	Expenses and Taxes as a Percentage of Net Premium at NCCI Level .....	30.30%
(1a)	Uncollectible Premium .....	0.00%
(2)	Reserve-to-Surplus Ratio .....	1.86
(3)	Cash Flow Patterns .....	See Table 2
		<u>Static</u> <u>Dynamic*</u>
(4)	Return on Investments .....	2.50%                      3.65% - 4.00%
(5)	Weighted Average Cost of Capital .....	9.32%                      10.52% - 10.94%
<u>Results</u>		
		<u>Static</u> <u>Dynamic</u>
<b>(6)</b>	<b>Indicated Profit and Contingency Provision .....</b>	<b>5.07%</b> <b>1.95%</b>
(7)	Loss Provision [100% - (6) - (1)] .....	64.63%                      67.75%

Table Notes:

It is assumed that no policyholders' dividends are paid and that there are no rate departures (deviations or schedule rating).

(1) Expense provisions and taxes derived from the filing.

(2) Calculated from Best's 2021 Aggregates & Averages, for Commercial Casualty Composite, as the weighted average of Loss, LAE, and Unearned Premium Reserves to Policyholder Surplus, for years 2016 - 2020.

\* See Table 3 for details by time period.





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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

TABLE 2: CASH FLOW PATTERNS (CUMULATIVE)

Time	(1) Policy-Year Collected Premium	(2) Earned Premium	(3) Written Premium	(4) Expenses and Taxes	(5) Paid Losses
0.00	-	-	-	-	-
0.25	22.20%	3.19%	25.55%	21.10%	0.48%
0.50	47.02%	12.96%	52.56%	45.79%	1.94%
0.75	72.09%	29.23%	77.60%	70.85%	4.38%
1.00	100.00%	51.43%	100.00%	98.62%	7.70%
1.25		73.23%		100.00%	14.03%
1.50		88.47%			20.35%
1.75		97.20%			26.68%
2.00		100.00%			33.00%
2.25					37.30%
2.50					41.60%
2.75					45.90%
3.00					50.20%
3.25					53.13%
3.50					56.05%
3.75					58.98%
4.00					61.90%
4.25					63.88%
4.50					65.85%
4.75					67.83%
5.00					69.80%
6.00					74.60%
7.00					78.00%
8.00					80.80%
9.00					82.70%
10.00					84.70%
11.00					86.30%
12.00					87.20%
13.00					88.10%
14.00					89.00%
15.00					89.50%
16.00					90.20%
17.00					90.60%
18.00					91.20%
19.00					91.90%
20.00					92.40%
21.00					92.80%
22.00					93.20%
23.00					93.60%
24.00					93.90%
25.00					94.30%
26.00					94.50%
27.00					94.80%
28.00					95.10%
29.00					95.60%
30.00					96.10%
31.00					96.30%
32.00					97.36%
33.00					98.32%
34.00					99.20%
35.00					100.00%

TABLE 3: DYNAMIC ESTIMATE INPUTS

Time	(1) Return on Investments	(2) Weighted Average Cost of Capital
0.00	-	-
0.25	3.65%	10.52%
0.50	3.66%	10.54%
0.75	3.68%	10.54%
1.00	3.68%	10.56%
1.25	3.67%	10.57%
1.50	3.67%	10.61%
1.75	3.68%	10.67%
2.00	3.68%	10.73%
2.25	3.69%	10.81%
2.50	3.70%	10.86%
2.75	3.77%	10.92%
3.00	3.77%	10.97%
3.25	3.78%	11.03%
3.50	3.79%	11.11%
3.75	3.79%	11.11%
4.00	3.79%	11.10%
4.25	3.79%	11.11%
4.50	3.79%	11.11%
4.75	3.79%	11.10%
5.00	3.79%	11.10%
6.00	3.82%	11.09%
7.00	3.81%	11.05%
8.00	3.85%	11.01%
9.00	3.90%	10.98%
10.00	3.90%	10.98%
11.00	3.92%	10.97%
12.00	3.92%	10.96%
13.00	3.93%	10.96%
14.00	3.93%	10.96%
15.00	3.93%	10.95%
16.00	3.98%	10.95%
17.00	3.98%	10.95%
18.00	3.98%	10.96%
19.00	3.99%	10.97%
20.00	3.99%	10.98%
21.00	4.03%	10.97%
22.00	4.02%	10.96%
23.00	4.02%	10.95%
24.00	4.01%	10.95%
25.00	4.01%	10.95%
26.00	4.01%	10.94%
27.00	4.01%	10.94%
28.00	4.00%	10.94%
29.00	4.00%	10.94%
30.00	4.00%	10.94%
31.00	4.00%	10.94%
32.00	4.00%	10.94%
33.00	4.00%	10.94%
34.00	4.00%	10.94%
35.00	4.00%	10.94%

Table 2 Notes:

Table 2 shows cumulative cash flows. For ease of reading no additional numbers are shown after a column reaches 100% cumulative cash flow.

- (1) Derived from estimates of premium distribution and payment terms by size of policy.
- (2) Based on written premium pattern assuming uniform writings within quarters and standard quarterly earning pattern.
- (3) Based on this jurisdiction's premium writings by quarter.
- (4) Expenses assumed paid as premium is collected; timing of taxes based on NCCI's Tax and Assessment Directory.
- (5) Derived from loss development data underlying this rate filing. Payouts for the first 31 years are based upon the ratio of paid losses to incurred losses from the most recent 31 policy years for which data is available. For the following years, loss payouts are assumed to trail off geometrically, with an adjustment so that the payout will be complete at 35 years.



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**APPENDIX D - Determination of Assigned Risk Rates**  
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**Calculation Details**

The tables in the following pages show the detailed calculations of the IRR model.

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Appendix C: Reserve-to-Surplus Ratio

Note: Although values are displayed to 4 decimal places in the following tables, the calculations themselves are carried to the full precision of the computer.



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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

Calculation Details - Static Estimate

TABLE 4: DERIVATION OF INSURANCE CASH FLOW (STATIC ESTIMATE)

Time	(1) Collected Premium Factor	(2) Expense and Taxes Factor	(3) Paid Losses Factor	(4) Federal Income Tax Factor	(5) Insurance Cash flow Factor
0.00	-	-	-	-	-
0.25	0.2220	0.0639	0.0031	0.0011	0.1539
0.50	0.4702	0.1387	0.0125	0.0022	0.3167
0.75	0.7209	0.2147	0.0283	0.0033	0.4746
1.00	1.0000	0.2988	0.0498	0.0045	0.6470
1.25	1.0000	0.3030	0.0906	0.0088	0.5976
1.50	1.0000	0.3030	0.1315	0.0131	0.5524
1.75	1.0000	0.3030	0.1724	0.0174	0.5072
2.00	1.0000	0.3030	0.2133	0.0218	0.4619
2.25	1.0000	0.3030	0.2411	0.0213	0.4346
2.50	1.0000	0.3030	0.2689	0.0208	0.4073
2.75	1.0000	0.3030	0.2967	0.0203	0.3800
3.00	1.0000	0.3030	0.3244	0.0198	0.3527
3.25	1.0000	0.3030	0.3433	0.0194	0.3342
3.50	1.0000	0.3030	0.3623	0.0190	0.3157
3.75	1.0000	0.3030	0.3812	0.0187	0.2972
4.00	1.0000	0.3030	0.4001	0.0183	0.2787
4.25	1.0000	0.3030	0.4128	0.0180	0.2662
4.50	1.0000	0.3030	0.4256	0.0177	0.2537
4.75	1.0000	0.3030	0.4384	0.0174	0.2412
5.00	1.0000	0.3030	0.4511	0.0171	0.2288
6.00	1.0000	0.3030	0.4821	0.0163	0.1986
7.00	1.0000	0.3030	0.5041	0.0156	0.1773
8.00	1.0000	0.3030	0.5222	0.0148	0.1600
9.00	1.0000	0.3030	0.5345	0.0142	0.1483
10.00	1.0000	0.3030	0.5474	0.0135	0.1360
11.00	1.0000	0.3030	0.5578	0.0130	0.1263
12.00	1.0000	0.3030	0.5636	0.0126	0.1208
13.00	1.0000	0.3030	0.5694	0.0123	0.1153
14.00	1.0000	0.3030	0.5752	0.0120	0.1098
15.00	1.0000	0.3030	0.5784	0.0117	0.1068
16.00	1.0000	0.3030	0.5830	0.0115	0.1026
17.00	1.0000	0.3030	0.5856	0.0113	0.1002
18.00	1.0000	0.3030	0.5894	0.0111	0.0965
19.00	1.0000	0.3030	0.5940	0.0109	0.0921
20.00	1.0000	0.3030	0.5972	0.0108	0.0890
21.00	1.0000	0.3030	0.5998	0.0108	0.0864
22.00	1.0000	0.3030	0.6024	0.0108	0.0839
23.00	1.0000	0.3030	0.6049	0.0108	0.0813
24.00	1.0000	0.3030	0.6069	0.0108	0.0794
25.00	1.0000	0.3030	0.6095	0.0108	0.0768
26.00	1.0000	0.3030	0.6108	0.0108	0.0755
27.00	1.0000	0.3030	0.6127	0.0107	0.0736
28.00	1.0000	0.3030	0.6146	0.0107	0.0716
29.00	1.0000	0.3030	0.6179	0.0107	0.0684
30.00	1.0000	0.3030	0.6211	0.0107	0.0652
31.00	1.0000	0.3030	0.6224	0.0107	0.0639
32.00	1.0000	0.3030	0.6292	0.0107	0.0571
33.00	1.0000	0.3030	0.6355	0.0107	0.0509
34.00	1.0000	0.3030	0.6411	0.0107	0.0452
35.00	1.0000	0.3030	0.6463	0.0106	0.0401

Column Notes:

- (1) is Collected Premium by time period, expressed as a factor, = Table 2 col (1) x [1 - Table 1 col (1a)]
- (2) is Expenses and Taxes by time period, expressed as a factor, = Table 1 row (1) x Table 2 col (4)
- (3) is Paid Losses by time period, expressed as a factor, = Table 1 row (7, Static) x Table 2 col (5)
- (4) per the Tax Cuts and Jobs Act of 2017, federal income taxes are computed as the tax rate (21%) times the adjusted underwriting income calculated per IRS rules. See Appendix B for details.
- (5) is the Total Insurance Cash Flow by time period, expressed as a factor, = (1) - [(2) + (3) + (4)]



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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

Calculation Details - Static Estimate (continued)

TABLE 5: DERIVATION OF CASH FLOWS TO THE CAPITAL PROVIDERS (STATIC ESTIMATE)

Time	(1) Unearned Premium and Unpaid Loss Reserve Factor	(2) Factor for Surplus Allocated to Reserves	(3) Admitted Agents' Balances	(4) Total Invested Funds Factor	(5) Income from Invested Funds Factor	(6) Capital Provider Equity Factor	(7) Capital Provider Cash Flow Factor	(8) Discounted Capital Provider Cash Flow Factor
0.00	-	-	-	-	-	-	-	-
0.25	0.2411	0.1296	0.0335	0.3372	0.0010	(0.1823)	(0.1823)	(0.1803)
0.50	0.4672	0.2512	0.0554	0.6630	0.0041	(0.3422)	(0.1599)	(0.1546)
0.75	0.6443	0.3464	0.0551	0.9357	0.0091	(0.4519)	(0.1098)	(0.1038)
1.00	0.7683	0.4131	-	1.1814	0.0157	(0.5188)	(0.0668)	(0.0618)
1.25	0.6503	0.3496	-	1.0000	0.0224	(0.3800)	0.1388	0.1256
1.50	0.5556	0.2987	-	0.8543	0.0282	(0.2737)	0.1063	0.0940
1.75	0.4838	0.2601	-	0.7439	0.0331	(0.2036)	0.0701	0.0606
2.00	0.4330	0.2328	-	0.6658	0.0375	(0.1664)	0.0372	0.0315
2.25	0.4052	0.2179	-	0.6231	0.0415	(0.1469)	0.0194	0.0161
2.50	0.3774	0.2029	-	0.5804	0.0453	(0.1278)	0.0192	0.0155
2.75	0.3497	0.1880	-	0.5376	0.0487	(0.1089)	0.0189	0.0150
3.00	0.3219	0.1730	-	0.4949	0.0519	(0.0902)	0.0186	0.0144
3.25	0.3030	0.1629	-	0.4658	0.0549	(0.0767)	0.0135	0.0102
3.50	0.2841	0.1527	-	0.4368	0.0577	(0.0634)	0.0133	0.0099
3.75	0.2651	0.1426	-	0.4077	0.0603	(0.0502)	0.0132	0.0095
4.00	0.2462	0.1324	-	0.3786	0.0628	(0.0372)	0.0130	0.0092
4.25	0.2335	0.1255	-	0.3590	0.0650	(0.0278)	0.0094	0.0065
4.50	0.2207	0.1187	-	0.3394	0.0672	(0.0185)	0.0093	0.0063
4.75	0.2079	0.1118	-	0.3197	0.0693	(0.0093)	0.0092	0.0061
5.00	0.1952	0.1049	-	0.3001	0.0712	(0.0002)	0.0091	0.0059
6.00	0.1642	0.0883	-	0.2524	0.0781	0.0243	0.0244	0.0150
7.00	0.1422	0.0764	-	0.2186	0.0840	0.0427	0.0184	0.0103
8.00	0.1241	0.0667	-	0.1908	0.0891	0.0583	0.0156	0.0080
9.00	0.1118	0.0601	-	0.1719	0.0937	0.0701	0.0117	0.0055
10.00	0.0989	0.0532	-	0.1520	0.0977	0.0817	0.0117	0.0050
11.00	0.0885	0.0476	-	0.1361	0.1013	0.0915	0.0098	0.0038
12.00	0.0827	0.0445	-	0.1272	0.1046	0.0983	0.0068	0.0024
13.00	0.0769	0.0413	-	0.1183	0.1077	0.1048	0.0065	0.0021
14.00	0.0711	0.0382	-	0.1093	0.1106	0.1111	0.0063	0.0019
15.00	0.0679	0.0365	-	0.1043	0.1132	0.1157	0.0047	0.0013
16.00	0.0633	0.0341	-	0.0974	0.1158	0.1209	0.0052	0.0013
17.00	0.0608	0.0327	-	0.0934	0.1181	0.1249	0.0040	0.0009
18.00	0.0569	0.0306	-	0.0875	0.1204	0.1295	0.0045	0.0010
19.00	0.0524	0.0281	-	0.0805	0.1225	0.1342	0.0047	0.0009
20.00	0.0491	0.0264	-	0.0755	0.1245	0.1380	0.0038	0.0007
21.00	0.0465	0.0250	-	0.0716	0.1263	0.1412	0.0033	0.0005
22.00	0.0439	0.0236	-	0.0676	0.1281	0.1443	0.0031	0.0005
23.00	0.0414	0.0222	-	0.0636	0.1297	0.1474	0.0030	0.0004
24.00	0.0394	0.0212	-	0.0606	0.1313	0.1500	0.0026	0.0003
25.00	0.0368	0.0198	-	0.0566	0.1327	0.1529	0.0029	0.0003
26.00	0.0355	0.0191	-	0.0547	0.1341	0.1550	0.0021	0.0002
27.00	0.0336	0.0181	-	0.0517	0.1354	0.1573	0.0024	0.0002
28.00	0.0317	0.0170	-	0.0487	0.1367	0.1596	0.0023	0.0002
29.00	0.0284	0.0153	-	0.0437	0.1379	0.1625	0.0029	0.0002
30.00	0.0252	0.0136	-	0.0388	0.1389	0.1653	0.0028	0.0002
31.00	0.0239	0.0129	-	0.0368	0.1398	0.1670	0.0016	0.0001
32.00	0.0171	0.0092	-	0.0263	0.1406	0.1715	0.0045	0.0003
33.00	0.0108	0.0058	-	0.0167	0.1412	0.1754	0.0039	0.0002
34.00	0.0052	0.0028	-	0.0079	0.1415	0.1787	0.0034	0.0002
35.00	-	-	-	-	0.1416	0.1816	0.0029	0.0001

Column Notes:

- (1) is Unearned Premium Reserve (equal to Written Premium minus Earned Premium, per the cashflow pattern) plus Unpaid Loss Reserve (equal to Incurred minus Paid Losses) by time period, expressed as a factor,  
= MAX[Table 4 col (1), Table 2 col (3)] - Table 2 col (2) + Table 1 row (7, Static) x [Table 2 col (2) - Table 2 col (5)]
- (2) is the Surplus derived from Reserves per the Reserve-to-Surplus Ratio by time period, expressed as a factor, = (1) / Table 1 row (2)
- (3) Admitted Agents' Balances arise when premium is written before it's collected, or premium is earned in the prior period before it's collected,  
= MAX[Table 4 col (1), Table 2 col (3)] - Table 4 col (1) - MAX[0, Table 2 col (2, previous row) - Table 4 col (1)]
- (4) is Reserves plus Surplus minus Agent Balances by time period, expressed as a factor, = (1) + (2) - (3)
- (5) is derived by applying the Return on Investments [Table 1 row (4, Static)] to the average Invested Funds (4) from the previous and current time periods, plus previous Income from Invested Funds, by time period expressed as a factor.
- (6) is Insurance Cash Flow plus Income from Invested Funds minus Total Invested Funds by time period, expressed as a factor,  
= Table 4 col (5) + (5) - (4)
- (7) is the difference between Capital Provider Equity (6) at the current and previous time periods, expressed as a factor.
- (8) is the Capital Provider Cash Flow (7) discounted by the Weighted Average Cost of Capital [Table 1 row (5, Static)], expressed as a factor.



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Calculation Details - Dynamic Estimate

TABLE 6: DERIVATION OF INSURANCE CASH FLOW (DYNAMIC ESTIMATE)

Time	(1) Collected Premium Factor	(2) Expense and Taxes Factor	(3) Paid Losses Factor	(4) Federal Income Tax Factor	(5) Insurance Cash flow Factor
0.00	-	-	-	-	-
0.25	0.2220	0.0639	0.0032	0.0004	0.1545
0.50	0.4702	0.1387	0.0131	0.0007	0.3176
0.75	0.7209	0.2147	0.0297	0.0011	0.4755
1.00	1.0000	0.2988	0.0522	0.0015	0.6475
1.25	1.0000	0.3030	0.0950	0.0051	0.5969
1.50	1.0000	0.3030	0.1379	0.0086	0.5505
1.75	1.0000	0.3030	0.1807	0.0122	0.5041
2.00	1.0000	0.3030	0.2236	0.0158	0.4577
2.25	1.0000	0.3030	0.2527	0.0152	0.4290
2.50	1.0000	0.3030	0.2819	0.0147	0.4004
2.75	1.0000	0.3030	0.3110	0.0142	0.3718
3.00	1.0000	0.3030	0.3401	0.0137	0.3432
3.25	1.0000	0.3030	0.3599	0.0133	0.3238
3.50	1.0000	0.3030	0.3798	0.0129	0.3043
3.75	1.0000	0.3030	0.3996	0.0125	0.2849
4.00	1.0000	0.3030	0.4194	0.0121	0.2655
4.25	1.0000	0.3030	0.4328	0.0118	0.2524
4.50	1.0000	0.3030	0.4462	0.0115	0.2393
4.75	1.0000	0.3030	0.4595	0.0112	0.2263
5.00	1.0000	0.3030	0.4729	0.0109	0.2132
6.00	1.0000	0.3030	0.5054	0.0100	0.1816
7.00	1.0000	0.3030	0.5285	0.0092	0.1593
8.00	1.0000	0.3030	0.5475	0.0084	0.1411
9.00	1.0000	0.3030	0.5603	0.0078	0.1289
10.00	1.0000	0.3030	0.5739	0.0071	0.1160
11.00	1.0000	0.3030	0.5847	0.0065	0.1058
12.00	1.0000	0.3030	0.5908	0.0061	0.1001
13.00	1.0000	0.3030	0.5969	0.0058	0.0943
14.00	1.0000	0.3030	0.6030	0.0055	0.0885
15.00	1.0000	0.3030	0.6064	0.0052	0.0854
16.00	1.0000	0.3030	0.6111	0.0050	0.0809
17.00	1.0000	0.3030	0.6139	0.0047	0.0784
18.00	1.0000	0.3030	0.6179	0.0045	0.0745
19.00	1.0000	0.3030	0.6227	0.0044	0.0700
20.00	1.0000	0.3030	0.6261	0.0043	0.0667
21.00	1.0000	0.3030	0.6288	0.0042	0.0640
22.00	1.0000	0.3030	0.6315	0.0042	0.0613
23.00	1.0000	0.3030	0.6342	0.0042	0.0586
24.00	1.0000	0.3030	0.6362	0.0042	0.0566
25.00	1.0000	0.3030	0.6389	0.0042	0.0539
26.00	1.0000	0.3030	0.6403	0.0042	0.0525
27.00	1.0000	0.3030	0.6423	0.0042	0.0505
28.00	1.0000	0.3030	0.6443	0.0042	0.0485
29.00	1.0000	0.3030	0.6477	0.0042	0.0451
30.00	1.0000	0.3030	0.6511	0.0042	0.0417
31.00	1.0000	0.3030	0.6525	0.0042	0.0404
32.00	1.0000	0.3030	0.6596	0.0041	0.0332
33.00	1.0000	0.3030	0.6662	0.0041	0.0267
34.00	1.0000	0.3030	0.6721	0.0041	0.0208
35.00	1.0000	0.3030	0.6775	0.0041	0.0154

Column Notes:

- (1) is Collected Premium by time period, expressed as a factor, = Table 2 col (1) x [1 - Table 1 col (1a)]
- (2) is Expenses and Taxes by time period, expressed as a factor, = Table 1 row (1) x Table 2 col (4)
- (3) is Paid Losses by time period, expressed as a factor, = Table 1 row (7, Dynamic) x Table 2 col (5)
- (4) per the Tax Cuts and Jobs Act of 2017, federal income taxes are computed as the tax rate (21%) times the adjusted underwriting income calculated per IRS rules. See Appendix B for details.
- (5) is the Total Insurance Cash Flow by time period, expressed as a factor, = (1) - [(2) + (3) + (4)]



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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

Calculation Details - Dynamic Estimate (continued)

TABLE 7: DERIVATION OF CASH FLOWS TO THE CAPITAL PROVIDERS (DYNAMIC ESTIMATE)

Time	(1) Unearned Premium and Unpaid Loss Reserve Factor	(2) Factor for Surplus Allocated to Reserves	(3) Admitted Agents' Balances	(4) Total Invested Funds Factor	(5) Income from Invested Funds Factor	(6) Capital Provider Equity Factor	(7) Capital Provider Cash Flow Factor	(8) Cumulative Discount Factor	(9) Discounted Capital Provider Cash Flow Factor
0.00	-	-	-	-	-	-	-	-	-
0.25	0.2420	0.1301	0.0335	0.3385	0.0015	(0.1826)	(0.1826)	0.9876	(0.1803)
0.50	0.4707	0.2531	0.0554	0.6683	0.0061	(0.3447)	(0.1621)	0.9631	(0.1561)
0.75	0.6521	0.3506	0.0551	0.9476	0.0134	(0.4587)	(0.1140)	0.9393	(0.1071)
1.00	0.7820	0.4204	-	1.2024	0.0232	(0.5318)	(0.0730)	0.9160	(0.0669)
1.25	0.6688	0.3596	-	1.0284	0.0333	(0.3982)	0.1335	0.8933	0.1193
1.50	0.5768	0.3101	-	0.8870	0.0419	(0.2946)	0.1037	0.8711	0.0903
1.75	0.5058	0.2720	-	0.7778	0.0495	(0.2242)	0.0703	0.8493	0.0597
2.00	0.4540	0.2441	-	0.6980	0.0562	(0.1842)	0.0401	0.8279	0.0332
2.25	0.4248	0.2284	-	0.6532	0.0623	(0.1618)	0.0223	0.8069	0.0180
2.50	0.3957	0.2127	-	0.6084	0.0681	(0.1399)	0.0219	0.7864	0.0173
2.75	0.3666	0.1971	-	0.5636	0.0735	(0.1183)	0.0216	0.7663	0.0166
3.00	0.3374	0.1814	-	0.5188	0.0786	(0.0971)	0.0212	0.7466	0.0158
3.25	0.3176	0.1708	-	0.4884	0.0833	(0.0813)	0.0157	0.7273	0.0115
3.50	0.2978	0.1601	-	0.4579	0.0877	(0.0658)	0.0155	0.7084	0.0110
3.75	0.2780	0.1494	-	0.4274	0.0918	(0.0507)	0.0152	0.6900	0.0105
4.00	0.2581	0.1388	-	0.3969	0.0957	(0.0358)	0.0149	0.6721	0.0100
4.25	0.2448	0.1316	-	0.3764	0.0993	(0.0246)	0.0111	0.6546	0.0073
4.50	0.2314	0.1244	-	0.3558	0.1027	(0.0137)	0.0109	0.6376	0.0070
4.75	0.2180	0.1172	-	0.3352	0.1059	(0.0030)	0.0107	0.6211	0.0067
5.00	0.2046	0.1100	-	0.3146	0.1090	0.0075	0.0105	0.6049	0.0064
6.00	0.1721	0.0925	-	0.2646	0.1200	0.0370	0.0294	0.5664	0.0167
7.00	0.1491	0.0801	-	0.2292	0.1295	0.0595	0.0226	0.5101	0.0115
8.00	0.1301	0.0699	-	0.2000	0.1377	0.0788	0.0193	0.4595	0.0089
9.00	0.1172	0.0630	-	0.1802	0.1451	0.0938	0.0149	0.4140	0.0062
10.00	0.1037	0.0557	-	0.1594	0.1518	0.1084	0.0146	0.3731	0.0054
11.00	0.0928	0.0499	-	0.1427	0.1577	0.1207	0.0124	0.3362	0.0042
12.00	0.0867	0.0466	-	0.1334	0.1631	0.1298	0.0091	0.3030	0.0027
13.00	0.0806	0.0433	-	0.1240	0.1681	0.1385	0.0087	0.2730	0.0024
14.00	0.0745	0.0401	-	0.1146	0.1728	0.1468	0.0083	0.2461	0.0020
15.00	0.0711	0.0382	-	0.1094	0.1772	0.1532	0.0065	0.2218	0.0014
16.00	0.0664	0.0357	-	0.1021	0.1814	0.1602	0.0070	0.1999	0.0014
17.00	0.0637	0.0342	-	0.0979	0.1854	0.1659	0.0056	0.1802	0.0010
18.00	0.0596	0.0321	-	0.0917	0.1892	0.1721	0.0062	0.1624	0.0010
19.00	0.0549	0.0295	-	0.0844	0.1927	0.1783	0.0063	0.1463	0.0009
20.00	0.0515	0.0277	-	0.0792	0.1960	0.1835	0.0052	0.1318	0.0007
21.00	0.0488	0.0262	-	0.0750	0.1991	0.1881	0.0046	0.1188	0.0005
22.00	0.0461	0.0248	-	0.0708	0.2020	0.1925	0.0044	0.1071	0.0005
23.00	0.0434	0.0233	-	0.0667	0.2048	0.1967	0.0042	0.0965	0.0004
24.00	0.0413	0.0222	-	0.0636	0.2074	0.2004	0.0037	0.0870	0.0003
25.00	0.0386	0.0208	-	0.0594	0.2099	0.2044	0.0039	0.0784	0.0003
26.00	0.0373	0.0200	-	0.0573	0.2122	0.2074	0.0031	0.0707	0.0002
27.00	0.0352	0.0189	-	0.0542	0.2144	0.2108	0.0033	0.0637	0.0002
28.00	0.0332	0.0178	-	0.0510	0.2165	0.2140	0.0032	0.0574	0.0002
29.00	0.0298	0.0160	-	0.0458	0.2185	0.2177	0.0038	0.0518	0.0002
30.00	0.0264	0.0142	-	0.0406	0.2202	0.2213	0.0036	0.0467	0.0002
31.00	0.0251	0.0135	-	0.0385	0.2218	0.2236	0.0023	0.0421	0.0001
32.00	0.0179	0.0096	-	0.0275	0.2231	0.2288	0.0052	0.0379	0.0002
33.00	0.0114	0.0061	-	0.0175	0.2240	0.2332	0.0044	0.0342	0.0002
34.00	0.0054	0.0029	-	0.0083	0.2245	0.2370	0.0037	0.0308	0.0001
35.00	-	-	-	-	0.2247	0.2401	0.0031	0.0278	0.0001

Column Notes:

- (1) is Unearned Premium Reserve (equal to Written Premium minus Earned Premium, per the cashflow pattern) plus Unpaid Loss Reserve (equal to Incurred minus Paid Losses) by time period, expressed as a factor,  
= MAX[Table 4 col (1), Table 2 col (3)] - Table 2 col (2) + Table 1 row (7, Dynamic) x [Table 2 col (2) - Table 2 col (5)]
- (2) is the Surplus derived from Reserves per the Reserve-to-Surplus Ratio by time period, expressed as a factor, = (1) / Table 1 row (2)
- (3) Admitted Agents' Balances arise when premium is written before it's collected, or premium is earned in the prior period before it's collected,  
= MAX[Table 6 col (1), Table 2 col (3)] - Table 6 col (1) - MAX[0, Table 2 col (2, previous row) - Table 6 col (1)]
- (4) is Reserves plus Surplus minus Agent Balances by time period, expressed as a factor, = (1) + (2) - (3)
- (5) is derived by applying the Return on Investments [Table 3 col (1)] to the average Invested Funds (4) from the previous and current time periods, plus previous Income from Invested Funds, by time period expressed as a factor.
- (6) is Insurance Cash Flow plus Income from Invested Funds minus Total Invested Funds by time period, expressed as a factor,  
= Table 6 col (5) + (5) - (4)
- (7) is the difference between Capital Provider Equity (6) at the current and previous time periods, expressed as a factor
- (8) is derived from the respective Weighted Average Cost of Capital [Table 3 col (2)] for each time period, expressed as a factor
- (9) is the Capital Provider Cash Flow (7) discounted by the Cumulative Discount Factor (8), expressed as a factor



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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

APPENDIX A: CALCULATION OF WEIGHTED AVERAGE COST OF CAPITAL AND RETURN ON INVESTMENTS

The calculation of the Weighted Average Cost of Capital (WACC) is shown in Table A.1, and the calculation of the Return on Investments (RoI) is shown in Table A.2. The calculation for the Static estimate is shown in each. Calculations of the WACC and RoI under the Dynamic estimate for time periods 1, 2, and 5 are also provided for illustrative purposes. Note that the IRR model under the Dynamic estimate includes estimates of the WACC and RoI on a quarterly basis for the first five years and annually thereafter.

TABLE A.1: CALCULATION OF WEIGHTED AVERAGE COST OF CAPITAL

	Static	IRR Model Time (yrs)		
		1.00	2.00	5.00
(1) 5 year US T-note Yield	1.83%	3.11%	3.28%	3.65%
(2) US Equity Market Risk Premium	8.66%			
(3) Beta for Property/Casualty (P/C) Insurers	1.00			
(4) Equity Cost of Capital for P/C Insurers	10.49%	11.77%	11.94%	12.31%
(5) Share of Equity Capital for P/C Insurers	85%			
(6) Debt Cost of Capital for P/C Insurers	2.65%	3.67%	3.88%	4.25%
(7) Weighted Average Cost of Capital (WACC)	9.32%	10.56%	10.73%	11.10%

Column Notes:

- (1) Forward estimates of US Treasury yields are from Moody's forecasts and apply only to the Dynamic estimate of the WACC. Time periods provided are illustrative; the full model includes estimates on a quarterly basis for the first five years and annually thereafter.
- (3) & (5) P/C beta and share of equity capital are estimated from historical data for a collection of insurers with publicly traded equity and debt.
- (4) = (1) + (2) x (3)
- (6) P/C debt cost of capital is the sum of the 10-year US T-note yield plus the historical corporate spread, net of income tax.
- (7) = (4) x (5) + (6) x [1 - (5)]



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**APPENDIX D - Determination of Assigned Risk Rates**  
**Section G - Derivation of the Indicated Profit and Contingency Provision**

**APPENDIX A: CALCULATION OF WEIGHTED AVERAGE COST OF CAPITAL AND RETURN ON INVESTMENTS (CONTINUED)**

**TABLE A.2. CALCULATION OF RETURN ON INVESTMENTS**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Security Description	Investment Portfolio	Yield Curve, Maturity and Spread	Roll-over Period	Income Tax Rate	Post-tax Return			
					IRR Model Time (yrs)			
					Static	1.00	2.00	5.00
Bonds, of which	74.0%							
Government Direct Obligations	6.7%							
< 1yr	2.3%	6 mo US T-bill	0.50 yrs	21.00%	0.48%	2.12%	2.04%	2.10%
1 – 5 yrs	2.8%	2.5 yr US T-note	2.50 yrs	21.00%	1.24%	2.32%	2.32%	2.50%
5 – 10 yrs	1.0%	7.5 yr US T-note	7.50 yrs	21.00%	1.53%	2.50%	2.50%	2.50%
10 – 20 yrs	0.2%	15 yr US T-note	15.00 yrs	21.00%	1.69%	2.66%	2.66%	2.66%
> 20 yrs	0.4%	20 yr US T-note	20.00 yrs	21.00%	1.84%	2.80%	2.80%	2.80%
Collateralized Securities	8.0%							
< 1yr	1.1%	6 mo US T-bill + 50 basis points	0.50 yrs	21.00%	0.88%	2.52%	2.43%	2.49%
1 – 5 yrs	3.1%	2.5 yr US T-note + 50 basis points	2.50 yrs	21.00%	1.64%	2.72%	2.72%	2.90%
5 – 10 yrs	2.3%	7.5 yr US T-note + 50 basis points	7.50 yrs	21.00%	1.92%	2.90%	2.90%	2.90%
10 – 20 yrs	1.2%	15 yr US T-note + 50 basis points	15.00 yrs	21.00%	2.09%	3.06%	3.06%	3.06%
> 20 yrs	0.3%	20 yr US T-note + 50 basis points	20.00 yrs	21.00%	2.24%	3.20%	3.20%	3.20%
Tax-exempt Bonds	20.0%							
< 1yr	1.4%	6 mo US T-bill + Tax-exempt spread	0.50 yrs	5.25%	0.73%	2.70%	2.60%	2.67%
1 – 5 yrs	6.0%	2.5 yr US T-note + Tax-exempt spread	2.50 yrs	5.25%	1.68%	2.98%	2.98%	3.19%
5 – 10 yrs	5.5%	7.5 yr US T-note + Tax-exempt spread	7.50 yrs	5.25%	2.02%	3.19%	3.19%	3.19%
10 – 20 yrs	5.5%	15 yr US T-note + Tax-exempt spread	15.00 yrs	5.25%	2.32%	3.48%	3.48%	3.48%
> 20 yrs	1.6%	20 yr US T-note + Tax-exempt spread	20.00 yrs	5.25%	2.61%	3.75%	3.75%	3.75%
Industrial and Hybrid Securities (unaffiliated)	39.0%							
< 1yr	4.5%	6 mo US T-bill + Corp spread	0.50 yrs	21.00%	0.98%	2.62%	2.53%	2.60%
1 – 5 yrs	17.5%	2.5 yr US T-note + Corp spread	2.50 yrs	21.00%	1.97%	3.05%	3.05%	3.23%
5 – 10 yrs	13.4%	7.5 yr US T-note + Corp spread	7.50 yrs	21.00%	2.57%	3.54%	3.54%	3.54%
10 – 20 yrs	2.1%	15 yr US T-note + Corp spread	15.00 yrs	21.00%	2.85%	3.82%	3.82%	3.82%
> 20 yrs	1.5%	20 yr US T-note + Corp spread	20.00 yrs	21.00%	3.02%	3.98%	3.98%	3.98%
Industrial and Hybrid Securities (affiliated)	0.3%							
< 1yr	0.0%	6 mo US T-bill + Corp spread	0.50 yrs	5.25%	1.18%	3.14%	3.04%	3.11%
1 – 5 yrs	0.2%	2.5 yr US T-note + Corp spread	2.50 yrs	5.25%	2.36%	3.66%	3.66%	3.88%
5 – 10 yrs	0.0%	7.5 yr US T-note + Corp spread	7.50 yrs	5.25%	3.08%	4.25%	4.25%	4.25%
10 – 20 yrs	0.0%	15 yr US T-note + Corp spread	15.00 yrs	5.25%	3.42%	4.58%	4.58%	4.58%
> 20 yrs	0.0%	20 yr US T-note + Corp spread	20.00 yrs	5.25%	3.63%	4.77%	4.77%	4.77%
Stocks, of which	11.3%							
Preferred Stock	0.5%	5 year US T-note + 433 basis points	0.25 yrs	13.13%	5.35%	6.46%	6.61%	6.93%
Common Stock	10.8%	5 year US T-note + 866 basis points	0.25 yrs	18.46%	8.56%	9.60%	9.73%	10.03%
Mortgage Loans	2.5%							
Real Estate	0.6%							
Cash & Short-Term Investment	4.4%	3 month US T-bill	0.25 yrs	21.00%	0.25%	2.09%	1.96%	1.98%
All Other Assets*	7.3%							
Post-Tax Return on Invested Funds, pre-Expense:					2.68%	3.86%	3.86%	3.97%
Investment Expense**:					-0.18%	-0.18%	-0.18%	-0.18%
Post-Tax Return on Invested Funds:					<b>2.50%</b>	<b>3.68%</b>	<b>3.68%</b>	<b>3.79%</b>

**Table Notes:**

- (1) Government Direct Obligations include US Government Issuer Obligations and Non-US Government Issuer Obligations.  
 Collateralized Securities include Mortgage Backed, Loan Backed, or Structured Securities.  
 Tax-exempt Bonds include Issuer Obligations of US States, Territories, and Possessions, US Political Subdivisions of States, Territories, and Possessions, and US Special Revenue and Special Assessment Obligations.  
 Industrial and Hybrid Securities (unaffiliated) include Industrial and Miscellaneous and Hybrid Securities.  
 Industrial and Hybrid Securities (affiliated) include Parents, Subsidiaries, and Affiliates.
- (2) Bond and total portfolio distributions are 3-year averages for 2018-2020, calculated from annual editions of Best's Aggregates & Averages (Property-Casualty), Assets for Commercial Casualty Composite, page number varies by edition, Column 3, Net Admitted Assets.  
 For each year 2018-2020, the maturity distribution pertains to all bonds owned as of December 31 at book/adjusted carrying value for Commercial Casualty Composite, Schedule D, Part 1A, Section 2.
- (3) Spread to US treasury yields are either constant or varying by maturity (tax-exempt or corporate) as applicable.  
 The tax-exempt spread is a term structure of average historical spreads in forward rates at different maturities between US municipal bonds and US Treasuries.  
 Data on historical yields to US municipal bonds are from Bloomberg.  
 The corporate spread is a term structure of average historical spreads in forward rates at different maturities between US corporate bonds and US Treasuries.  
 Historical data on yields to US corporate bonds are from the US Department of Treasury.
- (4) Applies only to the Dynamic estimate of the return on invested funds.  
 The roll-over period is the time interval at which the estimated yield is updated for the given security in the investment portfolio.  
 For bonds, the roll-over period is the bond's term to maturity. Forward yields for common and preferred stocks are updated quarterly.
- (5) It is assumed that investment returns, except dividends and tax exempt municipal bond income, are taxed at 21%.  
 It is assumed that 50% of dividends received are tax exempt. In accordance with the "pro-ration" provision, it is assumed that 25% of otherwise exempt municipal bond income and dividends are taxed at 21%. For common stock, the portion of income attributable to capital appreciation is assumed to equal 67.8% while the income portion is 32.2%. The percentages are obtained from Kroll, LLC  
 SBBI Summary Statistics of Annual Returns: large cap stocks, arithmetic mean.
- (6) Static estimates of US Treasury yields are constant maturity yields from the first quarter of 2022.
- (7)-(9) Applies only to the dynamic estimate of the return on invested funds. Forward estimates of US Treasury yields at various maturities are from Moody's.

\* Yields to mortgage loans, real estate, and all other assets are not directly estimated, but are assumed to equal the weighted average portfolio yield net of these categories.  
 \*\* Investment expense calculated from Annual Statement data for the Commercial Casualty Composite by dividing Total Investment Expense by Cash and Invested Assets.  
 Total investment expense for 2020 is from the Annual Statement, Exhibit of Net Investment Income.  
 Average cash and invested assets for 2019 and 2020 are from Best's Aggregates and Averages (Property-Casualty), Assets for Commercial Casualty Composite.





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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

APPENDIX B: FEDERAL INCOME TAX INCURRED FROM INSURANCE OPERATIONS

Federal taxes on underwriting income, based on the Tax Cuts and Jobs Act of 2017, are calculated in the following tables on an annual basis. Columns (1) through (5) are the same under both the Static and Dynamic Estimates; the paid losses factors (col (6)) vary by Estimate. Note that investment taxes are accounted for in Appendix A. Annual tax is prorated when quarterly amounts are required.

TABLE B.1: FEDERAL INCOME TAX CALCULATION (STATIC ESTIMATE)

Time	(1) Written Premium Factor	(2) Unearned Premium Factor	(3) Expense and Taxes Factor	(4) Premium Balances Charged Off Factor	(5) Discount Factor	(6) Paid Losses Factor	(7) AY1 Paid Losses Factor	(8) AY2 Paid Losses Factor	(9) Discounted AY1 Unpaid Losses Factor	(10) Discounted AY2 Unpaid Losses Factor	(11) Federal Income Tax Factor
0.00	-	-	-	-	-	-	-	-	-	-	-
1.00	1.0000	0.4857	0.2988	-	0.8839	0.0498	0.0498	-	0.2416	-	0.0045
2.00	1.0000	-	0.3030	-	0.8693	0.2133	0.1351	0.0782	0.1635	0.2165	0.0218
3.00	1.0000	-	0.3030	-	0.8588	0.3244	0.1758	0.1486	0.1265	0.1517	0.0198
4.00	1.0000	-	0.3030	-	0.8443	0.4001	0.2121	0.1879	0.0937	0.1161	0.0183
5.00	1.0000	-	0.3030	-	0.8390	0.4511	0.2323	0.2189	0.0763	0.0881	0.0171
6.00	1.0000	-	0.3030	-	0.8340	0.4821	0.2455	0.2367	0.0648	0.0726	0.0163
7.00	1.0000	-	0.3030	-	0.8376	0.5041	0.2554	0.2488	0.0568	0.0620	0.0156
8.00	1.0000	-	0.3030	-	0.8458	0.5222	0.2640	0.2582	0.0500	0.0544	0.0148
9.00	1.0000	-	0.3030	-	0.8518	0.5345	0.2689	0.2656	0.0462	0.0487	0.0142
10.00	1.0000	-	0.3030	-	0.8701	0.5474	0.2761	0.2713	0.0409	0.0442	0.0135
11.00	1.0000	-	0.3030	-	0.8818	0.5578	0.2803	0.2775	0.0378	0.0397	0.0130
12.00	1.0000	-	0.3030	-	0.8938	0.5636	0.2826	0.2810	0.0363	0.0372	0.0126
13.00	1.0000	-	0.3030	-	0.9061	0.5694	0.2858	0.2836	0.0339	0.0353	0.0123
14.00	1.0000	-	0.3030	-	0.9185	0.5752	0.2885	0.2867	0.0318	0.0330	0.0120
15.00	1.0000	-	0.3030	-	0.9312	0.5784	0.2896	0.2889	0.0313	0.0315	0.0117
16.00	1.0000	-	0.3030	-	0.9440	0.5830	0.2924	0.2905	0.0290	0.0304	0.0115
17.00	1.0000	-	0.3030	-	0.9571	0.5856	0.2929	0.2926	0.0289	0.0288	0.0113
18.00	1.0000	-	0.3030	-	0.9704	0.5894	0.2956	0.2938	0.0267	0.0281	0.0111
19.00	1.0000	-	0.3030	-	0.9835	0.5940	0.2977	0.2963	0.0251	0.0261	0.0109
20.00	1.0000	-	0.3030	-	0.9860	0.5972	0.2991	0.2981	0.0238	0.0246	0.0108
21.00	1.0000	-	0.3030	-	0.9860	0.5998	0.3003	0.2995	0.0225	0.0233	0.0108
22.00	1.0000	-	0.3030	-	0.9860	0.6024	0.3016	0.3007	0.0212	0.0221	0.0108
23.00	1.0000	-	0.3030	-	0.9860	0.6049	0.3029	0.3020	0.0200	0.0208	0.0108
24.00	1.0000	-	0.3030	-	0.9860	0.6069	0.3037	0.3032	0.0192	0.0197	0.0108
25.00	1.0000	-	0.3030	-	0.9860	0.6095	0.3052	0.3042	0.0177	0.0187	0.0108
26.00	1.0000	-	0.3030	-	0.9860	0.6108	0.3054	0.3053	0.0175	0.0176	0.0108
27.00	1.0000	-	0.3030	-	0.9860	0.6127	0.3068	0.3059	0.0161	0.0170	0.0107
28.00	1.0000	-	0.3030	-	0.9860	0.6146	0.3076	0.3071	0.0154	0.0159	0.0107
29.00	1.0000	-	0.3030	-	0.9860	0.6179	0.3096	0.3083	0.0134	0.0147	0.0107
30.00	1.0000	-	0.3030	-	0.9860	0.6211	0.3110	0.3101	0.0120	0.0129	0.0107
31.00	1.0000	-	0.3030	-	0.9860	0.6224	0.3113	0.3111	0.0117	0.0119	0.0107
32.00	1.0000	-	0.3030	-	0.9860	0.6292	0.3163	0.3129	0.0068	0.0101	0.0107
33.00	1.0000	-	0.3030	-	0.9860	0.6355	0.3185	0.3170	0.0046	0.0061	0.0107
34.00	1.0000	-	0.3030	-	0.9860	0.6411	0.3216	0.3195	0.0015	0.0036	0.0107
35.00	1.0000	-	0.3030	-	0.9860	0.6463	0.3232	0.3232	-	-	0.0106

Column Notes:

- (1) is Written Premium by time period, expressed as a factor, = Table 2 col (3)
- (2) is Written Premium minus Earned Premium by time period, expressed as a factor, = Table 2 col (3) - Table 2 col (2)
- (3) is Expenses and Taxes by time period, expressed as a factor, = Table 1 row (1) x Table 2 col (4)
- (4) is Premium Balances Charged Off by time period, expressed as a factor, = Table 1 col (1a) x Table 2 col (1)
- (5) is from Internal Revenue Bulletin 2021-52, Rev. Proc. 2021-54, dated December 27, 2021
- (6) is Paid Losses by time period, expressed as a factor, = Table 1 row (7, Static) x Table 2 col (5)
- (7) and (8) split the payments between the accident year coincident with the policy year ("AY1"), and the following accident year ("AY2"). Assuming that the payout pattern is linear between integer times, and that the average accident date for AY2 is two-thirds of a year later than the average accident date for AY1, columns (7) and (8) are determined by solving these two equations simultaneously:  

$$\text{Col (7) + Col (8) = Col (6)}$$

$$\text{Col (8) = (2/3) * Col (7, previous row) + (1/3) * Col (7)}$$
 with Col (7, Time 1) = Col (6, Time 1) and Col (7, Time 35) = Col (8, Time 35)
- (9) is the discounted difference between AY1 Losses that will ultimately be paid, and the amount already paid,  

$$= [\text{col (7, Time 35) - (7)}] \times (5)$$
- (10) is the discounted difference between AY2 Losses that will ultimately be paid, and the amount already paid,  

$$= [\text{col (8, Time 35) - (8)}] \times \text{col (5, previous row)}$$
- (11) Per IRS rules, federal income tax equals the tax rate (21%) times the adjusted underwriting income  

$$= 21\% * \{ (1) - 0.8 * (2) - [(3) + (4) + (6) + (9) + (10)] \}$$



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APPENDIX D - Determination of Assigned Risk Rates

Section G - Derivation of the Indicated Profit and Contingency Provision

APPENDIX B: FEDERAL INCOME TAX INCURRED FROM INSURANCE OPERATIONS (CONTINUED)

TABLE B.2: FEDERAL INCOME TAX CALCULATION (DYNAMIC ESTIMATE)

Time	(1) Written Premium Factor	(2) Unearned Premium Factor	(3) Expense and Taxes Factor	(4) Premium Balances Charged Off Factor	(5) Discount Factor	(6) Paid Losses Factor	(7) AY1 Paid Losses Factor	(8) AY2 Paid Losses Factor	(9) Discounted AY1 Unpaid Losses Factor	(10) Discounted AY2 Unpaid Losses Factor	(11) Federal Income Tax Factor
0.00	-	-	-	-	-	-	-	-	-	-	-
1.00	1.0000	0.4857	0.2988	-	0.8839	0.0522	0.0522	-	0.2533	-	0.0015
2.00	1.0000	-	0.3030	-	0.8693	0.2236	0.1416	0.0820	0.1714	0.2270	0.0158
3.00	1.0000	-	0.3030	-	0.8588	0.3401	0.1843	0.1558	0.1327	0.1590	0.0137
4.00	1.0000	-	0.3030	-	0.8443	0.4194	0.2224	0.1970	0.0983	0.1218	0.0121
5.00	1.0000	-	0.3030	-	0.8390	0.4729	0.2435	0.2294	0.0799	0.0923	0.0109
6.00	1.0000	-	0.3030	-	0.8340	0.5054	0.2573	0.2481	0.0679	0.0761	0.0100
7.00	1.0000	-	0.3030	-	0.8376	0.5285	0.2677	0.2608	0.0595	0.0650	0.0092
8.00	1.0000	-	0.3030	-	0.8458	0.5475	0.2767	0.2707	0.0525	0.0570	0.0084
9.00	1.0000	-	0.3030	-	0.8518	0.5603	0.2819	0.2785	0.0485	0.0510	0.0078
10.00	1.0000	-	0.3030	-	0.8701	0.5739	0.2895	0.2844	0.0429	0.0463	0.0071
11.00	1.0000	-	0.3030	-	0.8818	0.5847	0.2938	0.2909	0.0397	0.0416	0.0065
12.00	1.0000	-	0.3030	-	0.8938	0.5908	0.2962	0.2946	0.0380	0.0389	0.0061
13.00	1.0000	-	0.3030	-	0.9061	0.5969	0.2996	0.2973	0.0355	0.0370	0.0058
14.00	1.0000	-	0.3030	-	0.9185	0.6030	0.3025	0.3005	0.0333	0.0346	0.0055
15.00	1.0000	-	0.3030	-	0.9312	0.6064	0.3036	0.3028	0.0328	0.0330	0.0052
16.00	1.0000	-	0.3030	-	0.9440	0.6111	0.3066	0.3046	0.0304	0.0318	0.0050
17.00	1.0000	-	0.3030	-	0.9571	0.6139	0.3071	0.3068	0.0303	0.0302	0.0047
18.00	1.0000	-	0.3030	-	0.9704	0.6179	0.3099	0.3080	0.0280	0.0294	0.0045
19.00	1.0000	-	0.3030	-	0.9835	0.6227	0.3121	0.3106	0.0263	0.0273	0.0044
20.00	1.0000	-	0.3030	-	0.9860	0.6261	0.3135	0.3125	0.0249	0.0258	0.0043
21.00	1.0000	-	0.3030	-	0.9860	0.6288	0.3148	0.3139	0.0236	0.0245	0.0042
22.00	1.0000	-	0.3030	-	0.9860	0.6315	0.3162	0.3153	0.0223	0.0232	0.0042
23.00	1.0000	-	0.3030	-	0.9860	0.6342	0.3175	0.3166	0.0209	0.0218	0.0042
24.00	1.0000	-	0.3030	-	0.9860	0.6362	0.3184	0.3178	0.0201	0.0207	0.0042
25.00	1.0000	-	0.3030	-	0.9860	0.6389	0.3200	0.3189	0.0185	0.0196	0.0042
26.00	1.0000	-	0.3030	-	0.9860	0.6403	0.3202	0.3201	0.0183	0.0184	0.0042
27.00	1.0000	-	0.3030	-	0.9860	0.6423	0.3216	0.3207	0.0169	0.0178	0.0042
28.00	1.0000	-	0.3030	-	0.9860	0.6443	0.3224	0.3219	0.0161	0.0166	0.0042
29.00	1.0000	-	0.3030	-	0.9860	0.6477	0.3246	0.3232	0.0140	0.0154	0.0042
30.00	1.0000	-	0.3030	-	0.9860	0.6511	0.3261	0.3251	0.0125	0.0135	0.0042
31.00	1.0000	-	0.3030	-	0.9860	0.6525	0.3263	0.3261	0.0123	0.0125	0.0042
32.00	1.0000	-	0.3030	-	0.9860	0.6596	0.3316	0.3281	0.0071	0.0105	0.0041
33.00	1.0000	-	0.3030	-	0.9860	0.6662	0.3338	0.3323	0.0049	0.0064	0.0041
34.00	1.0000	-	0.3030	-	0.9860	0.6721	0.3372	0.3350	0.0016	0.0038	0.0041
35.00	1.0000	-	0.3030	-	0.9860	0.6775	0.3388	0.3388	-	-	0.0041

Column Notes:

- (1) is Written Premium by time period, expressed as a factor, = Table 2 col (3)
- (2) is Written Premium minus Earned Premium by time period, expressed as a factor, = Table 2 col (3) - Table 2 col (2)
- (3) is Expenses and Taxes by time period, expressed as a factor, = Table 1 row (1) x Table 2 col (4)
- (4) is Premium Balances Charged Off by time period, expressed as a factor, = Table 1 col (1a) x Table 2 col (1)
- (5) is from Internal Revenue Bulletin 2021-52, Rev. Proc. 2021-54, dated December 27, 2021
- (6) is Paid Losses by time period, expressed as a factor, = Table 1 row (8, Dynamic) x Table 2 col (5)
- (7) and (8) split the payments between the accident year coincident with the policy year ("AY1"), and the following accident year ("AY2"). Assuming that the payout pattern is linear between integer times, and that the average accident date for AY2 is two-thirds of a year later than the average accident date for AY1, columns (7) and (8) are determined by solving these two equations simultaneously:  

$$\text{Col (7) + Col (8) = Col (6)}$$

$$\text{Col (8) = (2/3) * Col (7, previous row) + (1/3) * Col (7)}$$
 with Col (7, Time 1) = Col (6, Time 1) and Col (7, Time 35) = Col (8, Time 35)
- (9) is the discounted difference between AY1 Losses that will ultimately be paid, and the amount already paid,  

$$= [\text{col (7, Time 35) - (7)}] \times (5)$$
- (10) is the discounted difference between AY2 Losses that will ultimately be paid, and the amount already paid,  

$$= [\text{col (8, Time 35) - (8)}] \times \text{col (5, previous row)}$$
- (11) Per IRS rules, federal income tax equals the tax rate (21%) times the adjusted underwriting income  

$$= 21\% * \{ (1) - 0.8 * (2) - [(3) + (4) + (6) + (9) + (10)] \}$$



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**APPENDIX D - Determination of Assigned Risk Rates**

**Section G - Derivation of the Indicated Profit and Contingency Provision**

APPENDIX C: RESERVE-TO-SURPLUS RATIO

in 000's

Year End	(1) Unpaid Losses	(2) Unpaid Loss Adjustment Expense	(3) Unearned Premium	(4) Policyholder Surplus	(5) Ratio excl. Unearned Premium {(1)+(2)} / (4)	(6) Ratio incl. Unearned Premium {(1)+(2) + (3)} / (4)
2020	213,654,262	47,148,359	91,285,583	184,607,060	1.41	1.91
2019	201,634,477	45,253,873	88,025,958	177,424,154	1.39	1.89
2018	198,071,343	43,050,172	84,424,740	169,657,802	1.42	1.92
2017	194,692,095	42,696,647	77,537,150	171,664,964	1.38	1.83
2016	186,424,236	41,741,053	72,716,997	169,831,305	1.34	1.77
2016 - 2020	994,476,413	219,890,104	413,990,428	873,185,285	1.39	1.86

Selected Ratio including Unearned Premium: 1.86

Source: Columns (1) - (4) for the latest year are taken from Liabilities, Surplus and Other Funds in Best's 2021 Aggregates & Averages, for Commercial Casualty Composite.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### **Part 4 Additional Information**

- Definitions
- NCCI Affiliate List
- Key Contacts



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Definitions

**Accident Year (AY):** A loss accounting definition in which experience is summarized by the calendar year in which an accident occurred.

**Calendar Year (CY):**

- The 12-month period beginning January 1 and ending December 31.
- Method of accounting for all financial transactions occurring during a specific year.

**Case Reserves:** Reserves that an insurance company establishes for specific (known) claims.

**DSR Level Premium:** The standard earned premium that would result if business were written at NCCI state-approved loss costs or rates instead of at the company rates. It is the common benchmark level at which carriers report premium on the Financial Calls.

**Frequency:** The number of lost-time claims per million dollars of on-leveled, wage-adjusted premium.

**Incurred Claim Count:** The total of all claims reported, whether open or closed, as of a given valuation date. An indemnity claim is associated with a payment or case reserve for an indemnity loss (i.e., lost work time-related benefits) and excludes claims closed without an indemnity payment.

**Lost-time Claims:** Claims where an injured employee has received wage replacement benefits due to a compensable workplace injury.

**Limited Losses:** Losses that result after the application of NCCI's large loss procedure—in which individual large claims are limited to jurisdiction and year-specific large loss thresholds.

**On-Level Factor:** Applied to historical premiums and losses to adjust the historical experience to reflect approved loss cost/rate level changes as well as statutory benefit level changes implemented since that time.

**Paid+Case Losses:** The sum of paid losses and case reserves. Also known as “case incurred losses.”

**Paid Losses:** Losses that an insurance company has paid as a result of claim activity.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Definitions

**Policy Year:**

- The one-year period beginning with the effective date or anniversary of a policy.
- A premium and loss accounting definition in which experience is summarized for all policies with effective dates in a given calendar year period.

**Severity:** The average cost per case (claim) calculated as ultimate losses divided by ultimate lost-time claim counts.

**Ultimate Development Factor:** For an aggregation of data, an estimate of the development that will occur between the data's current valuation date and the time when all claims are closed.

**Unlimited Losses:** Losses that have not been limited to jurisdiction and year-specific large loss thresholds as part of NCCI's large loss procedure.

**Valuation Date:** The date that premiums and losses are evaluated for reporting purposes. Premiums and losses may change over time from initial estimates to final values. Therefore, interim snapshots have associated valuation dates.

**Wage Level Adjustment Factor:** The ratio of the average workers' wages during the most recent time period to the average workers' wages during a historical time period.



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### NCCI Affiliate List

A M C O INSURANCE COMPANY  
ACADIA INSURANCE COMPANY  
ACCIDENT FUND GENERAL INS CO  
ACCIDENT FUND INS CO OF AMERICA  
ACCIDENT FUND NATIONAL INS CO  
ACCREDITED SURETY & CASUALTY COMPANY INC  
ACE AMERICAN INSURANCE COMPANY  
ACE FIRE UNDERWRITERS INSURANCE COMPANY  
ACE PROPERTY & CASUALTY INSURANCE COMPANY  
ACIG INS CO  
ADMIRAL INDEMNITY COMPANY  
AIG ASSURANCE COMPANY  
AIG PROPERTY CASUALTY COMPANY  
AIU INSURANCE CO (NATIONAL UNION FIRE OF PITTS PA)  
ALL AMERICA INS CO  
ALLIED EASTERN IND CO  
ALLIED INSURANCE COMPANY OF AMERICA  
ALLIED PROPERTY AND CASUALTY INS CO  
ALLMERICA FINANCIAL ALLIANCE INS CO  
ALLMERICA FINANCIAL BENEFIT INS CO  
AMERICAN ALTERNATIVE INSURANCE CORPORATION  
AMERICAN AUTOMOBILE INSURANCE CO  
AMERICAN CASUALTY COMPANY OF READING P A  
AMERICAN COMPENSATION INS CO  
AMERICAN ECONOMY INS CO  
AMERICAN FAMILY HOME INS CO  
AMERICAN FIRE AND CASUALTY CO  
AMERICAN GUARANTEE AND LIABILITY INS CO  
AMERICAN HOME ASSUR CO-NATIONAL UNION FIRE OF PIT  
AMERICAN INS CO  
AMERICAN LIBERTY INSURANCE CO  
AMERICAN MODERN HOME INS CO  
AMERICAN STATES INS CO A SAFECO COMPANY  
AMERICAN ZURICH INS CO  
AMERISURE INS CO  
AMERISURE MUTUAL INS CO  
AMGUARD INS CO  
AMTRUST INSURANCE CO  
ANSUR AMERICA  
ARBELLA INDEMNITY INS CO  
ARBELLA PROTECTION INS CO  
ARCH INDEMNITY INSURANCE COMPANY  
ARCH INSURANCE COMPANY  
ARCH PROPERTY CASUALTY INS CO  
ARGONAUT GREAT CENTRAL INS CO  
ARGONAUT INS CO  
ASSOCIATED EMPLOYERS INS CO  
ASSOCIATED INDUSTRIES OF MASS MUTUAL INS CO  
ATLANTIC CHARTER INS CO  
ATLANTIC SPECIALTY INS CO (INTACT )  
BANKERS STANDARD INS CO  
BENCHMARK INSURANCE COMPANY  
BERKLEY CASUALTY COMPANY  
BERKLEY INSURANCE COMPANY  
BERKLEY NATIONAL INSURANCE COMPANY  
BERKLEY REGIONAL INS CO  
BERKSHIRE HATHAWAY DIRECT INSURANCE COMPANY  
BERKSHIRE HATHAWAY HOMESTATE INS CO  
BITCO GENERAL INSURANCE CORPORATION  
BLACKBOARD INSURANCE COMPANY  
BROTHERHOOD MUTUAL INS CO  
CALIFORNIA INSURANCE COMPANY  
CAROLINA CASUALTY INS CO  
CEDAR INSURANCE COMPANY  
CENTRAL MUTUAL INS CO  
CHARTER OAK FIRE INS CO  
CHEROKEE INS CO  
CHIRON INSURANCE COMPANY  
CHUBB INDEMNITY INS CO  
CHUBB NATIONAL INS CO  
CHURCH MUTUAL INS CO, S.I.  
CINCINNATI CASUALTY COMPANY  
CINCINNATI INDEMNITY COMPANY  
CINCINNATI INS CO  
CITIZENS INS CO OF AMERICA  
CLEAR SPRING PROPERTY AND CASUALTY COMPANY  
CLERMONT INS CO  
COLONIAL AMERICAN CASUALTY & SURETY CO  
COMMERCE AND INDUSTRY INS CO  
CONTINENTAL CASUALTY CO  
CONTINENTAL INDEMNITY CO  
CONTINENTAL INS CO  
CONTINENTAL WESTERN INSURANCE COMPANY  
COREPOINTE INSURANCE COMPANY  
COUNTRY MUTUAL INSURANCE CO  
CRESTBROOK INS CO  
CRUM AND FORSTER INDEMNITY CO  
DAKOTA TRUCK UNDERWRITERS  
DEPOSITORS INS CO  
DISCOVER PROPERTY & CASUALTY INS CO  
EASTERN ADVANTAGE ASSURANCE COMPANY  
EASTERN ALLIANCE INSURANCE COMPANY  
EASTGUARD INS CO  
ELECTRIC INS CO  
EMC PROPERTY & CASUALTY COMPANY  
EMCASCO INS CO  
EMPLOYERS ASSURANCE COMPANY  
EMPLOYERS COMPENSATION INS CO  
EMPLOYERS INS CO OF WAUSAU  
EMPLOYERS INSURANCE COMPANY OF NEVADA  
EMPLOYERS MUTUAL CASUALTY CO  
EMPLOYERS PREFERRED INS CO  
ENDURANCE AMERICAN INS CO  
ENDURANCE ASSURANCE CORPORATION  
EVEREST DENALI INSURANCE COMPANY  
EVEREST NATIONAL INS CO  
EVEREST PREMIER INSURANCE COMPANY  
EVEREST REINSURANCE CO DIRECT  
EXCELSIOR INSURANCE COMPANY  
EXECUTIVE RISK INDEMNITY INC  
EXECUTIVE RISK SPECIALTY INS CO  
FALLS LAKE NATIONAL INSURANCE CO  
FARM FAMILY CASUALTY INS CO  
FARMERS INSURANCE EXCHANGE  
FARMINGTON CASUALTY COMPANY  
FEDERAL INSURANCE COMPANY  
FEDERATED MUTUAL INS CO  
FEDERATED RESERVE INSURANCE CO  
FEDERATED SERVICE INS CO  
FIDELITY & DEPOSIT COMPANY OF MARYLAND



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### NCCI Affiliate List

FIDELITY & GUARANTY INS UNDERWRITERS  
FIDELITY & GUARANTY INSURANCE CO  
FIRE INS EXCHANGE  
FIREMANS FUND INSURANCE CO  
FIREMENS INS CO OF WASHINGTON DC  
FIRST DAKOTA INDEMNITY CO  
FIRST LIBERTY INS CORP  
FIRST NATIONAL INS CO OF AMERICA  
FIRSTCOMP INSURANCE CO  
FLORISTS MUTUAL INSURANCE CO  
FRANK WINSTON CRUM INSURANCE CO  
FRANKENMUTH MUTUAL INS CO  
FREEDOM SPECIALTY INSURANCE COMPANY  
GENERAL CASUALTY COMPANY OF WISCONSIN  
GENERAL INS CO OF AMERICA  
GENESIS INS CO  
GRANITE STATE INSURANCE COMPANY  
GRAPHIC ARTS MUTUAL INS CO  
GRAY INSURANCE COMPANY  
GREAT AMERICAN ALLIANCE INS CO  
GREAT AMERICAN ASSURANCE COMPANY  
GREAT AMERICAN INS CO OF NY  
GREAT AMERICAN INSURANCE COMPANY  
GREAT AMERICAN SPIRIT INS CO  
GREAT DIVIDE INSURANCE COMPANY  
GREAT MIDWEST INS CO  
GREAT NORTHERN INS CO  
GREAT WEST CASUALTY COMPANY  
GREATER NY MUTUAL INS CO  
GREENWICH INS CO  
GUIDEONE INSURANCE COMPANY  
HANOVER AMERICAN INS CO  
HANOVER INS CO  
HARLEYSVILLE INSURANCE COMPANY  
HARLEYSVILLE PREFERRED INSURANCE CO  
HARLEYSVILLE WORCESTER INSURANCE CO  
HARTFORD ACCIDENT AND INDEMNITY CO  
HARTFORD CASUALTY INS CO  
HARTFORD FIRE INSURANCE CO  
HARTFORD INS CO OF IL  
HARTFORD INS CO OF MIDWEST  
HARTFORD INS CO OF THE SOUTHEAST  
HARTFORD UNDERWRITERS INS CO  
HDI GLOBAL INSURANCE COMPANY  
ILLINOIS NATIONAL INSURANCE COMPANY  
IMPERIUM INSURANCE COMPANY  
INCLINE CASUALTY COMPANY  
INDEMNITY INS CO OF N AMERICA (INA INS) (CT GEN)  
INS CO OF GREATER NY  
INS CO OF NORTH AMERICA  
INS CO OF THE STATE PA  
INS CO OF THE WEST  
INTREPID INSURANCE COMPANY  
KEY RISK INS CO  
LACKAWANNA AMERICAN INS CO  
LACKAWANNA CASUALTY CO  
LACKAWANNA NATIONAL INS CO  
LIBERTY INS CORP  
LIBERTY INSURANCE UNDERWRITERS INC  
LIBERTY MUTUAL FIRE INS CO  
LIBERTY MUTUAL INS CO  
LION INSURANCE COMPANY  
LM INS CORP  
MA BAY INS CO  
MAG MUTUAL INS CO  
MAIN STREET AMERICA ASSURANCE CO  
MANUFACTURERS ALLIANCE INS CO  
MARKEL INSURANCE CO  
ME EMPLOYERS MUTUAL INS CO  
MEMIC CASUALTY COMPANY  
MEMIC INDEMNITY CO  
MERIDIAN SECURITY INSURANCE COMPANY  
MID CENTURY INS CO  
MIDDLESEX INS CO  
MIDVALE INDEMNITY COMPANY  
MIDWEST EMPLOYERS CASUALTY CO  
MIDWESTERN INDEMNITY CO  
MILBANK INSURANCE COMPANY  
MILFORD CASUALTY INSURANCE CO  
MITSUI SUMITOMO INS CO OF AMERICA  
MITSUI SUMITOMO INS USA INC  
MOTORISTS COMMERCIAL MUTUAL INSURANCE COMPANY  
NATIONAL AMERICAN INS CO  
NATIONAL CASUALTY CO  
NATIONAL FIRE INS CO OF HARTFORD  
NATIONAL INTERSTATE INS CO  
NATIONAL LIABILITY & FIRE INSURANCE CO  
NATIONAL SPECIALTY INS CO  
NATIONAL SURETY CORP  
NATIONAL UNION FIRE INS CO OF PITTSBURGH PA  
NATIONWIDE AGRIBUSINESS INS CO  
NATIONWIDE ASSURANCE CO  
NATIONWIDE GENERAL INSURANCE CO  
NATIONWIDE INS CO OF AMERICA  
NATIONWIDE MUTUAL FIRE INS CO  
NATIONWIDE MUTUAL INS CO  
NATIONWIDE PROPERTY AND CASUALTY INS CO  
NETHERLANDS INSURANCE COMPANY  
NEW HAMPSHIRE INSURANCE COMPANY  
NEW JERSEY CASUALTY INS CO  
NEW JERSEY INDEMNITY INS CO  
NEW JERSEY MANUFACTURERS INS CO  
NEW JERSEY RE-INSURANCE CO  
NEW YORK MARINE AND GENERAL INSURANCE CO  
NEXT INSURANCE US COMPANY  
NGM INSURANCE COMPANY  
NORGUARD INS CO  
NORMANDY INSURANCE COMPANY  
NORTH POINTE INS CO  
NORTH RIVER INS CO  
NOVA CASUALTY COMPANY  
NUTMEG INS CO  
OAK RIVER INSURANCE COMPANY  
OBI AMERICA INSURANCE COMPANY  
OBI NATIONAL INSURANCE COMPANY  
OH CASUALTY INS CO  
OHIO SECURITY INS CO  
OLD DOMINION INS CO  
OLD REPUBLIC GENERAL INSURANCE CORPORATION  
OLD REPUBLIC INS CO





## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### NCCI Affiliate List

PA MANUFACTURERS ASSN INS CO  
PA MANUFACTURERS INDEMNITY CO  
PACIFIC EMPLOYERS INS CO  
PACIFIC INDEMNITY CO  
PACIFIC INS CO LTD  
PATRIOT GENERAL INS CO  
PATRONS MUTUAL INS CO OF CT  
PEERLESS INDEMNITY INS CO  
PEERLESS INSURANCE COMPANY  
PENN MILLERS INS CO  
PENNSYLVANIA INSURANCE COMPANY  
PETROLEUM CASUALTY CO  
PHARMACISTS MUTUAL INS CO  
PHOENIX INS CO  
PINNACLE NATIONAL INSURANCE COMPANY  
PLAZA INSURANCE CO  
PRAETORIAN INSURANCE COMPANY  
PREFERRED EMPLOYERS INS CO  
PREFERRED PROFESSIONAL INSURANCE COMPANY  
PRIVILEGE UNDERWRITERS RECIPROCAL EXCHANGE  
PROPERTY AND CASUALTY INS CO OF HARTFORD  
PROTECTIVE INS CO  
QBE INSURANCE CORPORATION  
REDWOOD FIRE & CASUALTY INS CO  
REGENT INSURANCE COMPANY  
REPUBLIC FRANKLIN INS CO  
REPUBLIC INDEMNITY CO OF CA  
REPUBLIC INDEMNITY COMPANY OF AMERICA  
REPUBLIC UNDERWRITERS INSURANCE CO  
RIVERPORT INSURANCE COMPANY  
RLI INSURANCE COMPANY  
ROCKWOOD CASUALTY INS CO  
SAFECO INS CO OF AMERICA  
SAFETY FIRST INS CO  
SAFETY NATIONAL CASUALTY CORP  
SAGAMORE INSURANCE CO  
SAMSUNG FIRE AND MARINE INS CO LTD USB  
SCOTTSDALE INDEMNITY CO  
SECURITY NATIONAL INS CO (AMTRUST GROUP)  
SELECTIVE INS CO OF SC  
SELECTIVE INS CO OF THE SOUTHEAST  
SELECTIVE INSURANCE COMPANY OF AMERICA  
SELECTIVE WAY INS CO  
SENTINEL INS CO  
SENTRY CASUALTY CO  
SENTRY INS CO  
SENTRY SELECT INSURANCE COMPANY  
SEQUOIA INSURANCE CO  
SERVICE AMERICAN INDEMNITY COMPANY  
SERVICE LLOYDS INSURANCE CO, A STOCK COMPANY  
SFM MUTUAL INS CO  
SIRIUSPOINT AMERICA INSURANCE COMPANY  
SOMPO AMERICA FIRE & MARINE INSURANCE COMPANY  
SOMPO AMERICA INSURANCE COMPANY  
SOUTHERN INS CO  
ST PAUL FIRE AND MARINE INS CO  
ST PAUL GUARDIAN INS CO  
ST PAUL MERCURY INS CO  
ST PAUL PROTECTIVE INS CO  
STANDARD FIRE INSURANCE COMPANY  
STAR INS CO  
STARNET INSURANCE COMPANY  
STARR INDEMNITY AND LIABILITY CO  
STARR SPECIALTY INSURANCE COMPANY  
STARSTONE NATIONAL INSURANCE COMPANY  
STATE AUTO PROPERTY AND CASUALTY INS CO  
STATE AUTOMOBILE MUTUAL INS CO  
STATE FARM FIRE AND CASUALTY CO  
STATE NATIONAL INSURANCE COMPANY  
STONINGTON INS CO  
STRATHMORE INS CO  
SUNZ INSURANCE COMPANY  
SWISS RE CORPORATE SOLUTIONS AMERICA INS CORP  
SWISS RE CORPORATE SOLUTIONS ELITE INS CORP  
SWISS RE CORPORATE SOLUTIONS PREMIER INS CORP  
THE INSURANCE COMPANY  
TECHNOLOGY INSURANCE CO  
THE TRAVELERS CASUALTY COMPANY  
TNUS INSURANCE CO  
TOKIO MARINE AMERICA INSURANCE CO  
TRANS PACIFIC INS CO  
TRANSGUARD INS CO OF AMERICA INC  
TRANSPORTATION INS CO  
TRAVELERS CASUALTY & SURETY CO OF AMERICA  
TRAVELERS CASUALTY AND SURETY CO  
TRAVELERS CASUALTY INS CO OF AMERICA  
TRAVELERS COMMERCIAL INS CO  
TRAVELERS INDEMNITY CO  
TRAVELERS INDEMNITY CO OF AMERICA  
TRAVELERS INDEMNITY CO OF CT  
TRAVELERS INSURANCE CO  
TRAVELERS PROPERTY CASUALTY CO OF AMERICA  
TRI STATE INSURANCE COMPANY OF MINNESOTA  
TRIUMPHE CASUALTY COMPANY  
TRUCK INSURANCE EXCHANGE  
TRUMBULL INS CO  
TWIN CITY FIRE INS CO  
UNION INS CO OF PROVIDENCE  
UNION INSURANCE COMPANY  
UNITED STATES FIDELITY AND GUARANTY CO  
UNITED WI INS CO  
US FIRE INS CO  
UTICA MUTUAL INS CO  
UTICA NATIONAL ASSURANCE CO  
UTICA NATIONAL INS CO OF TX  
UTICA NATIONAL INSURANCE COMPANY OF OH  
VALLEY FORGE INS CO  
VANLINER INS CO  
VANTAPRO SPECIALTY INS CO  
VICTORIA FIRE & CASUALTY COMPANY  
VIGILANT INS CO  
WCF NATIONAL INSURANCE COMPANY  
WCF SELECT INSURANCE COMPANY  
WELLFLEET INSURANCE COMPANY  
WELLFLEET NEW YORK INSURANCE COMPANY  
WESCO INSURANCE COMPANY (AMTRUST GROUP)  
WEST AMERICAN INS CO  
WEST BEND MUTUAL INS CO  
WESTCHESTER FIRE INSURANCE COMPANY  
WESTPORT INSURANCE CORPORATION



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### NCCI Affiliate List

WORK FIRST CASUALTY CO  
XL INS CO OF NY INC  
XL INSURANCE AMERICA INC  
XL SPECIALTY INS CO  
ZENITH INS CO  
ZURICH AMERICAN INS CO  
ZURICH AMERICAN INS CO OF IL



## CONNECTICUT

### Voluntary Loss Cost and Assigned Risk Rate Filing – January 1, 2023

#### Key Contacts

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