

**State:** Missouri  
**TOI/Sub-TOI:** 16.0 Workers Compensation/16.0004 Standard WC  
**Product Name:** Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
**Project Name/Number:** /

## Filing at a Glance

Company: NCCI Inc  
Product Name: Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
State: Missouri  
TOI: 16.0 Workers Compensation  
Sub-TOI: 16.0004 Standard WC  
Filing Type: Rate  
Date Submitted: 08/24/2022  
SERFF Tr Num: NCCI-133377918  
SERFF Status: Closed-REVIEWED  
State Tr Num: 144  
State Status: REVIEWED  
Co Tr Num: MISSOURI LC 01012023  
  
Effective Date: 01/01/2023  
Requested (New):  
Effective Date: 01/01/2023  
Requested (Renewal):  
Author(s): Lesley O'Brien, Nancy Mattei, Tyler Santos, Simone Lawrence, Andrew Scott  
Reviewer(s): Patrick Lennon (primary)  
Disposition Date: 11/09/2022  
Disposition Status: REVIEWED  
Effective Date (New): 01/01/2023  
Effective Date (Renewal): 01/01/2023  
  
State Filing Description:  
  
Filing Labels: External Actuary Review

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<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC		
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
<b>Project Name/Number:</b>	/		

## General Information

Project Name:	Status of Filing in Domicile:
Project Number:	Domicile Status Comments:
Reference Organization:	Reference Number:
Reference Title:	Advisory Org. Circular:
Filing Status Changed: 11/09/2022	
State Status Changed: 11/09/2022	Deemer Date:
Created By: Andrew Scott	Submitted By: Andrew Scott
Corresponding Filing Tracking Number:	
State TOI: 16.0 Workers Compensation	State Sub-TOI: 16.0004 Standard WC

### Filing Description:

In accordance with the applicable statutes and regulations of the state of Missouri, we are filing advisory voluntary loss costs and rating values to be effective January 1, 2023.

## Company and Contact

### Filing Contact Information

Carla Townsend, State Relations Executive carla\_townsend@ncci.com  
901 Peninsula Corporate Circle 561-893-3819 [Phone]  
Boca Raton, FL 33487-1362 561-893-5779 [FAX]

### Filing Company Information

NCCI Inc	CoCode:	State of Domicile: Florida
901 Peninsula Corporate Circle	Group Code:	Company Type:
Boca Raton, FL 33487	Group Name:	State ID Number: 9999-8500
(561) 893-3186 ext. [Phone]	FEIN Number: 65-0439698	

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**State:** Missouri **Filing Company:** NCCI Inc  
**TOI/Sub-TOI:** 16.0 Workers Compensation/16.0004 Standard WC  
**Product Name:** Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
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## Filing Fees

### State Fees

Fee Required? Yes  
Fee Amount: \$150.00  
Retaliatory? No  
Fee Explanation:  
Per Company: Yes

Company	Amount	Date Processed	Transaction #
NCCI Inc	\$150.00	08/24/2022 10:50 AM	237243540

**EFT Total** **\$150.00**

### State Specific

NAIC Number: N/A

Have you reviewed the General Instructions document? (yes/no)(General Instructions updated 06/16/2017): Yes

If this is a rate filing, was rate data added on the rate/rule schedule? (yes/no): Yes

Are you paying the \$150 per company per submission filing fee electronically using EFT? The utilization of SERFF and EFT for filings of papers, documents, and reports is now required, per 20 CSR 100-1.900.: Yes

State:	Missouri	Filing Company:	NCCI Inc
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Project Name/Number:	/		

## Correspondence Summary

### Dispositions

Status	Created By	Created On	Date Submitted
REVIEWED	Patrick Lennon	11/09/2022	11/09/2022

### Objection Letters and Response Letters

#### Objection Letters

Status	Created By	Created On	Date Submitted
PENDING INDUSTRY RESPONSE	Patrick Lennon	09/26/2022	09/26/2022

#### Response Letters

Responded By	Created On	Date Submitted
Nancy Mattei	10/06/2022	10/06/2022

<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC		
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
<b>Project Name/Number:</b>	/		

## Disposition

Disposition Date: 11/09/2022

Effective Date (New): 01/01/2023

Effective Date (Renewal): 01/01/2023

Status: REVIEWED

Comment: Thank you for your filing submission. At this point in time, I do not have any further questions and am concluding my review of this filing. Please note that the closure of this filing does not constitute an approval by the Department and does not mean the Department is precluded from initiating future inquiries or from taking further administrative or legal action. Ultimately, the insurance company is responsible for ensuring it is in compliance with Missouri insurance law through its administration of insurance policies and handling of claims.

Company Name:	Overall % Indicated Change:	Overall % Rate Impact:	Written Premium Change for this Program:	Number of Policy Holders Affected for this Program:	Written Premium for this Program:	Maximum % Change (where req'd):	Minimum % Change (where req'd):
NCCI Inc	-6.400%	0.000%	\$0	0	\$0	15.600%	-28.700%

Schedule	Schedule Item	Schedule Item Status	Public Access
Rate	New Filing		No
Supporting Document	Actuarial Justification		No
Supporting Document	Electronic Rate Submission		No
Supporting Document	Exhibits A & B (20 CSR 500-6.950)(2)		No
Supporting Document	Filing Memorandum		No
Supporting Document	Filing Narrative		No
Supporting Document	Interrogatory Response		No

**State:** Missouri  
**TOI/Sub-TOI:** 16.0 Workers Compensation/16.0004 Standard WC  
**Product Name:** Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
**Project Name/Number:** /

## Objection Letter

Objection Letter Status	PENDING INDUSTRY RESPONSE
Objection Letter Date	09/26/2022
Submitted Date	09/26/2022
Respond By Date	10/07/2022

Dear Carla Townsend,

### Introduction:

Thank you for your submission of this filing. Upon review, areas of concern for Missouri insurance regulatory guidelines were found. Please address the following objections and respond by the date above.

### Objection 1

Comments: DATA:

Have any of the data sources used in determining the Missouri Advisory Loss Costs and Rating Values Filing changed since the previous filing? For example, using data from a different data call to develop expenses.

### Objection 2

Comments: METHODOLOGY:

Please provide the estimated overall impact for each change in methodology from the previous filing.

### Objection 3

Comments: WAGE ADJUSTMENT:

How were the 2020 and 2021 average weekly wages adjusted to exclude the estimated impact of pandemic-related industry-sector mix change? How was it determined what industry-sector mix changes were expected to return to pre-pandemic levels over time and what changes were expected to persist?

### Objection 4

Comments: COVID-19-RELATED ADJUSTMENTS:

Was it assumed in this analysis that 2023 will mark a return to pre-COVID-19 loss and wage levels, or was there consideration given to the impact of the Omicron variant or other variants on claims and economic conditions in 2023?

### Objection 5

Comments: LOSS DEVELOPMENT FACTORS:

Please provide loss development triangles with at least 10 diagonals for both the voluntary and assigned risk markets separated by indemnity, medical, and DCCE for the past 19 years. In the prior year, this was submitted as Exhibit 4 Development Triangles.xlsx. An updated version of this file will suffice for these purposes.

### Objection 6

Comments: LOSS DEVELOPMENT FACTORS:

Please provide an Excel file with the specific calculations used to determine Appendix A-II, Section G, column (6) for the most recent year.

**State:** Missouri **Filing Company:** NCCI Inc  
**TOI/Sub-TOI:** 16.0 Workers Compensation/16.0004 Standard WC  
**Product Name:** Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
**Project Name/Number:** /

**Objection 7**

Comments: LOSS DEVELOPMENT FACTORS:

Please provide an excel file spreadsheet with the specific calculations that provide the derivation of the 0.768 factor in Appendix A-II, Section H, line 2.

**Objection 8**

Comments: AOE AND DCCE RATIOS:

Exhibit II Sections A and B:

a) Please provide the underlying data and calculations to bring AOE and DCCE to an ultimate level including the development factors, AOE, DCCE, losses, and any other values used to determine the Ultimate AOE and DCCE ratios.

b) Please provide the Ultimate AOE Ratios for MO only data.

c) In the prior years filing, the AOE provision from MO was selected based on a countrywide and MO specific analysis. Was this process still used in this filing?

**Objection 9**

Comments: POLICY YEAR ON-LEVEL FACTORS:

Appendix A-I Section A and Section D:

Please provide the underlying data and calculations to support the factors in column (6).

**Objection 10**

Comments: POLICY YEAR ON-LEVEL FACTORS:

Appendix A-I Section A and Section D:

Please provide the underlying data and calculations to support the factors in column (7). More specifically, how is the targeted off-balance factor of 0.990 determined in Section D?

**Objection 11**

Comments: INDUSTRY GROUP DIFFERENTIALS:

Appendix A-IV Section I: Please show the calculations underlying the factors in Col (4) and Col (5).

**Objection 12**

Comments: LIMITED LOSS DEVELOPMENT FACTORS:

Appendix B-I Section I: Please provide underlying data and calculations for how the Likely-to-Develop and NotLikely-to-Develop columns are calculated.

**Objection 13**

Comments: VOLUNTARY MARKET INDICATION:

Please provide the indication as of 1/1/2023 if all assigned risk experience was excluded. Please provide these calculations in an excel file and include all the underlying components that will change because they are based on only voluntary experience, such as loss development, trend, LAE, etc.

**State:** Missouri  
**TOI/Sub-TOI:** 16.0 Workers Compensation/16.0004 Standard WC  
**Product Name:** Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023  
**Project Name/Number:** /

**Objection 14**

Comments: SMALL CLASSES:

Please provide any updates on class ratemaking research, status and results, or stability performance results on tests of the performance of the recently implemented small class ratemaking project intended to address the stability of the small classes.

**Objection 15**

Comments: CLASSIFICATION:

Please provide an Excel file with seven columns of information. The first column should be the class code, the second column should be the exposures by class code, the third column should be the current advisory loss cost, the fourth column should be the proposed advisory loss cost by class code and the last three columns should be the percentage loss cost changes effective 2023, 2022, and 2021 by class code. Include totals in columns 4, 5 and 6 and please exclude discontinued classes. This file was submitted as Exhibit 18 Loss Cost Comparison.xlsx in last years filing.

**Objection 16**

Comments: VOLUNTARY MARKET AND ASSIGNED RISK PLANS:

Please confirm that the indication provided in Exhibit I is an indication for the voluntary market but that the data upon which it is based is on combined voluntary and assigned risk plan losses. If not, please explain. Please confirm that although the voluntary indications are based on combined voluntary and assigned risk plan data, that you are not providing loss costs or rates for the assigned risk market.

**Conclusion:**

Please respond to this letter by the above date. This submission will be held in suspense pending your response. Feel free to contact me at [Patrick.Lennon@insurance.mo.gov](mailto:Patrick.Lennon@insurance.mo.gov) or 573-751-1946 should you have any questions or concerns.

Sincerely,

Patrick Lennon



State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

## Response Letter

Response Letter Status	Submitted to State
Response Letter Date	10/06/2022
Submitted Date	10/06/2022

Dear Patrick Lennon,

### Introduction:

Good morning,

### Response 1

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 1

Comments: DATA:

Have any of the data sources used in determining the Missouri Advisory Loss Costs and Rating Values Filing changed since the previous filing? For example, using data from a different data call to develop expenses.

### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

## Supporting Document Schedule Item Changes

Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

### Response 2

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 2

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

Comments: METHODOLOGY:

Please provide the estimated overall impact for each change in methodology from the previous filing.

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

**Response 3**

**Comments:**

Responses are in the Supporting Documentation tab.

**Related Objection 3**

Comments: WAGE ADJUSTMENT:

How were the 2020 and 2021 average weekly wages adjusted to exclude the estimated impact of pandemic-related industry-sector mix change? How was it determined what industry-sector mix changes were expected to return to pre-pandemic levels over time and what changes were expected to persist?

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

#### Response 4

##### Comments:

Responses are in the Supporting Documentation tab.

#### Related Objection 4

Comments: COVID-19-RELATED ADJUSTMENTS:

Was it assumed in this analysis that 2023 will mark a return to pre-COVID-19 loss and wage levels, or was there consideration given to the impact of the Omicron variant or other variants on claims and economic conditions in 2023?

##### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

#### Response 5

##### Comments:

Responses are in the Supporting Documentation tab.

#### Related Objection 5

Comments: LOSS DEVELOPMENT FACTORS:

Please provide loss development triangles with at least 10 diagonals for both the voluntary and assigned risk markets separated by indemnity, medical, and DCCE for the past 19 years. In the prior year, this was submitted as Exhibit 4 Development Triangles.xlsx. An updated version of this file will suffice for these purposes.

##### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
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Project Name/Number:	/		

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

### Response 6

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 6

Comments: LOSS DEVELOPMENT FACTORS:

Please provide an Excel file with the specific calculations used to determine Appendix A-II, Section G, column (6) for the most recent year.

#### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

### Response 7

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 7

Comments: LOSS DEVELOPMENT FACTORS:

Please provide an excel file spreadsheet with the specific calculations that provide the derivation of the 0.768 factor in Appendix A-II, Section H, line 2.

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

**Response 8**

**Comments:**

Responses are in the Supporting Documentation tab.

**Related Objection 8**

Comments: AOE AND DCCE RATIOS:

Exhibit II Sections A and B:

a) Please provide the underlying data and calculations to bring AOE and DCCE to an ultimate level including the development factors, AOE, DCCE, losses, and any other values used to determine the Ultimate AOE and DCCE ratios.

b) Please provide the Ultimate AOE Ratios for MO only data.

c) In the prior years filing, the AOE provision from MO was selected based on a countrywide and MO specific analysis. Was this process still used in this filing?

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

State:	Missouri	Filing Company:	NCCI Inc
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Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
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### Response 9

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 9

Comments: POLICY YEAR ON-LEVEL FACTORS:

Appendix A-I Section A and Section D:

Please provide the underlying data and calculations to support the factors in column (6).

### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

### Response 10

#### Comments:

Responses are in the Supporting Documentation tab.

### Related Objection 10

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

Comments: POLICY YEAR ON-LEVEL FACTORS:

Appendix A-I Section A and Section D:

Please provide the underlying data and calculations to support the factors in column (7). More specifically, how is the targeted off-balance factor of 0.990 determined in Section D?

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

**Response 11**

**Comments:**

Responses are in the Supporting Documentation tab.

**Related Objection 11**

Comments: INDUSTRY GROUP DIFFERENTIALS:

Appendix A-IV Section I: Please show the calculations underlying the factors in Col (4) and Col (5).

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

State:	Missouri	Filing Company:	NCCI Inc
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#### Response 12

##### Comments:

Responses are in the Supporting Documentation tab.

#### Related Objection 12

Comments: LIMITED LOSS DEVELOPMENT FACTORS:

Appendix B-I Section I: Please provide underlying data and calculations for how the Likely-to-Develop and NotLikely-to-Develop columns are calculated.

#### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

#### Response 13

##### Comments:

Responses are in the Supporting Documentation tab.

#### Related Objection 13

Comments: VOLUNTARY MARKET INDICATION:

Please provide the indication as of 1/1/2023 if all assigned risk experience was excluded. Please provide these calculations in an excel file and include all the underlying components that will change because they are based on only voluntary experience, such as loss development, trend, LAE, etc.



State:	Missouri	Filing Company:	NCCI Inc
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**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

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**Response 14**

**Comments:**

Responses are in the Supporting Documentation tab.

**Related Objection 14**

Comments: SMALL CLASSES:

Please provide any updates on class ratemaking research, status and results, or stability performance results on tests of the performance of the recently implemented small class ratemaking project intended to address the stability of the small classes.

**Changed Items:**

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
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Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

**Response 15**

**Comments:**

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

Responses are in the Supporting Documentation tab.

#### Related Objection 15

Comments: CLASSIFICATION:

Please provide an Excel file with seven columns of information. The first column should be the class code, the second column should be the exposures by class code, the third column should be the current advisory loss cost, the fourth column should be the proposed advisory loss cost by class code and the last three columns should be the percentage loss cost changes effective 2023, 2022, and 2021 by class code. Include totals in columns 4, 5 and 6 and please exclude discontinued classes. This file was submitted as Exhibit 18 Loss Cost Comparison.xlsx in last years filing.

#### Changed Items:

No Form Schedule items changed.

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
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Comments:	
Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

#### Response 16

Comments:

Responses are in the Supporting Documentation tab.

#### Related Objection 16

Comments: VOLUNTARY MARKET AND ASSIGNED RISK PLANS:

Please confirm that the indication provided in Exhibit I is an indication for the voluntary market but that the data upon which it is based is on combined voluntary and assigned risk plan losses. If not, please explain. Please confirm that although the voluntary indications are based on combined voluntary and assigned risk plan data, that you are not providing loss costs or rates for the assigned risk market.

#### Changed Items:

No Form Schedule items changed.

State:	Missouri	Filing Company:	NCCI Inc
TOI/Sub-TOI:	16.0 Workers Compensation/16.0004 Standard WC		
Product Name:	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
Project Name/Number:	/		

No Rate/Rule Schedule items changed.

Supporting Document Schedule Item Changes	
Satisfied - Item:	Interrogatory Response
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Attachment(s):	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip

**Conclusion:**

Thank you,  
Sincerely,  
Nancy Mattei

<b>SERFF Tracking #:</b>	NCCI-133377918	<b>State Tracking #:</b>	144	<b>Company Tracking #:</b>	MISSOURI LC 01012023
<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc		
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC				
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023				
<b>Project Name/Number:</b>	/				

## Rate Information

Rate data applies to filing.

<b>Filing Method:</b>	SERFF
<b>Rate Change Type:</b>	Decrease
<b>Overall Percentage of Last Rate Revision:</b>	-7.700%
<b>Effective Date of Last Rate Revision:</b>	01/01/2022
<b>Filing Method of Last Filing:</b>	SERFF
<b>SERFF Tracking Number of Last Filing:</b>	NCCI-132953901

## Company Rate Information

<b>Company Name:</b>	<b>Overall % Indicated Change:</b>	<b>Overall % Rate Impact:</b>	<b>Written Premium Change for this Program:</b>	<b>Number of Policy Holders Affected for this Program:</b>	<b>Written Premium for this Program:</b>	<b>Maximum % Change (where req'd):</b>	<b>Minimum % Change (where req'd):</b>
NCCI Inc	-6.400%	0.000%	\$0	0	\$0	15.600%	-28.700%

<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC		
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
<b>Project Name/Number:</b>	/		

## Rate/Rule Schedule

Item No.	Schedule Item Status	Exhibit Name	Rule # or Page #	Rate Action	Previous State Filing Number	Attachments
1		New Filing		Replacement	411	MO 1-1-2023 Filing.pdf



# Missouri

Advisory Loss Costs and  
Rating Values Filing

Proposed Effective January 1, 2023



**Carla Townsend, WCP**

Regulatory Division

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Email: [Carla\\_Townsend@ncci.com](mailto:Carla_Townsend@ncci.com)

August 24, 2022

The Honorable Chlora Lindley-Myers  
Director  
Missouri Department of Commerce and Insurance  
Harry S Truman State Office Building  
301 W. High St., Room 530  
Jefferson City, Missouri 65101

**Re: Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023**

Dear Director Lindley-Myers:

In accordance with the applicable statutes and regulations of the state of Missouri, we are filing advisory voluntary loss costs and rating values to be effective January 1, 2023 for new and renewal policies.

Enclosed are NCCI's Voluntary Loss Costs Including Trend proposed to be effective January 1, 2023. The proposed loss costs represent an overall average change of -6.4% from the current, similar set of loss costs that have been in effect since January 1, 2022.

Reported COVID-19-related claims have been excluded from the data on which this filing is based because those claims are not expected to be predictive of the loss experience that may arise during the filing prospective period. After an in-depth review and analysis, NCCI has determined that its standard ratemaking methodologies continue to remain appropriate for use in this year's filing.

I hereby certify that I am familiar with Missouri's insurance laws, rules, and regulations, and to the best of my knowledge, information, and belief, this filing complies in all respects to such laws, rules, and regulations. This filing is made on behalf of the members and subscribers of the National Council on Compensation Insurance, Inc., who are writing or will write workers compensation insurance in Missouri.

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 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

August 24, 2022

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.

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

Sincerely,

National Council on Compensation Insurance, Inc.

A handwritten signature in black ink, appearing to read "Carla Townsend". The signature is fluid and cursive, with the first name "Carla" being more prominent than the last name "Townsend".

Carla Townsend, WCP  
Senior State Relations Executive





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### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Actuarial Certification

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

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

A handwritten signature in black ink, appearing to read "Brett Foster", is positioned above the printed name.

Brett Foster, FCAS, MAAA  
Director and Actuary  
Actuarial and Economic Services



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Disclosures

##### Purpose of the Report

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

The intended users of this report are:

- The Missouri Department of Insurance, Financial Institutions and Professional Registration
- 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 Missouri that uses NCCI loss costs may file a loss cost multiplier to be applied to the advisory prospective loss costs in order 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 advisory prospective loss costs.

NCCI utilizes widely accepted general ratemaking methodologies in the calculation of voluntary loss costs. 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

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



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### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Disclosures

##### Data Sources

##### Key Dates

Financial Data Valuation Date	December 31, 2021
Financial Call Data Cutoff Date	June 14, 2022
Unit Statistical Plan Data Cutoff Date	July 6, 2022
Filing Preparation Date	July 22, 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 Plan 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. In this year's filing, data for all carriers writing at least one-tenth of one percent of the Missouri workers compensation written premium volume have been included in the experience period on which this filing is based.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Disclosures

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.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

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- Proposed Values for Inclusion in the Experience Rating Plan Manual
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##### **Part 3     Supporting Exhibits**

- Exhibit I: Determination of the Indicated Loss Cost Level Change
- Exhibit II: Workers Compensation Loss Adjustment Expenses
- 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

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

- Definitions
- NCCI Affiliate List
- Key Contacts



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### **Part 1    Filing Overview**

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



## MISSOURI

### Advisory Loss Costs and Rating Values 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 change in Missouri to become effective January 1, 2023.

#### Key Components

Impact of change in Experience and Development	–7.4%
Impact of change in Trend	+0.7%
Impact of change in Benefits	0.0%
<u>Impact of change in Loss-based Expenses</u>	<u>+0.4%</u>
<b>Proposed Overall Average Voluntary Loss Cost Level Change</b>	<b>–6.4%*</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. Experience for both of these policy years is comparatively more favorable than recent prior years. Reported COVID-19-related claims have been excluded from the data on which this filing is based.
- Annual trend factors were selected with consideration given to the improved experience in the most recent policy years along with the uncertainty surrounding the pandemic's effects. See Ratemaking Considerations Due to the COVID-19 Pandemic in the Additional Proposed Changes for additional information.
- Missouri's lost-time claim frequency increased from Policy Year 2019 to Policy Year 2020, but continues to show a long-term pattern of decline. After adjusting to a common wage level, Missouri's indemnity and medical cost per lost-time claim values have both shown a slight increase over the long-term.





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### Advisory Loss Costs and Rating Values 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 Missouri-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
- Ultimate, trended, 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)
- 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")
- Current pure premium adjusted to the proposed level ("present on rate level")
- Countrywide experience adjusted to state conditions ("national")

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.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Summary of Selections

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

<b><u>Voluntary Loss Costs</u></b>	<b><u>Effective 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	Avg Paid and P+C	Avg Paid and P+C
Loss Development - Paid	2-yr avg	2-yr avg
Loss Development - Paid+Case	5-yr avg	5-yr avg
Tail Factor – Indemnity	1.012	1.012
Tail Factor – Medical	1.020	1.020
Trend Factor – Indemnity Loss Ratio	0.975	0.980
Trend Factor – Medical Loss Ratio	0.985	0.985
Base Threshold for Limiting Losses	\$10,057,697	\$10,138,997
Excess Ratio	1.1%	1.0%
Loss Adjustment Expense Provision	19.5%	20.0%
Classification Swing Limits (applied by Industry Group)	+/-20%	+/-20%



## MISSOURI

### Advisory Loss Costs and Rating Values 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 Missouri 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, consideration of exponential trend fit model, etc.) remain appropriate for use in this year's filing. The annual loss ratio trend factors in this filing were selected with consideration of potential COVID-19 pandemic-related effects on the underlying data to reflect the conditions expected 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, trend, and loss-based expense) 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 claim counts, as reported in NCCI's Financial Call 31 as of year-end 2021.

<u>Year</u>	<u>COVID-19 Claim Counts</u>	<u>COVID-19 Paid+Case Losses</u>
PY 2019	174	1,992,371
PY 2020	806	7,889,497
AY 2020	891	9,131,712
AY 2021	249	4,255,439

*Excludes large deductible and expense-only claims.*



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### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Additional Proposed Changes

Reported COVID-19-related losses would have represented less than a 2% share of the reported paid+case losses in Missouri's experience period.

#### 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.

<u>Policy Year</u>	<u>Loss Ratio</u>	<u>Calendar-Accident Year</u>	<u>Loss Ratio</u>
2016	0.980	2017	0.997
2017	1.018	2018	1.026
2018	1.032	2019	0.993
2019	0.936	2020	0.908
2020	0.928	2021	0.912

*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. Projected losses do not include the change in expenses*

*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.*

It is likely that some of the improved loss ratio experience observed in the most recent years in Missouri 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:

- Reported decline in less severe injuries, including medical-only claims
- Reduction in the total number of medical evaluations, treatments, and/or procedures
- Fewer reported claims due to the pandemic-related recession

In this filing, data for the two most recently available full policy years was selected as the most appropriate period on which to base this year's filing. This approach provides a balance between stability and responsiveness and best reflects the conditions expected to prevail in the proposed effective period.

A decrease in medical-only claims has been observed in Missouri, Policy Year 2020 exhibiting about a 10% decrease in medical-only losses compared to the prior year. This drop in medical-only claims amounts to approximately a 1.5% impact on the Policy Year 2020 medical loss ratio and less than 1% impact on the indication, assuming the historically-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. An adjustment to restate medical losses to the level expected to emerge in the loss cost effective period was considered but ultimately not selected, due



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Additional Proposed Changes

to uncertainty surrounding the level to which these claims would return in the filing effective period and how to appropriately address smaller declines seen in other injury types.

##### 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 a rapid recovery. 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.

##### 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.

A slight slowdown in the claim closure rate is observable in Missouri for Policy Year 2020. This may be attributable to pandemic-related factors such as delays in medical treatment or a slowdown in the court system. It's possible that this may put upward pressure on paid loss development for Policy Year 2020 relative to historical patterns observed in Missouri.

After a review of the historical development patterns as well as the recent changes observed throughout the system, a two-year average of historical paid loss development factors and a five-year average of historical paid plus case loss development factors through a nineteenth report were selected as being the most appropriate for use in this filing, consistent with the approach used in last year's filing.

##### 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 as policy year data reflects a relatively better match between exposure and losses by utilizing premium and losses from the same set of policies. Loss ratios are



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Additional Proposed Changes

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 in Policy Years 2019 and 2020 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:

- 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.
- 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.
- 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.

The indemnity loss ratio trend factor selection reflects consideration of the impact of the change in the State Average Weekly Wage (SAWW) effective July 1, 2022. The larger-than-normal wage growth in the recent Quarterly Census of Employment and Wages (QCEW) is reflected in the premium estimates, valued as of December 31, 2021. The wage impact on loss benefits based on the SAWW is lagged one year behind the QCEW, putting downward pressure on the loss ratios in the experience period. During the trend projection period, losses will catch up to premium when benefits reflect the higher wage levels already observed in the premium. Therefore, the selected indemnity loss ratio trend reflects the potential for higher losses in the prospective period due to the increase in the SAWW.

See Appendix A-III for additional trend information.

#### Experience Rating

The Expected Loss Rates (ELRs) in this filing reflect a frequency trend which contemplates the trend period under consideration for the ELR calculation, which differs from that underlying the overall indication. See Part 2 of the filing for more explanation of the ELR calculation.



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### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Additional Proposed Changes

##### 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.

This adjustment is reflected in the frequency and severity values shown in Appendix A-III Trend Factors. The overall impact of the AWW adjustment is expected to be immaterial.



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### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### **Part 2    Proposed Values**

- Proposed Voluntary Loss Costs for Inclusion in the Basic Manual
- Proposed Values for Inclusion in the Experience Rating Plan Manual
- Proposed Values for Inclusion in the Retrospective Rating Plan Manual





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### **Advisory Loss Costs and Rating Values 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 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 B-1397, effective January 1, 2008, a single combined loss cost is still calculated for Class Codes 7710 and 7711 via a payroll-weighted average of the separately indicated loss costs for these two Class Codes.
- As a result of Item R-1420, the retrospective rating plan parameters were updated.

**NCCI INCLUDING TREND ADVISORY LOSS COSTS - NOT RATES****MISSOURI**

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

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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	2.35	2039	2.60	2759	4.69	3300	4.20	4101	1.84	4693	0.98	5551	10.76
0008	1.92	2041	2.27	2790	1.82	3303	1.98	4109	0.53	4703	1.60	5606	0.99
0016	3.54	2065	1.54	2791	—	3307	2.16	4110	0.90	4717	1.94	5610	3.41
0034	2.37	2070	3.56	2797	3.76	3315	2.37	4111	1.70	4720	1.99	5645	7.50
0035	1.67	2081	4.52	2799	4.20	3334	1.58	4113	—	4740	0.88	5703	12.59
0036	4.00	2089	2.36	2802	4.30	3336	2.18	4114	2.40	4741	2.23	5705	15.23
0037	2.81	2095	2.86	2835	2.16	3365	3.04	4130	2.70	4751	2.33	5951	0.44
0042	4.82	2105	3.66	2836	2.30	3372	2.33	4131	3.91	4771N	2.36	6003	4.30
0050	4.42	2110	1.79	2841	3.55	3373	4.42	4133	2.02	4777	3.43	6005	3.61
0059D	0.10	2111	1.78	2881	2.44	3383	1.27	4149	0.69	4825	0.66	6045	3.39
0065D	0.04	2112	3.27	2883	2.25	3385	0.86	4206	2.47	4828	1.77	6204	5.64
0066D	0.04	2114	2.26	2915	2.51	3400	3.56	4207	1.89	4829	0.93	6206	1.85
0067D	0.04	2121	0.98	2916	2.70	3507	2.25	4239	1.77	4902	1.82	6213	1.32
0079	2.58	2130	1.68	2923	1.39	3515	2.02	4240	2.52	4923	0.93	6214	1.19
0083	3.72	2131	2.13	2960	3.96	3548	1.39	4243	1.84	5020	3.23	6216	3.48
0106	5.48	2143	1.92	3004	1.19	3559	1.91	4244	2.25	5022	5.15	6217	2.70
0113	3.81	2157	3.66	3018	2.65	3574	2.01	4250	1.77	5037	6.71	6229	3.80
0170	1.82	2172	1.33	3022	2.71	3581	1.11	4251	3.43	5040	7.31	6233	1.77
0251	2.98	2174	2.60	3027	1.83	3612	1.67	4263	3.29	5057	3.74	6235	4.06
0401	8.32	2211	6.98	3028	3.24	3620	2.83	4273	1.98	5059	16.77	6236	4.04
0771N	0.42	2220	2.01	3030	4.08	3629	1.33	4279	2.55	5067	—	6237	1.01
0908P	105.00	2286	—	3040	3.84	3632	2.37	4282	—	5069	—	6251D	2.74
0913P	397.00	2288	3.46	3041	3.05	3634	1.30	4283	1.24	5102	4.41	6252D	2.92
0917	3.09	2302	1.65	3042	3.72	3635	1.59	4299	1.80	5146	3.43	6306	3.92
1005*	4.64	2305	1.88	3064	3.05	3638	2.07	4304	4.10	5160	1.49	6319	2.60
1016*	15.73	2361	1.53	3076	2.68	3642	1.16	4307	1.73	5183	2.27	6325	2.41
1164D	3.86	2362	2.03	3081D	3.33	3643	2.61	4351	0.97	5188	2.15	6400	4.28
1165D	2.27	2380	1.68	3082D	3.96	3647	2.56	4352	1.36	5190	2.02	6503	1.75
1320	1.28	2388	1.27	3085D	3.88	3648	1.20	4360	—	5191	0.69	6504	1.86
1322	6.03	2402	2.16	3110	3.34	3681	0.57	4361	0.58	5192	2.34	6702M*	2.95
1430	4.49	2413	2.06	3111	1.64	3685	0.85	4410	2.75	5213	4.20	6703M*	5.37
1438	8.26	2416	2.12	3113	1.55	3719	0.65	4420	2.90	5215	4.27	6704M*	3.28
1452	2.46	2417	1.34	3114	2.56	3724	3.14	4431	1.07	5221	3.53	6824F	4.83
1463	7.56	2501	2.01	3118	1.63	3726	2.91	4432	1.05	5222	5.27	6825F	1.66
1472	2.79	2503	1.02	3119	1.16	3803	1.94	4439	—	5223	3.29	6826F	2.72
1624D	2.37	2534	—	3122	1.72	3807	1.75	4452	2.08	5348	2.93	6834	1.86
1642	2.69	2570	3.14	3126	1.40	3808	3.19	4459	1.93	5402	3.83	6835	2.32
1654	3.03	2585	2.73	3131	1.44	3821	4.12	4470	2.01	5403	3.78	6836	2.44
1655	—	2586	3.05	3132	4.05	3822	3.09	4484	2.27	5437	3.88	6845a	a
1699	2.27	2587	2.07	3145	1.82	3824	2.98	4493	2.36	5443	2.18	6872F	5.84
1701	2.42	2589	1.79	3146	1.87	3826	0.82	4511	0.32	5445	3.13	6874F	9.37
1710D	3.15	2600	3.96	3169	1.88	3827	1.78	4557	2.23	5462	3.54	6882	2.60
1741	—	2623	4.39	3175	—	3830	0.67	4558	1.41	5472	5.02	6884	4.24
1747	2.33	2651	1.53	3179	1.65	3851	1.80	4568	2.66	5473	5.97	7016M	2.17
1748	4.92	2660	2.13	3180	2.69	3865	2.93	4581	1.31	5474	4.27	7024M	2.41
1803D	6.39	2670	—	3188	1.96	3881	3.00	4583	4.05	5478	3.38	7038M	4.14
1853	—	2683	—	3220	1.79	4000	3.29	4597	—	5479	5.50	7046M	8.24
1860	—	2688	2.01	3223	—	4018D	4.77	4611	0.93	5480	4.37	7047M	3.95
1924	2.45	2701	9.26	3224	3.03	4021	4.00	4635	2.06	5491	1.39	7050M	7.53
1925	2.62	2702	14.67	3227	2.49	4034	5.68	4653	1.54	5505	—	7090M	4.60
2002	3.03	2709	11.10	3240	—	4036	2.07	4665	6.36	5506	3.80	7098M	9.15
2003	3.18	2710	10.76	3241	2.28	4038	3.09	4670	—	5507	2.83	7099M	14.99
2014	4.09	2714	3.76	3255	2.30	4053	—	4683	3.61	5508	—	7133	2.31
2016	2.31	2731	2.78	3257	2.01	4061	—	4686	1.65	5535	4.87	7151M	2.81
2021	2.49	2735	3.39	3270	2.86	4062	2.12	4692	0.73	5537	2.85	7152M	5.11

**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.

**MISSOURI NCCI INCLUDING TREND ADVISORY LOSS COSTS - NOT RATES**  
**Advisory loss costs exclude all expense provisions except loss adjustment expense.**

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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
7153M	3.12	8008	0.81	8603	0.06	9082	0.98						
7219	5.33	8010	1.54	8606	1.33	9083	0.85						
7222	5.45	8013	0.30	8709F	2.64	9084	1.00						
7225	7.12	8015	0.53	8719	1.51	9088a	a						
7228	—	8017	1.03	8720	0.85	9089	0.74						
7229	—	8018	2.07	8721	0.23	9093	0.91						
7230	5.54	8021	2.17	8723	0.09	9101	2.65						
7231	6.81	8031	1.72	8725	1.47	9102	2.19						
7232	6.73	8032	1.50	8726F	1.17	9110	2.33						
7250	—	8033	1.35	8728	0.40	9154	1.42						
7309F	5.89	8034	1.72	8734M	0.27	9156	1.69						
7313F	2.08	8037	1.51	8737M	0.24	9170	10.30						
7317F	5.12	8039	1.22	8738M	0.44	9178	8.62						
7327F	11.98	8044	1.76	8742	0.20	9179	14.97						
7333M	1.94	8045	0.47	8745	2.79	9180	3.68						
7335M	2.15	8046	1.97	8748	0.45	9182	1.80						
7337M	3.52	8047	0.61	8755	0.26	9186	9.37						
7350F	6.06	8058	2.18	8799	0.36	9220	3.39						
7360	3.31	8061	1.31	8800	1.11	9402	3.81						
7370	3.52	8072	0.44	8803	0.05	9403	5.70						
7380	4.73	8102	1.58	8805M	0.14	9410	2.55						
7382	4.23	8103	2.29	8810	0.10	9501	2.54						
7390	4.04	8106	3.96	8814M	0.12	9505	2.76						
7394M	3.41	8107	2.15	8815M	0.22	9516	1.78						
7395M	3.79	8111	1.59	8820	0.09	9519	2.85						
7398M	6.21	8116	1.91	8824	1.60	9521	3.05						
7402	0.09	8203	6.27	8825	—	9522	5.40						
7403	3.21	8204	2.83	8826	1.55	9534	3.38						
7405N	1.05	8209	2.95	8829	—	9554	5.48						
7420	5.07	8215	2.86	8831	0.91	9586	0.42						
7421	0.49	8227	2.80	8832	0.22	9600	2.57						
7422	1.09	8232	4.51	8833	0.90	9620	0.99						
7425	1.28	8233	1.73	8835	1.61								
7431N	0.78	8235	3.20	8855	0.11								
7445N	0.57	8263	4.41	8856	0.39								
7453N	0.42	8264	3.72	8861	0.99								
7502	1.32	8265	3.60	8868	0.33								
7515	0.79	8279	4.84	8869	0.75								
7520	2.24	8288	5.77	8871	0.05								
7538	3.24	8291	2.52	8901	0.13								
7539	1.35	8292	3.01	9012	0.56								
7540	2.27	8293	5.30	9014	1.89								
7580	2.13	8304	4.09	9015	2.50								
7590	2.45	8350	4.65	9016	2.33								
7600	2.87	8353	3.09	9019	1.97								
7605	1.53	8370	3.59	9033	1.58								
7610	0.36	8381	1.58	9040	3.18								
7705	3.17	8385	1.79	9044	0.81								
7710	3.91	8387	2.11	9052	1.42								
7711	3.91	8391	1.76	9058	1.27								
7720	2.45	8392	1.67	9060	1.10								
7855	2.64	8393	1.20	9061	1.01								
8001	1.67	8500	4.11	9062	1.07								
8002	1.61	8601	0.20	9063	0.63								
8006	1.38	8602	1.05	9077F	3.49								

**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.

## 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.

Code No.	Disease Loading	Symbol	Code No.	Disease Loading	Symbol	Code No.	Disease Loading	Symbol
0059D	0.10	S	1165D	0.01	S	3082D	0.02	S
0065D	0.04	S	1624D	0.01	S	3085D	0.02	S,L
0066D	0.04	S	1710D	0.02	S	4018D	0.05	S
0067D	0.04	S	1803D	0.14	S	6251D	0.01	S
1164D	0.03	S	3081D	0.02	S	6252D	0.01	S

S=Silica, L=Lead

F Advisory loss cost provides for coverage under the United States Longshore and Harbor Workers Compensation Act and its extensions. Loss cost contains a provision for the USL&HW Assessment.

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. A provision for the USL&HW Assessment is included for those classifications under Program II USL Act.

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**

- 1005 Advisory loss cost includes a non-ratable disease element of \$0.74. (For coverage written separately for federal benefits only, \$0.72. For coverage written separately for state benefits only, \$0.02.)
- 1016 Advisory loss cost includes a non-ratable disease element of \$2.23. (For coverage written separately for federal benefits only, \$2.16. For coverage written separately for state benefits only, \$0.07.)
- 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 code 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 x 2.211 and elr x 2.12.
- 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.

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 occurrence basis. They do not include a safety factor.

Deductible Amount	Total Losses						
	HAZARD GROUP						
	A	B	C	D	E	F	G
\$100	1.1%	0.9%	0.6%	0.5%	0.4%	0.2%	0.2%
\$200	2.2%	1.7%	1.2%	0.9%	0.7%	0.5%	0.4%
\$300	3.2%	2.5%	1.8%	1.4%	1.0%	0.7%	0.5%
\$400	4.1%	3.2%	2.3%	1.8%	1.3%	0.9%	0.7%
\$500	5.0%	3.9%	2.8%	2.2%	1.6%	1.1%	0.9%
\$1,000	8.6%	6.7%	5.0%	3.9%	3.0%	2.1%	1.6%
\$1,500	11.5%	9.0%	6.8%	5.4%	4.1%	2.9%	2.3%
\$2,000	13.8%	10.9%	8.3%	6.6%	5.1%	3.7%	2.9%
\$2,500	15.8%	12.5%	9.6%	7.7%	6.0%	4.4%	3.5%
\$5,000	23.2%	18.7%	14.9%	12.3%	9.8%	7.5%	6.1%
\$10,000	32.4%	27.1%	22.3%	19.0%	15.5%	12.4%	10.3%
\$15,000	38.9%	33.3%	28.0%	24.3%	20.1%	16.5%	13.9%
\$20,000	44.1%	38.3%	32.7%	28.8%	24.1%	20.0%	17.1%

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

Employee operated vehicle.....	\$86,200
Leased or rented vehicle.....	\$57,500

**Catastrophe (other than Certified Acts of Terrorism)** - (Advisory Loss Cost) ..... 0.01

**Maximum Weekly Payroll** applicable in accordance with the **Basic Manual** notes for Code 9178 -- "Athletic Sports or Park: Noncontact Sports," and Code 9179 -- "Athletic Sports or Park: Contact Sports" ..... \$1,100

**Premium Determination for Executive Officers, Members of Limited Liability Companies, Partners and Sole Proprietors** in accordance with the **Basic Manual** rules, Rule for premium determination of executive officers, Rule for premium determination of members of LLCs, and Rule for premium determination for partners or sole proprietors (Annual Payroll) ..... \$51,700

**Terrorism** - (Advisory Loss Cost) ..... 0.005

**United States Longshore and Harbor Workers' Compensation Coverage Percentage** applicable only in connection with the **Basic Manual** rule, Federal coverages..... 84%

(Multiply a Non-F classification loss cost by a factor of 1.84 to adjust for differences in benefits and loss-based expenses. This factor is the product of the adjustment for differences in benefits (1.75) and the adjustment for differences in loss-based expenses (1.051).)

**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.



## MISSOURI

### **Advisory Loss Costs and Rating Values 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



## MISSOURI

### Advisory Loss Costs and Rating Values 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. For the calculation of experience mods, the experience rating plan for Missouri uses actual losses net of the deductible reimbursement amount reported for the calculation of experience mods. As a result, the ELR adjustment mentioned above also modifies the ELRs uniformly across all class codes in the state to account for the net experience rating.

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	1.94	0.38	2039	2.14	0.38	2759	3.87	0.38	3300	3.60	0.39	4101	1.48	0.34
0008	1.58	0.38	2041	1.86	0.38	2790	1.56	0.39	3303	1.63	0.38	4109	0.44	0.38
0016	2.66	0.30	2065	1.24	0.34	2791	2.93	0.38	3307	1.74	0.34	4110	0.73	0.38
0034	1.91	0.34	2070	2.84	0.34	2797	3.22	0.39	3315	1.94	0.38	4111	1.40	0.38
0035	1.34	0.34	2081	3.86	0.39	2799	3.11	0.34	3334	1.26	0.34	4113	1.40	0.38
0036	3.29	0.38	2089	1.94	0.38	2802	3.47	0.34	3336	1.75	0.34	4114	1.92	0.34
0037	2.11	0.30	2095	2.31	0.34	2835	1.84	0.39	3365	1.99	0.27	4130	2.23	0.38
0042	3.57	0.34	2105	3.13	0.39	2836	1.95	0.39	3372	1.88	0.34	4131	3.22	0.38
0050	3.06	0.30	2110	1.47	0.38	2841	2.93	0.38	3373	3.63	0.38	4133	1.73	0.39
0059	0.04	0.27	2111	1.46	0.38	2881	2.08	0.39	3383	1.05	0.38	4149	0.59	0.39
0065	0.02	0.30	2112	2.69	0.38	2883	1.85	0.38	3385	0.70	0.38	4206	2.03	0.38
0066	0.02	0.34	2114	1.93	0.39	2915	1.88	0.30	3400	2.93	0.38	4207	1.34	0.27
0067	0.02	0.34	2121	0.84	0.39	2916	2.03	0.30	3507	1.81	0.34	4239	1.26	0.27
0079	2.08	0.34	2130	1.35	0.34	2923	1.18	0.39	3515	1.63	0.34	4240	2.16	0.39
0083	3.00	0.34	2131	1.75	0.38	2960	3.18	0.34	3548	1.14	0.38	4243	1.48	0.34
0106	3.90	0.27	2143	1.64	0.39	3004	0.85	0.27	3559	1.53	0.34	4244	1.69	0.30
0113	3.14	0.38	2157	2.99	0.38	3018	1.89	0.27	3574	1.64	0.38	4250	1.42	0.34
0170	1.49	0.38	2172	0.99	0.30	3022	2.23	0.38	3581	0.91	0.38	4251	2.82	0.38
0251	2.39	0.34	2174	2.14	0.38	3027	1.37	0.30	3612	1.34	0.34	4263	2.65	0.34
0401	5.97	0.27	2211	5.23	0.30	3028	2.42	0.30	3620	2.13	0.30	4273	1.59	0.34
0771	—	—	2220	1.61	0.34	3030	3.06	0.30	3629	1.06	0.34	4279	1.92	0.30
0908	84.63	0.34	2286	1.61	0.34	3040	3.08	0.34	3632	1.91	0.34	4282	1.92	0.30
0913	318.33	0.34	2288	2.84	0.38	3041	2.45	0.34	3634	1.04	0.34	4283	1.01	0.38
0917	2.65	0.39	2302	1.33	0.34	3042	2.99	0.34	3635	1.28	0.34	4299	1.45	0.34
1005	2.62	0.24	2305	1.41	0.30	3064	2.46	0.34	3638	1.70	0.38	4304	3.30	0.34
1016	9.10	0.24	2361	1.23	0.34	3076	2.20	0.38	3642	0.96	0.38	4307	1.48	0.39
1164	2.62	0.24	2362	1.67	0.38	3081	2.65	0.34	3643	1.96	0.30	4351	0.80	0.38
1165	1.53	0.24	2380	1.38	0.38	3082	2.97	0.30	3647	2.06	0.34	4352	1.12	0.38
1320	0.91	0.27	2388	1.09	0.39	3085	3.10	0.34	3648	1.02	0.39	4360	0.27	0.30
1322	3.76	0.24	2402	1.62	0.30	3110	2.69	0.34	3681	0.47	0.38	4361	0.48	0.38
1430	3.37	0.30	2413	1.66	0.34	3111	1.35	0.38	3685	0.70	0.38	4410	2.27	0.38
1438	6.19	0.30	2416	1.74	0.38	3113	1.25	0.34	3719	0.40	0.24	4420	2.07	0.27
1452	1.84	0.30	2417	1.10	0.38	3114	2.04	0.34	3724	1.97	0.24	4431	0.91	0.39
1463	5.15	0.24	2501	1.65	0.38	3118	1.39	0.39	3726	1.81	0.24	4432	0.90	0.39
1472	2.10	0.30	2503	0.84	0.38	3119	1.01	0.43	3803	1.59	0.38	4439	1.13	0.34
1624	1.68	0.27	2534	1.65	0.38	3122	1.46	0.39	3807	1.44	0.38	4452	1.67	0.34
1642	2.02	0.30	2570	2.59	0.38	3126	1.12	0.34	3808	2.57	0.34	4459	1.45	0.30
1654	2.27	0.30	2585	2.19	0.34	3131	1.16	0.34	3821	3.09	0.30	4470	1.61	0.34
1655	2.02	0.30	2586	2.52	0.38	3132	3.35	0.38	3822	2.55	0.38	4484	1.87	0.38
1699	1.71	0.30	2587	1.69	0.38	3145	1.46	0.34	3824	2.45	0.38	4493	1.90	0.34
1701	1.73	0.27	2589	1.44	0.34	3146	1.50	0.34	3826	0.66	0.34	4511	0.25	0.34
1710	2.34	0.30	2600	3.24	0.38	3169	1.55	0.38	3827	1.46	0.38	4557	1.67	0.30
1741	1.73	0.27	2623	3.29	0.30	3175	1.55	0.38	3830	0.53	0.34	4558	1.13	0.34
1747	1.75	0.30	2651	1.26	0.38	3179	1.36	0.38	3851	1.47	0.38	4568	1.99	0.30
1748	3.72	0.30	2660	1.82	0.39	3180	2.22	0.38	3865	2.51	0.39	4581	0.94	0.27
1803	4.69	0.30	2670	1.66	0.38	3188	1.58	0.34	3881	2.41	0.34	4583	2.89	0.27
1853	1.73	0.27	2683	1.65	0.38	3220	1.44	0.34	4000	2.34	0.27	4597	1.67	0.30
1860	1.92	0.30	2688	1.66	0.38	3223	2.22	0.38	4018	3.51	0.29	4611	0.77	0.38
1924	2.01	0.38	2701	6.58	0.27	3224	2.57	0.39	4021	3.21	0.34	4635	1.46	0.27
1925	2.12	0.34	2702	9.98	0.24	3227	2.03	0.38	4034	4.26	0.30	4653	1.26	0.38
2002	2.49	0.38	2709	7.94	0.27	3240	1.65	0.38	4036	1.56	0.30	4665	4.78	0.30
2003	2.55	0.34	2710	8.13	0.30	3241	1.88	0.38	4038	2.61	0.39	4670	2.88	0.34
2014	3.07	0.30	2714	3.10	0.38	3255	1.96	0.39	4053	1.70	0.34	4683	2.88	0.34
2016	1.90	0.38	2731	2.29	0.38	3257	1.65	0.38	4061	1.70	0.34	4686	1.24	0.30
2021	2.00	0.34	2735	2.80	0.38	3270	2.36	0.38	4062	1.70	0.34	4692	0.60	0.38

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
4693	0.81	0.38	5551	6.77	0.24	7153	2.23	0.27	8008	0.69	0.39	8603	0.05	0.38
4703	1.28	0.34	5606	0.62	0.24	7219	3.78	0.27	8010	1.27	0.38	8606	0.95	0.27
4717	1.66	0.39	5610	2.35	0.30	7222	3.85	0.27	8013	0.24	0.34	8709F	1.24	0.22
4720	1.61	0.34	5645	4.71	0.24	7225	5.30	0.29	8015	0.43	0.34	8719	1.08	0.27
4740	0.60	0.24	5703	8.75	0.30	7228	3.78	0.27	8017	0.89	0.39	8720	0.61	0.27
4741	1.79	0.34	5705	10.58	0.30	7229	3.78	0.27	8018	1.70	0.38	8721	0.17	0.30
4751	1.76	0.30	5951	0.36	0.38	7230	4.45	0.34	8021	1.79	0.38	8723	0.07	0.34
4771	1.68	0.27	6003	2.82	0.27	7231	5.44	0.34	8031	1.42	0.38	8725	1.10	0.30
4777	2.45	0.27	6005	2.48	0.30	7232	4.76	0.27	8032	1.24	0.38	8726F	0.60	0.28
4825	0.49	0.30	6045	2.33	0.30	7250	3.78	0.27	8033	1.16	0.39	8728	0.30	0.30
4828	1.26	0.27	6204	3.70	0.27	7309F	2.78	0.22	8034	1.46	0.39	8734	0.20	0.30
4829	0.66	0.27	6206	1.15	0.24	7313F	0.98	0.22	8037	1.33	0.44	8737	0.18	0.30
4902	1.50	0.38	6213	0.82	0.24	7317F	2.41	0.22	8039	1.05	0.39	8738	0.32	0.30
4923	0.75	0.34	6214	0.78	0.27	7327F	5.64	0.22	8044	1.45	0.38	8742	0.15	0.30
5020	2.11	0.27	6216	2.16	0.24	7333	1.31	0.24	8045	0.39	0.38	8745	2.24	0.34
5022	3.21	0.24	6217	1.69	0.24	7335	1.45	0.24	8046	1.63	0.38	8748	0.32	0.27
5037	4.18	0.24	6229	2.61	0.30	7337	2.28	0.24	8047	0.50	0.38	8755	0.20	0.30
5040	4.58	0.24	6233	1.11	0.24	7350F	2.98	0.26	8058	1.80	0.38	8799	0.30	0.38
5057	2.33	0.24	6235	2.53	0.24	7360	2.47	0.30	8061	1.08	0.38	8800	0.92	0.38
5059	10.47	0.24	6236	2.77	0.30	7370	2.90	0.38	8072	0.37	0.39	8803	0.03	0.30
5067	4.58	0.24	6237	0.66	0.27	7380	3.54	0.30	8102	1.30	0.38	8805	0.11	0.38
5069	10.47	0.24	6251	1.78	0.27	7382	3.40	0.34	8103	1.84	0.34	8810	0.08	0.38
5102	2.90	0.27	6252	1.81	0.24	7390	3.31	0.38	8106	2.98	0.30	8814	0.10	0.38
5146	2.37	0.30	6306	2.57	0.27	7394	2.30	0.24	8107	1.53	0.27	8815	0.17	0.38
5160	0.93	0.24	6319	1.63	0.24	7395	2.56	0.24	8111	1.28	0.34	8820	0.07	0.30
5183	1.49	0.27	6325	1.51	0.24	7398	4.02	0.24	8116	1.53	0.34	8824	1.40	0.43
5188	1.41	0.27	6400	2.95	0.30	7402	0.07	0.38	8203	5.02	0.34	8825	1.32	0.39
5190	1.32	0.27	6503	1.44	0.38	7403	2.63	0.38	8204	2.28	0.34	8826	1.32	0.39
5191	0.51	0.30	6504	1.53	0.38	7405	0.85	0.38	8209	2.43	0.38	8829	1.40	0.43
5192	1.88	0.34	6702	2.20	0.30	7420	3.39	0.23	8215	2.16	0.30	8831	0.81	0.44
5213	2.63	0.24	6703	3.84	0.30	7421	0.37	0.30	8227	1.84	0.27	8832	0.18	0.38
5215	2.94	0.30	6704	2.45	0.30	7422	0.77	0.27	8232	3.39	0.30	8833	0.74	0.38
5221	2.31	0.27	6824F	2.48	0.28	7425	0.90	0.27	8233	1.28	0.29	8835	1.33	0.38
5222	3.29	0.24	6825F	0.78	0.22	7431	0.55	0.27	8235	2.57	0.34	8855	0.09	0.38
5223	2.27	0.30	6826F	1.40	0.28	7445	—	—	8263	3.55	0.34	8856	0.32	0.38
5348	2.02	0.30	6834	1.53	0.38	7453	—	—	8264	2.80	0.30	8861	0.82	0.38
5402	2.90	0.38	6835	1.56	0.24	7502	0.99	0.30	8265	2.57	0.27	8868	0.28	0.39
5403	2.48	0.27	6836	1.96	0.34	7515	0.54	0.24	8279	3.47	0.27	8869	0.64	0.39
5437	2.54	0.27	6845	a	a	7520	1.80	0.34	8288	4.68	0.35	8871	0.04	0.38
5443	1.62	0.34	6872F	2.75	0.22	7538	2.03	0.24	8291	2.03	0.34	8901	0.09	0.30
5445	1.95	0.24	6874F	4.42	0.22	7539	0.96	0.27	8292	2.47	0.38	9012	0.42	0.30
5462	2.44	0.30	6882	1.85	0.27	7540	1.55	0.24	8293	4.34	0.38	9014	1.56	0.38
5472	3.13	0.24	6884	2.99	0.27	7580	1.59	0.30	8304	2.93	0.27	9015	2.01	0.34
5473	3.74	0.24	7016	1.46	0.24	7590	1.83	0.30	8350	3.30	0.27	9016	1.93	0.38
5474	2.67	0.24	7024	1.63	0.24	7600	2.14	0.30	8353	2.31	0.30	9019	1.48	0.30
5478	2.21	0.27	7038	2.85	0.24	7605	1.00	0.27	8370	2.69	0.30	9033	1.27	0.34
5479	3.81	0.30	7046	5.57	0.24	7610	0.27	0.30	8381	1.27	0.34	9040	2.74	0.39
5480	2.85	0.27	7047	2.56	0.24	7705	2.54	0.34	8385	1.44	0.34	9044	0.69	0.39
5491	0.91	0.27	7050	4.98	0.24	7710	2.79	0.27	8387	1.70	0.34	9052	1.21	0.39
5505	2.49	0.27	7090	3.17	0.24	7711	2.79	0.27	8391	1.42	0.34	9058	1.12	0.43
5506	2.49	0.27	7098	6.18	0.24	7720	1.83	0.30	8392	1.43	0.39	9060	0.94	0.39
5507	1.85	0.27	7099	9.70	0.24	7855	1.81	0.30	8393	0.90	0.30	9061	0.87	0.39
5508	1.85	0.27	7133	1.65	0.27	8001	1.38	0.38	8500	3.08	0.30	9062	0.91	0.39
5535	3.05	0.24	7151	2.00	0.27	8002	1.33	0.38	8601	0.15	0.27	9063	0.54	0.39
5537	1.96	0.30	7152	3.50	0.27	8006	1.18	0.39	8602	0.79	0.30	9077F	1.93	0.37

**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
9082	0.86	0.43												
9083	0.75	0.43												
9084	0.86	0.39												
9088	a	a												
9089	0.63	0.39												
9093	0.78	0.39												
9101	2.27	0.39												
9102	1.76	0.34												
9110	1.93	0.38												
9154	1.18	0.38												
9156	1.45	0.39												
9170	7.40	0.27												
9178	7.64	0.44												
9179	13.20	0.44												
9180	2.98	0.34												
9182	1.49	0.38												
9186	6.75	0.27												
9220	2.72	0.34												
9402	2.72	0.27												
9403	4.07	0.27												
9410	2.10	0.38												
9501	1.91	0.30												
9505	2.22	0.34												
9516	1.42	0.34												
9519	2.13	0.30												
9521	2.29	0.30												
9522	4.56	0.39												
9534	2.10	0.24												
9554	3.60	0.27												
9586	0.36	0.39												
9600	2.11	0.38												
9620	0.75	0.30												

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



## MISSOURI

### Advisory Loss Costs and Rating Values 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	--	3,162	0.04	1,783,144	--	1,881,501	0.44
3,163	--	12,783	0.05	1,881,502	--	1,985,553	0.45
12,784	--	22,609	0.06	1,985,554	--	2,095,810	0.46
22,610	--	32,648	0.07	2,095,811	--	2,212,846	0.47
32,649	--	42,907	0.08	2,212,847	--	2,337,305	0.48
42,908	--	71,765	0.09	2,337,306	--	2,469,920	0.49
71,766	--	106,825	0.10	2,469,921	--	2,611,519	0.50
106,826	--	138,011	0.11	2,611,520	--	2,763,049	0.51
138,012	--	168,376	0.12	2,763,050	--	2,925,593	0.52
168,377	--	198,745	0.13	2,925,594	--	3,100,399	0.53
198,746	--	229,487	0.14	3,100,400	--	3,288,910	0.54
229,488	--	260,813	0.15	3,288,911	--	3,492,804	0.55
260,814	--	292,861	0.16	3,492,805	--	3,714,046	0.56
292,862	--	325,740	0.17	3,714,047	--	3,954,948	0.57
325,741	--	359,537	0.18	3,954,949	--	4,218,255	0.58
359,538	--	394,334	0.19	4,218,256	--	4,507,245	0.59
394,335	--	430,204	0.20	4,507,246	--	4,825,870	0.60
430,205	--	467,222	0.21	4,825,871	--	5,178,936	0.61
467,223	--	505,461	0.22	5,178,937	--	5,572,347	0.62
505,462	--	544,999	0.23	5,572,348	--	6,013,439	0.63
545,000	--	585,915	0.24	6,013,440	--	6,511,441	0.64
585,916	--	628,291	0.25	6,511,442	--	7,078,127	0.65
628,292	--	672,215	0.26	7,078,128	--	7,728,762	0.66
672,216	--	717,781	0.27	7,728,763	--	8,483,493	0.67
717,782	--	765,088	0.28	8,483,494	--	9,369,476	0.68
765,089	--	814,244	0.29	9,369,477	--	10,424,211	0.69
814,245	--	865,364	0.30	10,424,212	--	11,700,990	0.70
865,365	--	918,572	0.31	11,700,991	--	13,278,181	0.71
918,573	--	974,001	0.32	13,278,182	--	15,275,948	0.72
974,002	--	1,031,798	0.33	15,275,949	--	17,888,405	0.73
1,031,799	--	1,092,120	0.34	17,888,406	--	21,450,837	0.74
1,092,121	--	1,155,139	0.35	21,450,838	--	26,596,562	0.75
1,155,140	--	1,221,042	0.36	26,596,563	--	34,682,687	0.76
1,221,043	--	1,290,035	0.37	34,682,688	--	49,237,696	0.77
1,290,036	--	1,362,341	0.38	49,237,697	--	83,199,355	0.78
1,362,342	--	1,438,207	0.39	83,199,356	--	253,007,569	0.79
1,438,208	--	1,517,904	0.40	253,007,570	AND OVER		0.80
1,517,905	--	1,601,733	0.41				
1,601,734	--	1,690,023	0.42				
1,690,024	--	1,783,143	0.43				

(a) G	15.10
(b) State Per Claim Accident Limitation	\$377,000
(c) State Multiple Claim Accident Limitation	\$754,000
(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	1.75
<i>(Multiply a Non-F classification ELR by the USL&amp;HW Act - Expected Loss Factor of 1.75.)</i>	

# EXPERIENCE RATING PLAN MANUAL

MISSOURI  
Page E5  
Original Printing

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 -- 81,220	37,750	2,606,275 -- 2,681,732	302,000	5,248,009 -- 5,323,498	566,250
81,221 -- 139,787	45,300	2,681,733 -- 2,757,191	309,550	5,323,499 -- 5,398,987	573,800
139,788 -- 207,082	52,850	2,757,192 -- 2,832,653	317,100	5,398,988 -- 5,474,477	581,350
207,083 -- 278,073	60,400	2,832,654 -- 2,908,117	324,650	5,474,478 -- 5,549,967	588,900
278,074 -- 350,792	67,950	2,908,118 -- 2,983,582	332,200	5,549,968 -- 5,625,457	596,450
350,793 -- 424,422	75,500	2,983,583 -- 3,059,049	339,750	5,625,458 -- 5,700,948	604,000
424,423 -- 498,586	83,050	3,059,050 -- 3,134,518	347,300	5,700,949 -- 5,776,439	611,550
498,587 -- 573,086	90,600	3,134,519 -- 3,209,988	354,850	5,776,440 -- 5,851,930	619,100
573,087 -- 647,810	98,150	3,209,989 -- 3,285,460	362,400	5,851,931 -- 5,927,421	626,650
647,811 -- 722,691	105,700	3,285,461 -- 3,360,933	369,950	5,927,422 -- 6,002,913	634,200
722,692 -- 797,686	113,250	3,360,934 -- 3,436,407	377,500	6,002,914 -- 6,078,405	641,750
797,687 -- 872,767	120,800	3,436,408 -- 3,511,882	385,050	6,078,406 -- 6,153,897	649,300
872,768 -- 947,913	128,350	3,511,883 -- 3,587,359	392,600	6,153,898 -- 6,229,389	656,850
947,914 -- 1,023,110	135,900	3,587,360 -- 3,662,836	400,150	6,229,390 -- 6,304,881	664,400
1,023,111 -- 1,098,348	143,450	3,662,837 -- 3,738,314	407,700	6,304,882 -- 6,380,374	671,950
1,098,349 -- 1,173,619	151,000	3,738,315 -- 3,813,793	415,250	6,380,375 -- 6,455,867	679,500
1,173,620 -- 1,248,918	158,550	3,813,794 -- 3,889,273	422,800	6,455,868 -- 6,531,359	687,050
1,248,919 -- 1,324,239	166,100	3,889,274 -- 3,964,753	430,350	6,531,360 -- 6,606,852	694,600
1,324,240 -- 1,399,579	173,650	3,964,754 -- 4,040,235	437,900	6,606,853 -- 6,682,346	702,150
1,399,580 -- 1,474,936	181,200	4,040,236 -- 4,115,717	445,450	6,682,347 -- 6,757,839	709,700
1,474,937 -- 1,550,306	188,750	4,115,718 -- 4,191,199	453,000	6,757,840 -- 6,833,333	717,250
1,550,307 -- 1,625,688	196,300	4,191,200 -- 4,266,682	460,550	6,833,334 -- 6,908,826	724,800
1,625,689 -- 1,701,081	203,850	4,266,683 -- 4,342,166	468,100	6,908,827 -- 6,984,320	732,350
1,701,082 -- 1,776,482	211,400	4,342,167 -- 4,417,651	475,650	6,984,321 -- 7,059,814	739,900
1,776,483 -- 1,851,892	218,950	4,417,652 -- 4,493,135	483,200	7,059,815 -- 7,135,308	747,450
1,851,893 -- 1,927,309	226,500	4,493,136 -- 4,568,621	490,750	7,135,309 -- 7,210,250	755,000
1,927,310 -- 2,002,731	234,050	4,568,622 -- 4,644,107	498,300		
2,002,732 -- 2,078,160	241,600	4,644,108 -- 4,719,593	505,850		
2,078,161 -- 2,153,593	249,150	4,719,594 -- 4,795,080	513,400		
2,153,594 -- 2,229,031	256,700	4,795,081 -- 4,870,567	520,950		
2,229,032 -- 2,304,473	264,250	4,870,568 -- 4,946,055	528,500		
2,304,474 -- 2,379,919	271,800	4,946,056 -- 5,021,542	536,050		
2,379,920 -- 2,455,368	279,350	5,021,543 -- 5,097,031	543,600		
2,455,369 -- 2,530,820	286,900	5,097,032 -- 5,172,519	551,150		
2,530,821 -- 2,606,274	294,450	5,172,520 -- 5,248,008	558,700		

For Expected Losses greater than \$7,210,250, the Ballast Value can be calculated using the following formula (rounded to the nearest 1):

$$\text{Ballast} = (0.10)(\text{Expected Losses}) + 2500(\text{Expected Losses})(15.10) / (\text{Expected Losses} + (700)(15.10))$$

$$G = 15.10$$

REFER TO UPDATE PAGE FOR ALL SUBSEQUENT REVISIONS.

# NATIONAL COUNCIL ON COMPENSATION INSURANCE, INC.

## MISSOURI—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 (\$)
MO	<u>7/1/23 and after</u>	<u>9,000</u>	<u>4,500</u>
	<u>7/1/22 - 6/30/23</u>	8,500	4,250
	<u>7/1/21 - 6/30/22</u>	8,000	4,000

NOTE: This exhibit revises the Missouri 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.



## MISSOURI

### **Advisory Loss Costs and Rating Values 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 RATING PLAN MANUAL  
STATE SPECIAL RATING VALUES**

**MISSOURI  
RR 1**

*Effective January 1, 2023*

**Original Printing**

**1. Average Cost per Case by Hazard Group**

A	B	C	D	E	F	G
8,877	11,306	15,994	20,680	28,280	41,756	54,216

**Average Cost per Case including ALAE by Hazard Group**

A	B	C	D	E	F	G
9,847	12,524	17,696	22,861	31,197	46,009	59,697

**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	0.566	0.610	0.650	0.678	0.707	0.733	0.750
\$15,000	0.511	0.558	0.602	0.633	0.668	0.699	0.720
\$20,000	0.468	0.516	0.563	0.596	0.635	0.669	0.694
\$25,000	0.432	0.481	0.530	0.564	0.607	0.643	0.670
\$30,000	0.402	0.450	0.500	0.535	0.581	0.619	0.649
\$35,000	0.376	0.424	0.474	0.510	0.557	0.597	0.629
\$40,000	0.353	0.400	0.451	0.487	0.536	0.577	0.610
\$50,000	0.315	0.361	0.411	0.447	0.499	0.542	0.577
\$75,000	0.251	0.291	0.340	0.374	0.428	0.473	0.511
\$100,000	0.209	0.246	0.292	0.323	0.378	0.422	0.461
\$125,000	0.179	0.213	0.257	0.286	0.341	0.384	0.421
\$150,000	0.157	0.188	0.230	0.257	0.312	0.353	0.390
\$175,000	0.139	0.169	0.209	0.235	0.288	0.328	0.364
\$200,000	0.125	0.153	0.191	0.216	0.269	0.307	0.342
\$225,000	0.114	0.140	0.177	0.200	0.252	0.289	0.323
\$250,000	0.104	0.129	0.165	0.186	0.238	0.274	0.307
\$275,000	0.096	0.120	0.154	0.175	0.225	0.260	0.292
\$300,000	0.089	0.112	0.145	0.165	0.214	0.248	0.279
\$325,000	0.083	0.105	0.137	0.156	0.204	0.237	0.268
\$350,000	0.078	0.099	0.130	0.148	0.195	0.228	0.257
\$375,000	0.073	0.094	0.124	0.141	0.188	0.219	0.248
\$400,000	0.069	0.089	0.118	0.134	0.180	0.211	0.239
\$425,000	0.066	0.084	0.113	0.128	0.174	0.204	0.231
\$450,000	0.062	0.081	0.108	0.123	0.168	0.197	0.224
\$475,000	0.059	0.077	0.104	0.118	0.162	0.191	0.217
\$500,000	0.057	0.074	0.100	0.114	0.157	0.185	0.211
\$600,000	0.048	0.064	0.087	0.100	0.141	0.166	0.189
\$700,000	0.042	0.056	0.078	0.089	0.128	0.151	0.173
\$800,000	0.037	0.050	0.071	0.080	0.117	0.139	0.159
\$900,000	0.034	0.045	0.065	0.074	0.109	0.129	0.148
\$1,000,000	0.031	0.042	0.060	0.068	0.101	0.121	0.139
\$2,000,000	0.016	0.024	0.036	0.040	0.064	0.077	0.088
\$3,000,000	0.011	0.017	0.026	0.029	0.048	0.058	0.066
\$4,000,000	0.008	0.013	0.020	0.023	0.038	0.046	0.054
\$5,000,000	0.007	0.010	0.016	0.018	0.031	0.038	0.045
\$6,000,000	0.005	0.008	0.013	0.015	0.026	0.033	0.038
\$7,000,000	0.004	0.007	0.011	0.013	0.022	0.028	0.033
\$8,000,000	0.004	0.006	0.010	0.011	0.019	0.024	0.029
\$9,000,000	0.003	0.005	0.008	0.010	0.017	0.021	0.025
\$10,000,000	0.003	0.004	0.007	0.008	0.014	0.019	0.023



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	0.636	0.684	0.726	0.756	0.786	0.814	0.832
\$15,000	0.577	0.628	0.675	0.708	0.745	0.778	0.801
\$20,000	0.529	0.582	0.632	0.668	0.710	0.746	0.773
\$25,000	0.490	0.543	0.596	0.633	0.679	0.718	0.747
\$30,000	0.456	0.509	0.563	0.602	0.651	0.692	0.724
\$35,000	0.427	0.479	0.535	0.574	0.625	0.669	0.702
\$40,000	0.402	0.453	0.509	0.548	0.602	0.647	0.682
\$50,000	0.359	0.409	0.465	0.504	0.561	0.608	0.646
\$75,000	0.286	0.331	0.385	0.422	0.482	0.531	0.573
\$100,000	0.239	0.279	0.331	0.365	0.426	0.474	0.517
\$125,000	0.205	0.243	0.291	0.324	0.384	0.431	0.473
\$150,000	0.180	0.215	0.261	0.291	0.351	0.396	0.438
\$175,000	0.160	0.193	0.237	0.265	0.324	0.368	0.408
\$200,000	0.144	0.175	0.217	0.244	0.302	0.345	0.384
\$225,000	0.131	0.160	0.201	0.226	0.283	0.325	0.363
\$250,000	0.120	0.148	0.187	0.211	0.267	0.307	0.344
\$275,000	0.111	0.138	0.175	0.198	0.253	0.292	0.328
\$300,000	0.103	0.128	0.165	0.187	0.241	0.278	0.313
\$325,000	0.097	0.121	0.156	0.177	0.230	0.266	0.300
\$350,000	0.091	0.114	0.148	0.168	0.220	0.256	0.289
\$375,000	0.085	0.107	0.140	0.160	0.211	0.246	0.278
\$400,000	0.081	0.102	0.134	0.152	0.203	0.237	0.268
\$425,000	0.076	0.097	0.128	0.146	0.196	0.229	0.259
\$450,000	0.073	0.093	0.123	0.140	0.189	0.221	0.251
\$475,000	0.069	0.089	0.118	0.134	0.183	0.214	0.243
\$500,000	0.066	0.085	0.114	0.129	0.177	0.208	0.236
\$600,000	0.056	0.073	0.099	0.113	0.158	0.186	0.212
\$700,000	0.049	0.064	0.089	0.101	0.143	0.170	0.194
\$800,000	0.043	0.057	0.080	0.091	0.132	0.156	0.179
\$900,000	0.039	0.052	0.073	0.083	0.122	0.145	0.166
\$1,000,000	0.035	0.048	0.068	0.077	0.114	0.136	0.155
\$2,000,000	0.019	0.027	0.040	0.045	0.072	0.086	0.099
\$3,000,000	0.013	0.019	0.029	0.033	0.053	0.065	0.074
\$4,000,000	0.010	0.015	0.023	0.026	0.043	0.052	0.060
\$5,000,000	0.008	0.012	0.019	0.021	0.035	0.043	0.050
\$6,000,000	0.006	0.010	0.015	0.018	0.030	0.037	0.043
\$7,000,000	0.005	0.008	0.013	0.015	0.026	0.032	0.038
\$8,000,000	0.004	0.007	0.011	0.013	0.022	0.028	0.033
\$9,000,000	0.004	0.006	0.010	0.011	0.019	0.025	0.029
\$10,000,000	0.003	0.005	0.008	0.010	0.017	0.022	0.026



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

- Exhibit I: Determination of the Indicated Loss Cost Level Change
- Exhibit II: Workers Compensation Loss Adjustment Expenses
- 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



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

NCCI analyzed the emerging experience of Missouri 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, a combination of both paid and paid plus case data was 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 Missouri.

NCCI utilizes 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 indemnity and medical 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.

This filing's overall indicated change based on experience, trend, and benefits 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-based expenses is applied to determine the indicated overall average loss cost level change.



## MISSOURI

### 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)	\$625,155,064
(2) Premium On-level Factor (Appendix A-I)	0.780
(3) Pure Premium Available for Benefit Costs = (1) x (2)	\$487,620,950

###### Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$196,420,611
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Adjusted Limited Indemnity Losses = (4) x (5)	\$196,420,611
(7) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (6) / (3)	0.403
(8) Factor to Reflect Indemnity Trend (Appendix A-III)	0.941
(9) Projected Limited Indemnity Cost Ratio = (7) x (8)	0.379
(10) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.010
(11) Projected Indemnity Cost Ratio = (9) x (10)	0.383
(12) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(13) Projected Indemnity Cost Ratio including Benefit Changes = (11) x (12)	0.383

###### Medical Benefit Cost:

(14) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$275,693,961
(15) Medical Loss On-level Factor (Appendix A-I)	1.000
(16) Adjusted Limited Medical Losses = (14) x (15)	\$275,693,961
(17) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (16) / (3)	0.565
(18) Factor to Reflect Medical Trend (Appendix A-III)	0.956
(19) Projected Limited Medical Cost Ratio = (17) x (18)	0.540
(20) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.010
(21) Projected Medical Cost Ratio = (19) x (20)	0.545
(22) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(23) Projected Medical Cost Ratio including Benefit Changes = (21) x (22)	0.545

###### Total Benefit Cost:

(24) Indicated Change Based on Experience, Trend and Benefits = (13) + (23)	0.928
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## MISSOURI

### 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)	\$617,743,918
(2) Premium On-level Factor (Appendix A-I)	0.760
(3) Pure Premium Available for Benefit Costs = (1) x (2)	\$469,485,378

###### Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$197,178,933
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Adjusted Limited Indemnity Losses = (4) x (5)	\$197,178,933
(7) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (6) / (3)	0.420
(8) Factor to Reflect Indemnity Trend (Appendix A-III)	0.922
(9) Projected Limited Indemnity Cost Ratio = (7) x (8)	0.387
(10) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.010
(11) Projected Indemnity Cost Ratio = (9) x (10)	0.391
(12) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(13) Projected Indemnity Cost Ratio including Benefit Changes = (11) x (12)	0.391

###### Medical Benefit Cost:

(14) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$269,255,793
(15) Medical Loss On-level Factor (Appendix A-I)	1.000
(16) Adjusted Limited Medical Losses = (14) x (15)	\$269,255,793
(17) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (16) / (3)	0.574
(18) Factor to Reflect Medical Trend (Appendix A-III)	0.941
(19) Projected Limited Medical Cost Ratio = (17) x (18)	0.540
(20) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.010
(21) Projected Medical Cost Ratio = (19) x (20)	0.545
(22) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(23) Projected Medical Cost Ratio including Benefit Changes = (21) x (22)	0.545

###### Total Benefit Cost:

(24) Indicated Change Based on Experience, Trend and Benefits = (13) + (23)	0.936
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## MISSOURI

### 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	0.928
(2) Policy Year 2019 Indicated Change Based on Experience, Trend, and Benefits	0.936
(3) Indicated Change Based on Experience, Trend, and Benefits* = (1) x 50.0% + (2) x 50.0%	0.932

\* 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	0.932
(2) Effect of the Change in Loss-based Expenses (Exhibit II)	1.004
(3) Indicated Change Modified to Reflect the Change in Loss-based Expenses = (1) x (2)	0.936

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

Industry Group Differentials (Appendix A-IV):

Manufacturing	1.002
Contracting	0.981
Office & Clerical	0.975
Goods & Services	1.006
Miscellaneous	1.021

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	0.936	1.002	0.938	(-6.2%)
Contracting	0.936	0.981	0.918	(-8.2%)
Office & Clerical	0.936	0.975	0.913	(-8.7%)
Goods & Services	0.936	1.006	0.942	(-5.8%)
Miscellaneous	0.936	1.021	0.956	(-4.4%)
Overall	0.936	1.000	0.936	(-6.4%)



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### Exhibit II – Workers Compensation Loss Adjustment Expenses

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).

Given the nature of AOE, it cannot be allocated to a specific claim, and hence cannot be accurately attributed to specific states. Therefore, the Missouri-specific AOE ratio reflects a weighting of the latest selected countrywide AOE provision (which was calculated based on private carrier data) and an AOE provision calculated based on the state fund’s data. The countrywide provision was calculated using data obtained from the NCCI Call for Loss Adjustment Expense. The accident year developed AOE ratios are calculated on a countrywide basis using private carrier-only data after removing the reported COVID-19-related losses.

The reported DCCE and losses from COVID-19-related claims have been excluded from the underlying data in this year’s analysis because those claims are not expected to be predictive of the loss experience that may arise during the filing prospective period. NCCI used the following general methodology to determine the proposed DCCE provision based on Missouri-specific paid DCCE and losses 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 selected based on the ultimate projected DCCE ratios by policy year.

These policy year DCCE ratios were calculated using combined private carrier and state fund data.



## MISSOURI

### EXHIBIT II

#### Workers Compensation Loss Adjustment Expense Provision

##### Section A - Determination of Loss Adjustment Expense Provision

In this filing, NCCI proposes a 20.0% loss adjustment expense allowance as a percentage of losses.

The DCCE provision is based on Missouri-specific data reported to NCCI on the Policy Year Call for Experience.

The AOE provision is based on data reported to NCCI on the Call for Loss Adjustment Expense.

<u>Policy Year</u>	<u>Developed DCCE Ratio</u>	<u>Accident Year</u>	<u>Developed AOE Ratio</u>
2016	10.4%	2017	9.2%
2017	9.9%	2018	9.2%
2018	10.0%	2019	9.6%
2019	10.1%	2020	10.0%
2020	<u>10.4%</u>	2021	<u>9.3%</u>

Countrywide selected: 9.4%

Missouri selected: 10.2% + 9.8% = **20.0%**

##### Section B - Defense and Cost Containment Expense (DCCE) Ratio

(1) <u>Policy Year</u>	(2) <u>Reported Ratio of Paid DCCE to Paid Losses</u>	(3) <u>Age-to-Ultimate Development Factor</u>	(4) = (2) x (3) <u>Ultimate DCCE Ratio</u>
2016	10.7%	0.970	10.4%
2017	10.2%	0.972	9.9%
2018	10.2%	0.985	10.0%
2019	10.0%	1.014	10.1%
2020	9.5%	1.091	<u>10.4%</u>

Missouri selected: 10.2%

##### Section C - Proposed Change in the Missouri Loss Adjustment Expense (LAE) Provision

	(5) <u>Current</u>	(6) <u>Proposed</u>
Missouri LAE Provision	19.5%	20.0%
Proposed Change in LAE Provision = [1.000 + (6)] / [1.000 + (5)] - 1		1.004 (+0.4%)





## MISSOURI

### Advisory Loss Costs and Rating Values 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 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. Additional adjustments applied as part of the premium on-level factor calculation include:

- Adjustment for Expense Removal: This factor is applied to remove expenses from the reported voluntary DSR level premium totals.
- 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 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 reflected in previous filings are included in Exhibit I, rather than in the loss on-level calculation.



## MISSOURI

### APPENDIX A-I

#### Determination of Policy Year On-level Factors

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

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Removal	Off-balance Adjustment Factor*	Premium Adjustment Factor (5)x(6)x(7)
Date									
NR 01/01/20	Base	1.000	1.000	1.000	1.000	0.932	0.837	1.000	0.780
NR 01/01/21	1.010	1.010							
NR 01/01/22	0.923	0.932							
					<u>1.000</u>				

##### Section B - 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)
01/01/14	Base	1.000	1.000	<u>1.000</u>	1.000
				1.000	

##### Section C - 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)
01/01/14	Base	1.000	1.000	<u>1.000</u>	1.000
				1.000	

NR New and renewal business.

\*  $1.000 = 0.950 / 0.950 = (\text{Targeted Off-balance}) / (\text{Off-balance for Policy Year 2020})$



# MISSOURI

## APPENDIX A-I

### Determination of Policy Year On-level Factors

#### Section D - Factor Adjusting 2019 Policy Year Premium to Present Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Loss Cost Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)	Adj. For Expense Removal	Off-balance Adjustment Factor*	Premium Adjustment Factor (5)x(6)x(7)
Date								
NR 01/01/19	Base	1.000	1.000	1.000	0.917	0.837	0.990	0.760
NR 01/01/20	0.984	0.984						
NR 01/01/21	1.010	0.994						
NR 01/01/22	0.923	0.917						
				<u>1.000</u>				

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

	(1)	(2)	(3)	(4)	(5)
	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
Date					
01/01/14	Base	1.000	1.000	<u>1.000</u>	1.000
				1.000	

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

	(1)	(2)	(3)	(4)	(5)
	Benefit Level Change	Cumulative Index	Weight	Product (2)x(3)	Adj. Factor Present Index/ Sum Column (4)
Date					
01/01/14	Base	1.000	1.000	<u>1.000</u>	1.000
				1.000	

NR New and renewal business.

\*  $0.990 = 0.950 / 0.960 = (\text{Targeted Off-balance}) / (\text{Off-balance for Policy Year 2019})$



## MISSOURI

### Advisory Loss Costs and Rating Values 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 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 effective 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 Missouri average weekly wages from the Quarterly Census of Employment and Wages. Indemnity and medical losses are limited to the year-specific detrended large loss thresholds.

After developing limited indemnity and medical losses to an ultimate report, a statewide, non-catastrophe excess ratio at the base threshold 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 Missouri's Retrospective Rating Plan Parameters.

##### Development

For premium development, link ratios are used from first through fifth 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 first through nineteenth report. For indemnity and medical loss development past the nineteenth report, a 19<sup>th</sup>-to-ultimate "tail" factor is used to reflect all future expected 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 a combination of both paid and paid plus case data.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

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
- A two-year average of historical paid loss development factors through a nineteenth report
- A five-year average of historical paid plus case loss development factors through a nineteenth 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 nineteenth report to the volume of policy year losses at the nineteenth 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 are calculated for the most recent ten available policy years. Loss development tail factors from a nineteenth 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 both paid and paid plus case data, the selected paid plus case loss development tail factors are converted to a paid basis using paid-to-paid plus case ratios. Both the indemnity and medical conversion ratios were selected based on a review of historical conversion ratios, but also consider the conversion ratios for the underlying experience period at early reports.



## MISSOURI

### 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	\$620,193,516
(2) Factor to Develop Premium to Ultimate	1.008
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$625,155,064
(4) Limited Indemnity Paid Losses	\$54,499,624
(5) Limited Indemnity Paid Development Factor to Ultimate	3.352
(6) Limited Indemnity Paid Losses Developed to Ultimate = (4)x(5)	\$182,682,740
(7) Limited Indemnity Paid+Case Losses	\$152,399,189
(8) Limited Indemnity Paid+Case Development Factor to Ultimate	1.379
(9) Limited Indemnity Paid+Case Losses Developed to Ultimate = (7)x(8)	\$210,158,482
(10) Policy Year 2020 Limited Indemnity Losses Developed to Ultimate = [(6)+(9)]/2	\$196,420,611
(11) Limited Medical Paid Losses	\$182,216,858
(12) Limited Medical Paid Development Factor to Ultimate	1.483
(13) Limited Medical Paid Losses Developed to Ultimate = (11)x(12)	\$270,227,600
(14) Limited Medical Paid+Case Losses	\$270,606,661
(15) Limited Medical Paid+Case Development Factor to Ultimate	1.039
(16) Limited Medical Paid+Case Losses Developed to Ultimate = (14)x(15)	\$281,160,321
(17) Policy Year 2020 Limited Medical Losses Developed to Ultimate = [(13)+(16)]/2	\$275,693,961

###### Policy Year 2019

(1) Standard Earned Premium	\$617,743,918
(2) Factor to Develop Premium to Ultimate	1.000
(3) Standard Earned Premium Developed to Ultimate = (1)x(2)	\$617,743,918
(4) Limited Indemnity Paid Losses	\$100,185,825
(5) Limited Indemnity Paid Development Factor to Ultimate	1.912
(6) Limited Indemnity Paid Losses Developed to Ultimate = (4)x(5)	\$191,555,297
(7) Limited Indemnity Paid+Case Losses	\$167,190,905
(8) Limited Indemnity Paid+Case Development Factor to Ultimate	1.213
(9) Limited Indemnity Paid+Case Losses Developed to Ultimate = (7)x(8)	\$202,802,568
(10) Policy Year 2019 Limited Indemnity Losses Developed to Ultimate = [(6)+(9)]/2	\$197,178,933
(11) Limited Medical Paid Losses	\$221,011,263
(12) Limited Medical Paid Development Factor to Ultimate	1.237
(13) Limited Medical Paid Losses Developed to Ultimate = (11)x(12)	\$273,390,932
(14) Limited Medical Paid+Case Losses	\$260,945,526
(15) Limited Medical Paid+Case Development Factor to Ultimate	1.016
(16) Limited Medical Paid+Case Losses Developed to Ultimate = (14)x(15)	\$265,120,654
(17) Policy Year 2019 Limited Medical Losses Developed to Ultimate = [(13)+(16)]/2	\$269,255,793



## MISSOURI

### 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	1.008	2016	1.001	2015	1.000	2014	1.000
2018	1.008	2017	1.000	2016	1.000	2015	1.000
2019	1.009	2018	1.000	2017	1.000	2016	0.999
Average	1.008	Average	1.000	Average	1.000	Average	1.000

##### Summary of Premium Development Factors

<u>1st/5th</u>	<u>2nd/5th</u>	<u>3rd/5th</u>	<u>4th/5th</u>
1.008	1.000	1.000	1.000



## MISSOURI

### APPENDIX A-II

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

##### Section C - Limited Indemnity Paid Loss 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>
2018	1.735	2017	1.263	2016	1.133	2015	1.086
2019	1.771	2018	1.284	2017	1.114	2016	1.066
Average	1.753	Average	1.274	Average	1.124	Average	1.076
<u>Policy Year</u>	<u>5th/6th</u>	<u>Policy Year</u>	<u>6th/7th</u>	<u>Policy Year</u>	<u>7th/8th</u>	<u>Policy Year</u>	<u>8th/9th</u>
2014	1.061	2013	1.022	2012	1.028	2011	1.013
2015	1.047	2014	1.026	2013	1.024	2012	1.014
Average	1.054	Average	1.024	Average	1.026	Average	1.014
<u>Policy Year</u>	<u>9th/10th</u>	<u>Policy Year</u>	<u>10th/11th</u>	<u>Policy Year</u>	<u>11th/12th</u>	<u>Policy Year</u>	<u>12th/13th</u>
2010	1.016	2009	1.006	2008	1.006	2007	1.006
2011	1.009	2010	1.006	2009	1.006	2008	1.009
Average	1.013	Average	1.006	Average	1.006	Average	1.008
<u>Policy Year</u>	<u>13th/14th</u>	<u>Policy Year</u>	<u>14th/15th</u>	<u>Policy Year</u>	<u>15th/16th</u>	<u>Policy Year</u>	<u>16th/17th</u>
2006	1.012	2005	1.004	2004	1.005	2003	1.002
2007	1.006	2006	1.003	2005	1.003	2004	1.004
Average	1.009	Average	1.004	Average	1.004	Average	1.003
<u>Policy Year</u>	<u>17th/18th</u>	<u>Policy Year</u>	<u>18th/19th</u>				
2002	1.002	2001	1.006				
2003	1.005	2002	1.002				
Average	1.004	Average	1.004				





# MISSOURI

## APPENDIX A-II

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

#### Section D - Limited Medical Paid Loss 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>
2018	1.191	2017	1.055	2016	1.020	2015	1.024
2019	1.206	2018	1.047	2017	1.024	2016	1.011
Average	1.199	Average	1.051	Average	1.022	Average	1.018
<u>Policy Year</u>	<u>5th/6th</u>	<u>Policy Year</u>	<u>6th/7th</u>	<u>Policy Year</u>	<u>7th/8th</u>	<u>Policy Year</u>	<u>8th/9th</u>
2014	1.018	2013	1.007	2012	1.017	2011	1.008
2015	1.013	2014	1.010	2013	1.008	2012	1.008
Average	1.016	Average	1.009	Average	1.013	Average	1.008
<u>Policy Year</u>	<u>9th/10th</u>	<u>Policy Year</u>	<u>10th/11th</u>	<u>Policy Year</u>	<u>11th/12th</u>	<u>Policy Year</u>	<u>12th/13th</u>
2010	1.010	2009	1.001	2008	1.004	2007	1.001
2011	1.003	2010	1.003	2009	1.001	2008	1.004
Average	1.007	Average	1.002	Average	1.003	Average	1.003
<u>Policy Year</u>	<u>13th/14th</u>	<u>Policy Year</u>	<u>14th/15th</u>	<u>Policy Year</u>	<u>15th/16th</u>	<u>Policy Year</u>	<u>16th/17th</u>
2006	1.005	2005	1.004	2004	1.004	2003	1.004
2007	1.002	2006	1.002	2005	1.004	2004	1.004
Average	1.004	Average	1.003	Average	1.004	Average	1.004
<u>Policy Year</u>	<u>17th/18th</u>	<u>Policy Year</u>	<u>18th/19th</u>				
2002	1.004	2001	1.003				
2003	1.005	2002	1.004				
Average	1.005	Average	1.004				



**MISSOURI**  
**APPENDIX A-II**

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

**Section E - Limited Indemnity Paid + Case Loss 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>
2015	1.123	2014	1.054	2013	1.074	2012	1.019
2016	1.141	2015	1.063	2014	1.021	2013	1.040
2017	1.127	2016	1.063	2015	1.033	2014	1.028
2018	1.133	2017	1.075	2016	1.059	2015	1.021
2019	1.163	2018	1.056	2017	1.032	2016	1.025
Average	1.137	Average	1.062	Average	1.044	Average	1.027
<u>Policy Year</u>	<u>5th/6th</u>	<u>Policy Year</u>	<u>6th/7th</u>	<u>Policy Year</u>	<u>7th/8th</u>	<u>Policy Year</u>	<u>8th/9th</u>
2011	1.017	2010	1.013	2009	1.014	2008	1.008
2012	1.009	2011	1.003	2010	1.005	2009	1.001
2013	1.002	2012	1.009	2011	1.002	2010	1.000
2014	1.024	2013	1.012	2012	1.004	2011	0.997
2015	1.023	2014	1.030	2013	1.008	2012	1.002
Average	1.015	Average	1.013	Average	1.007	Average	1.002
<u>Policy Year</u>	<u>9th/10th</u>	<u>Policy Year</u>	<u>10th/11th</u>	<u>Policy Year</u>	<u>11th/12th</u>	<u>Policy Year</u>	<u>12th/13th</u>
2007	1.012	2006	1.001	2005	1.005	2004	1.011
2008	1.002	2007	1.002	2006	0.998	2005	1.004
2009	1.004	2008	1.002	2007	1.002	2006	1.002
2010	0.995	2009	0.999	2008	1.000	2007	1.002
2011	1.005	2010	1.002	2009	0.998	2008	0.998
Average	1.004	Average	1.001	Average	1.001	Average	1.003
<u>Policy Year</u>	<u>13th/14th</u>	<u>Policy Year</u>	<u>14th/15th</u>	<u>Policy Year</u>	<u>15th/16th</u>	<u>Policy Year</u>	<u>16th/17th</u>
2003	0.998	2002	0.999	2001	1.001	2000	1.000
2004	1.006	2003	1.004	2002	1.002	2001	1.000
2005	1.002	2004	1.002	2003	1.002	2002	1.001
2006	1.010	2005	1.002	2004	1.002	2003	1.004
2007	1.000	2006	0.999	2005	1.006	2004	1.000
Average	1.003	Average	1.001	Average	1.003	Average	1.001
<u>Policy Year</u>	<u>17th/18th</u>	<u>Policy Year</u>	<u>18th/19th</u>				
1999	1.001	1998	1.000				
2000	0.996	1999	1.003				
2001	0.999	2000	1.001				
2002	1.001	2001	1.002				
2003	1.004	2002	1.000				
Average	1.000	Average	1.001				



**MISSOURI**  
**APPENDIX A-II**

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

**Section F - Limited Medical Paid + Case Loss 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>
2015	1.034	2014	0.993	2013	1.000	2012	0.998
2016	1.007	2015	1.006	2014	0.992	2013	1.000
2017	1.025	2016	0.969	2015	1.007	2014	1.008
2018	1.002	2017	0.994	2016	1.002	2015	1.002
2019	1.049	2018	0.986	2017	1.015	2016	1.004
Average	1.023	Average	0.990	Average	1.003	Average	1.002
<u>Policy Year</u>	<u>5th/6th</u>	<u>Policy Year</u>	<u>6th/7th</u>	<u>Policy Year</u>	<u>7th/8th</u>	<u>Policy Year</u>	<u>8th/9th</u>
2011	1.024	2010	1.001	2009	1.007	2008	1.008
2012	0.986	2011	0.992	2010	1.001	2009	0.996
2013	0.981	2012	0.995	2011	1.006	2010	0.998
2014	1.004	2013	1.004	2012	1.000	2011	0.993
2015	1.015	2014	1.008	2013	1.020	2012	0.998
Average	1.002	Average	1.000	Average	1.007	Average	0.999
<u>Policy Year</u>	<u>9th/10th</u>	<u>Policy Year</u>	<u>10th/11th</u>	<u>Policy Year</u>	<u>11th/12th</u>	<u>Policy Year</u>	<u>12th/13th</u>
2007	1.002	2006	1.006	2005	1.010	2004	1.005
2008	0.990	2007	0.996	2006	1.001	2005	1.002
2009	0.997	2008	0.984	2007	1.001	2006	1.003
2010	1.004	2009	0.989	2008	1.001	2007	0.999
2011	0.999	2010	1.000	2009	0.999	2008	0.998
Average	0.998	Average	0.995	Average	1.002	Average	1.001
<u>Policy Year</u>	<u>13th/14th</u>	<u>Policy Year</u>	<u>14th/15th</u>	<u>Policy Year</u>	<u>15th/16th</u>	<u>Policy Year</u>	<u>16th/17th</u>
2003	0.999	2002	1.003	2001	0.993	2000	1.000
2004	0.994	2003	1.009	2002	1.001	2001	1.000
2005	1.000	2004	0.997	2003	1.001	2002	1.002
2006	1.005	2005	0.999	2004	0.997	2003	1.002
2007	0.998	2006	1.001	2005	0.987	2004	1.000
Average	0.999	Average	1.002	Average	0.996	Average	1.001
<u>Policy Year</u>	<u>17th/18th</u>	<u>Policy Year</u>	<u>18th/19th</u>				
1999	0.999	1998	1.000				
2000	1.001	1999	0.999				
2001	0.996	2000	1.003				
2002	1.011	2001	1.002				
2003	1.001	2002	1.004				
Average	1.002	Average	1.002				



## MISSOURI

### APPENDIX A-II

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

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

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Policy Year	<u>Losses for Policy Year</u> 19th Report	<u>Losses for Policy Year</u> 20th Report	<u>Losses for All Prior Policy Years</u> Previous	<u>Losses for All Prior Policy Years</u> Current	Factor to Adjust Losses for Prior Policy Years	Indicated 19th-to-Ult Development for Policy Year
1992	200,549,303	200,679,586	2,195,087,537	2,198,064,275	0.787	1.020
1993	183,188,006	183,535,361	2,399,277,237	2,401,159,473	0.934	1.013
1994	163,726,551	163,870,863	2,566,044,372	2,568,255,311	1.098	1.013
1995	141,313,490	141,545,426	2,727,688,854	2,729,411,452	1.309	1.011
1996	147,966,426	148,885,395	2,870,127,732	2,872,050,605	1.256	1.017
1997	154,311,500	154,746,190	3,017,195,817	3,016,590,277	1.201	1.000
1998	182,540,288	182,664,069	3,169,160,582	3,171,144,364	1.008	1.011
1999	178,274,607	178,699,133	3,218,869,043	3,221,131,468	0.987	1.015
2000	186,670,607	186,822,793	3,254,882,983	3,256,371,614	0.913	1.010
2001	197,160,321	196,820,323	3,593,453,410	3,595,717,434	0.869	1.011

Selected Indemnity 19th-to-Ultimate Loss Development Factor 1.012

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

(8)	(9)	(10)	(11)	(12)	(13)	(14)
Policy Year	<u>Losses for Policy Year</u> 19th Report	<u>Losses for Policy Year</u> 20th Report	<u>Losses for All Prior Policy Years</u> Previous	<u>Losses for All Prior Policy Years</u> Current	Factor to Adjust Losses for Prior Policy Years	Indicated 19th-to-Ult Development for Policy Year
1992	165,486,131	165,432,240	1,584,603,674	1,590,881,650	0.723	1.052
1993	169,737,364	170,485,300	1,756,367,002	1,757,043,235	0.775	1.010
1994	151,270,232	149,612,389	1,915,056,614	1,916,008,300	0.935	0.996
1995	134,266,425	134,657,354	2,061,176,436	2,065,782,021	1.111	1.034
1996	128,546,172	128,496,716	2,199,686,714	2,200,950,027	1.194	1.008
1997	152,933,798	153,607,274	2,327,361,810	2,327,688,399	1.021	1.006
1998	156,288,073	155,917,719	2,480,377,273	2,483,028,345	1.011	1.014
1999	162,855,364	162,873,779	2,532,868,394	2,541,678,128	0.946	1.057
2000	176,217,899	175,902,987	2,578,710,212	2,587,101,774	0.849	1.054
2001	177,446,442	177,588,476	2,889,012,924	2,898,718,790	0.868	1.064

Selected Medical 19th-to-Ultimate Loss Development Factor 1.020\*

\*As shown in Section H line (2), NCCI's standard methodology involves the application of a factor to adjust the 19th-to-ultimate development factor to a limited basis, which is based on an analysis involving countrywide losses. The selected medical 19th-to-ultimate development factor in Section G reflects a review of how Missouri-specific large loss data in excess of the limiting threshold impacts the values shown in Section G column (14).

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

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

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.



# MISSOURI

## APPENDIX A-II

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

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

Policy Year	Indemnity Paid-to- Paid + Case Ratio 19th Report	Medical Paid-to- Paid + Case Ratio 19th Report
1998	0.973	0.975
1999	0.968	0.986
2000	0.989	0.959
2001	0.972	0.971
2002	0.972	0.956
Selected	0.970	0.975

	<u>Indemnity</u>	<u>Medical</u>
(1) Paid+Case 19th-to-Ultimate Loss Development Factor (Section G)	1.012	1.020
(2) Factor to Adjust 19th-to-Ultimate Development Factor to a Limited Basis	0.768	0.768
(3) Limited Paid+Case 19th-to-Ultimate Loss Development Factor = [(1)-1]x(2)+1	1.009	1.015
(4) Limited Paid-to-Paid+Case Ratio (Section H)	0.970	0.975
(5) Limited Paid 19th-to-Ultimate Loss Development Factor = (3) / (4)	1.040	1.041

#### Section I - Summary of Limited Paid Loss Development Factors

(1) <u>Indemnity Paid Loss Development</u>			(3) <u>Medical Paid Loss Development</u>		
Report	to Next Report	to Ultimate	Report	to Next Report	to Ultimate
1st	1.753	3.352	1st	1.199	1.483
2nd	1.274	1.912	2nd	1.051	1.237
3rd	1.124	1.501	3rd	1.022	1.177
4th	1.076	1.335	4th	1.018	1.152
5th	1.054	1.241	5th	1.016	1.132
6th	1.024	1.177	6th	1.009	1.114
7th	1.026	1.149	7th	1.013	1.104
8th	1.014	1.120	8th	1.008	1.090
9th	1.013	1.105	9th	1.007	1.081
10th	1.006	1.091	10th	1.002	1.073
11th	1.006	1.084	11th	1.003	1.071
12th	1.008	1.078	12th	1.003	1.068
13th	1.009	1.069	13th	1.004	1.065
14th	1.004	1.059	14th	1.003	1.061
15th	1.004	1.055	15th	1.004	1.058
16th	1.003	1.051	16th	1.004	1.054
17th	1.004	1.048	17th	1.005	1.050
18th	1.004	1.044	18th	1.004	1.045
19th	1.040	Section H	19th	1.041	Section H

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

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



# MISSOURI

## APPENDIX A-II

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

#### Section J - Summary of Limited Paid+Case Loss Development Factors

Report	(1) Indemnity Paid+Case Loss Development	(2) to Ultimate
	to Next Report	
1st	1.137	1.379
2nd	1.062	1.213
3rd	1.044	1.142
4th	1.027	1.094
5th	1.015	1.065
6th	1.013	1.049
7th	1.007	1.036
8th	1.002	1.029
9th	1.004	1.027
10th	1.001	1.023
11th	1.001	1.022
12th	1.003	1.021
13th	1.003	1.018
14th	1.001	1.015
15th	1.003	1.014
16th	1.001	1.011
17th	1.000	1.010
18th	1.001	1.010
19th		1.009

Section H

Report	(3) Medical Paid+Case Loss Development	(4) to Ultimate
	to Next Report	
1st	1.023	1.039
2nd	0.990	1.016
3rd	1.003	1.026
4th	1.002	1.023
5th	1.002	1.021
6th	1.000	1.019
7th	1.007	1.019
8th	0.999	1.012
9th	0.998	1.013
10th	0.995	1.015
11th	1.002	1.020
12th	1.001	1.018
13th	0.999	1.017
14th	1.002	1.018
15th	0.996	1.016
16th	1.001	1.020
17th	1.002	1.019
18th	1.002	1.017
19th		1.015

Section H

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

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



## MISSOURI

### APPENDIX A-II

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

##### Section K - Factor to Adjust Limited Losses to an Unlimited Basis

(1) Threshold at the Midpoint of the Loss Cost Effective Period*	10,138,997
(2) Statewide Excess Ratio for (1)	0.010
(3) Market Share for Carriers Missing from Large Loss and Catastrophe Call	0.000
(4) Factor to Adjust Limited Losses to an Unlimited Basis = $1.0 / \{1.0 - [(2) \times (1.0 - (3))]\}$	1.010

##### Section L - Policy Year Large Loss Limits

Experience Year	Policy Year Detrended Limit
2020	8,786,947
2019	8,358,261
2018	8,029,247
2017	7,764,981
2016	7,525,698
2015	7,391,904
2014	7,236,997
2013	7,029,092
2012	6,914,423
2011	6,761,774
2010	6,591,211
2009	6,473,030
2008	6,477,209
2007	6,341,324
2006	6,080,053
2005	5,869,002
2004	5,681,512
2003	5,503,087
2002	5,368,668
2001	5,266,397
2000	5,127,546
1999	4,917,364
1998	4,714,232

\* November 30, 2023 is the midpoint of the effective period for which the revised loss costs are being proposed.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

##### Appendix A-III Trend Factors

The proposed loss costs 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 Missouri 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 Missouri. 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 Missouri 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.





## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

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. 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 an average of paid and paid plus case losses.

As shown on the following pages, lost-time claim frequency has declined over the past fifteen policy years. The data in the chart reflects premiums at today's loss cost and wage levels. After adjusting to a common wage level, the indemnity and medical average cost per case figures continue to indicate a slight long-term upward trend.

An annual trend factor of  $-2.0\%$  was selected for the indemnity loss ratio, and an annual trend factor of  $-1.5\%$  was selected for the medical loss ratio. The selected annual loss ratio trends are based more heavily on longer term exponential trend fits because they are less volatile and the least influenced by the substantial improvement in experience observed in the latest two policy years. It should also be noted that the favorable loss ratio experience in Policy Years 2019 and 2020 is already accounted for in the indication through the change in experience.

It is possible that some portion of the improved loss ratio experience in the most recent years may be expected to continue going forward as the COVID-19 pandemic may have permanently altered aspects of the workplace and economy. However, the selected annual loss ratio trends reflect some consideration that this improved experience may be partly related to COVID-19 pandemic-related effects which may not persist during the effective period of the proposed loss costs. For example, the slight slowdown observed in Policy Year 2020 claim closure rate may be attributable to temporary pandemic-related factors such as workers reporting fewer small claims, delays in medical treatment, or a slowdown in the court system.

The selected annual indemnity loss ratio trend also considers the impact of the latest change in the State Average Weekly Wage (SAWW). The larger-than-normal wage growth in 2021—as measured by the Quarterly Census of Employment and Wages (QCEW)—is reflected in the premium estimates, which are valued as of December 31, 2021. The impact on benefits is lagged one year behind, putting downward pressure on the loss ratios in the experience period. During the trend projection period, losses will catch up to premium as benefits reflect the higher wages already observed in the premium. See COVID-19 Pandemic-related Considerations in the Additional Proposed Changes section for additional details related to potential COVID-19 pandemic-related effects.



## MISSOURI

### APPENDIX A-III

#### Policy Year Trend Factors

##### Section A - Calculation of Annual Loss Ratio Trend Factors

(1) Selected Annual Loss Ratio Trends: Indemnity **-2.0%** Medical **-1.5%**

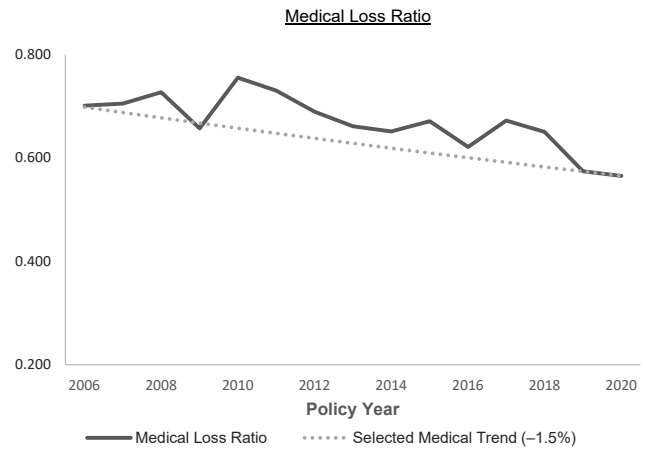
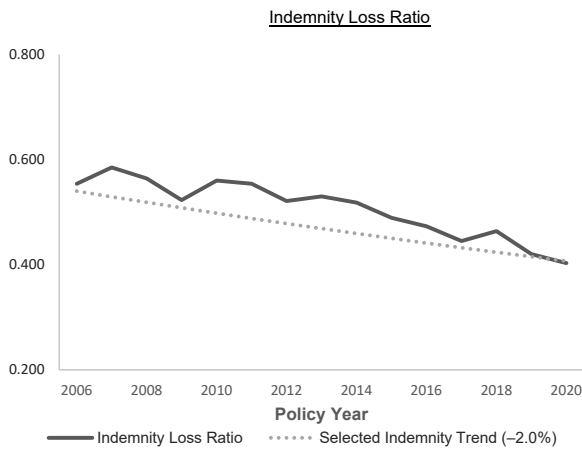
(2) Length of Trend Period from Midpoint of Policy Year to Midpoint of Effective Period:

Trend Length: PY 2020 PY 2019  
2.998 3.998

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

PY 2020 PY 2019  
Indemnity: 0.941 0.922  
Medical: 0.956 0.941

##### Section B - Loss Ratio Trend Data



Policy Year	Indemnity Loss Ratio <sup>^</sup>	# of Years in Fit	Exponential Fits
2006	0.554		
2007	0.585		
2008	0.564		
2009	0.523		
2010	0.560	15	-2.3%
2011	0.554	14	-2.6%
2012	0.521	13	-2.6%
2013	0.530	12	-2.7%
2014	0.518	11	-3.2%
2015	0.489	10	-3.3%
2016	0.473	9	-3.3%
2017	0.445	8	-3.7%
2018	0.464	7	-3.8%
2019	0.420	6	-3.6%
2020	0.403	5	-3.7%

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

Policy Year	Medical Loss Ratio <sup>^^</sup>	# of Years in Fit	Exponential Fits
2006	0.701		
2007	0.705		
2008	0.727		
2009	0.657		
2010	0.755	15	-1.4%
2011	0.730	14	-1.6%
2012	0.689	13	-1.8%
2013	0.661	12	-1.8%
2014	0.651	11	-2.3%
2015	0.671	10	-2.2%
2016	0.621	9	-2.0%
2017	0.672	8	-2.1%
2018	0.650	7	-2.4%
2019	0.574	6	-3.2%
2020	0.565	5	-3.4%

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

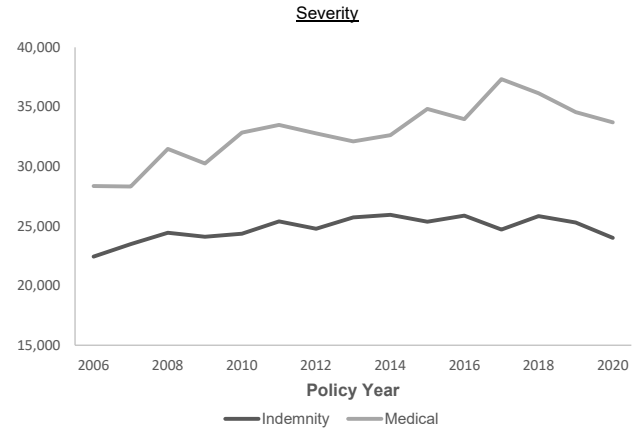
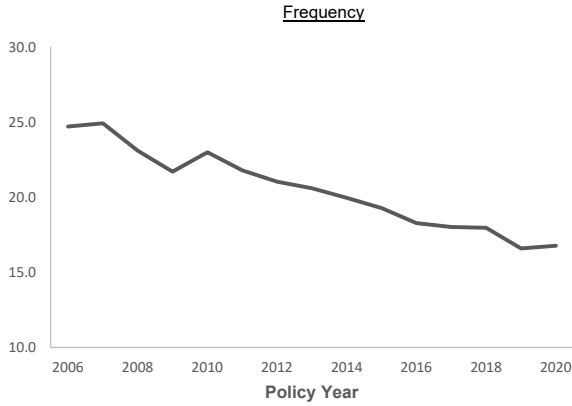


# MISSOURI

## APPENDIX A-III

### Policy Year Trend Factors

#### Section C - Frequency and Severity Trend Data



Policy Year	Claim Frequency†		
2006	24.706	# of Years in Fit	Exponential Fits
2007	24.924		
2008	23.095	15	-2.9%
2009	21.709		
2010	22.991	14	-2.9%
2011	21.794		
2012	21.035	13	-2.8%
2013	20.595		
2014	19.958	12	-3.1%
2015	19.277		
2016	18.281	11	-3.0%
2017	18.018		
2018	17.966	10	-3.0%
2019	16.591		
2020	16.773	9	-3.0%
		8	-2.8%
		7	-2.5%
		6	
		5	

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

Policy Year	Severity				
	Indemnity*	Medical**	# of Years in Fit	Exponential Fits	
				Indemnity	Medical
2006	22,442	28,362	15	0.5%	1.5%
2007	23,486	28,321	14	0.3%	1.3%
2008	24,436	31,474	13	0.2%	1.1%
2009	24,110	30,252	12	0.1%	1.1%
2010	24,359	32,850	11	0.0%	0.8%
2011	25,398	33,490	10	-0.3%	0.9%
2012	24,771	32,778	9	-0.3%	1.0%
2013	25,737	32,106	8	-0.7%	1.0%
2014	25,950	32,634	7	-0.9%	0.5%
2015	25,374	34,835	6	-0.8%	-0.4%
2016	25,881	33,969	5	-1.3%	-0.9%
2017	24,715	37,331			
2018	25,832	36,150			
2019	25,307	34,557			
2020	24,015	33,708			

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

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



## MISSOURI

### 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 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	176,473,154	848,632,546	794,589,296	1.260	1.262
Contracting	181,445,803	839,809,249	786,621,075	1.126	1.125
Office & Clerical	108,481,464	507,494,048	475,024,478	1.138	1.137
Goods & Services	279,969,123	1,316,062,711	1,231,522,279	1.087	1.089
Miscellaneous	198,458,826	893,894,515	837,598,026	1.071	1.068
Statewide	944,828,370	4,405,893,069	4,125,355,154		

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	176,193,482	847,287,645	793,330,042	1.068	1.000
Contracting	181,607,088	840,555,746	787,320,294	1.068	1.000
Office & Clerical	108,576,874	507,940,393	475,442,266	1.068	1.000
Goods & Services	279,454,946	1,313,645,700	1,229,260,530	1.069	1.001
Miscellaneous	199,016,295	896,405,455	839,950,829	1.067	0.999
Statewide	944,848,685	4,405,834,939	4,125,303,961	1.068	



## MISSOURI

### 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	797,499,033	1.005	1.003	16,170
Contracting	772,874,431	0.982	0.980	9,751
Office & Clerical	463,380,540	0.975	0.973	9,429
Goods & Services	1,241,582,411	1.009	1.007	28,877
Miscellaneous	859,476,810	1.024	1.022	14,141
Statewide	4,134,813,225	1.002		

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	1.00	1.005	1.002
Contracting	12,000	0.90	0.984	0.981
Office & Clerical	12,000	0.89	0.978	0.975
Goods & Services	12,000	1.00	1.009	1.006
Miscellaneous	12,000	1.00	1.024	1.021
Statewide			1.003	1.000

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



## MISSOURI

### 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 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 current Missouri 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 Missouri 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).



## MISSOURI

### Advisory Loss Costs and Rating Values 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 Missouri 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



## MISSOURI

### 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
7/15-6/16	1.123	1.034	1.039	1.005
7/16-6/17	1.178	1.047	1.044	1.003
7/17-6/18	1.270	1.079	1.052	1.002
7/18-6/19	1.457	1.142	1.065	1.004
7/19-6/20	1.830	1.269	1.131	1.012

\*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
7/15-6/16	0.860	0.893
7/16-6/17	0.877	0.907
7/17-6/18	0.895	0.921
7/18-6/19	0.914	0.935
7/19-6/20	0.932	0.949

##### 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
7/15-6/16	1.000	1.000	1.000	1.000	1.000
7/16-6/17	1.000	1.000	1.000	1.000	1.000
7/17-6/18	1.000	1.000	1.000	1.000	1.000
7/18-6/19	1.000	1.000	1.000	1.000	1.000
7/19-6/20	1.000	1.000	1.000	1.000	1.000





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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)
7/15-6/16	0.966	0.889	0.966	0.966	0.889	0.966	0.889	0.928	0.897
7/16-6/17	1.033	0.918	1.033	1.033	0.918	1.033	0.918	0.947	0.910
7/17-6/18	1.137	0.966	1.137	1.137	0.966	1.137	0.966	0.969	0.923
7/18-6/19	1.332	1.044	1.332	1.332	1.044	1.332	1.044	0.996	0.939
7/19-6/20	1.706	1.183	1.706	1.706	1.183	1.706	1.183	1.073	0.960

\* 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	0.062	0.082	0.113	0.129	0.181	0.215	0.245
(2) Excess Factors 1/(1-(1))	1.066	1.089	1.127	1.148	1.221	1.274	1.325

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.



## MISSOURI

### APPENDIX B-I

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

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

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

	Manufacturing	Contracting	Office and Clerical	Goods and Services	Miscellaneous
(1) Indicated Differentials*	1.003	0.980	0.973	1.007	1.022
(2) Final Differentials**	1.002	0.981	0.975	1.006	1.021
(3) Adjustment (2)/(1)	0.999	1.001	1.002	0.999	0.999

\*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)
7/15-6/16	0.891	1.131	1.130	1.001	0.892
7/16-6/17	0.890	1.131	1.128	1.003	0.893
7/17-6/18	0.878	1.131	1.124	1.006	0.883
7/18-6/19	0.895	1.131	1.128	1.003	0.898
7/19-6/20	1.003	1.129	1.130	0.999	1.002

##### 3. Adjustment for Experience Change

A factor of 0.926 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 1.200 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
7/15-6/16	0.990	0.992	0.993	0.990	0.990
7/16-6/17	0.991	0.993	0.994	0.991	0.991
7/17-6/18	0.980	0.982	0.983	0.980	0.980
7/18-6/19	0.997	0.999	1.000	0.997	0.997
7/19-6/20	1.112	1.115	1.116	1.112	1.112



## MISSOURI

### 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 0.926 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, 1.018 and 1.000, 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
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	1.195	1.195	1.200	1.200
(2) Loss-based Assessment	1.000	1.000	1.000	1.000
(3) = (1) + (2) – 1.000	1.195	1.195	1.200	1.200
(4) Overall Change (3b)/(3a)			1.004	1.004

##### 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	1.260	1.262	0.998
Contracting	1.126	1.125	1.001
Office & Clerical	1.138	1.137	1.001
Goods & Services	1.087	1.089	0.998
Miscellaneous	1.071	1.068	1.003



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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	1.002	1.000	1.002
Contracting	0.981	1.000	0.981
Office & Clerical	0.975	1.000	0.975
Goods & Services	1.006	1.001	1.007
Miscellaneous	1.021	0.999	1.020

\*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	0.946	0.930
Contracting	0.929	0.913
Office & Clerical	0.923	0.908
Goods & Services	0.951	0.935
Miscellaneous	0.968	0.951



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### 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 Missouri conditions in four steps. First, statewide indicated pure premiums are determined for Missouri. Second, using Missouri payrolls as weights, corresponding statewide-average pure premiums are computed for each remaining state. Third, the ratios of Missouri 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 Missouri 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: \$35,728,509 for indemnity and \$25,301,750 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.



## MISSOURI

### 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	1.0090
Contracting	1.0081
Office & Clerical	0.9861
Goods & Services	0.9931
Miscellaneous	1.0027

##### 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	1.262
Contracting	1.125
Office & Clerical	1.137
Goods & Services	1.089
Miscellaneous	1.068

##### 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.



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### 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 14% above to 26% below
Contracting	from 12% above to 28% below
Office & Clerical	from 11% above to 29% below
Goods & Services	from 14% above to 26% below
Miscellaneous	from 16% above to 24% 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

1747 2586 7711 9522

#### List of Classifications Limited by the Lower Swing

1438

#### 5. Missouri 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 1.086 to offset the credits payable under the CCPAP.

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



## MISSOURI

### 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
07/01/15 - 06/30/16	100,000	80,168	0	2,075,116	4,072,281	624,800	1,820,121	2,900,868	9,612,927
07/01/16 - 06/30/17	0	386,438	0	992,260	4,596,030	766,705	1,702,701	1,531,801	10,433,823
07/01/17 - 06/30/18	0	0	0	1,682,298	3,681,231	383,272	1,844,382	1,974,938	11,957,904
07/01/18 - 06/30/19	0	200,000	0	1,994,112	4,548,607	989,121	1,413,062	3,842,285	12,926,161
07/01/19 - 06/30/20	0	5,000	260,443	1,022,130	2,572,672	490,402	1,569,249	3,747,161	9,427,915

#### 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
07/01/15 - 06/30/16	0.966	0.889	0.966	0.966	0.889	0.966	0.889	0.928	0.897
07/01/16 - 06/30/17	1.033	0.918	1.033	1.033	0.918	1.033	0.918	0.947	0.910
07/01/17 - 06/30/18	1.137	0.966	1.137	1.137	0.966	1.137	0.966	0.969	0.923
07/01/18 - 06/30/19	1.332	1.044	1.332	1.332	1.044	1.332	1.044	0.996	0.939
07/01/19 - 06/30/20	1.706	1.183	1.706	1.706	1.183	1.706	1.183	1.073	0.960

#### 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	1.127

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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## MISSOURI

### 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
07/01/15 - 06/30/16	103,984	76,716	0	2,157,786	3,896,981	649,692	1,741,770	3,172,784	9,991,871
07/01/16 - 06/30/17	0	381,866	0	1,103,354	4,541,657	852,545	1,682,558	1,728,010	11,017,103
07/01/17 - 06/30/18	0	0	0	2,058,980	3,827,886	469,090	1,917,860	2,277,192	12,715,232
07/01/18 - 06/30/19	0	224,760	0	2,859,187	5,111,728	1,418,216	1,588,000	4,516,940	14,011,756
07/01/19 - 06/30/20	0	6,367	478,278	1,877,042	3,276,106	900,576	1,998,322	4,687,058	10,453,823

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

Policy Period	INDUSTRY GROUP: Office and Clerical
07/01/15 - 06/30/16	0.993
07/01/16 - 06/30/17	0.994
07/01/17 - 06/30/18	0.983
07/01/18 - 06/30/19	1.000
07/01/19 - 06/30/20	1.116

#### 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
07/01/15 - 06/30/16	24,591,903,923	2,891,082	5,675,459	3,150,575	9,921,928	8,566,541	13,072,503	21,639,044
07/01/16 - 06/30/17	25,364,752,841	1,944,164	6,566,445	1,717,642	10,951,000	8,510,609	12,668,642	21,179,251
07/01/17 - 06/30/18	26,486,766,675	2,485,093	5,648,068	2,238,480	12,499,073	8,133,161	14,737,553	22,870,714
07/01/18 - 06/30/19	27,391,279,696	4,277,403	6,924,488	4,516,940	14,011,756	11,201,891	18,528,696	29,730,587
07/01/19 - 06/30/20	27,129,585,970	3,633,580	5,893,367	5,230,757	11,666,466	9,526,947	16,897,223	26,424,170
Total	130,964,289,105	15,231,322	30,707,827	16,854,394	59,050,223	45,939,149	75,904,617	121,843,766
<b>INDICATED PURE PREMIUM</b>						<b>0.035</b>	<b>0.058</b>	<b>0.09</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	0.040	0.060	0.10
Conversion Factors (App. B-I, Section B)	0.923	0.908	xxx
<b>PURE PREMIUMS PRESENT ON RATE LEVEL</b> <b>(Underlying Pure Premiums) x (Conversion Factor)</b>	<b>0.037</b>	<b>0.054</b>	<b>0.09</b>



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### 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	0.035	0.058	0.09
2. Pure Premium Indicated by National Relativity	0.033	0.057	0.09
3. Pure Premium Present on Rate Level	0.037	0.054	0.09
4. State Credibilities	100%	100%	xxx
5. National Credibilities	0%	0%	xxx
6. Residual Credibilities = 100% - (4) - (5)	0%	0%	xxx
7. Derived by Formula Pure Premiums = (1) x (4) + (2) x (5) + (3) x (6)	0.035	0.058	0.09
8. Test Correction Factor	0.9861	0.9861	xxx
9. Underlying Pure Premiums = (7) x (8) *	0.033	0.057	0.09
10. Ratio of Manual to Standard Premium			1.137
11. Loss Cost = (9) x (10)			0.10
12. Loss Cost Within Swing Limits			0.10
Current Loss Cost x Swing Limits			
a) Lower bound = 0.11 x 0.710 = 0.08			
b) Upper bound = 0.11 x 1.110 = 0.12			
13. Pure Premiums Underlying Proposed Loss Cost* = ((13TOT) / (9TOT)) x (9) , (13TOT) = (12) / (10)	0.033	0.057	0.09
14. Disease, Catastrophe and/or Miscellaneous Loadings			0.00
15. Final Loaded Loss Cost			0.10

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



## MISSOURI 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 \$24,158,860 of payroll, the overall loss cost level change in Missouri is -19.9%.

### 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 Missouri proposed level.
- A final base pure premium is calculated by bringing the primary base pure premium to the proposed Missouri 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.



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II. The F-class code countrywide relativities:

	(1)	(2)	(3)	(4)
	10-Year	10-Year Expected	= (2)/((1)/100)	= (3)/(3)Overall
Class Code	Countrywide Payroll	Unlimited Countrywide Losses	Countrywide Pure Premium	Countrywide Relativity
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  
9077

Classifications Limited by the Lower Swing

6825	6872	6874	7309
7313	7317	7327	7350
8709	8726		



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**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			1.486
3. Countrywide State Act Weight			24%
4. <b>Primary Base Pure Premium</b> = [(1) x (2) x (3)] + [(1) x (1 - (3))]			<b>3.34</b>
5. Countrywide Weights	50%	50%	100%
6. Trend Factors	0.981	0.986	xx
7. Weighted Benefits	1.000	1.000	xx
8. Weighted Loss-Based Expenses	1.286	1.200	xx
9. <b>Secondary Base Pure Premium</b> = (4tot) x (5) x (6) x (7) x (8)	2.107	1.976	<b>4.08</b>
10. Additional Offsets			1.000
11. <b>Final Base Pure Premium</b> = (9) x (10)			<b>4.08</b>



**MISSOURI  
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. Missouri's Final Base Pure Premium	4.08
2. Countrywide Class Code 6872 Relativity (Section II)	1.268
3. Loss Cost = (1) x (2)	5.17
4. Loss Cost Within Swing Limits	5.84
Current Loss Cost x Swing Limits	
a) Lower bound = $7.30 \times 0.80 = 5.84$	
a) Upper bound = $7.30 \times 1.20 = 8.76$	
5. Disease, Catastrophe and/or Miscellaneous Loadings	0.00
6. Final Loaded Loss Cost	5.84



## MISSOURI

### APPENDIX B-IV

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

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

1.) Assessment Rate on Indemnity Losses *	11.3%
2.) Assessment Rate on Total Losses #	6.1%

\* 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



## MISSOURI

### Appendix B-V

#### Calculation of Coal Mine Traumatic and Disease

Coal mine experience is reflected in the following class codes:

- Surface Coal Mine – Class Code 1005
- Underground Coal Mine – Class Code 1016

The traumatic loss cost for Surface Coal Mine Class Code 1005 is calculated based on WCSP data as explained in Appendices B-I through B-III. Class Code 1005 is in the Miscellaneous industry group.

The traumatic loss cost for Underground Coal Mine Class Code 1016 is calculated using WCSP data. Pure premiums are calculated and adjusted for trend, benefits, and any applicable offsets or expense provisions. Swing limits for Class Code 1016 are applied around the current loss cost.

The disease portion of class codes 1005 and 1016 is calculated by weighting a state and federal disease pure premium component. Loss-based expense provisions, and where applicable, expense provisions, are applied as a final step in the calculation of the disease loss cost.

The loss costs shown on the Basic Manual pages for class codes 1005 and 1016 are a combination of the traumatic and state and federal disease portions.





## MISSOURI

### Advisory Loss Costs and Rating Values 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.

In this year's filing, there have been no newly enacted benefit changes in Missouri.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

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

- Definitions
- NCCI Affiliate List
- Key Contacts



## MISSOURI

### Advisory Loss Costs and Rating Values 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.



## MISSOURI

### Advisory Loss Costs and Rating Values 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.



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### NCCI Affiliate List

7710 INSURANCE COMPANY	ATLANTIC SPECIALTY INS CO (INTACT )
A M C O INSURANCE COMPANY	AUSTIN MUTUAL INSURANCE COMPANY
ACADIA INSURANCE COMPANY	AUTO OWNERS INS CO
ACCIDENT FUND GENERAL INS CO	BANKERS STANDARD INS CO
ACCIDENT FUND INS CO OF AMERICA	BEARING MIDWEST CASUALTY COMPANY
ACCIDENT FUND NATIONAL INS CO	BENCHMARK INSURANCE COMPANY
ACCIDENT INSURANCE COMPANY INC	BERKLEY CASUALTY COMPANY
ACE AMERICAN INSURANCE COMPANY	BERKLEY INSURANCE COMPANY
ACE FIRE UNDERWRITERS INSURANCE COMPANY	BERKLEY NATIONAL INSURANCE COMPANY
ACE PROPERTY & CASUALTY INSURANCE COMPANY	BERKLEY REGIONAL INS CO
ACIG INS CO	BERKSHIRE HATHAWAY DIRECT INSURANCE COMPANY
ACUITY A MUTUAL INS COMPANY	BERKSHIRE HATHAWAY HOMESTATE INS CO
ADDISON INSURANCE COMPANY	BITCO GENERAL INSURANCE CORPORATION
AIG ASSURANCE COMPANY	BITCO NATIONAL INSURANCE COMPANY
AIG PROPERTY CASUALTY COMPANY	BLACKBOARD INSURANCE COMPANY
AIU INSURANCE CO (NATIONAL UNION FIRE OF PITTS PA)	BLOOMINGTON COMPENSATION INS CO
AK NATIONAL INS CO	BRICKSTREET MUTUAL INS CO
ALLIED EASTERN IND CO	BROTHERHOOD MUTUAL INS CO
ALLIED INSURANCE COMPANY OF AMERICA	CALIFORNIA INSURANCE COMPANY
ALLIED PROPERTY AND CASUALTY INS CO	CAROLINA CASUALTY INS CO
ALLMERICA FINANCIAL ALLIANCE INS CO	CHARTER OAK FIRE INS CO
ALLMERICA FINANCIAL BENEFIT INS CO	CHEROKEE INS CO
AMERICAN ALTERNATIVE INSURANCE CORPORATION	CHIRON INSURANCE COMPANY
AMERICAN AUTOMOBILE INSURANCE CO	CHUBB INDEMNITY INS CO
AMERICAN BUSINESS AND MERCANTILE INS MUTUAL INC	CHUBB NATIONAL INS CO
AMERICAN CASUALTY COMPANY OF READING P A	CHURCH MUTUAL INS CO, S.I.
AMERICAN COMPENSATION INS CO	CIMARRON INSURANCE COMPANY INC
AMERICAN ECONOMY INS CO	CINCINNATI CASUALTY COMPANY
AMERICAN FAMILY HOME INS CO	CINCINNATI INDEMNITY COMPANY
AMERICAN FAMILY INS CO	CINCINNATI INS CO
AMERICAN FAMILY MUTUAL INSURANCE COMPANY, S.I.	CITIZENS INS CO OF AMERICA
AMERICAN FIRE AND CASUALTY CO	CLEAR SPRING PROPERTY AND CASUALTY COMPANY
AMERICAN GUARANTEE AND LIABILITY INS CO	CLEARPATH MUTUAL INSURANCE COMPANY (KESA)
AMERICAN HOME ASSUR CO-NATIONAL UNION FIRE OF PIT	COLONIAL AMERICAN CASUALTY & SURETY CO
AMERICAN INS CO	COLONIAL SURETY COMPANY
AMERICAN INTERSTATE INS CO	COLUMBIA MUTUAL INSURANCE CO
AMERICAN INTERSTATE INS CO OF TX	COLUMBIA NATIONAL INS CO
AMERICAN LIBERTY INSURANCE CO	COMMERCE AND INDUSTRY INS CO
AMERICAN MODERN HOME INS CO	CONSOLIDATED INS CO
AMERICAN NATIONAL PROPERTY AND CASUALTY CO	CONTINENTAL CASUALTY CO
AMERICAN SELECT INS CO	CONTINENTAL INDEMNITY CO
AMERICAN STATES INS CO A SAFECO COMPANY	CONTINENTAL INS CO
AMERICAN ZURICH INS CO	CONTINENTAL WESTERN INSURANCE COMPANY
AMERISURE INS CO	COREPOINTE INSURANCE COMPANY
AMERISURE MUTUAL INS CO	COUNTRY MUTUAL INSURANCE CO
AMERISURE PARTNERS INS CO	CRESTBROOK INS CO
AMERITRUST INS CORP	CRUM AND FORSTER INDEMNITY CO
AMFED ADVANTAGE INSURANCE COMPANY	DAKOTA TRUCK UNDERWRITERS
AMFED CASUALTY INS CO	DEPOSITORS INS CO
AMFED NATIONAL INSURANCE COMPANY	DIAMOND INS CO
AMGUARD INS CO	DISCOVER PROPERTY & CASUALTY INS CO
AMTRUST INSURANCE CO	EASTERN ADVANTAGE ASSURANCE COMPANY
ARCH INDEMNITY INSURANCE COMPANY	EASTERN ALLIANCE INSURANCE COMPANY
ARCH INSURANCE COMPANY	EASTGUARD INS CO
ARCH PROPERTY CASUALTY INS CO	ELECTRIC INS CO
ARGONAUT GREAT CENTRAL INS CO	EMC PROPERTY & CASUALTY COMPANY
ARGONAUT INS CO	EMCASCO INS CO
ARGONAUT MIDWEST INS CO	EMPLOYERS ASSURANCE COMPANY
ASCOT INSURANCE COMPANY	EMPLOYERS COMPENSATION INS CO
ASSOCIATION CASUALTY INS CO	EMPLOYERS INS CO OF WAUSAU



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### NCCI Affiliate List

EMPLOYERS INSURANCE COMPANY OF NEVADA	HARTFORD CASUALTY INS CO
EMPLOYERS MUTUAL CASUALTY CO	HARTFORD FIRE INSURANCE CO
EMPLOYERS PREFERRED INS CO	HARTFORD INS CO OF IL
ENDURANCE AMERICAN INS CO	HARTFORD INS CO OF MIDWEST
ENDURANCE ASSURANCE CORPORATION	HARTFORD INS CO OF THE SOUTHEAST
EVEREST DENALI INSURANCE COMPANY	HARTFORD UNDERWRITERS INS CO
EVEREST NATIONAL INS CO	HAWKEYE-SECURITY INS CO
EVEREST PREMIER INSURANCE COMPANY	HDI GLOBAL INSURANCE COMPANY
EVEREST REINSURANCE CO DIRECT	HOME OWNERS INS CO
EXACT PROPERTY AND CASUALTY CO INC	HORIZON MIDWEST CASUALTY COMPANY
EXECUTIVE RISK INDEMNITY INC	ILLINOIS CASUALTY COMPANY
EXPLORER INS CO	ILLINOIS NATIONAL INSURANCE COMPANY
FALLS LAKE NATIONAL INSURANCE CO	IMPERIUM INSURANCE COMPANY
FARMERS INSURANCE EXCHANGE	INCLINE CASUALTY COMPANY
FARMINGTON CASUALTY COMPANY	INDEMNITY INS CO OF N AMERICA (INA INS) (CT GEN)
FCCI INSURANCE COMPANY	INS CO OF NORTH AMERICA
FEDERAL INSURANCE COMPANY	INS CO OF THE STATE PA
FEDERATED MUTUAL INS CO	INS CO OF THE WEST
FEDERATED RESERVE INSURANCE CO	INTREPID INSURANCE COMPANY
FEDERATED RURAL ELECTRIC INS EXCHANGE	KEY RISK INS CO
FEDERATED SERVICE INS CO	LACKAWANNA AMERICAN INS CO
FIDELITY & DEPOSIT COMPANY OF MARYLAND	LACKAWANNA CASUALTY CO
FIDELITY & GUARANTY INS UNDERWRITERS	LACKAWANNA NATIONAL INS CO
FIDELITY & GUARANTY INSURANCE CO	LIBERTY INS CORP
FIRE INS EXCHANGE	LIBERTY INSURANCE UNDERWRITERS INC
FIREMANS FUND INSURANCE CO	LIBERTY MUTUAL FIRE INS CO
FIREMENS INS CO OF WASHINGTON DC	LIBERTY MUTUAL INS CO
FIRST DAKOTA INDEMNITY CO	LM INS CORP
FIRST LIBERTY INS CORP	MA BAY INS CO
FIRST NATIONAL INS CO OF AMERICA	MAG MUTUAL INS CO
FIRST NONPROFIT INS CO	MANUFACTURERS ALLIANCE INS CO
FIRSTCOMP INSURANCE CO	MARKEL AMERICAN INSURANCE CO
FLORISTS MUTUAL INSURANCE CO	MARKEL INSURANCE CO
FRANK WINSTON CRUM INSURANCE CO	MCDONALDS OPERATORS RISK MGMT ASSOC OF MO
FREEDOM SPECIALTY INSURANCE COMPANY	MEMIC INDEMNITY CO
FUEL MARKETERS INSURANCE TRUST	MERIDIAN SECURITY INSURANCE COMPANY
GENERAL CASUALTY COMPANY OF WISCONSIN	MID CENTURY INS CO
GENERAL CASUALTY INSURANCE COMPANY	MIDDLESEX INS CO
GENERAL INS CO OF AMERICA	MIDSOUTH MUTUAL INSURANCE COMPANY
GENESIS INS CO	MIDVALE INDEMNITY COMPANY
GRANITE STATE INSURANCE COMPANY	MIDWEST BUILDERS CASUALTY MUTUAL COMPANY
GRAY INSURANCE COMPANY	MIDWEST EMPLOYERS CASUALTY CO
GREAT AMERICAN ALLIANCE INS CO	MIDWEST FAMILY ADVANTAGE INSURANCE CO
GREAT AMERICAN ASSURANCE COMPANY	MIDWEST FAMILY MUTUAL INS CO
GREAT AMERICAN INS CO OF NY	MIDWEST INS CO
GREAT AMERICAN INSURANCE COMPANY	MIDWESTERN INDEMNITY CO
GREAT AMERICAN SPIRIT INS CO	MILBANK INSURANCE COMPANY
GREAT DIVIDE INSURANCE COMPANY	MILFORD CASUALTY INSURANCE CO
GREAT MIDWEST INS CO	MITSUI SUMITOMO INS CO OF AMERICA
GREAT NORTHERN INS CO	MITSUI SUMITOMO INS USA INC
GREAT WEST CASUALTY COMPANY	MO EMPLOYERS MUTUAL INS CO
GREENWICH INS CO	MO RURAL SERVICES WC INS TRUST
GRINNELL MUTUAL REINSURANCE CO	MO WOOD INDUSTRY INS TRUST
GUIDEONE ELITE INS CO	MONROE GUARANTY INS CO
GUIDEONE INSURANCE COMPANY	NATIONAL AMERICAN INS CO
GUIDEONE SPECIALTY INSURANCE COMPANY	NATIONAL CASUALTY CO
HANOVER AMERICAN INS CO	NATIONAL FIRE INS CO OF HARTFORD
HANOVER INS CO	NATIONAL INTERSTATE INS CO
HARLEYSVILLE INSURANCE COMPANY	NATIONAL LIABILITY & FIRE INSURANCE CO
HARTFORD ACCIDENT AND INDEMNITY CO	NATIONAL SPECIALTY INS CO



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### NCCI Affiliate List

NATIONAL SURETY CORP	REPUBLIC INDEMNITY COMPANY OF AMERICA
NATIONAL TRUST INS CO	RIVERPORT INSURANCE COMPANY
NATIONAL UNION FIRE INS CO OF PITTSBURGH PA	RLI INSURANCE COMPANY
NATIONWIDE AGRIBUSINESS INS CO	ROCKWOOD CASUALTY INS CO
NATIONWIDE ASSURANCE CO	RURAL TRUST INSURANCE COMPANY
NATIONWIDE GENERAL INSURANCE CO	SAFECO INS CO OF AMERICA
NATIONWIDE INS CO OF AMERICA	SAFETY FIRST INS CO
NATIONWIDE MUTUAL FIRE INS CO	SAFETY NATIONAL CASUALTY CORP
NATIONWIDE MUTUAL INS CO	SAGAMORE INSURANCE CO
NATIONWIDE PROPERTY AND CASUALTY INS CO	SAMSUNG FIRE AND MARINE INS CO LTD USB
NETHERLANDS INSURANCE COMPANY	SCOTTSDALE INDEMNITY CO
NEW HAMPSHIRE INSURANCE COMPANY	SECURA INSURANCE COMPANY
NEW YORK MARINE AND GENERAL INSURANCE CO	SECURA SUPREME INS CO
NEXT INSURANCE US COMPANY	SECURITY NATIONAL INS CO (AMTRUST GROUP)
NHRMA MUTUAL INSURANCE COMPANY	SELECT INS CO
NORGUARD INS CO	SELECTIVE INS CO OF SC
NORMANDY INSURANCE COMPANY	SELECTIVE INS CO OF THE SOUTHEAST
NORTH POINTE INS CO	SELECTIVE INSURANCE COMPANY OF AMERICA
NORTH RIVER INS CO	SELECTIVE WAY INS CO
NORTHSTONE INSURANCE COMPANY	SENTINEL INS CO
NOVA CASUALTY COMPANY	SENTRY CASUALTY CO
NUTMEG INS CO	SENTRY INS CO
OAK RIVER INSURANCE COMPANY	SENTRY SELECT INSURANCE COMPANY
OBI AMERICA INSURANCE COMPANY	SEQUOIA INSURANCE CO
OBI NATIONAL INSURANCE COMPANY	SERVICE AMERICAN INDEMNITY COMPANY
OH CASUALTY INS CO	SERVICE LLOYDS INSURANCE CO, A STOCK COMPANY
OH FARMERS INS CO	SFM MUTUAL INS CO
OHIO SECURITY INS CO	SILVER OAK CASUALTY INC
OLD GUARD INSURANCE COMPANY	SIRIUSPOINT AMERICA INSURANCE COMPANY
OLD REPUBLIC GENERAL INSURANCE CORPORATION	SOMPO AMERICA FIRE & MARINE INSURANCE COMPANY
OLD REPUBLIC INS CO	SOMPO AMERICA INSURANCE COMPANY
OWNERS INSURANCE COMPANY	SOUTHERN INS CO
PA MANUFACTURERS ASSN INS CO	ST PAUL FIRE AND MARINE INS CO
PA MANUFACTURERS INDEMNITY CO	ST PAUL GUARDIAN INS CO
PA NATIONAL MUTUAL CAS INS CO	ST PAUL MERCURY INS CO
PACIFIC EMPLOYERS INS CO	ST PAUL PROTECTIVE INS CO
PACIFIC INDEMNITY CO	STANDARD FIRE INSURANCE COMPANY
PATRONS MUTUAL INS CO OF CT	STAR INS CO
PEERLESS INDEMNITY INS CO	STARNET INSURANCE COMPANY
PEERLESS INSURANCE COMPANY	STARR INDEMNITY AND LIABILITY CO
PENN MILLERS INS CO	STARR SPECIALTY INSURANCE COMPANY
PENNSYLVANIA INSURANCE COMPANY	STARSTONE NATIONAL INSURANCE COMPANY
PETROLEUM CASUALTY CO	STATE AUTO PROPERTY AND CASUALTY INS CO
PHARMACISTS MUTUAL INS CO	STATE AUTOMOBILE MUTUAL INS CO
PHOENIX INS CO	STATE FARM FIRE AND CASUALTY CO
PINNACLE NATIONAL INSURANCE COMPANY	STATE NATIONAL INSURANCE COMPANY
PINNACLEPOINT INSURANCE COMPANY	STONETRUST COMMERCIAL INS CO
PLAZA INSURANCE CO	STONETRUST PREMIER CASUALTY INSURANCE CO
PRAETORIAN INSURANCE COMPANY	STONEWOOD INSURANCE CO
PREFERRED EMPLOYERS INS CO	STONINGTON INS CO
PREFERRED PROFESSIONAL INSURANCE COMPANY	SUMMITPOINT INSURANCE COMPANY
PREMIER GROUP INS CO	SUNZ INSURANCE COMPANY
PRESCIENT NATIONAL INSURANCE COMPANY	SUTTON NATIONAL INSURANCE COMPANY
PRIVILEGE UNDERWRITERS RECIPROCAL EXCHANGE	SWISS RE CORPORATE SOLUTIONS AMERICA INS CORP
PROPERTY AND CASUALTY INS CO OF HARTFORD	SWISS RE CORPORATE SOLUTIONS ELITE INS CORP
PROTECTIVE INS CO	SWISS RE CORPORATE SOLUTIONS PREMIER INS CORP
QBE INSURANCE CORPORATION	T H E INSURANCE COMPANY
REDWOOD FIRE & CASUALTY INS CO	TECHNOLOGY INSURANCE CO
REGENT INSURANCE COMPANY	THE TRAVELERS CASUALTY COMPANY
REPUBLIC INDEMNITY CO OF CA	TNUS INSURANCE CO



## MISSOURI

### Advisory Loss Costs and Rating Values Filing – January 1, 2023

#### NCCI Affiliate List

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 CASUALTY 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  
TRIANGLE INSURANCE COMPANY INC  
TRIUMPH CASUALTY COMPANY  
TRUCK INSURANCE EXCHANGE  
TRUMBULL INS CO  
TWIN CITY FIRE INS CO  
UNION INS CO OF PROVIDENCE  
UNION INSURANCE COMPANY  
UNITED FIRE AND CASUALTY CO  
UNITED STATES FIDELITY AND GUARANTY CO  
UNITED WI INS CO  
US FIRE INS CO  
UTAH BUSINESS INSURANCE COMPANY INC  
UTICA MUTUAL INS CO  
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  
WESTFIELD CHAMPION INSURANCE COMPANY  
WESTFIELD INS CO  
WESTFIELD NATIONAL INS CO  
WESTFIELD PREMIER INSURANCE COMPANY  
WESTFIELD SUPERIOR INSURANCE COMPANY  
WESTFIELD TOUCHSTONE INSURANCE COMPANY  
WESTPORT INSURANCE CORPORATION  
WILLIAMSBURG NATIONAL INS CO  
WORK FIRST CASUALTY CO  
XL INS CO OF NY INC  
XL INSURANCE AMERICA INC  
XL SPECIALTY INS CO  
ZENITH INS CO  
ZNAT INS CO  
ZURICH AMERICAN INS CO  
ZURICH AMERICAN INS CO OF IL





## **MISSOURI**

### **Advisory Loss Costs and Rating Values Filing – January 1, 2023**

#### **Key Contacts**

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Senior State Relations Executive  
Regulatory Division  
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901 Peninsula Corporate Circle  
Boca Raton, Florida 33487-1362  
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Brett Foster, FCAS, MAAA  
Director and Actuary  
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All NCCI employees can be contacted via e-mail using the following format:

First Name\_Last Name@NCCI.com

<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC		
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023		
<b>Project Name/Number:</b>	/		

## Supporting Document Schedules

<b>Bypassed - Item:</b>	Actuarial Justification
<b>Bypass Reason:</b>	N/A
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	Electronic Rate Submission
<b>Bypass Reason:</b>	N/A
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Bypassed - Item:</b>	Exhibits A & B (20 CSR 500-6.950)(2)
<b>Bypass Reason:</b>	N/A
<b>Attachment(s):</b>	
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Filing Memorandum
<b>Comments:</b>	
<b>Attachment(s):</b>	MO 1-1-2023 Filing Cover Letter.pdf
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Filing Narrative
<b>Comments:</b>	
<b>Attachment(s):</b>	MO 1-1-2023 Rate Filing Narrative.pdf
<b>Item Status:</b>	
<b>Status Date:</b>	

<b>Satisfied - Item:</b>	Interrogatory Response
<b>Comments:</b>	
<b>Attachment(s):</b>	NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622.pdf NCCI_Responses_to_the_Missouri_DCI_Requests_dated_092622_Attachments.zip
<b>Item Status:</b>	

<b>SERFF Tracking #:</b>	NCCI-133377918	<b>State Tracking #:</b>	144	<b>Company Tracking #:</b>	MISSOURI LC 01012023
<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc		
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC				
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023				
<b>Project Name/Number:</b>	/				

<b>Status Date:</b>	
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<b>SERFF Tracking #:</b>	NCCI-133377918	<b>State Tracking #:</b>	144	<b>Company Tracking #:</b>	MISSOURI LC 01012023
<b>State:</b>	Missouri	<b>Filing Company:</b>	NCCI Inc		
<b>TOI/Sub-TOI:</b>	16.0 Workers Compensation/16.0004 Standard WC				
<b>Product Name:</b>	Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023				
<b>Project Name/Number:</b>	/				

***Attachment NCCI\_Responses\_to\_the\_Missouri\_DCI\_Requests\_dated\_092622\_Attachments.zip is not a PDF document and cannot be reproduced here.***



**Carla Townsend, WCP**

Regulatory Division

(P) 561-893-3819 (F) 561-893-5779

Email: [Carla\\_Townsend@ncci.com](mailto:Carla_Townsend@ncci.com)

August 24, 2022

The Honorable Chlora Lindley-Myers  
Director  
Missouri Department of Commerce and Insurance  
Harry S Truman State Office Building  
301 W. High St., Room 530  
Jefferson City, Missouri 65101

**Re: Missouri Advisory Loss Costs and Rating Values Filing Proposed Effective January 1, 2023**

Dear Director Lindley-Myers:

In accordance with the applicable statutes and regulations of the state of Missouri, we are filing advisory voluntary loss costs and rating values to be effective January 1, 2023 for new and renewal policies.

Enclosed are NCCI's Voluntary Loss Costs Including Trend proposed to be effective January 1, 2023. The proposed loss costs represent an overall average change of -6.4% from the current, similar set of loss costs that have been in effect since January 1, 2022.

Reported COVID-19-related claims have been excluded from the data on which this filing is based because those claims are not expected to be predictive of the loss experience that may arise during the filing prospective period. After an in-depth review and analysis, NCCI has determined that its standard ratemaking methodologies continue to remain appropriate for use in this year's filing.

I hereby certify that I am familiar with Missouri's insurance laws, rules, and regulations, and to the best of my knowledge, information, and belief, this filing complies in all respects to such laws, rules, and regulations. This filing is made on behalf of the members and subscribers of the National Council on Compensation Insurance, Inc., who are writing or will write workers compensation insurance in Missouri.

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 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

August 24, 2022

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.

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

Sincerely,

National Council on Compensation Insurance, Inc.

A handwritten signature in black ink, appearing to read "Carla Townsend". The signature is fluid and cursive, with the first name "Carla" being more prominent than the last name "Townsend".

Carla Townsend, WCP  
Senior State Relations Executive



## Summary of the Proposed Missouri Workers Compensation Advisory Loss Cost Filing Effective January 1, 2023

The National Council on Compensation Insurance (NCCI)<sup>1</sup> is pleased to provide this Summary of the accompanying proposed workers compensation insurance loss cost<sup>2</sup> filing that was filed under separate cover on August 24, 2022, with the Missouri Department of Commerce and Insurance for its review and approval.

The filing recommends a -6.4% loss cost decrease in the voluntary market effective January 1, 2023. Due to the catastrophic nature of the COVID-19 pandemic, all reported COVID-19 claims have been excluded from ratemaking. This treatment is consistent with the prior year's loss cost filing.

The filing is based on premium and losses for Policy Years 2019 and 2020 (the "Experience Period") as of year-end 2021. Both years have similar loss ratios (ratio of losses paid to premiums earned). The primary driver of the proposed loss cost change is the improved experience seen in Policy Years 2019 and 2020 compared to the prior filing's experience period, which included Policy Year 2018.

Large loss activity observed in Policy Year 2019—as measured by claims in excess of \$500,000—is lower than surrounding years, though the volume of large losses rebounded in Policy Year 2020 to a higher level comparable to Policy Years 2017 and 2018. Despite this rebound in large loss activity, Policy Year 2020's loss ratio is the lowest observed in recent history, perhaps attributable in part to the indirect impacts of the COVID-19 pandemic. This improved experience may continue going forward as the COVID-19 pandemic may have permanently altered aspects of the workplace and economy. However, some portion of the improved experience may also be due to temporary COVID-19 pandemic-related effects which may not persist during the effective period of the proposed loss costs (e.g., decline in less severe injuries).

### 1. COVID-19 Analysis


Although COVID-19 claims are excluded in this filing, this year's analysis included an assessment of possible pandemic related impacts. Based on that assessment, in some areas NCCI has made selections due to potential COVID-19 effects on the underlying data to better reflect conditions likely to prevail in the filing's effective period. While some pandemic-related trends could persist into the future, some factors may be temporary.

From a country-wide perspective, most COVID-19 claims continue to be small, with incurred losses of less than \$1,500, and are most often medical only or indemnity only. In fact, claims over \$100,000 account for fewer than 2% of all COVID-19 claims but represent more than 60% of total incurred COVID-19 losses. Nearly half of the most complex claims—those of more than \$500,000—involved workers who

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<sup>1</sup> NCCI is a licensed advisory organization authorized to make recommended loss cost filings on behalf of workers compensation insurance companies in Missouri. NCCI's filings are objectively prepared, utilizing widely accepted actuarial ratemaking methodologies.

<sup>2</sup> "Loss cost" refers to the portion of workers compensation rates filed that are allocated to pay losses but not carrier expenses. Some states include certain carrier expenses and assessments in the definition of "advisory loss costs." Carriers can use the approved loss costs as the basis for their rates, typically adjusting them for expenses with a loss cost multiplier.



died. Like the overall COVID-19 claim distribution, most of those workers were employed in the healthcare industry. The average age of workers with large COVID-19 claims is 55, which is 8 to 10 years older than that of workers with non-COVID-19 claims. Like the overall long-term trend of declining frequency, COVID-19 claims decreased significantly in 2021.

## **2. Inflation Impacts on the Workers Compensation System –Countrywide**

Certain factors selected in this filing recognize the impact of changes inflation may have on the workers compensation system. As described below, wage and medical inflation have the potential to affect historical patterns and were considered.

### **Wage Inflation**

Low-wage workers were most affected by COVID-19-related job losses. As the economy recovered, labor supply issues fueled the Great Reshuffle, where workers shifted to higher-paying industries and low-wage workers received the largest pay increases to lure them back. The Leisure and Hospitality sector was the most affected with a 15% wage increase. This wage inflation impacts the state's workers compensation system because payroll is used as the base to calculate premiums. Payroll is a well-known exposure base because it is inflation sensitive. So, as wages rise, premiums automatically rise along with workers compensation benefits. Consequently, wages, premiums, and indemnity benefits typically stay in balance.

### **Medical Inflation**

Changes in medical claim costs are driven by two factors: the price of medical services and utilization, which measures the mix and number of services provided to an injured worker. Medical inflation in workers compensation has been moderate for the past decade, with the Personal Health Care Index (PHC) averaging around 1.5% per year. According to the Centers for Medicare & Medicaid Services, PHC is projected to increase in 2022 and then drop anywhere between 2.5% to 3% for the near future. NCCI's most recent data shows that drug costs are declining, physician costs are up slightly, and facility costs are rising in the workers compensation system.

## **3. Conclusion**

COVID-19 claims continue, though they declined in 2021 and, despite the relatively large number of COVID-19 claims, the average cost per claim remains low. Wage inflation and strong employment recovery are expected to increase premium. Medical inflation's impact on workers compensation losses is expected to be markedly lower than inflation for other goods and services. The long-term trend of declining claim frequency is expected to continue.

Overall, the workers compensation system is faring well. Private carrier plus state fund net written premium increased about 1% to \$43 billion in 2021. Private carriers posted a combined ratio of 87% (below 100% indicates profitability) on \$38 billion in premium for the 2021 calendar year. This was the fifth consecutive year that the private workers compensation insurance market posted a profitable combined ratio below 90% and the eighth consecutive year of underwriting profitability. As Bill Donnell, NCCI's President and CEO, announced at NCCI's *Annual Insights Symposium* in May 2022, "COVID-19 has been a manageable event for the system" and "the strength and resilience of the workers compensation system is a point of pride for all stakeholders."





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- 1. Have any of the data sources used in determining the Missouri Advisory Loss Costs and Rating Values Filing changed since the previous filing? For example, using data from a different data call to develop expenses.**

There have not been any changes in the underlying data sources between this and last year's filings.

- 2. Please provide the estimated overall impact for each change in methodology from the previous filing.**

There have not been any changes in methodology between this and last year's filings.

- 3. How were the 2020 and 2021 average weekly wages adjusted to exclude the estimated impact of pandemic-related industry-sector mix change? How was it determined what industry-sector mix changes were expected to return to pre-pandemic levels over time and what changes were expected to persist?**

The nationwide impact of shifts in the average weekly wage (AWW) due to the mix of employment across economic sectors was notably higher in CY 2020 (+1.6% countrywide) than in previous years (+/- 0.2%). This change in the CY 2020 AWW due to mix of employment across economic sectors was almost entirely due to large job losses in the leisure and hospitality sector. For frequency purposes, as the AWW change should be approximating average wage growth for workers within a class, the CY 2020 AWW was restated to remove the impact of the shift in mix of employment across sectors. The mix impact was estimated by comparing a counterfactual AWW using CY 2019 AWW by sector but 2020 employment by sector to the actual CY 2019 AWW.

The change in the CY 2021 AWW was similarly impacted by the mix of employment across sectors, with returning jobs in the leisure and hospitality sector putting downward pressure on the AWW. However, the impact of the sector shift (-0.4% countrywide) was less pronounced in 2021 than in 2020. Still, a similar adjustment was made to the CY 2021 AWW, such that it was restated to remove the impact of the shift in mix of employment across sectors.

The application of the wage adjustment makes no assumption with respect to which industry-sector mix changes will return to pre-pandemic levels over time and which will



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persist. Rather, it is intended to remove distortions in the year-over-year changes that are due to mix changes rather than actual changes in the average wage level. Specifically, this adjustment is intended to remove distortions in the change in frequency between Policy Years 2018–2019 and 2019–2020.

- 4. Was it assumed in this analysis that 2023 will mark a return to pre-COVID-19 loss and wage levels, or was there consideration given to the impact of the Omicron variant or other variants on claims and economic conditions in 2023?**

While no assumption was specifically made that 2023 will return to pre-COVID-19 levels, recognition of the pandemic's potential impacts on PY 2019 and PY 2020 were considered when selecting the filing's experience period as well as during this year's trend analysis. For additional details please refer to the COVID-19 Pandemic-related Considerations in the Additional Proposed Changes section of this year's filing, in addition to Appendix A-III.

- 5. Please provide loss development triangles with at least 10 diagonals for both the voluntary and assigned risk markets separated by indemnity, medical, and DCCE for the past 19 years. In the prior year, this was submitted as Exhibit 4 Development Triangles.xlsx. An updated version of this file will suffice for these purposes.**

Please see the attached Exhibit 5 for the available loss development triangles.

- 6. Please provide an Excel file with the specific calculations used to determine Appendix A-II, Section G, column (6) for the most recent year.**

Please see the attached Exhibit 6 for the requested information. The calculations are provided for the most recent two valuations separately for indemnity and medical.

- 7. Please provide an excel file spreadsheet with the specific calculations that provide the derivation of the 0.768 factor in Appendix A-II, Section H, line 2.**

Please see the attached Exhibit 7 for the requested information.



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**8. Exhibit II Sections A and B:**

- a) **Please provide the underlying data and calculations to bring AOE and DCCE to an ultimate level including the development factors, AOE, DCCE, losses, and any other values used to determine the Ultimate AOE and DCCE ratios.**
- b) **Please provide the Ultimate AOE Ratios for MO only data.**
- c) **In the prior years filing, the AOE provision from MO was selected based on a countrywide and MO specific analysis. Was this process still used in this filing?**

Please see Exhibits 8a, 8b, and 8c for the requested information.

The Missouri selected AOE provision is based on a weighted average of the countrywide private carrier AOE provision and the indicated provision for Missouri Employers Mutual.

**9. Appendix A-I Section A and Section D:**

**Please provide the underlying data and calculations to support the factors in column (6).**

The expense removal factor removes the current LAE provision of 19.5% to adjust reported premium to a pure premium level.

$$0.837 = ( 1 / 1.195 )$$

**10. Appendix A-I Section A and Section D:**

**Please provide the underlying data and calculations to support the factors in column (7). More specifically, how is the targeted offbalance factor of 0.990 determined in Section D?**

The premium used in the statewide rate level indication is standard premium, which includes the impact of experience rating. The off-balance adjustment factor adjusts the premium in historical policy years to account for the difference between the observed off-balance for each of those years and the targeted off-balance.

The targeted off-balance factor (0.950) is a weighted average of the targeted intrastate experience rating modification factor (e-mod) and the current estimate of the average interstate e-mod, adjusted for risks that are not subject to experience rating. The targeted intrastate e-mod in this year's filing is 0.960, and the average interstate e-mod is



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0.923. Using 52.2% as the intrastate percentage of experience rated risks, the combined weighted average e-mod factor is 0.942. The final targeted off-balance is calculated by multiplying 0.942 by the percentage of risks that are experience rated (87.0%) and then adding to that the percentage of risks not experience rated multiplied by unity. The calculation is as follows:

$$0.950 = 0.942 \times 0.870 + (1.000 - 0.870) \times 1.000$$

The off-balance factor for each policy year is calculated in a similar manner, instead using the historical factors calculated from the experience rating values in place at that time. The table below summarizes the calculation for policy years 2019 and 2020.

	2019	2020
(1) Average intrastate e-mod	0.962	0.954
(2) Average interstate e-mod	0.947	0.930
(3) Intrastate %	53.2%	53.0%
(4) Combined average e-mod = (1)x(3)+(2)x[1-(3)]	0.955	0.943
(5) Rated %	87.9%	87.0%
(6) Off-Balance = (4)x(5)+[1-(5)]	0.960	0.950

The off-balance adjustment factor results from the ratio of the Targeted Off-Balance to the Off-Balance for the corresponding policy year.

	2019	2020
(1) Targeted Off-Balance	0.950	0.950
(2) Policy Year Off-Balance	0.960	0.950
(3) Off-Balance Adjustment Factor = (1)/(2)	0.990	1.000

**11. Appendix A-IV Section I:**

**Please show the calculations underlying the factors in Col (4) and Col (5).**

Column (4) shows the current manual premium to standard premium ratios that were calculated using the latest five years of WCSP data underlying the 1/1/2022 Missouri filing. Column (5) shows the proposed manual premium to standard premium ratios calculated using the latest five years of WCSP data underlying the 1/1/2023 Missouri filing. Standard premium is calculated as the reported manual premium multiplied by the



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reported experience modification factor. Please see Exhibit 11 for the calculation of these factors.

**12. Appendix B-I Section I:**

**Please provide underlying data and calculations for how the Likely-to-Develop and Not-Likely-to-Develop columns are calculated.**

Please find the requested information enclosed as Exhibit 12.

**13. Please provide the indication as of 1/1/2023 if all assigned risk experience was excluded. Please provide these calculations in an excel file and include all the underlying components that will change because they are based on only voluntary experience, such as loss development, trend, LAE, etc.**

All else equal, an overall average loss cost level indication of -7.6% results after excluding the assigned risk premium and loss experience reported to NCCI by Missouri's designated assigned risk plan administrator from the filing's experience period. Please see the attached Exhibit 13 for additional detail.

**14. Please provide any updates on class ratemaking research, status and results, or stability performance results on tests of the performance of the recently implemented small class ratemaking project intended to address the stability of the small classes.**

There have been no research or performance testing updates for small class ratemaking in the past year. Note there is none currently planned at this time. However, as a result of the research done previously, NCCI annually reviews the credibility of all classifications on a national basis. When appropriate, NCCI has discontinued low credibility classifications to enhance the credibility of our class ratemaking methodology.

**15. Please provide an Excel file with seven columns of information. The first column should be the class code, the second column should be the exposures by class code, the third column should be the current advisory loss cost, the fourth column should be the proposed advisory loss cost by class code and the last three columns should be the percentage loss cost changes effective 2023, 2022, and 2021 by class code. Include**



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**totals in columns 4, 5 and 6 and please exclude discontinued classes. This file was submitted as Exhibit 18 Loss Cost Comparison.xlsx in last years filing.**

Please find the requested information enclosed as Exhibit 15. The exposure reflects the most recent policy period used in the Missouri 1/1/2023 filing. The prior year changes exclude class codes that are discontinued as of 1/1/2023.

- 16. Please confirm that the indication provided in Exhibit I is an indication for the voluntary market but that the data upon which it is based is on combined voluntary and assigned risk plan losses. If not, please explain. Please confirm that although the voluntary indications are based on combined voluntary and assigned risk plan data, that you are not providing loss costs or rates for the assigned risk market.**

The voluntary market advisory loss cost level indication determined in the filing's Exhibit I is based on combined voluntary and assigned risk premium and loss experience reported to NCCI. NCCI's role in Missouri does not include the filing of loss costs or rates for the state's assigned risk market.

## NATIONAL COUNCIL ON COMPENSATION INSURANCE

### 2022 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

Each year, NCCI calculates a countrywide (CW) adjusting and other expense (AOE) provision. This file provides the CW AOE provision that will be filed as applicable during the 2022–2023 filing season.

NCCI calculates ultimate AOE ratios by accident year, separately for both paid and incurred data (paid plus unpaid). The average of the paid and incurred AOE ratio indications are also calculated. The AOE ratios by year as well as the selected provision are shown in Exhibit 1.

#### Exhibit 1: Ultimate AOE Ratios and Countrywide Selection

Accident Year	Ultimate AOE Ratio Based on Paid Data	Ultimate AOE Ratio Based on Incurred Data	Ultimate AOE Ratio Based on Avg. of Paid and Incurred Data
2017	9.3%	9.1%	9.2%
2018	9.3%	9.1%	9.2%
2019	9.7%	9.5%	9.6%
2020	10.6%	9.4%	10.0%
2021	9.3%	9.3%	9.3%
<b>Selected AOE Provision</b>			<b>9.4%</b>

During this year’s analysis, which included an assessment of pandemic-related effects, a provision of 9.4% was selected to balance stability and responsiveness and best reflects the conditions likely to prevail in the proposed effective period. The high paid AOE ratio observed in Accident Year 2020 is likely impacted by temporary pandemic-related effects that resulted in a lower volume of paid losses relative to paid AOE. The Accident Year 2020 ratio of incurred AOE to incurred losses is less affected due to proportional changes in AOE and loss values. The selection corresponds to a number of indicated averages, excluding the Accident Year 2020 paid ratio.

## **NATIONAL COUNCIL ON COMPENSATION INSURANCE**

### **2022 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW**

#### **Data Used**

NCCI uses private carrier data reported on NCCI Call 19 to calculate the ultimate AOE ratios. Call 19 is a CW Call in which data is reported for the most recent 10 individual accident years, in addition to an aggregated “prior line” in which data is reported for all years older than the most recent 10. The data reported includes losses and AOE on both a paid and unpaid basis. Further, the Call 19 data is reported for all policy types—including that for large deductible policies.

#### **Methodology Overview**

To determine the ultimate AOE ratios, NCCI uses the following methodology:

- After developing AOE and losses separately to a 10th report, calculate the ratio of AOE-to-losses at that age of maturity
- Apply a 10th-to-ultimate (tail) factor to the AOE ratios at a 10th report
- Apply the adjustment to reverse AOE credits
  - Carriers may credit their AOE amounts for reimbursement of claims-handling provided to policyholders (such as for claims below a deductible amount) or for other service fees charged related to claims-handling. The purpose of this adjustment is to add these credits back in to put AOE on a first-dollar basis.
- Apply the adjustment for losses associated with Third-Party Administrator (TPA) Agreements
  - As a result of TPA agreements, some carriers report losses on Call 19 without associated AOE. The purpose of this adjustment is to remove these losses from the analysis.
- Apply the adjustment to convert losses from a net-of-deductible to a gross-of-deductible basis
  - Up to this point in the calculation, the data used includes losses from large deductible policies, net of the deductible. The purpose of this adjustment is to convert the data to a full coverage basis, allowing the AOE provision to be on the same basis as the losses used in individual state experience filings.
- Apply an adjustment to exclude the losses from reported COVID-19 pandemic related claims
  - The percentage of reported COVID-19 pandemic related losses to total losses is removed from the denominator of the AY 2020 and AY 2021 AOE ratios to better reflect the conditions likely to prevail during the effective period of the 2022–2023 filing season.



## NATIONAL COUNCIL ON COMPENSATION INSURANCE

### 2022 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

#### Exhibit 2: Calculation of Ultimate AOE Ratios—Paid Data

	(1)	(2)	(3)=(1)x(2)	(4)	(5)	(6)=(4)x(5)	(7)
	Paid AOE	Cumulative Paid AOE	Estimated Paid AOE	Paid Losses	Cumulative Paid Loss	Estimated Paid Losses	10th Report- to-Ultimate
Accident Year	at Current Report	Development Factors	Developed to a 10th Report	at Current Report	Development Factors	Developed to a 10th Report	Paid AOE Tail Factor
2017	1,986,485,845	1.093	2,171,229,029	16,054,250,403	1.120	17,980,760,451	0.93
2018	1,992,855,628	1.142	2,275,841,127	15,856,810,303	1.194	18,933,031,502	0.93
2019	1,970,766,937	1.228	2,420,101,799	14,024,739,977	1.343	18,835,225,789	0.93
2020	1,594,810,376	1.416	2,258,251,492	9,545,564,666	1.727	16,485,190,178	0.93
2021	1,028,944,013	2.106	2,166,956,091	4,757,786,718	3.782	17,993,949,367	0.93

	(8)=(3)/(6)x(7)	(9)	(10)	(11)	(12)	(13)=[(8)+(9)]x(10)x(11)/[1-(12)]
	Estimated Ultimate AOE	Adjustment to	Adjustment for	Adjustment to	Pct. of Reported	Estimated
Accident Year	Ratio Before Adjustments	Reverse AOE Credits	Losses Associated with TPA Agreements	Convert Losses From Net to Gross of Deductible	COVID-19-Related Losses to Total Losses	Ultimate AOE Ratio After Adjustments
2017	11.3%	0.013	1.055	0.70	-	9.3%
2018	11.2%	0.014	1.057	0.70	-	9.3%
2019	11.9%	0.012	1.063	0.70	-	9.7%
2020	12.7%	0.012	1.065	0.70	2.1%	10.6%
2021	11.2%	0.012	1.058	0.70	0.8%	9.3%

## NATIONAL COUNCIL ON COMPENSATION INSURANCE

### 2022 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

#### Exhibit 3: Calculation of Ultimate AOE Ratios—Incurred Data

	(1)	(2)	(3)=(1)x(2)	(4)	(5)	(6)=(4)x(5)	(7)
	Incurring AOE	Cumulative	Estimated	Incurring Losses	Cumulative	Estimated	10th Report-
Accident	at Current	Incurred AOE	Incurred AOE	at Current	Incurred Loss	Incurred Losses	to-Ultimate
Year	Report	Development	Developed to a	Report	Development	Developed to a	Incurred AOE
		Factors	10th Report		Factors	10th Report	Tail Factor
2017	2,314,345,746	1.013	2,344,432,241	22,874,791,410	0.953	21,799,676,214	1.02
2018	2,373,997,567	1.011	2,400,111,540	24,344,930,179	0.925	22,519,060,416	1.02
2019	2,524,213,486	1.003	2,531,786,126	24,879,648,922	0.894	22,242,406,136	1.02
2020	2,262,992,410	0.987	2,233,573,509	23,413,206,749	0.865	20,252,423,838	1.02
2021	2,279,553,301	0.987	2,249,919,108	23,887,064,333	0.851	20,327,891,747	1.02

	(8)=(3)/(6)x(7)	(9)	(10)	(11)	(12)	(13)=[(8)+(9)]x(10)x(11)/[1-(12)]
	Estimated	Adjustment to	Adjustment for	Adjustment to	Pct. of Reported	Estimated
Accident	Ultimate AOE	Reverse AOE	Losses	Convert Losses	COVID-19-Related	Ultimate AOE
Year	Ratio Before	Credits	Associated with	From Net to Gross	Losses to	Ratio After
	Adjustments		TPA Agreements	of Deductible	Total Losses	Adjustments
2017	11.0%	0.013	1.055	0.70	-	9.1%
2018	10.9%	0.014	1.057	0.70	-	9.1%
2019	11.6%	0.012	1.063	0.70	-	9.5%
2020	11.2%	0.012	1.065	0.70	2.1%	9.4%
2021	11.3%	0.012	1.058	0.70	0.8%	9.3%

## NATIONAL COUNCIL ON COMPENSATION INSURANCE 2022 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

### Exhibit 4: AOE Tail Factor Selection—Paid

	(1)	(2)	(3) = (1)/(2)
	Paid AOE	Paid Losses	Paid AOE-to-Losses
Valuation Date	10th-to-Ultimate	10th-to-Ultimate	10th-to-Ultimate Tail Factor
12/31/2014	1.089	1.233	0.883
12/31/2015	1.057	1.214	0.871
12/31/2016	1.081	1.198	0.902
12/31/2017	1.072	1.190	0.901
12/31/2018	1.115	1.136	0.982
12/31/2019	1.092	1.160	0.941
12/31/2020	1.121	1.135	0.988
12/31/2021	1.106	1.135	0.974
	<b>Selected Paid AOE Tail Factor</b>		<b>0.930</b>

### Exhibit 5: AOE Tail Factor Selection—Incurred

	(1)	(2)	(3) = (1)/(2)
	Incurred AOE	Incurred Losses	Incurred AOE-to-Losses
Valuation Date	10th-to-Ultimate	10th-to-Ultimate	10th-to-Ultimate Tail Factor
12/31/2014	1.027	1.033	0.994
12/31/2015	0.999	1.017	0.982
12/31/2016	1.003	0.995	1.008
12/31/2017	1.000	0.995	1.005
12/31/2018	1.041	0.958	1.087
12/31/2019	1.005	0.974	1.032
12/31/2020	1.024	0.968	1.058
12/31/2021	1.026	0.967	1.061
	<b>Selected Incurred AOE Tail Factor</b>		<b>1.020</b>

**Missouri****Derivation of the Adjusting and Other Expense (AOE) Provision**

	<b>Private Carrier</b>			<b>Missouri Employers Mutual</b>		
	(1)	(2)	(3) = [(1)+(2)]/2	(4)	(5)	(6) = [(4)+(5)]/2
	Ultimate AOE	Ultimate AOE	Average	Ultimate AOE	Ultimate AOE	Average
	Ratio Based on	Ratio Based on	Ultimate AOE	Ratio Based on	Ratio Based on	Ultimate AOE
<u>AY</u>	<u>Paid Data</u>	<u>Incurred Data</u>	<u>Ratio</u>	<u>Paid Data</u>	<u>Incurred Data</u>	<u>Ratio</u>
2017	9.3%	9.1%	9.2%	9.7%	8.9%	9.3%
2018	9.3%	9.1%	9.2%	10.3%	9.2%	9.8%
2019	9.7%	9.5%	9.6%	11.9%	10.6%	11.3%
2020	10.6%	9.4%	10.0%	13.4%	11.5%	12.5%
2021	9.3%	9.3%	<u>9.3%</u>	14.0%	12.5%	<u>13.3%</u>
(7) Selected AOE ratio			<b>9.4%</b>			<b>11.0%</b>
(8) Weights			74.6%			25.4%
(9) Weighted-average AOE ratio = (0.094 x 0.746) + (0.110 x 0.254) =						<b>9.8%</b>

## Missouri DCCE Provision

### Section A - Selection of DCCE Provision

<u>Policy Year</u>	(1) Reported Ratio of Paid DCCE to <u>Paid Losses</u>	(2) Age to Ultimate Development <u>Factor</u>	(3) Ultimate DCCE <u>Ratio</u>
2016	10.7%	0.970	10.4%
2017	10.2%	0.972	9.9%
2018	10.2%	0.985	10.0%
2019	10.0%	1.014	10.1%
2020	9.5%	1.091	10.4%

**Missouri Selected      10.2%**

(2) Section B

(3) = (1) x (2)

### Section B - Summary of Paid DCCE to Paid Loss Ratio Development Factors

<u>Report</u>	(1) <u>To Next Report</u>	(2) <u>To Ultimate</u>
1st	1.076	1.091
2nd	1.029	1.014
3rd	1.013	0.985
4th	1.002	0.972
5th	0.999	0.970
6th	1.001	0.971
7th	0.994	0.970
8th	0.997	0.976
9th	0.996	0.979
10th	1.000	0.983
11th	1.001	0.983
12th	0.999	0.982
13th	0.998	0.983
14th	0.997	0.985
15th	0.998	0.988
16th	0.997	0.990
17th	0.998	0.993
18th	1.000	0.995
19th		0.995*

(1) Section C

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

\*Selection

## Missouri DCCE Provision

### Section C - 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	1.090	1.023	1.002	1.000	1.001	0.995
12/31/2020	1.068	1.029	1.018	0.992	0.994	1.002
12/31/2021	1.071	1.035	1.020	1.013	1.002	1.006
Average	1.076	1.029	1.013	1.002	0.999	1.001

<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	0.995	0.996	0.995	1.000	1.002	0.999
12/31/2020	0.988	0.997	0.994	1.000	1.001	1.001
12/31/2021	0.999	0.997	0.998	0.999	0.999	0.997
Average	0.994	0.997	0.996	1.000	1.001	0.999

<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	0.997	0.997	0.998	0.995	0.999	1.001
12/31/2020	0.996	0.996	0.998	0.998	0.996	1.000
12/31/2021	1.000	0.999	0.998	0.997	0.999	0.998
Average	0.998	0.997	0.998	0.997	0.998	1.000

# Missouri

1/1/2023

Exhibit 11

		(1)	(2)	Current Manual to Standard Ratio (2)/(1)		(3)	(4)	Proposed Manual to Standard Ratio (4)/(3)
	Policy Period	PY Standard Earned Premiums	Premiums @ PY Manual Rates			PY Standard Earned Premiums	Premiums @ PY Manual Rates	
Manufacturing	7/14-6/15	232,511,405	293,853,138		7/15-6/16	230,978,966	290,849,885	
	7/15-6/16	230,979,377	290,850,296		7/16-6/17	233,207,292	293,332,257	
	7/16-6/17	233,283,946	293,511,048		7/17-6/18	245,682,497	308,555,262	
	7/17-6/18	245,745,708	308,640,385		7/18-6/19	247,309,361	312,695,864	
	7/18-6/19	247,187,910	311,809,693		7/19-6/20	233,583,351	296,837,367	
	5 Yr Totals	1,189,708,346	1,498,664,560	1.260	5 Yr Totals	1,190,761,467	1,502,270,635	1.262
Contracting	7/14-6/15	320,895,341	361,970,347		7/15-6/16	340,767,403	384,867,558	
	7/15-6/16	340,835,179	384,947,670		7/16-6/17	332,602,400	374,040,575	
	7/16-6/17	332,487,880	373,956,736		7/17-6/18	325,140,532	365,262,326	
	7/17-6/18	325,136,918	365,225,319		7/18-6/19	326,156,352	367,045,130	
	7/18-6/19	326,409,147	366,870,749		7/19-6/20	325,917,049	366,332,217	
	5 Yr Totals	1,645,764,465	1,852,970,821	1.126	5 Yr Totals	1,650,583,736	1,857,547,806	1.125
Office & Clerical	7/14-6/15	165,315,150	188,891,828		7/15-6/16	164,750,162	188,803,263	
	7/15-6/16	164,730,046	188,780,086		7/16-6/17	164,382,374	189,398,611	
	7/16-6/17	163,709,327	188,531,348		7/17-6/18	163,494,706	185,920,039	
	7/17-6/18	163,338,525	185,394,001		7/18-6/19	164,251,810	183,439,425	
	7/18-6/19	163,076,080	181,863,732		7/19-6/20	156,461,643	176,825,963	
	5 Yr Totals	820,169,128	933,460,995	1.138	5 Yr Totals	813,340,695	924,387,301	1.137
Goods & Services	7/14-6/15	400,289,020	432,583,137		7/15-6/16	406,888,037	443,147,869	
	7/15-6/16	406,708,633	442,876,004		7/16-6/17	406,742,894	442,391,958	
	7/16-6/17	406,678,850	442,447,773		7/17-6/18	416,895,186	452,673,206	
	7/17-6/18	417,771,100	453,661,749		7/18-6/19	410,043,922	447,373,334	
	7/18-6/19	410,089,633	447,481,956		7/19-6/20	405,672,410	442,084,675	
	5 Yr Totals	2,041,537,236	2,219,050,619	1.087	5 Yr Totals	2,046,242,449	2,227,671,042	1.089
Miscellaneous	7/14-6/15	252,476,000	274,208,677		7/15-6/16	264,291,203	282,711,644	
	7/15-6/16	264,288,768	282,707,875		7/16-6/17	269,896,164	287,907,553	
	7/16-6/17	267,542,068	286,713,305		7/17-6/18	277,652,111	293,432,716	
	7/17-6/18	277,593,121	293,351,147		7/18-6/19	278,969,747	299,111,992	
	7/18-6/19	278,213,644	298,452,089		7/19-6/20	282,414,803	303,961,133	
	5 Yr Totals	1,340,113,601	1,435,433,093	1.071	5 Yr Totals	1,373,224,028	1,467,125,038	1.068

**LIMITED INDEMNITY LOSS  
DEVELOPMENT**  
*Likely*

PY Data	1st Report	2nd Report	3rd Report	4th Report	5th Report	6th Report	7th Report	8th Report	9th Report	10th Report
7/06-6/07	76,140,429	88,429,315	97,122,490	102,414,309	106,329,085	108,223,440	110,895,382	111,665,771	112,488,047	113,668,298
7/07-6/08	77,323,191	93,390,680	101,811,778	107,897,799	111,698,789	116,127,037	117,726,530	118,428,820	119,979,745	120,041,004
7/08-6/09	60,056,111	72,230,419	81,623,268	86,439,771	91,063,778	93,644,828	95,068,921	96,622,964	96,975,915	97,418,302
7/09-6/10	62,432,683	75,716,217	83,034,104	89,865,106	96,748,706	100,052,564	101,358,956	103,317,336	103,554,732	103,459,678
7/10-6/11	60,143,463	74,270,976	85,206,467	90,946,415	96,538,496	98,710,418	101,341,153	101,068,733	101,346,765	101,507,570
7/11-6/12	58,069,474	71,706,640	80,397,580	86,795,141	91,730,605	95,009,544	96,017,962	97,329,524	98,453,424	
7/12-6/13	54,908,366	69,307,904	80,333,502	87,862,278	91,462,479	94,818,328	97,734,272	98,774,457		
7/13-6/14	57,924,799	75,170,019	87,290,519	93,768,765	99,490,533	104,055,166	106,704,799			
7/14-6/15	64,504,957	81,105,948	92,127,972	99,648,792	104,216,698	106,936,308				
7/15-6/16	62,459,442	79,168,045	89,232,436	95,729,984	99,601,011					
7/16-6/17	62,079,737	78,815,521	90,126,584	96,164,081						
7/17-6/18	62,355,384	78,491,541	91,506,099							
7/18-6/19	62,814,398	76,857,479								
7/19-6/20	54,731,224									
Link Ratios	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
7/06-6/07	1.161	1.098	1.054	1.038	1.018	1.025	1.007	1.007	1.010	
7/07-6/08	1.208	1.090	1.060	1.035	1.040	1.014	1.006	1.013	1.001	
7/08-6/09	1.203	1.130	1.059	1.053	1.028	1.015	1.016	1.004	1.005	
7/09-6/10	1.213	1.097	1.082	1.077	1.034	1.013	1.019	1.002	0.999	
7/10-6/11	1.235	1.147	1.067	1.061	1.022	1.027	0.997	1.003	1.002	
7/11-6/12	1.235	1.121	1.080	1.057	1.036	1.011	1.014	1.012		
7/12-6/13	1.262	1.159	1.094	1.041	1.037	1.031	1.011			
7/13-6/14	1.298	1.161	1.074	1.061	1.046	1.025				
7/14-6/15	1.257	1.136	1.082	1.046	1.026					
7/15-6/16	1.268	1.127	1.073	1.040						
7/16-6/17	1.270	1.144	1.067							
7/17-6/18	1.259	1.166								
7/18-6/19	1.224									
AVERAGE DEV.	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
5 Year Averages	1.256	1.147	1.078	1.049	1.033	1.021	1.011	1.007	1.003	
AVG DEV. TO ULT.	1:U	2:U	3:U	4:U	5:U	6:U	7:U	8:U	9:U	10:U
5 Year Averages	1.830	1.457	1.270	1.178	1.123	1.087	1.065	1.053	1.046	1.043



**LIMITED INDEMNITY LOSS  
DEVELOPMENT  
Not-Likely**

PY Data	1st Report	2nd Report	3rd Report	4th Report	5th Report	6th Report	7th Report	8th Report	9th Report	10th Report
7/06-6/07	151,819,694	164,230,930	169,498,764	173,131,217	174,361,556	175,769,718	175,355,137	175,604,930	175,916,976	175,564,477
7/07-6/08	147,714,143	159,379,477	167,941,265	172,880,371	173,571,859	174,182,814	175,146,585	175,184,872	175,009,255	175,171,636
7/08-6/09	139,687,182	154,274,723	162,009,873	164,259,555	164,639,976	166,277,817	167,130,375	167,879,518	167,598,132	167,979,672
7/09-6/10	134,849,777	146,345,111	154,579,279	157,834,574	159,958,766	159,770,939	160,002,837	162,024,245	162,054,511	162,163,601
7/10-6/11	140,932,425	156,264,774	164,524,689	167,083,175	169,944,138	172,624,919	172,805,872	172,276,443	172,900,365	172,841,342
7/11-6/12	140,570,664	153,327,405	163,177,417	166,166,693	168,505,320	169,642,621	171,063,767	170,443,893	171,134,812	
7/12-6/13	154,064,582	169,086,960	177,872,667	182,789,919	184,898,649	187,422,412	188,523,150	188,706,037		
7/13-6/14	155,064,171	171,785,482	181,701,656	187,739,681	189,736,444	191,748,674	192,358,867			
7/14-6/15	161,486,369	181,082,442	191,967,537	197,993,828	200,804,391	203,766,574				
7/15-6/16	164,562,951	181,864,958	191,450,227	196,267,273	199,172,752					
7/16-6/17	165,366,533	182,660,473	194,251,097	201,966,861						
7/17-6/18	177,834,412	197,064,858	207,880,746							
7/18-6/19	177,759,048	198,761,165								
7/19-6/20	163,917,783									
Link Ratios	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
7/06-6/07	1.082	1.032	1.021	1.007	1.008	0.998	1.001	1.002		0.998
7/07-6/08	1.079	1.054	1.029	1.004	1.004	1.006	1.000	0.999		1.001
7/08-6/09	1.104	1.050	1.014	1.002	1.010	1.005	1.004	0.998		1.002
7/09-6/10	1.085	1.056	1.021	1.013	0.999	1.001	1.013	1.000		1.001
7/10-6/11	1.109	1.053	1.016	1.017	1.016	1.001	0.997	1.004		1.000
7/11-6/12	1.091	1.064	1.018	1.014	1.007	1.008	0.996	1.004		
7/12-6/13	1.098	1.052	1.028	1.012	1.014	1.006	1.001			
7/13-6/14	1.108	1.058	1.033	1.011	1.011	1.003				
7/14-6/15	1.121	1.060	1.031	1.014	1.015					
7/15-6/16	1.105	1.053	1.025	1.015						
7/16-6/17	1.105	1.063	1.040							
7/17-6/18	1.108	1.055								
7/18-6/19	1.118									
AVERAGE DEV.	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
5 Year Averages	1.111	1.058	1.031	1.013	1.013	1.004	1.002	1.001	1.000	
AVG DEV. TO ULT.	1:U	2:U	3:U	4:U	5:U	6:U	7:U	8:U	9:U	10:U
5 Year Averages	1.269	1.142	1.079	1.047	1.034	1.021	1.017	1.015	1.014	1.014

**LIMITED MEDICAL LOSS  
DEVELOPMENT**  
*Likely*

Missouri

01/01/23

PY Data	1st Report	2nd Report	3rd Report	4th Report	5th Report	6th Report	7th Report	8th Report	9th Report	10th Report
7/06-6/07	100,854,536	105,262,138	108,886,106	110,393,045	111,390,966	111,011,418	112,211,487	113,066,299	113,408,269	114,173,457
7/07-6/08	100,533,090	106,442,753	110,879,923	114,192,455	114,978,382	114,979,764	115,149,833	115,033,467	114,769,376	114,524,663
7/08-6/09	81,308,701	88,082,227	89,043,099	90,604,958	91,445,358	90,922,546	90,663,811	90,810,422	90,696,941	90,496,918
7/09-6/10	88,550,954	96,355,353	96,688,213	97,646,496	97,962,046	97,417,674	97,200,782	97,133,560	96,810,935	96,561,268
7/10-6/11	88,224,638	94,597,054	98,551,274	99,303,310	99,342,918	99,470,562	99,625,737	99,236,043	99,314,035	99,249,710
7/11-6/12	87,593,132	92,944,387	95,407,266	95,898,462	96,266,268	96,660,184	96,049,400	95,898,323	95,839,009	
7/12-6/13	81,032,318	90,104,429	92,466,645	93,120,546	92,605,831	92,428,163	92,083,933	92,169,248		
7/13-6/14	85,389,274	91,905,461	94,870,298	95,264,974	97,080,335	97,314,689	97,551,459			
7/14-6/15	90,908,643	98,231,858	100,116,823	99,755,035	99,893,911	100,553,679				
7/15-6/16	92,168,487	96,949,059	98,157,956	99,036,161	99,864,525					
7/16-6/17	92,335,472	99,880,735	99,841,481	102,470,371						
7/17-6/18	93,092,278	99,131,368	98,632,484							
7/18-6/19	93,106,032	95,906,958								
7/19-6/20	82,572,539									
Link Ratios	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
7/06-6/07	1.044	1.034	1.014	1.009	0.997	1.011	1.008	1.003	1.007	
7/07-6/08	1.059	1.042	1.030	1.007	1.000	1.001	0.999	0.998	0.998	
7/08-6/09	1.083	1.011	1.018	1.009	0.994	0.997	1.002	0.999	0.998	
7/09-6/10	1.088	1.003	1.010	1.003	0.994	0.998	0.999	0.997	0.997	
7/10-6/11	1.072	1.042	1.008	1.000	1.001	1.002	0.996	1.001	0.999	
7/11-6/12	1.061	1.026	1.005	1.004	1.004	0.994	0.998	0.999		
7/12-6/13	1.112	1.026	1.007	0.994	0.998	0.996	1.001			
7/13-6/14	1.076	1.032	1.004	1.019	1.002	1.002				
7/14-6/15	1.081	1.019	0.996	1.001	1.007					
7/15-6/16	1.052	1.012	1.009	1.008						
7/16-6/17	1.082	1.000	1.026							
7/17-6/18	1.065	0.995								
7/18-6/19	1.030									
AVERAGE DEV.	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
5 Year Averages	1.062	1.012	1.008	1.005	1.002	0.998	0.999	0.999	1.000	
AVG DEV. TO ULT.	1:U	2:U	3:U	4:U	5:U	6:U	7:U	8:U	9:U	10:U
5 Year Averages	1.131	1.065	1.052	1.044	1.039	1.037	1.039	1.040	1.041	1.041

**LIMITED MEDICAL LOSS  
DEVELOPMENT  
Not-Likely**

Missouri

01/01/23

PY Data	1st Report	2nd Report	3rd Report	4th Report	5th Report	6th Report	7th Report	8th Report	9th Report	10th Report
7/06-6/07	241,306,088	243,502,966	245,021,830	246,691,026	245,444,289	245,542,135	244,872,395	244,090,067	244,259,979	243,719,247
7/07-6/08	243,698,504	247,358,461	249,999,026	249,947,070	249,328,107	248,756,488	248,887,906	249,612,457	249,912,175	249,674,416
7/08-6/09	235,382,638	240,558,389	243,160,990	242,547,891	241,434,652	241,906,796	241,753,544	241,726,384	241,760,628	242,002,224
7/09-6/10	240,954,039	244,818,410	245,967,706	244,378,911	243,552,184	243,146,389	243,600,160	243,543,003	244,111,844	243,957,586
7/10-6/11	259,479,022	263,993,495	264,037,375	264,221,059	264,993,177	264,778,184	264,916,477	265,097,256	264,490,287	264,277,152
7/11-6/12	258,215,188	259,536,754	260,041,667	260,322,556	260,598,410	260,700,970	260,797,566	259,736,108	259,423,016	
7/12-6/13	280,629,657	281,863,619	280,299,496	279,213,033	278,687,480	278,623,953	277,425,503	277,495,398		
7/13-6/14	288,738,479	290,437,918	291,348,359	291,261,830	290,809,601	290,308,628	289,541,036			
7/14-6/15	296,495,356	299,313,033	299,693,661	299,045,761	298,917,255	299,118,930				
7/15-6/16	313,013,386	315,632,849	318,109,217	317,940,138	316,396,070					
7/16-6/17	317,797,707	318,854,558	319,865,938	320,168,581						
7/17-6/18	341,966,803	344,846,311	343,186,883							
7/18-6/19	349,227,404	352,293,608								
7/19-6/20	305,969,510									
Link Ratios	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
7/06-6/07	1.009	1.006	1.007	0.995	1.000	0.997	0.997	1.001		0.998
7/07-6/08	1.015	1.011	1.000	0.998	0.998	1.001	1.003	1.001		0.999
7/08-6/09	1.022	1.011	0.997	0.995	1.002	0.999	1.000	1.000		1.001
7/09-6/10	1.016	1.005	0.994	0.997	0.998	1.002	1.000	1.002		0.999
7/10-6/11	1.017	1.000	1.001	1.003	0.999	1.001	1.001	0.998		0.999
7/11-6/12	1.005	1.002	1.001	1.001	1.000	1.000	0.996	0.999		
7/12-6/13	1.004	0.994	0.996	0.998	1.000	0.996	1.000			
7/13-6/14	1.006	1.003	1.000	0.998	0.998	0.997				
7/14-6/15	1.010	1.001	0.998	1.000	1.001					
7/15-6/16	1.008	1.008	0.999	0.995						
7/16-6/17	1.003	1.003	1.001							
7/17-6/18	1.008	0.995								
7/18-6/19	1.009									
AVERAGE DEV.	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	
5 Year Averages	1.008	1.002	0.999	0.998	1.000	0.999	0.999	1.000	0.999	
AVG DEV. TO ULT.	1:U	2:U	3:U	4:U	5:U	6:U	7:U	8:U	9:U	10:U
5 Year Averages	1.012	1.004	1.002	1.003	1.005	1.005	1.006	1.007	1.007	1.008