



NORTH CAROLINA
Rate Bureau

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Raleigh, NC 27612

ncrb.org/ncrb

August 31, 2026

The Honorable Mike Causey
Commissioner
North Carolina Dept. of Insurance
1201 Mail Service Center
Raleigh, NC 27699-1201

Re: Workers Compensation Insurance 2026 Residual Market Rate Filing

Commissioner Causey:

Pursuant to the provisions of Article 36, Chapter 58 of the General Statutes of North Carolina, enclosed is the filing for residual market workers compensation insurance rates, rating values, and miscellaneous values to become effective in accordance with the following rule of application:

Revised residual market rates shall become effective as of April 1, 2027 and shall be applied to all residual market policies as of the first normal anniversary rating date which is on or after April 1, 2027, but shall not otherwise be available to outstanding policies. No policy may be canceled and rewritten to take advantage of or to avoid application of this rule.

The enclosed memoranda, exhibits, testimony, and other supporting data explain the calculations supporting the loss cost multiplier; this filing makes reference to the August 31, 2026 Loss Cost Filing for the voluntary market to support the change in loss costs. Combined, the two filings support an average decrease in the overall premium for residual market workers compensation insurance of 14.3%.

This premium level change includes a 10.6% decrease in loss costs detailed in the 2026 loss cost filing and a 4.3% decrease in the loss cost multiplier detailed in this filing.

By industry group, the changes are: Manufacturing, 14.1% decrease; Contracting, 15.3% decrease; Office and Clerical, 15.7% decrease; Goods & Services, 12.9% decrease; and Miscellaneous, 14.6% decrease. Within each industry group, the change will vary from the average by classification depending upon the volume and character of the particular classification experience.

The residual market rates for classifications which contemplate exposure under the United States Longshore and Harbor Workers' Compensation Act ("F" classifications) are also included. This filing proposes a decrease of 14.8% to the overall residual market premium level of the "F" classifications.

Information and statistical data required pursuant to NCGS §58-36-15 and 11 NCAC 10.1111 are submitted. Additionally, the pre-filed testimony of (a) Joanna Biliouris, General Manager - North Carolina Rate Bureau, (b) Brett Foster, FCAS, MAAA - National Council on Compensation Insurance, Inc., (c) Stephen Koca, FCAS, MAAA - Milliman, Inc., and (d) Dr. George Zanjani – University of Alabama and exhibits referenced therein are enclosed.

Sincerely,

A handwritten signature in black ink that reads "Joanna Biliouris". The signature is written in a cursive, flowing style.

Joanna Biliouris
General Manager

JB:ko
Attachments

NORTH CAROLINA - ASSIGNED RISK

SUMMARY

Proposed Effective Date

April 1, 2027

I. Industrial Classifications

Overall Proposed Change in Rate Level

- New and Renewal Policies -14.3%

By Industry Group

Manufacturing -14.1%

Contracting -15.3%

Office and Clerical -15.7%

Goods and Services -12.9%

Miscellaneous -14.6%

Overall -14.3%

II. Federal Classifications

Overall Proposed Change in Rate Level

- New and Renewal Policies -14.8%

III. Summary of Miscellaneous Changes

	<u>Current</u>	<u>Proposed</u>
- USL&HW %	56%	56%
- Experience Rating Split Point	\$26,000	\$26,500
- Experience Rating Premium Eligibility Thresholds		
24-Month Subject Premium	\$15,000	\$16,000
Average Annual Subject Premium	\$7,500	\$8,000

NORTH CAROLINA – ASSIGNED RISK

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NORTH CAROLINA

EXHIBIT I

Determination of Indicated Rate Level Change

Section A - Policy Year 2024 Experience

Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$919,133,839
(2) Premium On-level Factor (Appendix A-I)	0.799
(3) Premium Available for Benefit Costs = (1) x (2)	\$734,387,937

Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$352,295,088
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Factor to Include Loss Adjustment Expenses (Exhibit II)	1.205
(7) Composite Adjustment Factor = (5) x (6)	1.205
(8) Adjusted Limited Indemnity Losses = (4) x (7)	\$424,515,581
(9) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.578
(10) Factor to Reflect Indemnity Trend (Appendix A-III)	0.844
(11) Projected Limited Indemnity Cost Ratio = (9) x (10)	0.488
(12) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.013
(13) Projected Indemnity Cost Ratio = (11) x (12)	0.494
(14) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(15) Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.494

Medical Benefit Cost:

(16) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$260,065,687
(17) Medical Loss On-level Factor (Appendix A-I)	1.003
(18) Factor to Include Loss Adjustment Expenses (Exhibit II)	1.205
(19) Composite Adjustment Factor = (17) x (18)	1.209
(20) Adjusted Limited Medical Losses = (16) x (19)	\$314,419,416
(21) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.428
(22) Factor to Reflect Medical Trend (Appendix A-III)	0.844
(23) Projected Limited Medical Cost Ratio = (21) x (22)	0.361
(24) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.013
(25) Projected Medical Cost Ratio = (23) x (24)	0.366
(26) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.016
(27) Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.372

Total Benefit Cost:

(28) Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.866
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NORTH CAROLINA

EXHIBIT I

Determination of Indicated Rate Level Change

Section B - Policy Year 2023 Experience

Premium:

(1) Standard Earned Premium Developed to Ultimate (Appendix A-II)	\$945,045,739
(2) Premium On-level Factor (Appendix A-I)	0.733
(3) Premium Available for Benefit Costs = (1) x (2)	\$692,718,527

Indemnity Benefit Cost:

(4) Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	\$361,684,809
(5) Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6) Factor to Include Loss Adjustment Expenses (Exhibit II)	1.205
(7) Composite Adjustment Factor = (5) x (6)	1.205
(8) Adjusted Limited Indemnity Losses = (4) x (7)	\$435,830,195
(9) Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.629
(10) Factor to Reflect Indemnity Trend (Appendix A-III)	0.802
(11) Projected Limited Indemnity Cost Ratio = (9) x (10)	0.504
(12) Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.013
(13) Projected Indemnity Cost Ratio = (11) x (12)	0.511
(14) Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(15) Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.511

Medical Benefit Cost:

(16) Limited Medical Losses Developed to Ultimate (Appendix A-II)	\$283,756,498
(17) Medical Loss On-level Factor (Appendix A-I)	1.009
(18) Factor to Include Loss Adjustment Expenses (Exhibit II)	1.205
(19) Composite Adjustment Factor = (17) x (18)	1.216
(20) Adjusted Limited Medical Losses = (16) x (19)	\$345,047,902
(21) Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.498
(22) Factor to Reflect Medical Trend (Appendix A-III)	0.802
(23) Projected Limited Medical Cost Ratio = (21) x (22)	0.399
(24) Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.013
(25) Projected Medical Cost Ratio = (23) x (24)	0.404
(26) Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.016
(27) Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.410

Total Benefit Cost:

(28) Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.921
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NORTH CAROLINA

EXHIBIT I

Determination of Indicated Rate Level Change

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

(1) Policy Year 2024 Indicated Change Based on Experience, Trend, and Benefits	0.866 (-13.4%)
(2) Policy Year 2023 Indicated Change Based on Experience, Trend, and Benefits	0.921 (-7.9%)
(3) Indicated Change Based on Experience, Trend, and Benefits* = [(1) + (2)] / 2	0.894 (-10.6%)

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

Section D - Application of the Proposed Change in Loss Cost Multiplier

(1) Indicated Loss Cost Level Change	0.894 (-10.6%)
(2) Proposed Change in Assigned Risk Loss Cost Multiplier = [Exhibit I-A, Sheet 1, Line (9)] / [Exhibit I-A, Sheet 2, Line (9)]	0.959 (-4.1%)
(3) Indicated Assigned Risk Rate Level Change = (1) x (2)	0.857 (-14.3%)

Section E - Distribution of Overall Rate Level Change to Industry Groups

Industry Group Differentials (Appendix A-V):

Manufacturing	1.002
Contracting	0.988
Office & Clerical	0.984
Goods & Services	1.016
Miscellaneous	0.996

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

Industry Group	(1) Final Overall Rate Level Change	(2) Industry Group Differential	(3) = (1) x (2) Final Rate Level Change by Industry Group	
Manufacturing	0.857	1.002	0.859	(-14.1%)
Contracting	0.857	0.988	0.847	(-15.3%)
Office & Clerical	0.857	0.984	0.843	(-15.7%)
Goods & Services	0.857	1.016	0.871	(-12.9%)
Miscellaneous	0.857	0.996	0.854	(-14.6%)
Overall	0.857	1.000	0.857	(-14.3%)

North Carolina Department of Insurance

Summary of Supporting Information Form
Calculation of INDICATED Assigned Risk Loss Cost Multiplier
Effective April 1, 2027

1.	Does this filing apply uniformly to all workers compensation classes? (If no, identify exception and provide justification for variations.)	Yes	
2.	Loss Cost Modification:		
	A. The insurer hereby files to adopt the prospective loss costs in the North Carolina Rate Bureau reference filing (Check one):		
	☐ Without modification (factor = 1.000)		
	☒ With the following modification(s): 1.991 (see attached) Cite the nature and percent modification. Attach supporting data and/or rationale for the modification(s).		
	B. Loss Cost Modification Factor:	<u>1.991</u>	See Exhibit I-A, Sheet 3
	Example (i): If your loss cost modification is -10%, the factor is .90 (1.00 - .10). Example (ii): If your loss cost modification is +15%, the factor is 1.15 (1.00 + .15).		
3.	Selected Expenses: (Attach Expense Provisions Exhibit)		See Exhibit II
	A. Commission and Brokerage	<u>5.0%</u>	
	B. Other Acquisition	<u>21.5%</u>	
	C. General Expenses	<u>Incl. in B</u>	
	D. Taxes, Licenses, Fees & Loss Based Assessments	<u>2.66%</u>	
	E. Profit, Contingencies and Investment Income	<u>-1.0%</u>	
	F. Uncollectible Premium Provision	<u>9.4%</u>	
	G. Total (A + B + C + D + E + F)	<u>37.6%</u>	
4.	Development of Expected Loss & Loss Adjustment Expense* (Target Cost) Ratio: (Expressed in decimal form: 1.000 - 3G)	<u>0.624</u>	
5.	Overall impact of expense constant & minimum premiums: (Expressed in decimal form: i.e., 1.2% overall impact would be 1.012)	<u>1.158</u>	See Exhibit II
6.	Overall impact of size-of-risk discounts plus expense gradation recognition in retrospective rating: (Expressed in decimal form: i.e., 8.6% average discount would be 0.914)	<u>1.000</u>	
7.	Provision for loss based assessments	<u>0.000</u>	
8.	Formula Loss Cost Multiplier : $2B \times (1.0 - 7) / ((6 - 3G) \times 5)$	<u>2.756</u>	
9.	Selected Loss Cost Multiplier: (Explain any differences between 8 and 9, other than rounding)	<u>2.756</u>	
10.	Rate Level Changes for the Coverages to which this page applies	<u>-14.3%</u>	
11.	Are you amending:		
	the minimum premium formula?	No	
	the expense constant(s) ?	No	See Exhibit II-D
	the premium discount schedules?	No	
	If yes, attach documentation showing (i) premium level impact and (ii) current and proposed minimum premium formula, minimum premium multipliers, maximum minimum premiums, expense constants and/or premium discount schedules.		

* The ratio displayed on line 4 does not include any provision for loss adjustment expense.

North Carolina Department of Insurance

Summary of Supporting Information Form Calculation of CURRENT Assigned Risk Loss Cost Multiplier Effective April 1, 2026

1. Does this filing apply uniformly to all workers compensation classes?
(If no, identify exception and provide justification for variations.) Yes

2. Loss Cost Modification:
 - A. The insurer hereby files to adopt the prospective loss costs in the North Carolina Rate Bureau reference filing (Check one):

☐ Without modification (factor = 1.000)

☒ With the following modification(s): 2.084
 Cite the nature and percent modification. Attach supporting data and/or rationale for the modification(s).
 - B. Loss Cost Modification Factor: 2.084

Example (i): If your loss cost modification is -10%, the factor is .90 (1.00 - .10).
 Example (ii): If your loss cost modification is +15%, the factor is 1.15 (1.00 + .15).

3. Selected Expenses: (Attach Expense Provisions Exhibit)

A. Commission and Brokerage	<u>5.0%</u>
B. Other Acquisition	<u>20.8%</u>
C. General Expenses	<u>Incl. in B</u>
D. Taxes, Licenses, Fees & Loss Based Assessments	<u>2.66%</u>
E. Profit, Contingencies and Investment Income	<u>0.0%</u>
F. Uncollectible Premium Provision	<u>9.1%</u>
G. Total (A + B + C + D + E + F)	<u>37.6%</u>

4. Development of Expected Loss & Loss Adjustment Expense (Target Cost) Ratio:
(Expressed in decimal form: 1.000 - 3G) 0.624

5. Overall impact of expense constant & minimum premiums:
(Expressed in decimal form: i.e., 1.2% overall impact would be 1.012) 1.162

6. Overall impact of size-of-risk discounts plus expense gradation recognition in retrospective rating:
(Expressed in decimal form: i.e., 8.6% average discount would be 0.914) 1.000

7. Provision for loss based assessments 0.000

8. Formula Loss Cost Multiplier : $2B \times (1.0 - 7) / ((6 - 3G) \times 5)$ 2.875

9. Selected Lost Cost Multiplier 2.875

North Carolina - Assigned Risk

Calculation of Loss Cost Modification Factor

1. Current Assigned Risk Differential	2.502
2. Proposed Change in Assigned Risk Differential (See Exh. II-E, Sheet 1)	0.959
3. Proposed Assigned Risk Differential (1) x (2)	2.399
4. Selected loss adjustment expense provision (See Exhibit II-A, Sheet 1)	1.205
5. Factor to Adjust Loss Costs to Avoid Double Counting Servicing Carrier LAE 1 / (4)	0.830
6. Loss Cost Modification Factor (3) x (5)	1.991

North Carolina - Assigned Risk

Summary of Expense Provisions

1. Standard Assigned Risk Commission and Brokerage (Res. Mkt. Plan Admin Rules)	5.0%
2. Loss Adjustment Expense (included in Loss Costs) (See Exhibit II-A, Sheet 1)	20.5%
Factor to adjust loss costs to avoid double counting Servicing Carrier LAE (See Exhibit I-A, Sheet 3)	0.830
3. Other Acquisition, General Expense * and LAE (See Exhibit II-B)	21.5%
4. Uncollectible Premium Provision (See Exhibit II-F, Sheet 1)	12.5%
5. Underwriting Profit and Contingencies	-1.0%
a. Underwriting Profit (See Exhibits RB-6 and RB-8)	-1.0%
b. Contingencies	--
6. Taxes, Licenses, and Fees	
TLF Including Regulatory Surcharge (2.5% x 1.065)	2.66%
Miscellaneous Tax (judgmentally selected)	0.0%
Total Including Miscellaneous Tax	2.66%
7. Effect of Expense Constant and Minimum Premiums (See Exhibit II-D) (Expense Constant of \$160)	15.8%

* Excludes commission and brokerage, taxes, licenses and fees.

North Carolina

Derivation of Loss Adjustment Expense Provision

(1) Calendar/ Accident Year	(2) Calendar Year LAE Ratio*	(3) Accident Year Developed AOE Ratio+	(4) Policy Year	(5) Policy Year Developed DCCE Ratio^
2021	18.2%	10.0%	2020	9.9%
2022	23.2%	9.7%	2021	9.9%
2023	21.8%	9.7%	2022	10.5%
2024	20.3%	9.8%	2023	10.5%
2025	24.9%	10.1%	2024	11.3%

Current North Carolina Loss Adjustment Expense Provision 20.0%

Selected North Carolina Loss Adjustment Expense Provision 20.5%

* Source: NCCI Call for Calendar Year Expense (Financial Call 14)

+ Source: NCCI Call for Loss Adjustment Expense (See Exhibit II-A, Sheets 3-5)

^ Exhibit II-A, Sheet 2.

North Carolina

Selection of DCCE Provision

	(1)	(2)	(3)
Policy Year	Reported Ratio of Paid DCCE to Paid Losses	Age to Ultimate Development Factor	Ultimate DCCE Ratio (1) x (2)
2020	9.9%	0.995	9.9%
2021	10.0%	0.994	9.9%
2022	10.7%	0.984	10.5%
2023	10.6%	0.990	10.5%
2024	10.9%	1.034	11.3%

Summary of Paid DCCE to Paid Loss Ratio Development Factors

	(1) DCCE Ratio Development	(2)
Report	To Next Report	To Ultimate
1st	1.044	1.034
2nd	1.006	0.990
3rd	0.990	0.984
4th	0.999	0.994
5th	1.000	0.995
6th	1.000	0.995
7th	0.997	0.995
8th	0.998	0.998
9th	1.000	1.000
10th	1.002	1.000
11th	1.002	0.998
12th	1.000	0.996
13th	0.998	0.996
14th	1.000	0.998
15th	0.998	0.998
16th	1.000	1.000
17th	1.000	1.000
18th	1.000	1.000
19th		1.000*

(1) Selected two-year average

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

* Selection

North Carolina

Ultimate AOE Ratios

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
2019	9.7%	9.8%	9.8%
2020	10.5%	10.2%	10.4%
2021	9.9%	10.0%	10.0%
2022	9.6%	9.7%	9.7%
2023	9.7%	9.7%	9.7%
2024	9.7%	9.9%	9.8%
2025	9.9%	10.2%	10.1%

North Carolina

Calculation of Ultimate AOE Ratios—Paid Data

Accident Year	(1) Paid AOE at Current Report	(2) Cumulative Paid AOE Development Factors	(3)=(1)x(2) Estimated Paid AOE Developed to a 10th Report	(4) Paid Losses at Current Report	(5) Cumulative Paid Loss Development Factors	(6)=(4)x(5) Estimated Paid Losses Developed to a 10th Report	(7) 10th Report- to-Ultimate Paid AOE Ratio Tail Factor
2019	2,301,521,528	1.041	2,395,883,911	18,117,739,363	1.049	19,005,508,592	0.98
2020	2,129,451,730	1.070	2,278,513,351	15,873,303,476	1.082	17,174,914,361	0.98
2021	2,138,597,852	1.107	2,367,427,822	16,403,778,437	1.134	18,601,884,748	0.98
2022	2,146,891,619	1.165	2,501,128,736	16,662,004,046	1.220	20,327,644,936	0.98
2023	2,067,317,104	1.258	2,600,684,917	15,031,401,260	1.394	20,953,773,356	0.98
2024	1,822,447,188	1.461	2,662,595,342	11,753,053,067	1.826	21,461,074,900	0.98
2025	1,212,507,538	2.256	2,735,417,006	5,202,944,498	4.105	21,358,087,164	0.98

Accident Year	(8)=(3)/(6)x(7) Estimated Ultimate AOE Ratio Before Adjustments	(9) Adjustment to Reverse AOE Credits	(10) Adjustment for Losses Associated with TPA Agreements	(11) Adjustment to Convert Losses From Net to Gross of Deductible	(12) Percentage of COVID-19 Related Losses to Total Losses	(13)=[(8)+(9)]x(10)x(11)/[1-(12)] Estimated Ultimate AOE Ratio After Adjustments
2019	12.3%	0.011	1.034	0.70	-	9.7%
2020	13.0%	0.012	1.036	0.70	2.1%	10.5%
2021	12.4%	0.012	1.032	0.70	0.8%	9.9%
2022	12.1%	0.012	1.031	0.70	0.1%	9.6%
2023	12.2%	0.012	1.031	0.70	0.0%	9.7%
2024	12.2%	0.012	1.033	0.70	-	9.7%
2025	12.5%	0.011	1.035	0.70	-	9.9%

North Carolina

Calculation of Ultimate AOE Ratios—Incurred Data

	(1)	(2)	(3)=(1)x(2)	(4)	(5)	(6)=(4)x(5)	(7)
Accident	Incurred AOE	Cumulative	Estimated	Incurred Losses	Cumulative	Estimated	10th Report-
Year	at Current	Incurred AOE	Incurred AOE	at Current	Incurred Loss	Incurred Losses	to-Ultimate
	Report	Development	Developed to a	Report	Development	Developed to a	Incurred AOE
		Factors	10th Report		Factors	10th Report	Ratio Tail Factor
2019	2,530,266,733	1.008	2,550,508,867	22,489,835,271	0.965	21,702,691,037	1.05
2020	2,362,222,449	1.009	2,383,482,451	21,000,098,495	0.948	19,908,093,373	1.05
2021	2,473,250,284	1.005	2,485,616,535	22,618,339,044	0.926	20,944,581,955	1.05
2022	2,606,081,603	1.006	2,621,718,093	24,743,753,792	0.908	22,467,328,443	1.05
2023	2,685,345,829	1.003	2,693,401,866	25,780,244,876	0.891	22,970,198,185	1.05
2024	2,656,084,709	1.018	2,703,894,234	25,956,070,451	0.878	22,789,429,856	1.05
2025	2,627,275,761	1.053	2,766,521,376	25,498,049,743	0.878	22,387,287,674	1.05

	(8)=(3)/(6)x(7)	(9)	(10)	(11)	(12)	(13)=[(8)+(9)]x(10)x(11)/[1-(12)]
Accident	Estimated	Adjustment to	Adjustment for	Adjustment to	Percentage of	Estimated
Year	Ultimate AOE	Reverse AOE	Losses	Convert Losses	COVID-19-Related	Ultimate AOE
	Ratio Before	Credits	Associated with	From Net to Gross	Losses to	Ratio After
	Adjustments		TPA Agreements	of Deductible	Total Losses	Adjustments
2019	12.4%	0.011	1.034	0.70	-	9.8%
2020	12.6%	0.012	1.036	0.70	2.1%	10.2%
2021	12.5%	0.012	1.032	0.70	0.8%	10.0%
2022	12.3%	0.012	1.031	0.70	0.1%	9.7%
2023	12.3%	0.012	1.031	0.70	0.0%	9.7%
2024	12.5%	0.012	1.033	0.70	-	9.9%
2025	13.0%	0.011	1.035	0.70	-	10.2%

North Carolina - Assigned Risk

Expense Provision
Other Acquisition, General Expense and LAE

1. Weighted-Average of 1/1/2026 Three-Year Servicing Carrier Allowances* (Includes LAE)	20.01%
2. Pool Administration Expenses (See Exhibit II-C)	1.5%
3. Expense provision, excluding taxes, licenses and fees and loss-based assessments and including servicing carrier LAE (1) + (2)	21.5%

* Source: North Carolina Rate Bureau. Excludes commission and brokerage, taxes, licenses and fees.

North Carolina - Assigned Risk

Pool Expense Provision*

Data Valued as of 12/31/2025

Calendar <u>Year</u>	Gross Written <u>Premium</u> [^]	Administrative & Separately <u>Reimbursable Expense</u>	Expenses as a <u>% of GWP</u>
2016	82,281,086	1,119,973	1.4%
2017	77,799,928	1,109,597	1.4%
2018	90,297,741	978,036	1.1%
2019	82,024,442	1,317,532	1.6%
2020	72,923,547	1,401,088	1.9%
2021	75,838,904	1,236,702	1.6%
2022	87,211,543	1,480,470	1.7%
2023	78,742,758	1,235,249	1.6%
2024	72,556,890	1,153,218	1.6%
2025	81,042,019	1,274,602	<u>1.6%</u>
Weighted Average			1.5%

* Source: Data collected by NCCI, Inc.

[^] Includes premium for both servicing carriers and direct assignment carriers.

North Carolina - Assigned Risk

Effect of Expense Constant and Minimum Premiums

Based on Assigned Risk Market Data

Minimum Premium Program Parameters	Current	Proposed
(1) Minimum Premium Multiplier (MPM)	200	200
(2) Maximum Minimum Premium (MMP)	\$ 1,500	\$ 1,500
(3) Standard Premium Generated by MPM and MMP *	\$ 2,834,483	\$ 2,834,483
(4) Standard Premium Including Additional Premium Generated by MPM and MMP *	\$ 32,431,528	\$ 32,431,528
(5) Impact of MPM and MMP = (3) / (4)	0.087	0.087
(6) Expense Constant	160	160
(7) Standard Premium Including Expense Constant Premium and Balance to Minimum Premium **	\$ 69,713,471	\$ 69,713,471
(8) Standard Premium Excluding Expense Constant Premium and Balance to Minimum Premium **	\$ 60,212,159	\$ 60,212,159
(9) Premium Generated from Expense Constant and Balance to Minimum Premium = (7) - (8)	\$ 9,501,312	\$ 9,501,312
(10) Effect of Expense Constant and Minimum Premiums = (9) / (8)		0.158

* Source: Unit Statistical Data for policy years 2015 through 2022.

** Source: Policy Data collected by the NCRB for policy years 2023 through 2025.

North Carolina - Assigned Risk Indicated Change in the Assigned Risk Differential Based on Paid Losses

	(1)	(2)	(3) = (2) / (1)	(4)
Policy Year	Standard Pure Premium *	Paid Losses **	Ratio of Losses to Premium	Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Residual Market Experience Valued as of 12/31/2025				
2015	10,793,579	45,120,982	4.180	
2016	11,441,644	41,653,051	3.640	
2017	11,915,659	38,386,488	3.222	
2018	13,795,411	55,970,053	4.057	
2019	14,674,000	66,983,010	4.565	
2020	15,118,193	25,187,642	1.666	
2021	16,213,290	33,630,011	2.074	
2022	17,510,688	47,206,050	2.696	
2023	17,654,787	31,199,411	1.767	
2024	19,159,493	24,062,961	1.256	
II. Statewide Experience Valued as of 12/31/2025				
2015	372,748,017	557,409,107	1.495	2.796
2016	397,852,424	532,062,782	1.337	2.723
2017	424,190,005	543,397,366	1.281	2.515
2018	459,318,213	597,650,462	1.301	3.118
2019	489,596,798	606,501,235	1.239	3.684
2020	515,556,111	601,413,460	1.167	1.428
2021	579,479,869	637,735,125	1.101	1.884
2022	648,661,189	678,281,102	1.046	2.577
2023	692,377,716	657,336,919	0.949	1.862
2024	733,581,889	631,990,246	0.862	1.457
			Average Differential ^	2.404
(a)	Indicated Differential in Standard Pure Premium Based on Experience			2.404
(b)	Current Impact of Standard Pure Premium Programs@			2.520
(c)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid Losses = (a) / (b)			0.954
(d)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid+Case Losses [See Exhibit II-E, Sheet 4, Item (c)]			0.964
(e)	Selected Change in Assigned Risk Pure Premium Differential (Proposed Assigned Risk Pure Premium Differential = 2.399)			0.959

* Developed to fifth report and brought to the 4/1/2026 pure premium level.

** Developed to ultimate and brought to the 1/1/2025 benefit level.

^ This is the indicated pure premium differential based on loss experience, calculated by comparing the ratio of assigned risk losses to premium to the ratio of statewide losses to premium.

@ This is composed of an ARAP impact equal to 0.7% and a differential of 2.502. ARAP impact from Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk (Residual Market)

	(1)	(2)	(3)	(4) = (1) x ((2) / (3))
Policy <u>Year</u>	Standard <u>Premium*</u>	On-level <u>Factor^</u>	Effect of Current Standard <u>Premium Programs#</u>	Stand. Pure Prem. <u>at Current Level</u>
2015	81,769,540	0.339	2.567	10,793,579
2016	84,752,916	0.343	2.547	11,441,644
2017	82,747,635	0.365	2.532	11,915,659
2018	84,634,422	0.413	2.535	13,795,411
2019	76,427,081	0.484	2.522	14,674,000
2020	70,317,177	0.542	2.522	15,118,193
2021	71,424,187	0.574	2.527	16,213,290
2022	76,801,262	0.576	2.527	17,510,688
2023	77,095,139	0.579	2.527	17,654,787
2024	73,974,875	0.653	2.520	19,159,493

	(5)	(6)	(7)	(8) = ((5) x (6)) x (7)
Policy <u>Year</u>	Ind. Losses <u>Paid</u>	Development <u>Factor</u>	On-level <u>Factor^</u>	Adjusted <u>Ind. Losses</u>
2015	20,560,278	1.031	1.000	21,197,647
2016	18,319,622	1.035	1.000	18,960,809
2017	20,303,092	1.043	1.000	21,176,125
2018	24,820,243	1.052	1.000	26,110,896
2019	23,332,900	1.066	1.000	24,872,871
2020	14,848,723	1.082	1.000	16,066,318
2021	15,988,938	1.120	1.000	17,907,611
2022	17,316,683	1.229	1.000	21,282,203
2023	9,964,168	1.519	1.000	15,135,571
2024	5,267,204	2.804	1.000	14,769,240

	(9)	(10)	(11)	(12) = ((9) x (10)) x (11)
Policy <u>Year</u>	Med. Losses <u>Paid</u>	Development <u>Factor</u>	On-level <u>Factor^</u>	Adjusted <u>Med. Losses</u>
2015	21,393,854	1.049	1.066	23,923,335
2016	20,196,661	1.054	1.066	22,692,242
2017	15,273,934	1.060	1.063	17,210,363
2018	26,526,382	1.070	1.052	29,859,157
2019	37,419,260	1.080	1.042	42,110,139
2020	8,079,976	1.096	1.030	9,121,324
2021	13,690,545	1.127	1.019	15,722,400
2022	21,611,094	1.183	1.014	25,923,847
2023	12,360,679	1.288	1.009	16,063,840
2024	5,294,813	1.750	1.003	9,293,721

* Developed to a fifth report. See Exhibit II-E, Sheet 7.

^ See Appendix A-I for the derivation of the factors for Policy Years 2023 and 2024.

Factors for the remaining years are calculated in a similar manner.

This is composed of a differential of 2.502 and year-specific ARAP impacts that are displayed on Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk (Statewide Market)

	(1)	(2)	(3) = (1) + (2)
Policy Year	Voluntary Standard Premium*	Assigned Risk Standard Premium**	Standard Pure Premium On-level
2015	361,954,438	10,793,579	372,748,017
2016	386,410,780	11,441,644	397,852,424
2017	412,274,346	11,915,659	424,190,005
2018	445,522,802	13,795,411	459,318,213
2019	474,922,798	14,674,000	489,596,798
2020	500,437,918	15,118,193	515,556,111
2021	563,266,579	16,213,290	579,479,869
2022	631,150,501	17,510,688	648,661,189
2023	674,722,929	17,654,787	692,377,716
2024	714,422,396	19,159,493	733,581,889

	(4)	(5)	(6)	(7) = ((4) x (5)) x (6)
Policy Year	Ind. Losses Paid	Development Factor	On-level Factor^	Adjusted Ind. Losses
2015	280,542,040	1.031	1.000	289,238,843
2016	273,955,295	1.035	1.000	283,543,730
2017	280,766,623	1.043	1.000	292,839,588
2018	301,161,983	1.052	1.000	316,822,406
2019	299,603,527	1.066	1.000	319,377,360
2020	294,395,055	1.082	1.000	318,535,450
2021	303,791,748	1.120	1.000	340,246,758
2022	302,128,011	1.229	1.000	371,315,326
2023	241,261,895	1.519	1.000	366,476,819
2024	129,007,958	2.804	1.000	361,738,314

	(8)	(9)	(10)	(11) = ((8) x (9)) x (10)
Policy Year	Med. Losses Paid	Development Factor	On-level Factor^	Adjusted Med. Losses
2015	239,815,874	1.049	1.066	268,170,264
2016	221,188,158	1.054	1.066	248,519,052
2017	222,366,192	1.060	1.063	250,557,778
2018	249,483,010	1.070	1.052	280,828,056
2019	255,139,578	1.080	1.042	287,123,875
2020	250,582,888	1.096	1.030	282,878,010
2021	259,043,016	1.127	1.019	297,488,367
2022	255,898,216	1.183	1.014	306,965,776
2023	223,808,780	1.288	1.009	290,860,100
2024	153,967,772	1.750	1.003	270,251,932

* Developed to a fifth report and on current premium level. See Exhibit II-E, Sheet 8.

** Developed to a fifth report and on current premium level. See Exhibit II-E, Sheet 2.

^ See Appendix A-I for the derivation of the factors for Policy Years 2023 and 2024.
Factors for the remaining years are calculated in a similar manner.

North Carolina - Assigned Risk Indicated Change in the Assigned Risk Differential Based on Paid+Case Losses

	(1)	(2)	(3) = (2) / (1)	(4)
Policy Year	Standard Pure Premium *	Paid+Case Losses **	Ratio of Losses to Premium	Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Residual Market Experience Valued as of 12/31/2025				
2015	10,793,579	43,633,325	4.043	
2016	11,441,644	42,161,819	3.685	
2017	11,915,659	37,149,353	3.118	
2018	13,795,411	59,443,171	4.309	
2019	14,674,000	65,887,446	4.490	
2020	15,118,193	24,247,747	1.604	
2021	16,213,290	32,125,236	1.981	
2022	17,510,688	43,685,104	2.495	
2023	17,654,787	28,998,134	1.643	
2024	19,159,493	26,612,568	1.389	
II. Statewide Experience Valued as of 12/31/2025				
2015	372,748,017	544,526,467	1.461	2.767
2016	397,852,424	521,391,253	1.311	2.811
2017	424,190,005	527,667,789	1.244	2.506
2018	459,318,213	586,489,403	1.277	3.374
2019	489,596,798	595,481,918	1.216	3.692
2020	515,556,111	588,937,304	1.142	1.405
2021	579,479,869	642,296,942	1.108	1.788
2022	648,661,189	657,832,434	1.014	2.461
2023	692,377,716	638,653,311	0.922	1.782
2024	733,581,889	594,291,696	0.810	1.715
			Average Differential ^	2.430
(a)	Indicated Differential in Standard Pure Premium Based on Experience			2.430
(b)	Current Impact of Standard Pure Premium Programs@			2.520
(c)	Indicated Change in Assigned Risk Pure Premium Differential = (a)/(b)			0.964

* Developed to fifth report and brought to the 4/1/2026 pure premium level.

** Developed to ultimate and brought to the 1/1/2025 benefit level.

^ This is the indicated pure premium differential based on loss experience, calculated by comparing the ratio of assigned risk losses to premium to the ratio of statewide losses to premium.

@ This is composed of an ARAP impact equal to 0.7% and a differential of 2.502. ARAP impact from Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk (Residual Market)

	(1)	(2)	(3)	(4) = (1) x ((2) / (3))
Policy <u>Year</u>	Standard <u>Premium*</u>	On-level <u>Factor^</u>	Effect of Current Standard <u>Premium Programs#</u>	Stand. Pure Prem. <u>at Current Level</u>
2015	81,769,540	0.339	2.567	10,793,579
2016	84,752,916	0.343	2.547	11,441,644
2017	82,747,635	0.365	2.532	11,915,659
2018	84,634,422	0.413	2.535	13,795,411
2019	76,427,081	0.484	2.522	14,674,000
2020	70,317,177	0.542	2.522	15,118,193
2021	71,424,187	0.574	2.527	16,213,290
2022	76,801,262	0.576	2.527	17,510,688
2023	77,095,139	0.579	2.527	17,654,787
2024	73,974,875	0.653	2.520	19,159,493

	(5)	(6)	(7)	(8) = ((5) x (6)) x (7)
Policy <u>Year</u>	Ind. Losses <u>Paid+Case</u>	Development <u>Factor</u>	On-level <u>Factor^</u>	Adjusted <u>Ind. Losses</u>
2015	20,562,409	1.014	1.000	20,850,283
2016	18,635,971	1.014	1.000	18,896,875
2017	20,628,789	1.015	1.000	20,938,221
2018	25,394,588	1.017	1.000	25,826,296
2019	24,153,330	1.020	1.000	24,636,397
2020	15,200,714	1.027	1.000	15,611,133
2021	17,037,965	1.037	1.000	17,668,370
2022	19,448,870	1.066	1.000	20,732,495
2023	12,813,455	1.152	1.000	14,761,100
2024	10,691,779	1.487	1.000	15,898,675

	(9)	(10)	(11)	(12) = ((9) x (10)) x (11)
Policy <u>Year</u>	Med. Losses <u>Paid+Case</u>	Development <u>Factor</u>	On-level <u>Factor^</u>	Adjusted <u>Med. Losses</u>
2015	21,393,854	0.999	1.066	22,783,042
2016	21,846,371	0.999	1.066	23,264,944
2017	15,296,248	0.997	1.063	16,211,132
2018	32,180,467	0.993	1.052	33,616,875
2019	39,747,328	0.996	1.042	41,251,049
2020	8,401,866	0.998	1.030	8,636,614
2021	14,301,721	0.992	1.019	14,456,866
2022	23,074,117	0.981	1.014	22,952,609
2023	14,591,566	0.967	1.009	14,237,034
2024	11,057,813	0.966	1.003	10,713,893

* Developed to a fifth report. See Exhibit II-E, Sheet 7.

^ See Appendix A-I for the derivation of the factors for Policy Years 2023 and 2024.

Factors for the remaining years are calculated in a similar manner.

This is composed of a differential of 2.502 and year-specific ARAP impacts that are displayed on Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk (Statewide Market)

Policy Year	(1) Voluntary Standard Premium*	(2) Assigned Risk Standard Premium**	(3) = (1) + (2) Standard Pure Premium On-level
2015	361,954,438	10,793,579	372,748,017
2016	386,410,780	11,441,644	397,852,424
2017	412,274,346	11,915,659	424,190,005
2018	445,522,802	13,795,411	459,318,213
2019	474,922,798	14,674,000	489,596,798
2020	500,437,918	15,118,193	515,556,111
2021	563,266,579	16,213,290	579,479,869
2022	631,150,501	17,510,688	648,661,189
2023	674,722,929	17,654,787	692,377,716
2024	714,422,396	19,159,493	733,581,889

Policy Year	(4) Ind. Losses Paid+Case	(5) Development Factor	(6) On-level Factor^	(7) = ((4) x (5)) x (6) Adjusted Ind. Losses
2015	281,344,360	1.014	1.000	285,283,181
2016	277,656,405	1.014	1.000	281,543,595
2017	283,440,215	1.015	1.000	287,691,818
2018	307,578,279	1.017	1.000	312,807,110
2019	309,855,218	1.020	1.000	316,052,322
2020	305,699,711	1.027	1.000	313,953,603
2021	328,734,944	1.037	1.000	340,898,137
2022	343,119,146	1.066	1.000	365,765,010
2023	309,802,777	1.152	1.000	356,892,799
2024	230,566,147	1.487	1.000	342,851,861

Policy Year	(8) Med. Losses Paid+Case	(9) Development Factor	(10) On-level Factor^	(11) = ((8) x (9)) x (10) Adjusted Med. Losses
2015	243,436,012	0.999	1.066	259,243,286
2016	225,223,026	0.999	1.066	239,847,658
2017	226,432,798	0.997	1.063	239,975,971
2018	261,988,188	0.993	1.052	273,682,293
2019	269,243,573	0.996	1.042	279,429,596
2020	267,509,486	0.998	1.030	274,983,701
2021	298,164,319	0.992	1.019	301,398,805
2022	293,613,593	0.981	1.014	292,067,424
2023	288,776,924	0.967	1.009	281,760,512
2024	259,511,151	0.966	1.003	251,439,835

* Developed to a fifth report and on current premium level. See Exhibit II-E, Sheet 8.

** Developed to a fifth report and on current premium level. See Exhibit II-E, Sheet 5.

^ See Appendix A-I for the derivation of the factors for Policy Years 2023 and 2024.
Factors for the remaining years are calculated in a similar manner.

North Carolina - Assigned Risk (Residual Market)

Section A - Assigned Risk Premium Development Factors

<u>Policy Year</u>	<u>Standard Premium for Matching Companies</u>		<u>Development Factor</u>
	<u>1st Report</u>	<u>2nd Report</u>	
2021	\$71,443,251	\$70,830,290	0.991
2022	72,639,892	73,868,442	1.017
2023	71,549,405	75,657,644	1.057
Average			1.022
	<u>2nd Report</u>	<u>3rd Report</u>	
2020	\$69,595,678	\$70,179,316	1.008
2021	70,830,290	70,846,452	1.000
2022	73,868,442	76,419,166	1.035
Average			1.014
	<u>3rd Report</u>	<u>4th Report</u>	
2019	\$76,156,327	\$76,465,363	1.004
2020	70,179,316	70,249,318	1.001
2021	70,846,452	71,352,834	1.007
Average			1.004
	<u>4th Report</u>	<u>5th Report</u>	
2018	\$84,513,181	\$84,686,625	1.002
2019	76,465,363	76,450,551	1.000
2020	70,249,318	70,317,177	1.001
Average			1.001

Three-year average premium development factors

<u>1st/5th</u>	<u>2nd/5th</u>	<u>3rd/5th</u>	<u>4th/5th</u>
1.041	1.019	1.005	1.001

Section B - Calculation of Developed Assigned Risk Standard Premium

<u>Policy Year</u>	<u>Standard Premium</u>	<u>Development Factor</u>	<u>Developed Premium</u>
2015	81,769,540	1.000	81,769,540
2016	84,752,916	1.000	84,752,916
2017	82,747,635	1.000	82,747,635
2018	84,634,422	1.000	84,634,422
2019	76,427,081	1.000	76,427,081
2020	70,317,177	1.000	70,317,177
2021	71,352,834	1.001	71,424,187
2022	76,419,166	1.005	76,801,262
2023	75,657,644	1.019	77,095,139
2024	71,061,359	1.041	73,974,875

North Carolina - Assigned Risk (Statewide Market)

Section A - Voluntary Premium Development Factors

Policy <u>Year</u>	<u>Standard Premium for Matching Companies</u>		<u>Development Factor</u>
	<u>1st Report</u>	<u>2nd Report</u>	
2021	\$782,100,882	\$801,981,618	1.025
2022	828,966,180	851,731,800	1.027
2023	853,132,384	866,897,241	1.016
Average			1.023
	<u>2nd Report</u>	<u>3rd Report</u>	
2020	\$757,223,775	\$758,073,432	1.001
2021	800,008,738	801,395,846	1.002
2022	853,510,327	853,333,193	1.000
Average			1.001
	<u>3rd Report</u>	<u>4th Report</u>	
2019	\$821,792,605	\$821,850,502	1.000
2020	753,771,520	753,621,368	1.000
2021	802,270,830	802,421,660	1.000
Average			1.000
	<u>4th Report</u>	<u>5th Report</u>	
2018	\$898,543,406	\$898,435,892	1.000
2019	817,537,047	817,363,677	1.000
2020	757,611,842	757,927,832	1.000
Average			1.000

Three-year average premium development factors

<u>1st/5th</u>	<u>2nd/5th</u>	<u>3rd/5th</u>	<u>4th/5th</u>
1.024	1.001	1.000	1.000

Section B - Calculation of Developed and On-leveled Voluntary Standard Premium

<u>Policy Year</u>	<u>Standard Premium</u>	<u>Development Factor</u>	<u>Voluntary On-level Factor*</u>	<u>Voluntary Prem Dev't & On-level</u>
2015	1,043,096,362	1.000	0.347	361,954,438
2016	1,024,962,281	1.000	0.377	386,410,780
2017	949,940,889	1.000	0.434	412,274,346
2018	898,231,456	1.000	0.496	445,522,802
2019	821,665,741	1.000	0.578	474,922,798
2020	758,239,270	1.000	0.660	500,437,918
2021	803,518,658	1.000	0.701	563,266,579
2022	854,060,218	1.000	0.739	631,150,501
2023	867,501,776	1.001	0.777	674,722,929
2024	825,654,581	1.024	0.845	714,422,396

* See Appendix A-I for the derivation of the figures for Policy Years 2023 and 2024.

North Carolina - Assigned Risk

Impact of the Assigned Risk Adjustment Program*

Based on Assigned Risk Data for Policies with Effective Dates in 2025

<u>Type of Risk</u>	(1) Experience Modified <u>Premium</u>	(2) ARAP <u>Premium</u>	(3) ARAP Impact <u>(2) / (1)</u>
Risks with Credit Mods	\$2,405,543	\$2,405,543	1.000
Risks with Debit Mods	1,875,154	2,288,624	1.220
Risks with No Mods / Mods of 1.00	<u>58,864,174</u>	<u>58,864,174</u>	<u>1.000</u>
Totals	\$63,144,871	\$63,558,341	1.007

Historical Impacts of the Assigned Risk Adjustment Program

<u>Policy Year</u>	<u>ARAP Impact</u>
2015	1.026
2016	1.018
2017	1.012
2018	1.013
2019	1.008
2020	1.008
2021	1.010
2022	1.010
2023	1.010
2024	1.007

* Source: North Carolina Rate Bureau

North Carolina - Assigned Risk

Uncollectible Premium Provision

Section 1 - Gross Premium as of 12/31/2025 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Gross
2014				57,800	57,768	57,770	57,770	57,771	57,771
2015			62,906	62,871	62,871	62,880	62,879	62,910	62,910
2016		59,795	60,339	60,101	60,075	60,054	60,068	60,068	60,068
2017	63,712	62,053	62,198	62,336	63,305	63,314	63,236	63,154	63,154
2018	63,020	62,127	61,941	63,687	63,924	63,784	63,780		63,780
2019	57,076	55,421	56,201	56,466	56,238	56,216			56,216
2020	53,198	51,597	51,943	51,514	51,571				51,571
2021	53,296	51,908	51,804	52,272					52,376
2022	50,308	50,411	52,397						52,764
2023	48,707	51,415							52,084
2024	48,878								48,633

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2014						1.000	1.000	
2015					1.000	1.000	1.000	
2016				1.000	1.000	1.000	1.000	
2017			1.002	1.016	1.000	0.999	0.999	
2018		0.997	1.028	1.004	0.998	1.000		
2019	0.971	1.014	1.005	0.996	1.000			
2020	0.970	1.007	0.992	1.001				
2021	0.974	0.998	1.009					
2022	1.002	1.039						
2023	1.056							

5-Yr Avg x H/L	0.982	1.006	1.005	1.002	1.000	1.000	1.000	0.000
Selected	0.982	1.006	1.005	1.002	1.000	1.000	1.000	1.000
Ultimate	0.995	1.013	1.007	1.002	1.000	1.000	1.000	1.000

Section 2 - Collected Premium as of 12/31/2025 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Collected	Uncollected/ Gross
2014				55,141	54,490	52,818	53,246	53,954	53,954	6.6%
2015			59,314	58,232	57,486	57,656	57,928	57,976	57,976	7.8%
2016		54,132	53,606	52,856	52,927	53,054	53,166	53,187	53,187	11.5%
2017	58,251	54,044	54,257	54,461	54,573	54,733	54,700	54,712	54,712	13.4%
2018	57,965	53,658	54,003	54,374	54,430	54,374	54,406		54,461	14.6%
2019	53,992	49,147	49,358	49,345	49,217	49,275			49,472	12.0%
2020	49,681	46,761	46,929	46,951	46,937				47,219	8.4%
2021	50,008	45,619	45,689	46,011					46,334	11.5%
2022	45,825	42,677	44,143						44,628	15.4%
2023	44,041	43,730							44,430	14.7%
2024	44,443								41,910	13.8%

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2014						1.008	1.013	
2015					1.003	1.005	1.001	
2016				1.001	1.002	1.002	1.000	
2017			1.004	1.002	1.003	0.999	1.000	
2018		1.006	1.007	1.001	0.999	1.001		
2019	0.910	1.004	1.000	0.997	1.001			
2020	0.941	1.004	1.000	1.000				
2021	0.912	1.002	1.007					
2022	0.931	1.034						
2023	0.993							

5-Yr Avg x H/L	0.928	1.005	1.004	1.001	1.002	1.003	1.001	
Selected	0.928	1.005	1.004	1.001	1.002	1.003	1.001	1.000
Ultimate	0.943	1.016	1.011	1.007	1.006	1.004	1.001	1.000

3-Yr Avg	14.6%
5-Yr Avg	12.8%
10-Yr Avg	12.3%
Selected	12.5%

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

North Carolina - Assigned Risk

Uncollectible Premium Provision

1. Selected Uncollectible Premium Provision	12.5%
2. Expense Components Calculated as a Percentage of Collected Premium	
A. Commission and Brokerage	5.0%
B. Servicing Carrier Allowance	20.01%
C. Total (A + B)	25.01%
3. Uncollectible Premium Provision Adjustment Factor (1.000 - 2C)	0.750
4. Adjusted Uncollectible Premium Provision (1 x 3)	9.4%

North Carolina - Assigned Risk

Factor to Convert Loss Costs to Assigned Risk Rates

For all classification codes, the proposed loss cost multiplier of 2.756 is applied to the advisory loss costs (contained in the Rate Bureau's Loss Costs Reference Filing proposed effective April 1, 2027) in order to convert to assigned risk rates. Please refer to Exhibit I-A, Sheet 1 for more information on the development of this factor.

WORKERS COMPENSATION AND EMPLOYERS LIABILITY

NORTH CAROLINA

Exhibit III

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Effective April 1, 2027

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO
0005	2.582	676	0.756	0.43	2089	2.213	603	0.640	0.43	2881	2.665	693	0.830	0.47
0008	2.282	616	0.667	0.43	2095	2.513	663	0.702	0.40	2883	3.073	775	0.896	0.43
0016	3.941	948	0.987	0.36	2105	3.776	915	1.179	0.47	2915	2.877	735	0.716	0.36
0034	2.996	759	0.838	0.40	2110	3.230	806	0.942	0.43	2916	3.164	793	0.788	0.36
0035	2.604	681	0.739	0.40	2111	2.084	577	0.602	0.43	2923	1.472	454	0.460	0.47
0036	3.872	934	1.122	0.43	2112	3.966	953	1.153	0.43	2960	4.410	1042	1.230	0.40
0037	3.558	872	0.887	0.36	2114	2.108	582	0.659	0.47	3004	1.403	441	0.323	0.33
0042	3.723	905	1.042	0.40	2121	1.392	438	0.436	0.47	3018	2.726	705	0.628	0.33
0050	5.055	1171	1.259	0.36	2130	2.097	579	0.589	0.40	3022	3.569	874	1.037	0.43
0059	—	—	—	—	2131	1.880	536	0.545	0.43	3027	2.152	590	0.533	0.36
0065	—	—	—	—	2143	2.224	605	0.693	0.47	3028	3.123	785	0.778	0.36
0066	—	—	—	—	2157	4.090	978	1.178	0.43	3030	3.839	928	0.955	0.36
0067	—	—	—	—	2172	1.965	553	0.487	0.36	3040	3.839	928	1.071	0.40
0079	2.061	572	0.579	0.40	2174	3.269	814	0.960	0.43	3041	3.343	829	0.933	0.40
0083	4.162	992	1.170	0.40	2211	7.488	1500	1.865	0.36	3042	2.318	624	0.647	0.40
0106	10.081	1500	2.328	0.33	2220	2.734	707	0.766	0.40	3064	2.949	750	0.828	0.40
0113	3.211	802	0.937	0.43	2288	4.330	1026	1.266	0.43	3076	2.299	620	0.667	0.43
0170	2.461	652	0.715	0.43	2302	1.838	528	0.517	0.40	3081	3.269	814	0.912	0.40
0251	4.476	1055	1.258	0.40	2305	2.698	700	0.672	0.36	3082	3.878	936	0.966	0.36
0401	6.636	1487	1.532	0.33	2361	2.053	571	0.581	0.40	3085	4.919	1144	1.385	0.40
0771N	0.408	—	—	—	2362	2.717	703	0.791	0.43	3110	3.238	808	0.907	0.40
0908P	152.000	312	42.542	0.40	2380	2.370	634	0.692	0.43	3111	2.450	650	0.715	0.43
0913P	433.000	593	120.894	0.40	2388	1.224	405	0.383	0.47	3113	1.629	486	0.456	0.40
0917	2.828	726	0.879	0.47	2402	2.141	588	0.534	0.36	3114	2.202	600	0.620	0.40
1005	6.088	1378	1.242	0.31	2413	2.268	614	0.637	0.40	3118	1.731	506	0.541	0.47
1164	3.919	944	0.809	0.31	2416	2.684	697	0.785	0.43	3119	0.689	298	0.226	0.50
1165X	2.957	751	0.609	0.31	2417	1.392	438	0.407	0.43	3122	1.921	544	0.598	0.47
1320	2.100	580	0.480	0.33	2501	2.163	593	0.631	0.43	3126	1.794	519	0.502	0.40
1322	9.759	1500	2.016	0.31	2503	1.078	376	0.316	0.43	3131	1.598	480	0.447	0.40
1430	4.272	1014	1.064	0.36	2570	3.564	873	1.029	0.43	3132	2.147	589	0.628	0.43
1438	3.247	809	0.805	0.36	2585	3.103	781	0.869	0.40	3145	1.769	514	0.497	0.40
1452	1.659	492	0.411	0.36	2586	4.120	984	1.203	0.43	3146	1.802	520	0.507	0.40
1463	7.637	1500	1.581	0.31	2587	3.677	895	1.059	0.43	3169	2.395	639	0.694	0.43
1472	2.869	734	0.713	0.36	2589	2.053	571	0.579	0.40	3179	1.623	485	0.468	0.43
1624	2.784	717	0.637	0.33	2600	3.878	936	1.120	0.43	3180	1.822	524	0.530	0.43
1642	3.233	807	0.801	0.36	2623	4.851	1130	1.213	0.36	3188	1.441	448	0.404	0.40
1654	6.455	1451	1.595	0.36	2651	1.436	447	0.417	0.43	3220	1.632	486	0.454	0.40
1699	3.313	823	0.825	0.36	2660	1.816	523	0.569	0.47	3224	2.913	743	0.905	0.47
1701	2.778	716	0.637	0.33	2688	1.971	554	0.574	0.43	3227	3.492	858	1.013	0.43
1710	5.214	1203	1.291	0.36	2702	19.568	1500	4.051	0.31	3241	3.070	774	0.890	0.43
1747	2.682	696	0.661	0.36	2705X*	54.012	1500	12.367	0.33	3255	2.307	621	0.717	0.47
1748	3.850	930	0.967	0.36	2709	6.620	1484	1.510	0.33	3257	2.916	743	0.848	0.43
1803	4.751	1110	1.183	0.36	2710	5.027	1165	1.250	0.36	3270	1.811	522	0.526	0.43
1924	3.109	782	0.900	0.43	2714	4.286	1017	1.263	0.43	3300	3.561	872	1.115	0.47
1925	3.282	816	0.920	0.40	2727X	10.145	1500	2.321	0.33	3303	2.618	684	0.762	0.43
2002	3.682	896	1.065	0.43	2731	4.454	1051	1.292	0.43	3307	2.491	658	0.699	0.40
2003	3.470	854	0.967	0.40	2735	4.693	1099	1.373	0.43	3315	3.078	776	0.893	0.43
2014	4.517	1063	1.122	0.36	2759	5.471	1254	1.600	0.43	3334	3.828	926	1.057	0.40
2016	2.673	695	0.769	0.43	2790	1.860	532	0.582	0.47	3336	2.004	561	0.560	0.40
2021	2.745	709	0.767	0.40	2797	3.842	928	1.207	0.47	3365	5.597	1279	1.279	0.33
2039	3.158	792	0.915	0.43	2799	6.884	1500	1.927	0.40	3372	2.745	709	0.769	0.40
2041	2.480	656	0.718	0.43	2802	3.682	896	1.030	0.40	3373	4.368	1034	1.268	0.43
2065	2.004	561	0.558	0.40	2835	2.271	614	0.710	0.47	3383	1.406	441	0.407	0.43
2070	5.755	1311	1.592	0.40	2836	2.491	658	0.777	0.47	3385	1.031	366	0.301	0.43
2081	3.015	763	0.942	0.47	2841	3.158	792	0.922	0.43	3400	2.894	739	0.844	0.43

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

WORKERS COMPENSATION AND EMPLOYERS LIABILITY

NORTH CAROLINA

Exhibit III

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Effective April 1, 2027

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO
3507	2.152	590	0.600	0.40	4244	2.354	631	0.584	0.36	5102	5.589	1278	1.281	0.33
3515	1.626	485	0.457	0.40	4250	1.946	549	0.544	0.40	5146	4.693	1099	1.164	0.36
3548	1.458	452	0.424	0.43	4251	2.494	659	0.725	0.43	5160	2.263	613	0.466	0.31
3559	1.794	519	0.502	0.40	4263	3.329	826	0.928	0.40	5183	3.236	807	0.739	0.33
3574	0.915	343	0.266	0.43	4273	2.522	664	0.706	0.40	5188	4.476	1055	1.026	0.33
3581	0.943	349	0.273	0.43	4279	3.172	794	0.790	0.36	5190	3.266	813	0.749	0.33
3612	1.745	509	0.488	0.40	4283	1.852	530	0.539	0.43	5191	0.973	355	0.241	0.36
3620	2.775	715	0.693	0.36	4299	1.632	486	0.456	0.40	5192	3.338	828	0.930	0.40
3629	1.395	439	0.391	0.40	4304	3.869	934	1.086	0.40	5213	5.024	1165	1.043	0.31
3632	2.015	563	0.564	0.40	4307	1.425	445	0.446	0.47	5215	4.600	1080	1.136	0.36
3634	1.667	493	0.467	0.40	4351	1.284	417	0.370	0.43	5221	3.721	904	0.849	0.33
3635	1.568	474	0.440	0.40	4352	1.287	417	0.374	0.43	5222	6.860	1500	1.414	0.31
3638	1.863	533	0.541	0.43	4361	0.755	311	0.219	0.43	5223	3.481	856	0.862	0.36
3642	1.210	402	0.353	0.43	4410	2.637	687	0.764	0.43	5348	3.759	912	0.933	0.36
3643	1.659	492	0.411	0.36	4420	3.371	834	0.769	0.33	5402	6.143	1389	1.794	0.43
3647	2.412	642	0.667	0.40	4431	1.632	486	0.512	0.47	5403	4.729	1106	1.083	0.33
3648	1.199	400	0.374	0.47	4432	1.538	468	0.480	0.47	5437	5.115	1183	1.169	0.33
3681	0.601	280	0.175	0.43	4452	2.321	624	0.650	0.40	5443	3.740	908	1.045	0.40
3685	0.890	338	0.259	0.43	4459	2.886	737	0.717	0.36	5445	8.475	1500	1.756	0.31
3719	1.257	411	0.259	0.31	4470	2.436	647	0.681	0.40	5462	5.694	1299	1.409	0.36
3724	3.765	913	0.780	0.31	4484	2.213	603	0.642	0.43	5472	6.391	1438	1.326	0.31
3726	3.051	770	0.629	0.31	4493	1.852	530	0.519	0.40	5473	10.241	1500	2.124	0.31
3803	2.897	739	0.842	0.43	4511	0.422	244	0.118	0.40	5474	7.160	1500	1.493	0.31
3807	1.852	530	0.537	0.43	4557	2.549	670	0.634	0.36	5478	2.673	695	0.607	0.33
3808	7.449	1500	2.072	0.40	4558	2.015	563	0.560	0.40	5479	5.909	1342	1.473	0.36
3821	5.501	1260	1.365	0.36	4568	2.472	654	0.614	0.36	5480	5.471	1254	1.246	0.33
3822X	4.459	1052	1.296	0.43	4581	0.783	317	0.179	0.33	5491	2.447	649	0.559	0.33
3824X	3.591	878	1.045	0.43	4583	3.963	953	0.913	0.33	5506	4.545	1069	1.037	0.33
3826	0.841	328	0.233	0.40	4611	0.932	346	0.269	0.43	5507	4.399	1040	1.005	0.33
3827	2.420	644	0.696	0.43	4635	3.189	798	0.732	0.33	5535	7.926	1500	1.653	0.31
3830	1.378	436	0.385	0.40	4653	2.767	713	0.801	0.43	5537	3.707	901	0.919	0.36
3851	1.698	500	0.495	0.43	4665	8.585	1500	2.131	0.36	5551	17.465	1500	3.640	0.31
3865	2.541	668	0.789	0.47	4683	4.206	1001	1.170	0.40	5606	0.932	346	0.193	0.31
3881	3.387	837	0.944	0.40	4686	2.020	564	0.502	0.36	5610	4.939	1148	1.230	0.36
4000	4.983	1157	1.136	0.33	4692	0.606	281	0.176	0.43	5645	15.406	1500	3.211	0.31
4021	3.801	920	1.067	0.40	4693	1.039	368	0.300	0.43	5703	14.654	1500	3.689	0.36
4024	3.900	940	0.966	0.36	4703	1.833	527	0.510	0.40	5705	15.941	1500	3.983	0.36
4034	6.501	1460	1.621	0.36	4717	1.995	559	0.622	0.47	5951	0.573	275	0.167	0.43
4036	2.009	562	0.500	0.36	4720	2.191	598	0.613	0.40	6003	6.259	1412	1.443	0.33
4038	2.356	631	0.735	0.47	4740	1.488	458	0.310	0.31	6005	5.300	1220	1.323	0.36
4062	1.943	549	0.544	0.40	4741	2.695	699	0.752	0.40	6018	3.015	763	0.741	0.36
4101	2.971	754	0.833	0.40	4751	4.255	1011	1.068	0.36	6045	4.192	998	1.035	0.36
4109	0.535	267	0.154	0.43	4771N	2.304	702	0.526	0.33	6204	6.231	1406	1.418	0.33
4110	0.664	293	0.192	0.43	4777	3.817	923	0.878	0.33	6206	3.106	781	0.640	0.31
4111	2.434	647	0.700	0.43	4825	0.843	329	0.209	0.36	6213	2.398	640	0.495	0.31
4114	2.615	683	0.728	0.40	4828	1.789	518	0.409	0.33	6214	1.395	439	0.319	0.33
4130	3.362	832	0.977	0.43	4829	1.232	406	0.282	0.33	6216	8.224	1500	1.713	0.31
4131	7.640	1500	2.232	0.43	4902	1.995	559	0.582	0.43	6217	4.663	1093	0.969	0.31
4133	2.356	631	0.741	0.47	4923	1.221	404	0.343	0.40	6229	3.191	798	0.792	0.36
4149	0.841	328	0.263	0.47	5020	5.360	1232	1.222	0.33	6233	1.965	553	0.404	0.31
4206	2.464	653	0.712	0.43	5022	7.080	1500	1.473	0.31	6235	5.509	1262	1.131	0.31
4207	2.321	624	0.528	0.33	5037	7.232	1500	1.488	0.31	6236	5.165	1193	1.277	0.36
4239	2.775	715	0.636	0.33	5040	7.813	1500	1.617	0.31	6237	1.711	502	0.389	0.33
4240	2.161	592	0.678	0.47	5057	3.938	948	0.815	0.31	6251	5.675	1295	1.294	0.33
4243	1.957	551	0.548	0.40	5059	11.843	1500	2.458	0.31	6252	3.307	821	0.681	0.31

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

WORKERS COMPENSATION AND EMPLOYERS LIABILITY

Exhibit III

NORTH CAROLINA

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Effective April 1, 2027

APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO
6306	4.432	1046	1.018	0.33	7395M	8.196	1500	1.660	0.31	8111	1.965	553	0.550	0.40
6319	3.371	834	0.701	0.31	7398M	11.501	1500	2.258	0.31	8116	2.103	581	0.588	0.40
6325	3.492	858	0.726	0.31	7402	0.130	186	0.037	0.43	8203	6.019	1364	1.675	0.40
6400	3.616	883	0.898	0.36	7403	5.311	1222	1.528	0.43	8204	3.856	931	1.083	0.40
6503	2.210	602	0.640	0.43	7405N	1.568	578	0.449	0.43	8209	3.588	878	1.039	0.43
6504	3.343	829	0.974	0.43	7420	9.037	1500	1.851	0.31	8215	3.321	824	0.829	0.36
6702M*	4.506	1061	1.115	0.36	7421	0.637	287	0.158	0.36	8227	3.613	883	0.827	0.33
6703M*	7.025	1500	1.685	0.36	7422	1.265	413	0.289	0.33	8232	5.231	1206	1.299	0.36
6704M*	5.008	1162	1.239	0.36	7425	2.985	757	0.671	0.33	8233	3.864	933	0.945	0.36
6801F	6.703	1500	1.360	0.34	7431N	0.918	405	0.207	0.33	8235	3.944	949	1.103	0.40
6811	3.982	956	0.994	0.36	7445N	0.524	—	—	—	8236X	5.540	1268	1.269	0.33
6824F	6.995	1500	1.420	0.34	7453N	0.306	—	—	—	8263	5.595	1279	1.562	0.40
6826F	5.038	1168	1.023	0.34	7502	2.475	655	0.613	0.36	8264	4.550	1070	1.133	0.36
6834	2.720	704	0.789	0.43	7515	1.105	381	0.229	0.31	8265	5.096	1179	1.170	0.33
6836	2.563	673	0.719	0.40	7520	2.500	660	0.697	0.40	8279	5.815	1323	1.341	0.33
6843F	8.158	1500	1.437	0.29	7529X	10.892	1500	2.253	0.31	8288	5.815	1323	1.640	0.40
6845F	7.714	1500	1.359	0.29	7538	2.866	733	0.595	0.31	8291X	3.773	915	1.058	0.40
6854	5.049	1170	1.155	0.33	7539	1.521	464	0.348	0.33	8292X	3.153	791	0.913	0.43
6872F	8.552	1500	1.506	0.29	7540	4.002	960	0.831	0.31	8293X	6.587	1477	1.906	0.43
6874F	14.378	1500	2.533	0.29	7580	2.712	702	0.675	0.36	8304	5.038	1168	1.155	0.33
6882	2.836	727	0.651	0.33	7590	4.051	970	1.002	0.36	8350	7.375	1500	1.684	0.33
6884	3.101	780	0.703	0.33	7600	4.746	1109	1.171	0.36	8380	1.899	540	0.530	0.40
7016M	4.156	991	0.853	0.31	7605	2.615	683	0.597	0.33	8381	1.880	536	0.530	0.40
7024M	4.619	1084	0.948	0.31	7610	0.692	298	0.171	0.36	8385	2.649	690	0.740	0.40
7038M	7.405	1500	1.581	0.31	7705	5.906	1341	1.647	0.40	8392	2.089	578	0.653	0.47
7046M	6.253	1411	1.302	0.31	7710	5.071	1174	1.164	0.33	8393	1.637	487	0.404	0.36
7047M	6.479	1456	1.289	0.31	7711	5.071	1174	1.164	0.33	8500	4.696	1099	1.178	0.36
7050M	11.542	1500	2.390	0.31	7720X	3.456	851	0.864	0.36	8601	0.298	220	0.068	0.33
7090M	8.227	1500	1.757	0.31	7723X	2.141	588	0.491	0.33	8602	1.530	466	0.382	0.36
7098M	6.948	1500	1.446	0.31	7855	3.710	902	0.918	0.36	8603	0.088	178	0.026	0.43
7099M	9.748	1500	1.967	0.31	8001	2.249	610	0.657	0.43	8606	1.056	371	0.242	0.33
7133	3.346	829	0.768	0.33	8002	1.962	552	0.574	0.43	8709F	4.851	1130	0.854	0.29
7151M	4.065	973	0.933	0.33	8006	1.858	532	0.579	0.47	8719	1.623	485	0.373	0.33
7152M	6.336	1427	1.410	0.33	8008	1.155	391	0.362	0.47	8720	0.918	344	0.210	0.33
7153M	4.517	1063	1.037	0.33	8010	1.645	489	0.479	0.43	8721	0.207	201	0.052	0.36
7219	9.379	1500	2.129	0.33	8013	0.300	220	0.084	0.40	8723	0.074	175	0.021	0.40
7222X	8.621	1500	1.957	0.33	8015	0.882	336	0.248	0.40	8725	2.290	618	0.576	0.36
7225	8.296	1500	2.042	0.36	8017	1.447	449	0.453	0.47	8726F	2.693	699	0.546	0.34
7230X	9.304	1500	2.581	0.40	8018	3.597	879	1.035	0.43	8734M	0.306	221	0.076	0.36
7231	8.626	1500	2.393	0.40	8021	2.274	615	0.659	0.43	8737M	0.276	215	0.069	0.36
7232X	10.553	1500	2.386	0.33	8031	1.623	485	0.473	0.43	8738M	0.427	245	0.103	0.36
7309F	8.552	1500	1.506	0.29	8032	2.034	567	0.590	0.43	8742	0.226	205	0.056	0.36
7313F	5.096	1179	0.898	0.29	8033	1.833	527	0.572	0.47	8745	4.195	999	1.180	0.40
7317F	6.951	1500	1.224	0.29	8037	1.654	491	0.539	0.50	8748	0.394	239	0.090	0.33
7327F	14.915	1500	2.627	0.29	8039	2.009	562	0.629	0.47	8755	0.287	217	0.071	0.36
7333M	2.795	719	0.575	0.31	8044	2.406	641	0.699	0.43	8799	0.532	266	0.155	0.43
7335M	3.106	781	0.639	0.31	8045	0.791	318	0.230	0.43	8800	2.070	574	0.600	0.43
7337M	4.357	1031	0.869	0.31	8046	2.332	626	0.679	0.43	8803	0.039	168	0.009	0.36
7350F	9.321	1500	1.773	0.31	8047	0.954	351	0.277	0.43	8805M	0.149	190	0.043	0.43
7360	4.917	1143	1.217	0.36	8058	2.257	611	0.658	0.43	8810	0.110	182	0.032	0.43
7370	5.708	1302	1.649	0.43	8072	0.672	294	0.213	0.47	8814M	0.135	187	0.039	0.43
7380	6.240	1408	1.538	0.36	8102	1.960	552	0.571	0.43	8815M	0.209	202	0.059	0.43
7382	6.182	1396	1.722	0.40	8103	2.321	624	0.649	0.40	8820	0.096	179	0.024	0.36
7390	4.757	1111	1.379	0.43	8106	3.619	884	0.899	0.36	8824	2.144	589	0.700	0.50
7394M	7.378	1500	1.494	0.31	8107	2.764	713	0.634	0.33	8826	2.188	598	0.686	0.47

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

WORKERS COMPENSATION AND EMPLOYERS LIABILITY

Exhibit III

NORTH CAROLINA

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO
8831	1.248	410	0.417	0.50	9600	1.982	556	0.578	0.43					
8832	0.311	222	0.090	0.43	9620	1.667	493	0.416	0.36					
8833	0.948	350	0.274	0.43										
8835	1.979	556	0.571	0.43										
8842X	2.039	568	0.668	0.50										
8855	0.074	175	0.022	0.43										
8856	0.507	261	0.147	0.43										
8864X	0.962	352	0.301	0.47										
8868	0.515	263	0.162	0.47										
8869	1.119	384	0.351	0.47										
8871	0.030	166	0.009	0.43										
8901	0.176	195	0.043	0.36										
9012	0.918	344	0.228	0.36										
9014	2.365	633	0.686	0.43										
9015	2.960	752	0.827	0.40										
9016	1.932	546	0.566	0.43										
9019	3.467	853	0.865	0.36										
9033	1.863	533	0.518	0.40										
9040	2.552	670	0.797	0.47										
9044	1.262	412	0.394	0.47										
9052	1.543	469	0.482	0.47										
9058	1.367	433	0.448	0.50										
9060	1.372	434	0.431	0.47										
9061	1.050	370	0.327	0.47										
9062	1.152	390	0.360	0.47										
9063	0.670	294	0.211	0.47										
9077F	6.716	1500	1.541	0.41										
9082	1.100	380	0.362	0.50										
9083	1.224	405	0.402	0.50										
9084	1.199	400	0.373	0.47										
9089	0.907	341	0.284	0.47										
9093	1.193	399	0.373	0.47										
9101	2.957	751	0.929	0.47										
9102	2.745	709	0.769	0.40										
9154	1.714	503	0.499	0.43										
9156	2.221	604	0.693	0.47										
9170	8.825	1500	2.025	0.33										
9178	6.245	1409	2.126	0.50										
9179	19.328	1500	6.325	0.50										
9180	3.842	928	1.088	0.40										
9182	2.166	593	0.642	0.43										
9186	7.507	1500	1.748	0.33										
9220	4.211	1002	1.177	0.40										
9402	5.746	1309	1.310	0.33										
9403	8.477	1500	1.934	0.33										
9410	2.276	615	0.663	0.43										
9501	2.905	741	0.723	0.36										
9505	3.186	797	0.896	0.40										
9516	2.524	665	0.702	0.40										
9519	5.032	1166	1.242	0.36										
9521	2.762	712	0.685	0.36										
9522	2.067	573	0.641	0.47										
9534	5.330	1226	1.103	0.31										
9554	8.353	1500	1.919	0.33										
9586	0.416	243	0.129	0.47										

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

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY**FOOTNOTES**

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

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

- P Classification is computed on a per capita basis.
- X Refer to special classification phraseology in these pages which is applicable in this state.

*** Class Codes with Specific Footnotes**

- 2705 An upset payroll of \$4.00 per cord shall be used for premium computation purposes in all instances.
- 6702 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection code rate and elr each x 1.215.
- 6703 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class rate x 1.894 and elr x 1.836.
- 6704 Rate and rating values only appropriate for laying or relaying of tracks or maintenance of way - no work on elevated railroads. Otherwise, assign appropriate construction or erection class rate and elr each x 1.35.

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY

MISCELLANEOUS VALUES

Basis of premium applicable in accordance with **Basic Manual** footnote instructions for Code 7370 --

"Taxicab Co.":

Employee operated vehicle.....	\$102,600
Leased or rented vehicle.....	\$68,400

Catastrophe (other than Certified Acts of Terrorism) - (Assigned Risk)..... \$0.010**Expense Constant** applicable in accordance with **Basic Manual** Rule 3-A-10..... \$160**Loss Sensitive Rating Plan (LSRP)** - The factors which are used in the calculation of the LSRP are as follows:

Basic Premium Factor	0.40
Minimum Premium Factor	0.75
Maximum Premium Factor	1.75
Loss Conversion Factor	1.205
Tax Multiplier	1.027

Loss Development Factors	
1st Adjustment	0.14
2nd Adjustment	0.07
3rd Adjustment	0.04
4th Adjustment	0.03

Maximum Minimum Premium..... \$1,500**Maximum Weekly Payroll** applicable in accordance with **Basic Manual** Rule 2-E-1 -- "Executive Officers" and the **Basic Manual** footnote instructions for Code 9178 -- "Athletic Sports or Park: Non-Contact Sports," and Code 9179 -- "Athletic Sports or Park: Contact Sports".....

\$2,600

Minimum Premium Multiplier..... 200**Minimum Weekly Payroll** applicable in accordance with **Basic Manual** Rule 2-E-1 -- "Executive Officers" \$1,300**Premium Determination for Partners and Sole Proprietors** in accordance with **Basic Manual**

Rule 2-E-3 (Annual Payroll)..... \$68,400

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

Deductible Amount	Total Losses						
	HAZARD GROUP						
	A	B	C	D	E	F	G
\$100	0.7%	0.6%	0.4%	0.4%	0.2%	0.1%	0.1%
\$200	1.4%	1.2%	0.8%	0.7%	0.4%	0.3%	0.2%
\$300	2.0%	1.6%	1.2%	0.9%	0.7%	0.4%	0.3%
\$400	2.5%	2.0%	1.4%	1.2%	0.8%	0.6%	0.4%
\$500	3.0%	2.3%	1.7%	1.4%	1.0%	0.7%	0.5%
\$1,000	4.8%	3.8%	2.8%	2.4%	1.7%	1.2%	0.9%
\$1,500	6.2%	4.8%	3.7%	3.1%	2.3%	1.7%	1.2%
\$2,000	7.3%	5.8%	4.5%	3.8%	2.8%	2.0%	1.5%
\$2,500	8.3%	6.6%	5.1%	4.4%	3.3%	2.4%	1.9%
\$5,000	12.1%	9.8%	7.9%	6.9%	5.3%	4.0%	3.2%

Terrorism - (Assigned Risk)..... \$0.010

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY

MISCELLANEOUS VALUES (cont.)

United States Longshore and Harbor Workers' Compensation Coverage Percentage applicable
only in connection with **Basic Manual** Rule 3-A-4.....

56%

(Multiply a Non-F classification rate by a factor of 1.56 to adjust for differences in benefits and loss-based expenses. This factor is the product of the adjustment for differences in benefits (1.50) and the adjustment for differences in loss-based expenses (1.042).)

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.

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**TABLE OF WEIGHTING VALUES
APPLICABLE TO ALL POLICIES**

Expected Losses			Weighting Values	Expected Losses			Weighting Values
0	--	2,693	0.14	1,518,383	--	1,594,757	0.49
2,694	--	7,587	0.15	1,594,758	--	1,675,240	0.50
7,588	--	12,598	0.16	1,675,241	--	1,760,173	0.51
12,599	--	17,732	0.17	1,760,174	--	1,849,933	0.52
17,733	--	19,523	0.18	1,849,934	--	1,944,950	0.53
19,524	--	22,080	0.17	1,944,951	--	2,045,697	0.54
22,081	--	25,574	0.16	2,045,698	--	2,152,709	0.55
25,575	--	30,831	0.15	2,152,710	--	2,266,591	0.56
30,832	--	40,835	0.14	2,266,592	--	2,388,027	0.57
40,836	--	93,838	0.13	2,388,028	--	2,517,795	0.58
93,839	--	126,099	0.14	2,517,796	--	2,656,783	0.59
126,100	--	154,272	0.15	2,656,784	--	2,806,012	0.60
154,273	--	181,372	0.16	2,806,013	--	2,966,657	0.61
181,373	--	208,255	0.17	2,966,658	--	3,140,081	0.62
208,256	--	235,314	0.18	3,140,082	--	3,327,872	0.63
235,315	--	262,771	0.19	3,327,873	--	3,531,893	0.64
262,772	--	290,777	0.20	3,531,894	--	3,754,346	0.65
290,778	--	319,444	0.21	3,754,347	--	3,997,846	0.66
319,445	--	348,860	0.22	3,997,847	--	4,265,528	0.67
348,861	--	379,109	0.23	4,265,529	--	4,561,186	0.68
379,110	--	408,937	0.24	4,561,187	--	4,889,445	0.69
408,938	--	438,250	0.25	4,889,446	--	5,256,017	0.70
438,251	--	468,486	0.26	5,256,018	--	5,668,023	0.71
468,487	--	499,696	0.27	5,668,024	--	6,134,470	0.72
499,697	--	531,933	0.28	6,134,471	--	6,666,912	0.73
531,934	--	565,255	0.29	6,666,913	--	7,280,423	0.74
565,256	--	599,720	0.30	7,280,424	--	7,995,045	0.75
599,721	--	635,395	0.31	7,995,046	--	8,838,021	0.76
635,396	--	672,345	0.32	8,838,022	--	9,847,344	0.77
672,346	--	710,644	0.33	9,847,345	--	11,077,644	0.78
710,645	--	750,369	0.34	11,077,645	--	12,610,415	0.79
750,370	--	791,606	0.35	12,610,416	--	14,572,839	0.80
791,607	--	834,443	0.36	14,572,840	--	17,175,017	0.81
834,444	--	878,976	0.37	17,175,018	--	20,790,722	0.82
878,977	--	925,312	0.38	20,790,723	--	26,155,310	0.83
925,313	--	973,563	0.39	26,155,311	--	34,942,429	0.84
973,564	--	1,023,853	0.40	34,942,430	--	51,961,587	0.85
1,023,854	--	1,076,314	0.41	51,961,588	--	98,974,257	0.86
1,076,315	--	1,131,091	0.42	98,974,258	--	843,220,758	0.87
1,131,092	--	1,188,343	0.43	843,220,759	--	AND OVER	0.88
1,188,344	--	1,248,242	0.44				
1,248,243	--	1,310,978	0.45				
1,310,979	--	1,376,757	0.46				
1,376,758	--	1,445,809	0.47				
1,445,810	--	1,518,382	0.48				

(a) G	12.45
(b) State Per Claim Accident Limitation	\$202,000
(c) State Multiple Claim Accident Limitation	\$404,000
(d) USL&HW Per Claim Accident Limitation	\$257,000
(e) USL&HW Multiple Claim Accident Limitation	\$514,000
(f) Employers Liability Accident Limitation	\$55,000
(g) Primary/Excess Loss Split Point	\$26,500
(h) USL&HW Act—Expected Loss Factor—Non-F Classes	1.50
<i>(Multiply a Non-F classification ELR by the USL&HW Act—Expected Loss Factor of 1.50.)</i>	

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**TABLE OF BALLAST VALUES
APPLICABLE TO ALL POLICIES**

Expected Losses				Expected Losses				Expected Losses			
Ballast Values				Ballast Values				Ballast Values			
0	--	449,233	57,270	4,219,369	--	4,330,499	275,145	8,109,452	--	8,220,604	493,020
449,234	--	558,376	63,495	4,330,500	--	4,441,632	281,370	8,220,605	--	8,331,757	499,245
558,377	--	668,165	69,720	4,441,633	--	4,552,767	287,595	8,331,758	--	8,442,910	505,470
668,166	--	778,334	75,945	4,552,768	--	4,663,903	293,820	8,442,911	--	8,554,063	511,695
778,335	--	888,746	82,170	4,663,904	--	4,775,040	300,045	8,554,064	--	8,665,217	517,920
888,747	--	999,321	88,395	4,775,041	--	4,886,178	306,270	8,665,218	--	8,776,370	524,145
999,322	--	1,110,012	94,620	4,886,179	--	4,997,317	312,495	8,776,371	--	8,887,524	530,370
1,110,013	--	1,220,787	100,845	4,997,318	--	5,108,457	318,720	8,887,525	--	8,998,678	536,595
1,220,788	--	1,331,626	107,070	5,108,458	--	5,219,598	324,945	8,998,679	--	9,109,833	542,820
1,331,627	--	1,442,514	113,295	5,219,599	--	5,330,739	331,170	9,109,834	--	9,220,987	549,045
1,442,515	--	1,553,441	119,520	5,330,740	--	5,441,882	337,395	9,220,988	--	9,332,142	555,270
1,553,442	--	1,664,398	125,745	5,441,883	--	5,553,025	343,620	9,332,143	--	9,443,296	561,495
1,664,399	--	1,775,381	131,970	5,553,026	--	5,664,169	349,845	9,443,297	--	9,554,451	567,720
1,775,382	--	1,886,385	138,195	5,664,170	--	5,775,313	356,070	9,554,452	--	9,665,606	573,945
1,886,386	--	1,997,406	144,420	5,775,314	--	5,886,459	362,295	9,665,607	--	9,776,761	580,170
1,997,407	--	2,108,441	150,645	5,886,460	--	5,997,604	368,520	9,776,762	--	9,887,917	586,395
2,108,442	--	2,219,490	156,870	5,997,605	--	6,108,751	374,745	9,887,918	--	9,999,072	592,620
2,219,491	--	2,330,548	163,095	6,108,752	--	6,219,897	380,970	9,999,073	--	10,110,227	598,845
2,330,549	--	2,441,616	169,320	6,219,898	--	6,331,045	387,195	10,110,228	--	10,221,383	605,070
2,441,617	--	2,552,693	175,545	6,331,046	--	6,442,192	393,420	10,221,384	--	10,332,539	611,295
2,552,694	--	2,663,776	181,770	6,442,193	--	6,553,340	399,645	10,332,540	--	10,443,694	617,520
2,663,777	--	2,774,865	187,995	6,553,341	--	6,664,489	405,870	10,443,695	--	10,554,850	623,745
2,774,866	--	2,885,960	194,220	6,664,490	--	6,775,638	412,095	10,554,851	--	10,666,006	629,970
2,885,961	--	2,997,059	200,445	6,775,639	--	6,886,787	418,320	10,666,007	--	10,777,162	636,195
2,997,060	--	3,108,163	206,670	6,886,788	--	6,997,937	424,545	10,777,163	--	10,888,319	642,420
3,108,164	--	3,219,271	212,895	6,997,938	--	7,109,087	430,770	10,888,320	--	10,998,330	648,645
3,219,272	--	3,330,383	219,120	7,109,088	--	7,220,238	436,995				
3,330,384	--	3,441,497	225,345	7,220,239	--	7,331,388	443,220				
3,441,498	--	3,552,615	231,570	7,331,389	--	7,442,539	449,445				
3,552,616	--	3,663,735	237,795	7,442,540	--	7,553,691	455,670				
3,663,736	--	3,774,857	244,020	7,553,692	--	7,664,842	461,895				
3,774,858	--	3,885,982	250,245	7,664,843	--	7,775,994	468,120				
3,885,983	--	3,997,109	256,470	7,775,995	--	7,887,146	474,345				
3,997,110	--	4,108,237	262,695	7,887,147	--	7,998,298	480,570				
4,108,238	--	4,219,368	268,920	7,998,299	--	8,109,451	486,795				

For Expected Losses greater than \$10,998,330, the Ballast Value can be calculated using the following formula (rounded to the nearest 1):

$$\text{Ballast} = (0.056)(\text{Expected Losses}) + 2876.4(\text{Expected Losses})(12.45) / (\text{Expected Losses} + (600)(12.45))$$

$$G = 12.45$$

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
0005	3.096	2.582	-16.6%
0008	2.542	2.282	-10.2%
0016	4.338	3.941	-9.2%
0034	4.039	2.996	-25.8%
0035	2.907	2.604	-10.4%
0036	4.663	3.872	-17.0%
0037	4.045	3.558	-12.0%
0042	4.637	3.723	-19.7%
0050	6.302	5.055	-19.8%
0079	2.467	2.061	-16.5%
0083	4.773	4.162	-12.8%
0106	12.394	10.081	-18.7%
0113	3.982	3.211	-19.4%
0170	2.720	2.461	-9.5%
0251	5.293	4.476	-15.4%
0401	8.110	6.636	-18.2%
0771	0.489	0.408	-16.6%
0908	184.000	152.000	-17.4%
0913	474.000	433.000	-8.6%
0917	3.669	2.828	-22.9%
1005	7.521	6.088	-19.1%
1164	4.614	3.919	-15.1%
1165	3.611	2.957	-18.1%
1320	2.268	2.100	-7.4%
1322	11.086	9.759	-12.0%
1430	5.652	4.272	-24.4%
1438	3.827	3.247	-15.2%
1452	2.142	1.659	-22.5%
1463	8.660	7.637	-11.8%
1472	3.361	2.869	-14.6%
1624	3.206	2.784	-13.2%
1642	3.579	3.233	-9.7%
1654	8.050	6.455	-19.8%
1699	3.424	3.313	-3.2%
1701	3.010	2.778	-7.7%
1710	5.644	5.214	-7.6%
1747	3.229	2.682	-16.9%
1748	4.689	3.850	-17.9%
1803	6.124	4.751	-22.4%
1924	3.482	3.109	-10.7%
1925	3.993	3.282	-17.8%
2002	4.413	3.682	-16.6%
2003	3.913	3.470	-11.3%
2014	5.460	4.517	-17.3%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
2016	3.200	2.673	-16.5%
2021	3.416	2.745	-19.6%
2039	3.306	3.158	-4.5%
2041	2.800	2.480	-11.4%
2065	2.343	2.004	-14.5%
2070	6.207	5.755	-7.3%
2081	3.844	3.015	-21.6%
2089	2.708	2.213	-18.3%
2095	3.076	2.513	-18.3%
2105	4.448	3.776	-15.1%
2110	3.942	3.230	-18.1%
2111	2.317	2.084	-10.1%
2112	4.893	3.966	-18.9%
2114	2.337	2.108	-9.8%
2121	1.639	1.392	-15.1%
2130	2.406	2.097	-12.8%
2131	1.872	1.880	0.4%
2143	2.757	2.224	-19.3%
2157	4.531	4.090	-9.7%
2172	2.225	1.965	-11.7%
2174	3.838	3.269	-14.8%
2211	8.223	7.488	-8.9%
2220	3.128	2.734	-12.6%
2288	5.109	4.330	-15.2%
2302	2.309	1.838	-20.4%
2305	3.128	2.698	-13.7%
2361	2.329	2.053	-11.9%
2362	3.151	2.717	-13.8%
2380	2.602	2.370	-8.9%
2388	1.415	1.224	-13.5%
2402	2.498	2.141	-14.3%
2413	2.657	2.268	-14.6%
2416	2.990	2.684	-10.2%
2417	1.716	1.392	-18.9%
2501	2.622	2.163	-17.5%
2503	1.305	1.078	-17.4%
2570	4.160	3.564	-14.3%
2585	3.516	3.103	-11.7%
2586	4.793	4.120	-14.0%
2587	3.654	3.677	0.6%
2589	2.240	2.053	-8.3%
2600	4.747	3.878	-18.3%
2623	5.848	4.851	-17.0%
2651	1.587	1.436	-9.5%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
2660	2.358	1.816	-23.0%
2688	2.352	1.971	-16.2%
2702	23.302	19.568	-16.0%
2705	63.980	54.012	-15.6%
2709	8.110	6.620	-18.4%
2710	6.515	5.027	-22.8%
2714	4.962	4.286	-13.6%
2727	11.609	10.145	-12.6%
2731	5.063	4.454	-12.0%
2735	5.304	4.693	-11.5%
2759	6.210	5.471	-11.9%
2790	2.099	1.860	-11.4%
2797	4.491	3.842	-14.5%
2799	8.783	6.884	-21.6%
2802	4.589	3.682	-19.8%
2835	2.619	2.271	-13.3%
2836	2.907	2.491	-14.3%
2841	3.648	3.158	-13.4%
2881	3.065	2.665	-13.1%
2883	3.723	3.073	-17.5%
2915	3.292	2.877	-12.6%
2916	3.709	3.164	-14.7%
2923	1.794	1.472	-17.9%
2960	5.063	4.410	-12.9%
3004	1.826	1.403	-23.2%
3018	3.482	2.726	-21.7%
3022	4.485	3.569	-20.4%
3027	2.559	2.152	-15.9%
3028	3.634	3.123	-14.1%
3030	4.798	3.839	-20.0%
3040	4.517	3.839	-15.0%
3041	3.901	3.343	-14.3%
3042	3.030	2.318	-23.5%
3064	3.502	2.949	-15.8%
3076	2.705	2.299	-15.0%
3081	3.878	3.269	-15.7%
3082	4.591	3.878	-15.5%
3085	5.626	4.919	-12.6%
3110	3.623	3.238	-10.6%
3111	2.979	2.450	-17.8%
3113	1.938	1.629	-15.9%
3114	2.645	2.202	-16.7%
3118	2.001	1.731	-13.5%
3119	0.771	0.689	-10.6%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
3122	2.473	1.921	-22.3%
3126	1.935	1.794	-7.3%
3131	1.688	1.598	-5.3%
3132	2.363	2.147	-9.1%
3145	2.018	1.769	-12.3%
3146	2.107	1.802	-14.5%
3169	2.616	2.395	-8.4%
3179	1.935	1.623	-16.1%
3180	2.199	1.822	-17.1%
3188	1.653	1.441	-12.8%
3220	2.099	1.632	-22.2%
3224	3.536	2.913	-17.6%
3227	4.039	3.492	-13.5%
3241	3.717	3.070	-17.4%
3255	2.728	2.307	-15.4%
3257	3.499	2.916	-16.7%
3270	2.274	1.811	-20.4%
3300	4.384	3.561	-18.8%
3303	3.016	2.618	-13.2%
3307	2.743	2.491	-9.2%
3315	3.562	3.078	-13.6%
3334	4.612	3.828	-17.0%
3336	2.622	2.004	-23.6%
3365	6.866	5.597	-18.5%
3372	3.122	2.745	-12.1%
3373	4.482	4.368	-2.5%
3383	1.604	1.406	-12.3%
3385	1.222	1.031	-15.6%
3400	3.289	2.894	-12.0%
3507	2.381	2.152	-9.6%
3515	1.814	1.626	-10.4%
3548	1.676	1.458	-13.0%
3559	2.084	1.794	-13.9%
3574	1.044	0.915	-12.4%
3581	1.133	0.943	-16.8%
3612	1.840	1.745	-5.2%
3620	3.131	2.775	-11.4%
3629	1.567	1.395	-11.0%
3632	2.294	2.015	-12.2%
3634	1.751	1.667	-4.8%
3635	1.604	1.568	-2.2%
3638	2.041	1.863	-8.7%
3642	1.587	1.210	-23.8%
3643	1.895	1.659	-12.5%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
3647	2.915	2.412	-17.3%
3648	1.256	1.199	-4.5%
3681	0.756	0.601	-20.5%
3685	1.044	0.890	-14.8%
3719	1.325	1.257	-5.1%
3724	4.614	3.765	-18.4%
3726	3.899	3.051	-21.7%
3803	3.045	2.897	-4.9%
3807	1.903	1.852	-2.7%
3808	8.424	7.449	-11.6%
3821	6.170	5.501	-10.8%
3822	5.095	4.459	-12.5%
3824	4.025	3.591	-10.8%
3826	0.857	0.841	-1.9%
3827	2.383	2.420	1.6%
3830	1.688	1.378	-18.4%
3851	1.949	1.698	-12.9%
3865	2.950	2.541	-13.9%
3881	3.924	3.387	-13.7%
4000	6.242	4.983	-20.2%
4021	3.962	3.801	-4.1%
4024	3.812	3.900	2.3%
4034	7.878	6.501	-17.5%
4036	2.392	2.009	-16.0%
4038	2.746	2.356	-14.2%
4062	2.504	1.943	-22.4%
4101	3.349	2.971	-11.3%
4109	0.618	0.535	-13.4%
4110	0.808	0.664	-17.8%
4111	2.795	2.434	-12.9%
4114	3.108	2.615	-15.9%
4130	3.953	3.362	-15.0%
4131	9.125	7.640	-16.3%
4133	2.864	2.356	-17.7%
4149	0.886	0.841	-5.1%
4206	2.590	2.464	-4.9%
4207	2.510	2.321	-7.5%
4239	3.223	2.775	-13.9%
4240	2.685	2.161	-19.5%
4243	2.191	1.957	-10.7%
4244	2.780	2.354	-15.3%
4250	2.220	1.946	-12.3%
4251	3.085	2.494	-19.2%
4263	4.054	3.329	-17.9%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
4273	2.800	2.522	-9.9%
4279	3.600	3.172	-11.9%
4283	2.171	1.852	-14.7%
4299	2.001	1.632	-18.4%
4304	4.893	3.869	-20.9%
4307	1.751	1.425	-18.6%
4351	1.613	1.284	-20.4%
4352	1.478	1.287	-12.9%
4361	0.934	0.755	-19.2%
4410	3.079	2.637	-14.4%
4420	4.042	3.371	-16.6%
4431	1.481	1.632	10.2%
4432	1.693	1.538	-9.2%
4452	2.772	2.321	-16.3%
4459	3.140	2.886	-8.1%
4470	2.783	2.436	-12.5%
4484	2.812	2.213	-21.3%
4493	2.211	1.852	-16.2%
4511	0.463	0.422	-8.9%
4557	2.815	2.549	-9.4%
4558	2.352	2.015	-14.3%
4568	2.898	2.472	-14.7%
4581	0.874	0.783	-10.4%
4583	5.281	3.963	-25.0%
4611	1.072	0.932	-13.1%
4635	3.516	3.189	-9.3%
4653	3.056	2.767	-9.5%
4665	9.856	8.585	-12.9%
4683	4.451	4.206	-5.5%
4686	2.332	2.020	-13.4%
4692	0.756	0.606	-19.8%
4693	1.087	1.039	-4.4%
4703	2.015	1.833	-9.0%
4717	2.358	1.995	-15.4%
4720	2.366	2.191	-7.4%
4740	1.466	1.488	1.5%
4741	3.045	2.695	-11.5%
4751	5.126	4.255	-17.0%
4771	2.777	2.304	-17.0%
4777	3.910	3.817	-2.4%
4825	1.047	0.843	-19.5%
4828	2.116	1.789	-15.5%
4829	1.412	1.232	-12.7%
4902	2.231	1.995	-10.6%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
4923	1.340	1.221	-8.9%
5020	6.006	5.360	-10.8%
5022	8.631	7.080	-18.0%
5037	9.183	7.232	-21.2%
5040	8.453	7.813	-7.6%
5057	4.778	3.938	-17.6%
5059	15.128	11.843	-21.7%
5102	6.664	5.589	-16.1%
5146	5.425	4.693	-13.5%
5160	2.884	2.263	-21.5%
5183	3.743	3.236	-13.5%
5188	4.925	4.476	-9.1%
5190	3.838	3.266	-14.9%
5191	1.052	0.973	-7.5%
5192	3.502	3.338	-4.7%
5213	6.627	5.024	-24.2%
5215	5.146	4.600	-10.6%
5221	4.433	3.721	-16.1%
5222	7.889	6.860	-13.0%
5223	4.445	3.481	-21.7%
5348	4.387	3.759	-14.3%
5402	7.604	6.143	-19.2%
5403	6.109	4.729	-22.6%
5437	5.920	5.115	-13.6%
5443	4.543	3.740	-17.7%
5445	10.764	8.475	-21.3%
5462	6.690	5.694	-14.9%
5472	7.530	6.391	-15.1%
5473	12.064	10.241	-15.1%
5474	7.993	7.160	-10.4%
5478	3.600	2.673	-25.8%
5479	6.650	5.909	-11.1%
5480	6.788	5.471	-19.4%
5491	2.953	2.447	-17.1%
5506	5.414	4.545	-16.1%
5507	5.120	4.399	-14.1%
5535	9.289	7.926	-14.7%
5537	4.494	3.707	-17.5%
5551	19.654	17.465	-11.1%
5606	1.084	0.932	-14.0%
5610	5.572	4.939	-11.4%
5645	17.630	15.406	-12.6%
5703	17.354	14.654	-15.6%
5705	20.013	15.941	-20.3%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
5951	0.578	0.573	-0.9%
6003	6.935	6.259	-9.7%
6005	6.477	5.300	-18.2%
6018	3.784	3.015	-20.3%
6045	5.115	4.192	-18.0%
6204	7.239	6.231	-13.9%
6206	3.539	3.106	-12.2%
6213	2.501	2.398	-4.1%
6214	1.748	1.395	-20.2%
6216	9.502	8.224	-13.4%
6217	5.376	4.663	-13.3%
6229	4.149	3.191	-23.1%
6233	2.225	1.965	-11.7%
6235	6.532	5.509	-15.7%
6236	6.227	5.165	-17.1%
6237	1.975	1.711	-13.4%
6251	6.230	5.675	-8.9%
6252	3.970	3.307	-16.7%
6306	5.138	4.432	-13.7%
6319	3.694	3.371	-8.7%
6325	4.425	3.492	-21.1%
6400	4.508	3.616	-19.8%
6503	2.602	2.210	-15.1%
6504	3.551	3.343	-5.9%
6702	5.333	4.506	-15.5%
6703	8.415	7.025	-16.5%
6704	5.925	5.008	-15.5%
6801	7.860	6.703	-14.7%
6811	4.980	3.982	-20.0%
6824	8.496	6.995	-17.7%
6826	4.571	5.038	10.2%
6834	3.022	2.720	-10.0%
6836	3.154	2.563	-18.7%
6843	9.801	8.158	-16.8%
6845	9.338	7.714	-17.4%
6854	6.147	5.049	-17.9%
6872	10.494	8.552	-18.5%
6874	17.644	14.378	-18.5%
6882	3.413	2.836	-16.9%
6884	3.818	3.101	-18.8%
7016	5.181	4.156	-19.8%
7024	5.756	4.619	-19.8%
7038	8.591	7.405	-13.8%
7046	7.363	6.253	-15.1%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
7047	8.174	6.479	-20.7%
7050	13.553	11.542	-14.8%
7090	9.545	8.227	-13.8%
7098	8.179	6.948	-15.1%
7099	11.615	9.748	-16.1%
7133	3.582	3.346	-6.6%
7151	4.353	4.065	-6.6%
7152	6.868	6.336	-7.7%
7153	4.836	4.517	-6.6%
7219	11.302	9.379	-17.0%
7222	9.858	8.621	-12.5%
7225	9.893	8.296	-16.1%
7230	10.497	9.304	-11.4%
7231	10.405	8.626	-17.1%
7232	13.067	10.553	-19.2%
7309	10.494	8.552	-18.5%
7313	4.623	5.096	10.2%
7317	8.530	6.951	-18.5%
7327	18.305	14.915	-18.5%
7333	3.318	2.795	-15.8%
7335	3.686	3.106	-15.7%
7337	5.233	4.357	-16.7%
7350	11.437	9.321	-18.5%
7360	6.038	4.917	-18.6%
7370	6.546	5.708	-12.8%
7380	6.912	6.240	-9.7%
7382	7.711	6.182	-19.8%
7390	5.325	4.757	-10.7%
7394	7.415	7.378	-0.5%
7395	8.237	8.196	-0.5%
7398	11.696	11.501	-1.7%
7402	0.152	0.130	-14.5%
7403	5.379	5.311	-1.3%
7405	1.829	1.568	-14.3%
7420	10.497	9.037	-13.9%
7421	0.779	0.637	-18.2%
7422	1.231	1.265	2.8%
7425	3.148	2.985	-5.2%
7431	1.173	0.918	-21.7%
7445	0.610	0.524	-14.1%
7453	0.391	0.306	-21.7%
7502	2.869	2.475	-13.7%
7515	1.325	1.105	-16.6%
7520	2.973	2.500	-15.9%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
7529	12.880	10.892	-15.4%
7538	3.186	2.866	-10.0%
7539	1.892	1.521	-19.6%
7540	4.554	4.002	-12.1%
7580	3.332	2.712	-18.6%
7590	4.298	4.051	-5.7%
7600	6.161	4.746	-23.0%
7605	3.177	2.615	-17.7%
7610	0.782	0.692	-11.5%
7705	6.673	5.906	-11.5%
7710	5.555	5.071	-8.7%
7711	5.555	5.071	-8.7%
7720	3.824	3.456	-9.6%
7723	2.516	2.141	-14.9%
7855	4.390	3.710	-15.5%
8001	2.438	2.249	-7.8%
8002	2.271	1.962	-13.6%
8006	2.360	1.858	-21.3%
8008	1.242	1.155	-7.0%
8010	1.892	1.645	-13.1%
8013	0.334	0.300	-10.2%
8015	0.980	0.882	-10.0%
8017	1.668	1.447	-13.2%
8018	4.108	3.597	-12.4%
8021	2.645	2.274	-14.0%
8031	1.952	1.623	-16.9%
8032	2.188	2.034	-7.0%
8033	2.110	1.833	-13.1%
8037	1.808	1.654	-8.5%
8039	2.332	2.009	-13.9%
8044	2.786	2.406	-13.6%
8045	0.923	0.791	-14.3%
8046	2.657	2.332	-12.2%
8047	1.072	0.954	-11.0%
8058	2.596	2.257	-13.1%
8072	0.851	0.672	-21.0%
8102	2.326	1.960	-15.7%
8103	2.769	2.321	-16.2%
8106	4.226	3.619	-14.4%
8107	3.217	2.764	-14.1%
8111	2.349	1.965	-16.3%
8116	2.320	2.103	-9.4%
8203	7.360	6.019	-18.2%
8204	4.594	3.856	-16.1%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
8209	4.065	3.588	-11.7%
8215	3.686	3.321	-9.9%
8227	4.298	3.613	-15.9%
8232	6.196	5.231	-15.6%
8233	4.419	3.864	-12.6%
8235	4.537	3.944	-13.1%
8236	5.957	5.540	-7.0%
8263	6.270	5.595	-10.8%
8264	5.123	4.550	-11.2%
8265	6.015	5.096	-15.3%
8279	7.021	5.815	-17.2%
8288	7.101	5.815	-18.1%
8291	4.290	3.773	-12.1%
8292	3.853	3.153	-18.2%
8293	8.225	6.587	-19.9%
8304	5.894	5.038	-14.5%
8350	8.217	7.375	-10.2%
8380	2.156	1.899	-11.9%
8381	2.059	1.880	-8.7%
8385	3.007	2.649	-11.9%
8392	2.174	2.089	-3.9%
8393	1.955	1.637	-16.3%
8500	6.383	4.696	-26.4%
8601	0.348	0.298	-14.4%
8602	1.619	1.530	-5.5%
8603	0.095	0.088	-7.4%
8606	1.394	1.056	-24.2%
8709	4.620	4.851	5.0%
8719	1.935	1.623	-16.1%
8720	1.130	0.918	-18.8%
8721	0.279	0.207	-25.8%
8723	0.104	0.074	-28.8%
8725	2.358	2.290	-2.9%
8726	2.444	2.693	10.2%
8734	0.391	0.306	-21.7%
8737	0.354	0.276	-22.0%
8738	0.558	0.427	-23.5%
8742	0.290	0.226	-22.1%
8745	4.959	4.195	-15.4%
8748	0.512	0.394	-23.0%
8755	0.345	0.287	-16.8%
8799	0.633	0.532	-16.0%
8800	2.300	2.070	-10.0%
8803	0.046	0.039	-15.2%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
8805	0.170	0.149	-12.4%
8810	0.127	0.110	-13.4%
8814	0.152	0.135	-11.2%
8815	0.242	0.209	-13.6%
8820	0.121	0.096	-20.7%
8824	2.657	2.144	-19.3%
8826	2.395	2.188	-8.6%
8831	1.446	1.248	-13.7%
8832	0.359	0.311	-13.4%
8833	1.150	0.948	-17.6%
8835	2.283	1.979	-13.3%
8842	2.306	2.039	-11.6%
8855	0.092	0.074	-19.6%
8856	0.635	0.507	-20.2%
8864	1.041	0.962	-7.6%
8868	0.569	0.515	-9.5%
8869	1.279	1.119	-12.5%
8871	0.049	0.030	-38.8%
8901	0.227	0.176	-22.5%
9012	1.058	0.918	-13.2%
9014	2.996	2.365	-21.1%
9015	3.229	2.960	-8.3%
9016	2.205	1.932	-12.4%
9019	4.100	3.467	-15.4%
9033	2.237	1.863	-16.7%
9040	3.025	2.552	-15.6%
9044	1.478	1.262	-14.6%
9052	1.650	1.543	-6.5%
9058	1.524	1.367	-10.3%
9060	1.538	1.372	-10.8%
9061	1.251	1.050	-16.1%
9062	1.369	1.152	-15.9%
9063	0.748	0.670	-10.4%
9077	7.860	6.716	-14.6%
9082	1.231	1.100	-10.6%
9083	1.400	1.224	-12.6%
9084	1.369	1.199	-12.4%
9089	1.041	0.907	-12.9%
9093	1.308	1.193	-8.8%
9101	3.056	2.957	-3.2%
9102	3.137	2.745	-12.5%
9154	1.889	1.714	-9.3%
9156	2.435	2.221	-8.8%
9170	11.034	8.825	-20.0%

NORTH CAROLINA**APPENDIX E****Assigned Risk Rates Comparison**

<u>Class Code</u>	<u>Current 04/01/26</u>	<u>Proposed 04/01/27</u>	<u>Percent Change</u>
9178	7.162	6.245	-12.8%
9179	22.373	19.328	-13.6%
9180	4.666	3.842	-17.7%
9182	2.484	2.166	-12.8%
9186	8.769	7.507	-14.4%
9220	5.109	4.211	-17.6%
9402	6.486	5.746	-11.4%
9403	9.781	8.477	-13.3%
9410	2.766	2.276	-17.7%
9501	3.364	2.905	-13.6%
9505	3.899	3.186	-18.3%
9516	2.760	2.524	-8.6%
9519	5.385	5.032	-6.6%
9521	3.387	2.762	-18.5%
9522	2.326	2.067	-11.1%
9534	6.095	5.330	-12.6%
9554	9.312	8.353	-10.3%
9586	0.472	0.416	-11.9%
9600	2.389	1.982	-17.0%
9620	1.875	1.667	-11.1%

NORTH CAROLINA – ASSIGNED RISK

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Supplemental Material

North Carolina G.S. 58-36-15(h) specifies that the following information must be included in all policy form, rule and rate filings filed under Article 36. 11 NCAC 10.1111 specifies that additional detail be provided under each of these items.

Item

- *1 North Carolina losses and loss adjustment expenses
- *2 Credibility factor development and application
- *3 Loss development factor development and application
- *4 Trending factor development and application
- *5 Changes in premium base and exposures
- *6 Limiting factor development and application
- *7 Percent rate or loss cost change
- 8 Underwriting profit and contingencies and investment income
- 9 Investment earnings on capital and surplus
- *10 Additional supplemental information per 11 NCAC 10.1111

* Sections incorporated by reference to the Loss Cost Filing

11 NCAC 10.1111 - WORKERS COMPENSATION

Item

- 8 For assigned risk rate filings, the filer shall include support for a reasonable margin for underwriting profit and contingencies and investment income, including realized capital gains.

Response

See the prefiled testimony and exhibits of G. Zanjani (Exhibits RB-5 through RB-12).

11 NCAC 10.1111 - WORKERS COMPENSATION

Item

- 9 For assigned risk rate filings, the filer shall provide investment earnings on capital and surplus. Given the selected underwriting profit and contingencies provision contained in the filing, the filer shall indicate the resulting rates of return (including consideration of investment income) on equity capital, on statutory surplus, and on total assets. The filer shall show the derivation of all factors used in producing these calculations and justify the fairness and reasonableness of these rates of return.

Response

As respects this filing, after-tax investment earnings on capital and surplus (including an adjustment for prepaid expenses and under the projections of investment yields in Exhibit RB-7) are expected to be 5.42% of premium. Given the -1.0% underwriting profit provision and the other expenses shown in the filing, the pro forma return on net worth (equity capital), including underwriting profit and investment income on reserves and surplus, is shown in the prefiled testimony and exhibits of G. Zanjani (Exhibits RB-5 and RB-7) to be 13.63%. Also shown therein is the ratio of net worth to surplus of 1.112. Accordingly, the corresponding return on statutory surplus would be 15.16%. Based on data from SNL Global, the 5-year average of each year's premium-weighted ratio of surplus to assets (based on 2024 North Carolina Workers Compensation direct premiums written) is .316. Accordingly, the corresponding return on assets would be 4.79%.

As noted in the testimony of G. Zanjani, projected returns are extremely sensitive to the assumed surplus leverage. As shown in Exhibits RB-8 and RB-9, very different results emerge when using alternative leverage assumptions. The results based on Exhibit 8 (where leverage is based on AM Best's Commercial Casualty Composite) would be: earnings on capital and surplus (as a percent of premium) of 7.60%, a pro forma return on net worth of 10.68%, a return on statutory surplus of 11.88%, and a return on assets of 3.75%. The corresponding results based on Exhibit 9 (where leverage is based on AM Best's Workers Compensation Composite) would be 13.47%, 7.61%, 8.46%, and 2.67%.

If something lower than -1.0% is earned as underwriting profit, the resulting returns, in all cases, would be correspondingly lower.

See also the pre-filed testimony of G. Zanjani (Exhibit RB-6).

**PRE-FILED TESTIMONY
OF
JOANNA BILIOURIS**

**NORTH CAROLINA WORKERS COMPENSATION INSURANCE
2026 LOSS COST FILING
BY THE NORTH CAROLINA RATE BUREAU**

- Q. Would you state your full name and business address?
- A. My name is Joanna Biliouris. My business address is 4140 Parklake Ave, Suite 320, Raleigh, North Carolina 27612.
- Q. Are you employed by the North Carolina Rate Bureau ("Bureau")?
- A. Yes. I am the General Manager. Prior to becoming the General Manager in early 2022, I had been employed by the Bureau as Chief Operating Officer since 2015.
- Q. What is the Bureau's function with respect to loss costs for Workers Compensation insurance?
- A. The Bureau promulgates loss costs for Workers Compensation insurance in North Carolina.
- Q. Can you identify Exhibits RB-1 through RB-4 and the 11 NCAC 10.1111 Responses?
- A. Yes. Exhibit RB-1 is a reference filing containing advisory prospective loss costs, the data and calculations underlying those loss costs, and the 11 NCAC 10.1111 Responses. Exhibits RB-2 through RB-4 contain the required accompanying prefiled testimony and exhibits. Together, these materials constitute a filing (the "Filing") that is dated August 31, 2026, submitted by the Bureau to the Honorable Mike Causey, Commissioner of Insurance, with respect to workers compensation insurance loss costs in North Carolina.
- Q. Does the Bureau have actuaries on its staff?
- A. Yes, the Bureau has an actuary on its staff. However, the Bureau continues to obtain actuarial expertise for preparation of the Filing from the Workers Compensation Committee, the National Council on Compensation Insurance, Inc., and Milliman, Inc.
- Q. Does the Filing submitted to the Commissioner include, to the extent available, the information to be furnished in connection with filings under Article 36 of Chapter 58 of the General Statutes?
- A. Yes. Those data that were available have been submitted to the Commissioner as part of the Filing. As shown and explained in that submission, some data were not collected or, if collected, were not retrievable from the statistical data in the form requested. The individual circumstances with respect to such data are explained in the submission.
- Q Does that conclude your prefiled testimony?

A. Yes.

PREFILED TESTIMONY
OF
BRETT S. FOSTER

2026 NORTH CAROLINA WORKERS COMPENSATION
LOSS COST AND ASSIGNED RISK RATE FILINGS
PROPOSED TO BE EFFECTIVE ON APRIL 1, 2027

Q. *Please state your name, title, employer and position you hold.*

A. My name is Brett Foster, and I am a Practice Leader and Senior Actuary for the National Council on Compensation Insurance, Inc. ("NCCI") in Boca Raton, Florida.

Q. *Would you outline your academic and professional training?*

A. I have a Bachelor of Science degree with majors in mathematics and economics from Missouri State University, in Springfield, Missouri. I am a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries and am in good standing with both of those organizations.

Q. *How long have you been employed by NCCI?*

A. I have worked for NCCI since June of 2012, during which time I have contributed in various areas of NCCI's actuarial division, including class ratemaking, individual risk rating research, legislative analysis, aggregate ratemaking, and actuarial communications. In addition to overseeing the actuarial function for two jurisdictions, I am currently responsible for leading NCCI's Analytics, Models & Products area within the actuarial division.

Q. *Would you briefly describe the principal functions of NCCI?*

A. NCCI is the major data collector of workers compensation statistics and is recognized as the expert organization in workers compensation data collection, ratemaking, and research. NCCI's principal functions are to collect and process statistical data, inspect and administer a detailed

classification system, and develop prices for workers compensation insurance that are not excessive, inadequate or unfairly discriminatory. NCCI prepares manual loss costs, manual rates, rating plans, and policy forms for use by its members and subscribers, and files this information with various supervisory authorities on their behalf.

Q. *Who belongs to NCCI?*

A. NCCI is an organization of some 600 members and subscribers who are insurance companies and self-insured funds writing workers compensation insurance.

Q. *Are you familiar with the filings for revised workers compensation loss costs and assigned risk rates by the North Carolina Rate Bureau (the "Filings") of which this testimony is a part?*

A. Yes, I am.

Q. *Did you supervise the production of the Filings?*

A. Yes, I did. NCCI has contracted with the North Carolina Rate Bureau as an actuarial services vendor in connection with these Filings.

Q. *What is the purpose and scope of your testimony?*

A. I provide testimony on the key actuarial issues and components in the Filings. Specifically, my testimony discusses the (i) development of the overall average loss cost level indication, (ii) assigned risk differential analysis, and (iii) various expense components contained in the voluntary loss costs and assigned risk rates.

Q. *Could you briefly describe the purpose of the Filings submitted to the North Carolina Commissioner of Insurance?*

A. Yes. One of the Filings proposes revised loss costs and rating values for the voluntary market. The other Filing proposes revised rates and rating values for the Workers Compensation Insurance Plan, which is the assigned risk market.

Q. *What is the voluntary market and what is the assigned risk market?*

- A. When insurers elect to provide workers compensation coverage to employers in North Carolina's competitive marketplace, incorporating their own underwriting guidelines and expense needs, the group of policies issued to those employers constitutes the "voluntary market."

Because workers compensation insurance is required by law for most employers in North Carolina, an employer unable to secure workers compensation insurance in the voluntary market obtains coverage through the Workers Compensation Insurance Plan, which is also called the "assigned risk" or "residual" market. This "market of last resort" provides a method for those employers not written voluntarily to obtain coverage.

- Q. *For the voluntary market, you mentioned a revision to the current loss costs is being filed. What is the difference between a loss cost and a rate?*

- A. The term loss cost is used because, in general, it represents only that portion of the full rate that provides for loss and loss adjustment expenses. The North Carolina loss costs are not final rates because they do not include provisions for any of the remaining expenses (including production expenses, profit, contingencies, etc.) of an insurer.

In the North Carolina voluntary market, each carrier is responsible for considering its individual expense needs, developing a loss cost multiplier (LCM), and determining its final rates. The carrier-specific LCM is the expense loading (providing for all carrier expenses other than loss adjustment expense) an insurer applies to a set of loss costs to build its final rates. In this process, a carrier may elect to base its final rates on the loss costs in the Loss Cost filing.

- Q. *If this loss cost revision were approved as filed, would all employers insured in the voluntary market receive a loss cost change equal to the overall average proposed change?*

- A. No. The proposed loss cost indication represents the overall average change for the voluntary market. The actual percentage loss cost change will vary between individual classification codes—some above and others

below this average.

The proposed overall average change is equitably distributed to the various industry groups and then to the more than 500 individual classification codes during the ratemaking process. The final premium charged to a particular employer not only depends on the specific class codes in which the employer conducts business, but also on the individual insurer issuing the policy. Since in the voluntary market each insurer is responsible for determining its final rates, after reviewing its own expense needs, underwriting guidelines, etc., the final premium charged to any particular employer may vary among insurers.

Q. *Please give us an overview of the process used to develop the Filings.*

A. The latest available premium and loss data is collected by NCCI and NCRB from insurance companies and verified. Using this data, the expected costs associated with writing workers compensation insurance in North Carolina during the period April 1, 2027 through March 31, 2028 are determined. In this process, expenses are analyzed and provisions for these components are included. The expected future costs determine the extent to which the currently approved overall loss cost and rate levels should change.

Q. *Do the Filings include data for all companies writing workers compensation business in North Carolina?*

A. Not necessarily. There are several reasons that would prevent a carrier's data from being included in a filing, including (i) data that was not reported prior to the filing and (ii) quality issues that exist with the reported data. While it would be preferable to include all carriers' data in the filing, it is critical that the data be of the highest quality possible. Carriers with a premium market share greater than 0.1% and whose data is not contained in the Filings' experience period are listed in Appendix A-IV.

NCCI has the following processes in place to provide all carriers the incentive to submit aggregate data in a timely and accurate manner:

(i) Aggregate Data Quality Incentive Program (ADQIP): In response to carriers reporting late and/or inaccurate data, they are subject to financial assessments levied by NCCI.

(ii) Financial Data Escalation Process: During the data collection and validation process, data issues are discussed with insurance carrier personnel at progressively increasing levels of authority until the issues are resolved.

The data goes through a series of three validation procedures implemented by NCCI: (i) arithmetic checks, (ii) reasonableness checks, and (iii) a reconciliation report.

The first check, the arithmetic check, is used to make sure that the data submitted to NCCI in the various rows and columns of the aggregate financial data reports sums to the correct totals as stated by the carriers in those submissions.

The second check, the reasonableness check, is used to make sure that all unusual fluctuations in a carrier's data are explained. For example, a company reporting \$100,000 in premium in 2024 and then \$10 million in 2025 would be questioned about the large change in premium amounts.

The third test is reconciliation. The North Carolina data submitted to NCCI is reconciled with the NAIC Annual Statement data submitted by companies to the North Carolina Department of Insurance.

NCRB also has a variety of procedures in place to encourage timely and accurate data reporting, and NCCI does additional validation of the data it receives from NCRB.

Q. *Do the Filings contemplate catastrophic events that may exceed \$50 million in losses?*

A. Yes, using established ratemaking procedures, the Filings are based on data that excludes the impact of catastrophic events (which may include

pandemics) that may exceed \$50 million in losses countrywide. The Catastrophe (other than Certified Acts of Terrorism) Provision is intended to contemplate the exposure to all such events or perils.

Q. *Is the data used in the Filings reasonable and reliable for determining voluntary loss costs and assigned risk rates in North Carolina?*

A. Yes, in my opinion, the data as collected and validated provides an actuarially appropriate, reasonable, and credible dataset on which to base the Loss Cost and Assigned Risk rate filings.

Q. *What overall average change does the Loss Cost filing propose?*

A. The Loss Cost filing seeks an overall average decrease of 10.6% from the current loss cost level for the industrial classifications.

Q. *What overall average rate level change does the Assigned Risk filing propose?*

A. The Assigned Risk rate filing seeks an overall average rate level decrease of 14.3% for the industrial classifications.

Q. *What is the proposed effective date for the Filings?*

A. The Loss Cost and Assigned Risk rate filings are both proposed to apply to new and renewal policies becoming effective on or after April 1, 2027. The actual use of the loss costs is subject to individual company actions to adopt the filed loss costs.

Q. *Would you please briefly describe the method used in the Filings to determine the overall average changes?*

A. Yes. In very general terms, the overall changes are determined by taking the latest available aggregate financial data and adjusting it to reflect conditions that are expected to exist for policies becoming effective during the period April 1, 2027 through March 31, 2028. The result indicates the adequacy of the current loss costs for policies to be written during that period. This process requires the application of actuarial judgment and projections because ratemaking is prospective in nature and future outcomes are unknown.

As presented in Exhibit I of the Filings, the process begins with two blocks of historical North Carolina aggregate financial data. The first block reflects the experience from all policies with effective dates during 2024 and is commonly referred to as "Policy Year 2024" data. The second block of data reflects the experience from all policies with effective dates during 2023 and is referred to as "Policy Year 2023" data. This data consists of earned premiums and losses during these periods reported by those companies writing workers compensation insurance in North Carolina. "Losses" is simply another term for the benefits carriers provide to or on behalf of injured workers. They can be in the form of medical services or indemnity (lost wage) payments. While several years of data were reviewed in connection with this year's actuarial analysis, data for Policy Years 2023 and 2024 serves as the selected experience period in the Filings.

Loss cost level indications were determined based on an average of (i) paid losses and (ii) paid losses plus case reserves for each of Policy Years 2024 (Exhibit I, Section A) and 2023 (Exhibit I, Section B). An average of the separate Policy Year 2023 and 2024 loss cost level indications (Exhibit I, Section C) serves as the basis for the Rate Bureau's filed overall average voluntary loss cost level change.

In calculating the overall loss cost level change, the premium from these two policy years is the first focus. The premiums that have been collected must be "developed" to reflect future payroll audits (line 1 of Exhibit I, Sections A and B). Since the final premium totals for the recent policy years will not be known until all payroll audits have been completed, the application of premium development factors provides a projection of the amount by which the currently-reported premium totals will change when the final results are known.

Additionally, the premiums are brought to the current loss cost level and the portion that covers expenses is removed (line 2). These adjustments are necessary because we are trying to determine how much premium will

be available for benefits, and the historical premium data still reflects old rates and includes the portion covering expenses. Since the current loss costs are being analyzed and updated, the reported historical premium is adjusted to this current loss cost level. Once the historical premium has been adjusted to the latest approved loss cost level, one may opine on the adequacy of the current set of loss costs in terms of providing for future losses.

Q. *Would you now describe the adjustments to the policy year indemnity and medical losses?*

A. Yes. The losses from these two blocks of data are reviewed. Indemnity and medical losses are analyzed separately. Initially, losses are limited to mitigate the impact of individual large workers compensation claims. Medical payments for example can extend into the multi-million dollar range on extremely severe cases. At this stage, limiting such claims is appropriate in determining future loss costs and rates.

Next, the limited losses must be developed to their ultimate level (lines 4 and 16 of Exhibit I, Sections A and B). This is especially necessary for workers compensation insurance because it takes many years before some losses are finally paid. For example, depending on the nature and seriousness of a work-related injury, indemnity payments may extend many years into the future. Further, since even the conditions giving rise to some of these losses may take many years to manifest themselves, several years may pass before some claims are even known to the insurer, let alone settled. Asbestosis claims are an example of this type of loss.

Next, since we are trying to estimate future losses and the data reflects historical benefit levels, the reported losses are adjusted to reflect the impact of any subsequent changes in the level of workers compensation benefits. This is accomplished in two steps (lines 5, 14, 17, and 26). The losses are then increased by 20.5% so that the final loss costs will include a provision for loss adjustment expense (lines 6 and 18).

The resulting loss figures (lines 8 and 20) are compared to the total estimated premium (line 3) that would be available to fund these losses. Next, the indemnity and medical cost ratios data must be trended to account for inflationary pressures between the time period of the historical data and the period when the loss costs will be in effect (lines 10 and 22). Trend adjusts the historical data to account for the differential impact of inflation on losses and premiums. If losses were changing at the same rate as payrolls, trend would not be needed since the change in losses would be exactly matched by a corresponding change in payrolls and, therefore, premiums. On the other hand, if losses have been changing at a different rate than payroll, trend is necessary if historical data is to be used as a predictor of future losses.

The trend factors selected by the Rate Bureau and applied in these Filings are -5.0% per year for both indemnity losses and medical losses.

The final step is to adjust the developed and limited cost ratios to an unlimited basis. This is accomplished in lines 12 and 24. The employed methodology involves replacing the amount of actual reported individual claim losses in excess of a North Carolina-specific dollar threshold with an excess loss provision. The excess provision represents the expected volume of losses in excess of the threshold. This procedure serves to smooth out the impact of large losses.

Q. *What are the final steps in determining the overall average voluntary loss cost level change?*

A. Indicated loss cost level changes for each of Policy Years 2023 and 2024 are calculated by summing the respective indemnity and medical cost ratios (line 28 of Exhibit I, Sections A and B). These individual-year changes are then averaged, resulting in an indicated overall average decrease of 10.6% to the current voluntary loss cost level (Exhibit I, Section C).

Q. *What loss development methodologies were analyzed and utilized in connection with the overall average loss cost level change?*

- A. The financial data was analyzed in order to select the most actuarially sound loss development projection methodology to be used in determining experience indications. This analysis involves identifying changes in the level of reserve adequacy and trends in development that could skew the results of one or more of the loss development projection methods. In addition, the base to which the loss development factors will be applied is analyzed in conjunction with the factors themselves.

The loss development projection methods examined in this year's analysis were based on (i) paid losses and (ii) paid losses plus case reserves. Results based on an average of these two loss development methodologies were chosen as being most appropriate for this year's Filings.

- Q. *After identifying the most appropriate loss development methodology, what is the next step in the process to compute the actual loss development factors?*

- A. After identifying the most appropriate loss development methodology, prior years' losses are examined to determine how they evolve from the time they are first reported to the time they are finally settled.

For inclusion in the Filings, (i) final paid loss development factors were derived based on an average of the two most recent historical factors at each age-to-age interval and (ii) final paid plus case loss development factors were derived based on an average of the five most recent historical factors at each age-to-age interval. Statewide loss development (tail) factors were used to develop losses from a nineteenth report to an ultimate basis. The tail factors used in the Filings are selected after reviewing the most recent ten historical factors at a nineteenth report.

- Q. *Please explain the tail factor methodology included in the Filings.*

- A. In workers compensation, payments and loss reserve changes persist for extended periods of time. The ultimate losses of a policy year are determined by multiplying the current reported losses by the expected loss development factor. This expected loss development factor is calculated

as the product of individual age-to-age development factors (link ratios). However, due to data constraints, it is not possible to calculate all of the required individual link ratios. Therefore, it is necessary to aggregate all loss development that occurs after a nineteenth report into a single (tail) factor. Tail factors are calculated separately for indemnity and medical losses by comparing the changes in the volume of policy year paid plus case losses after a nineteenth report to the volume of policy year paid plus case losses as of a nineteenth report, along with the application of a growth adjustment factor.

Since an average of both paid and paid plus case loss development is used in the Filings, the selected paid plus case loss development tail factors must also be converted to a paid basis. Paid-to-paid plus case conversion ratios, for both indemnity and medical, are used to calculate indemnity and medical paid tail factors from the selected paid plus case tail factors (Appendix A-II, Section E).

Q. *Will you please describe how the final indemnity and medical annual trend factors were determined for the Filings?*

A. Yes. The final trend factors were judgmentally selected by the NCRB after reviewing the results of several different trend estimates, including (i) a North Carolina frequency/severity trend analysis and (ii) indicated annual loss ratio trend factors—including a review of adjusted medical loss ratios reflecting prospective wage growth and medical inflation estimates.

A North Carolina-specific frequency/severity analysis was performed to separately examine changes in the frequency of workers compensation claims being filed and changes in their average cost per case. Indicated loss ratio trend factors based on both paid and paid plus case losses were also examined in order to review trend estimates that are independent of possible fluctuations in carrier-reported claim counts from year to year.

Q. *Please explain the adjusted medical loss ratios which were considered in conjunction with the trend analysis.*

- A. Additional consideration was given to the accelerated wage growth observed in North Carolina during and after the COVID-19 pandemic. Prior to the pandemic, wages were growing at a moderate rate, generally less than 4%, as measured by the US Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) program. From 2020 to 2022, wage growth accelerated, outpacing the historical average—even growing at an annual rate above 7% in 2022. However, forecasts indicate that future wage growth in North Carolina is anticipated to be more moderate than the levels observed in 2020-2022, estimating wage growth around 4% in 2026 and 2027 (Moody's Analytics). These forecasts for more moderate wage growth relative to 2020-2022 are supported by the latest observed data for 2024 and 2025.

While 4% annual wage growth is still strong relative to the historical pre-COVID rate of growth, the latest data and forecasts suggest that the unusually high wage growth observed in 2020-2022 is unlikely to continue. Payroll serves as the exposure base for determining workers compensation premium, so as wages rise, premiums increase as well—resulting in downward pressure on the medical loss ratios over time. The rate of this effect is dependent on the rate of wage growth. Therefore, it is appropriate to consider how future expectations of wage growth that differ from the historical rates of growth may influence our prospective estimate of medical loss ratio trends.

Another factor influencing the historical medical loss ratio changes is the rate of medical inflation. Like other state WC systems, medical costs in North Carolina are influenced by the general cost of medical services, which tends to increase over time. Annual medical inflation rates, as measured by the countrywide Chain-Weighted Personal Healthcare (PHC) index, have fluctuated over time—decreasing from around 3% in 2009 and 2010 to less than 1% in 2015, before increasing slowly to around 3% in 2023 and 2024.

In light of historical wage growth and medical inflation patterns that differ from future expectations, the trend analysis included a review of medical

loss ratio changes where the loss ratio changes in 2020-2024 were adjusted to reflect prospective expectations for wage growth and medical inflation as opposed to the observed values in each year. That is, the historically observed annual changes in medical loss ratios were restated to reflect prospective estimates of annual wage growth (4%) and medical inflation (3%), rather than the historically observed values—as measured by the QCEW and PHC. The resulting values are shown in Appendix A-III.

Q. *Was a similar adjustment considered for the indemnity loss ratios in conjunction with the trend analysis?*

A. Unlike the medical loss ratios, indemnity loss ratios are not necessarily expected to be distorted to the same degree by recent inflationary impacts: as wages rise, so do the associated workers compensation indemnity (wage replacement) benefits. Therefore, the wage growth and inflation adjustments applied to historical medical loss ratio changes were not applied to the historical indemnity loss ratio changes.

Q. *Please explain how the loss adjustment expense provision was determined.*

A. Both historical North Carolina-specific and countrywide loss adjustment expense information was reviewed as part of this year's rate filing analysis (See Exhibit II-A, Sheet 1). Based on that information, the NCRB judgmentally selected a 20.5% loss adjustment expense provision for use in the Filings. Exhibit II-A also includes detail underlying the Adjusting and Other Expense (AOE) ratios and Defense and Cost Containment Expense (DCCE) ratios that comprise the loss adjustment expense provision.

Q. *Did you review the process used to allocate the overall average loss cost level change to the five industry groups and to the individual classification codes?*

A. Yes.

Q. *Do the Filings contain a description of the way the overall change is distributed to the individual classifications?*

A. Yes. Appendices A-V and B of the Loss Cost filing provide extensive descriptions and documentation of the methods that are used to distribute the overall change among the various classifications.

Q. *How are the individual classification loss cost changes balanced to the industry group change?*

A. As described in Appendix B-III section 1, during the loss cost calculation 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 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.

Q. *How was the overall average change for the Assigned Risk filing determined?*

A. The Assigned Risk filing begins with the loss costs resulting from the analyses just described. Then two additional analyses were performed. The first of these compares the assigned risk market experience to the statewide market experience. This analysis supported the proposed change to the current assigned risk loss cost differential. The second analysis involves the assigned risk expense need. Both analyses are documented in Exhibit II of the Assigned Risk filing.

The results of these two analyses are incorporated in the formula Loss Cost Multiplier (Exhibit I-A, Sheet 1 of the Assigned Risk filing). After combining the indicated change in the loss cost level and the proposed change in the Loss Cost Multiplier, the final Assigned Risk rate level decreased 14.3% (Exhibit I, Section D of the Assigned Risk filing).

Q. *Please explain the purpose and concept of the assigned risk differential.*

A. The primary purpose of the differential is to help ensure equity between the assigned risk and voluntary markets. In order to help ensure a self-

funded assigned risk market—one that does not require subsidization by participants in the voluntary market—the adequacy of the assigned risk differential is reviewed.

In North Carolina, as is usually the case, the combined experience for those employers in the assigned risk market is worse than the combined experience for those in the voluntary market. Therefore, during the assigned risk ratemaking process, the assigned risk differential is applied to recognize this disparity.

Q. *Please explain how this year's proposed change in the assigned risk differential was determined.*

A. As documented in Exhibit II-E of the Assigned Risk filing, ten years of indicated loss cost differentials based on each of (i) paid and (ii) paid plus case data were reviewed. The selected change to the current loss cost differential is based on an average of the changes indicated by both the paid and paid plus case experience (Exhibit II-E, Sheet 1, line (e)).

Q. *Please briefly describe the provisions for the various assigned risk expense components contained in the Assigned Risk filing.*

A. The underlying detail and supporting calculations in connection with the various expense provisions contained in this year's proposed assigned risk rates are fully documented in Exhibit II of the Assigned Risk filing. As a summary, a brief description of each expense component is as follows:

- (i) Commission and brokerage – The 5.0% provision is the commission payable on assigned risk business, as required by the Workers Compensation Insurance Plan.
- (ii) Loss adjustment expense (LAE) – The selection of this component was discussed earlier in connection with the proposed voluntary loss cost level change.
- (iii) Other acquisition and general expense – This category includes provisions for various carrier expense items such as premium

collection, underwriting, policy processing, advertising, and company operational and administrative expenses.

- (iv) Uncollectible premium provision – This provision recognizes the fact that not all premium earned by the carriers is collected (Exhibit II-F).
- (v) Underwriting profit – The underwriting profit analysis was conducted by Dr. Zanjani.
- (vi) Taxes, licenses, and fees – This includes a 2.66% provision for the premium tax, including the regulatory surcharge.
- (vii) Effect of expense constant and minimum premiums – It is expected that a \$160 expense constant, a minimum premium multiplier of 200, and a maximum minimum premium of \$1,500 will generate 15.8% of premium in the assigned risk market (Exhibit II-D).

Q. *Please describe what is meant by the term “F-classifications.”*

A. The “F” or “Federal” classifications are those operations conducted on or about navigable waters for which benefit levels and related costs are determined by the United States Longshore and Harbor Workers’ Compensation Act, rather than individual state laws. Typical F-classifications include those covering ship builders and stevedores.

Q. *What changes are proposed for the Federal classifications (“F-classes”)?*

A. Based on the latest available North Carolina F-class experience (contained in Appendix B-V of the Loss Cost filing), the Loss Cost filing proposes an overall average change of -11.1% from the current loss cost level. The Assigned Risk filing proposes an overall average rate level change of -14.8% from the current assigned risk rate level.

Q. *Are there any other aspects of the filing, including disclosures, assumptions, adjustments, or methodology changes, that have not been addressed by the preceding questions?*

A. As part of the Assigned Risk filing, the minimum premium for Class Code 0401 (Cotton Gin Operation – Local Managers & Drivers) will now be calculated based on the standard minimum premium methodology rather than locked-in to \$100 per ginning location. The prior rule had been in place since 1926 and the \$100 had not been indexed to current inflation levels, which kept the minimum premium well below what it would be with the standard minimum premium calculation.

Q. *What is your opinion as to whether the proposed loss cost changes for the voluntary market will result in loss costs that are not excessive, inadequate, or unfairly discriminatory?*

A. Based on my analysis, I believe the methodologies employed, the provisions used, and the resulting filed loss cost changes are actuarially sound and reasonable for the time period during which they are proposed to be in effect and will result in loss costs that are not excessive, inadequate, or unfairly discriminatory.

Q. *What is your opinion as to whether the proposed rate changes for the assigned risk market will result in rates that are not excessive, inadequate, or unfairly discriminatory?*

A. As I noted above, the profit analysis was conducted by Dr. Zanjani, and I am relying on his work and opinion as to the appropriateness of the profit provision. Based on my analysis and assuming the profit produced by the proposed rates is reasonable, I believe the methodologies employed, the provisions used, and the resulting filed assigned risk rate changes are actuarially sound and reasonable for the time period during which they are proposed to be in effect and will result in assigned risk market rates that are not excessive, inadequate, or unfairly discriminatory.

Q. *Does this conclude your testimony?*

A. Yes, it does.

Pre-Filed Testimony
of
Stephen Koca
2026 North Carolina Workers Compensation
Assigned Risk Rate Filing
August 2026

Q. Please state your name and business address.

A. My name is Stephen Koca; my business address is Milliman, Inc., 251 South Lake Avenue, 8th Floor, Pasadena, California, 91101.

Q. Are you an actuary?

A. Yes, I became a Member of the American Academy of Actuaries (MAAA) in the Spring of 2006 and a Fellow of the Casualty Actuarial Society (FCAS) in the Fall of 2006. I am a member in good standing of both organizations and am current on my continuing education requirements.

Q. Please describe your educational and professional background.

A. I graduated with a Bachelor of Science degree in Mathematics from Pennsylvania State University in 2003. I joined Milliman in 2005; my prior employment includes actuarial experience with two different insurance companies covering both personal and commercial lines of business. My role at Milliman includes managing a broad client base that includes traditional insurers, state workers' compensation funds, self-insureds, and other alternative risk mechanisms. I provide loss ratio projections, rate filing assistance, unpaid claim analyses, capital modeling, and other services to these clients. In addition, I am a frequent industry volunteer, currently serving as a Member-Selected Director of the AAA Board of Directors. I am also active with the National Association of Insurance Commissioners (NAIC), frequently participating in calls and meetings relating to casualty actuarial, statutory accounting, and risk-based capital issues with NAIC task forces. I have previously served as Chairperson of the AAA Committee on Property and Liability Financial Reporting and as a member on the AAA's Casualty Practice Council; the AAA's Workers' Compensation Subcommittee;

and as President of the Southern California Casualty Actuarial Club.

Q. What is Milliman?

A. Milliman is among the world's largest independent actuarial and consulting firms. Milliman was founded in Seattle in 1947 as Milliman & Robertson and today has offices in principal cities worldwide, covering markets in North America, Latin America, Europe, Asia and the Pacific, the Middle East, and Africa. Milliman employs more than 5,000 people, including specialists ranging from clinicians to economists. The firm has consulting practices in healthcare, employee benefits, property and casualty insurance, life insurance, and financial services. Milliman serves the full spectrum of business, financial, government, union, education, and nonprofit organizations.

Q. Were you engaged to provide actuarial services to the North Carolina Rate Bureau (the "Rate Bureau") in connection with its 2026 workers compensation insurance Assigned Risk Rate Filing (the "Filing")?

A. Yes, I was.

Q. What was the scope of that engagement?

A. For this year's filing, the Rate Bureau engaged NCCI to provide the preliminary analysis of the loss data, including preliminary analysis of loss development, trends, and expense levels, and presenting the data to the Rate Bureau. The Rate Bureau's Workers Compensation Committee is responsible for making the selections included in this filing. The scope of Milliman's engagement includes a review of the NCCI presentation, assisting the Rate Bureau in explaining the Filing to regulators, and providing expert testimony concerning the Filing.

Q. Are you providing expert testimony concerning the underwriting profit provision?

A. No, I am relying on the work and opinion of Dr. George Zanjani, who was asked by the Rate Bureau to aid with selecting the underwriting profit factor. The scope of my analysis and testimony will concern the other aspects of the Filing.

Q. Did you or your firm physically prepare the filing documents for the Rate Bureau?

A. No, NCCI prepared the filing documents based on the directions of the Rate Bureau. Our role was one of input and review.

Q. Is your firm being compensated for this engagement?

A. Yes.

Q. Is that compensation in any way contingent on providing favorable testimony in support of the Filing?

A. No, it is not.

Q. Have you completed your review of the Filing?

A. Yes, I have.

Q. Were there any constraints placed on your review, such as limited or delayed access to data or limited time, that may have impeded your complete review?

A. No, we were provided with all the information that was necessary and had adequate time for a complete review. Our review was not constrained.

Q. What are assigned risks?

A. Assigned risks refer to those North Carolina employers that a licensed agent has certified as difficult to place in the voluntary market. These employers may apply to the Rate Bureau and, if eligible, have an insurance company designated to provide a policy through the Workers Compensation Insurance Plan (WCIP). All licensed workers compensation insurers must participate in this plan, either as direct assignment carriers or as members of a pool. A direct assignment carrier accepts a policy assigned to it on a direct basis and writes and services it just as they would any other business, except that they must use the approved Assigned Risk rates and rating plans and pay the agent a commission as designated in the WCIP. For pool members, a servicing carrier will write the policy on a direct basis, again using the same approved Assigned Risk rates and rating plans and paying the same agent commission as the direct assignment carriers. The pool members have a reinsurance arrangement with the servicing carriers and each other whereby all members of the pool will share proportionately in the experience of the pool.

Q. Explain the difference between a loss cost filing and a rate filing.

A. By definition, insurance rates (along with the associated rating plans) are to include provisions for all costs associated with the transfer of risk. These costs include losses, expenses, taxes, licenses and fees, and profit and contingencies. Since 1995 in North Carolina, the voluntary market workers compensation filings by the Rate Bureau have included provisions for losses, loss adjustment

expenses, and loss-based assessments only. These are called loss costs. They exclude provision for production expenses, general expenses, dividends, taxes, licenses and fees (since 1999), and profit and contingencies.

For the voluntary market, individual insurance companies will analyze their own books of business along with the approved loss costs, and then make filings with the Insurance Department for loadings that represent an anticipated difference in loss costs (if any), along with their production and general expense, taxes, licenses and fees, and profit and contingency provisions.

For the Assigned Risk market, the Rate Bureau is responsible for analyzing the experience of the Assigned Risk market and filing for rates that include all costs: losses, expenses, and profit and contingencies.

Q. Does the Rate Bureau's Assigned Risk Rate Filing depend upon the Rate Bureau's voluntary market loss cost filing with the same effective date?

A. Yes, the starting point of the Rate Bureau's Assigned Risk rate analysis is the voluntary market loss cost filing made by the Rate Bureau on the same date. This Assigned Risk Rate Filing calculates a factor to apply to the voluntary market loss costs to adjust them to the loss cost level of the Assigned Risk market and to incorporate loadings for production and general expense, taxes, licenses and fees, uncollectible premiums, and profit and contingency provisions. This approach is consistent with the way rates are developed for individual companies in the voluntary market.

Q. Have you reviewed the loss cost filing upon which this Assigned Risk Rate Filing depends?

A. Yes, I have. I provided my opinions on the loss cost filing in my pre-filed testimony included as Exhibit RB-4 in that filing. Rather than repeat that pre-filed testimony here, I will simply incorporate it in its entirety herein by reference.

Q. What were your conclusions concerning the Rate Bureau's loss cost filing?

A. My opinion was that the overall level of the loss costs as filed by the Rate Bureau reasonably reflects the expected level of loss costs for workers compensation insurance in North Carolina for the time period during which they are proposed to be in effect, and the filed loss costs by classification are actuarially sound.

Q. What is the overall change in Assigned Risk rates the Rate Bureau is seeking in this filing?

A. The Rate Bureau is filing a 14.3% decrease in rate level for the industrial classifications, and a 14.8% decrease in rate level for the Federal ("F") classifications.

Q. Is the change in rates the same for each class code?

A. No, the change in rates arises from the change in the voluntary market loss costs, which varies by class code, and the change in the selected loss cost multiplier, which does not. Although the overall rate level change is a 14.3% decrease for the industrial classifications and a 14.8% decrease for the F classifications, different class codes will change by different amounts. While the overall average change is a decrease, individual class codes may experience increases or decreases depending on the proposed change in the underlying voluntary market loss costs for that classification. The industrial classifications are further organized by industry group and the average changes are as follows:

Manufacturing 14.1% decrease
Contracting 15.3% decrease
Office and Clerical 15.7% decrease
Goods and Services 12.9% decrease
Miscellaneous 14.6% decrease

Q. What is the proposed effective date of the filed Assigned Risk rates?

A. April 1, 2027.

Q. When did the current Assigned Risk rates take effect in North Carolina?

A. The current Assigned Risk rates became effective April 1, 2026.

Q. Can you briefly explain the overall theory underpinning the Filing?

A. Yes, the first underlying assumption is that the loss costs filed with the voluntary market filing are adequate for the average North Carolina employer. The second assumption is that the collection of direct assignment carriers and servicing carriers is effectively the same as a single aggregate insurance company with a cost structure that is representative of their average. The Assigned Risk Rate Filing is then equivalent to a rate filing of this single aggregate company underwriting a book of business consisting of Assigned Risk employers.

Q. What is the advantage of looking at the Assigned Risk Rate Filing in this manner?

A. The advantage is that it results in considerable simplification. Instead of building each rate from the ground-up, all that is necessary is for the Rate Bureau to calculate a loss cost modification factor that adjusts for differences in loss costs for the Assigned Risk market as compared to the voluntary market, as well as loadings for production and general expenses, taxes, licenses and fees, uncollectible premiums, and profit and contingencies in the exact same manner that insurance companies do for their voluntary books. The combined impact of these provisions results in a loss cost multiplier that is applied to the voluntary loss costs to produce the Assigned Risk rates.

Q. What are the specific steps involved in the calculation of the loss cost multiplier?

A. There are seven steps:

1. Calculate a loss cost modification factor;
2. Determine the provision for commission and brokerage;
3. Determine the provision for other acquisition and general expenses combined;
4. Determine the provision for taxes, licenses and fees;
5. Determine the provision for underwriting profit and contingencies;
6. Determine the provision for uncollectible premiums; and
7. Determine the impact of the expense constant and minimum premiums.

Q. How is the Assigned Risk loss cost multiplier calculated?

A. The actual formula is complex, but the seven provisions above are entered into a formula provided by the North Carolina Department of Insurance (NCDOI) for use in determining loss cost multipliers. In essence, the loss cost multiplier is the loss cost modification factor (1) divided by the complement of the expense and profit and contingencies ratio (sum of (2) through (6)), with an offset for premium provided by the expense constant and minimum premiums (7). The WCIP does not provide premium discounts by size of insured and North Carolina State-act losses do not have loss-based assessments, so those parts of the NCDOI's formula are not used.

Q. Is the NCDOI's formula commonly accepted?

A. Yes, it has been used by voluntary market insurance companies in North Carolina for many years and functionally equivalent formulas exist in almost all the other states that have a similar loss cost rating law.

Q. Is this the same formula used in the current filing?

A. Yes, it is.

Q. Let's now take the NCDOL's formula components one at a time. What is a loss cost modification factor and how is it calculated?

A. Assigned Risk employers usually experience a level of losses that is higher, on average, than the market as a whole. This makes sense in that insurance underwriters will decline to write an insurance policy where they view the potential losses as higher than the level at which their individual rates would appropriately compensate them. The fact that Assigned Risk loss experience is higher simply means that insurance company underwriters in the exercise of their independent judgment are successful in identifying high-cost employers. The loss cost modification factor represents the amount by which the Assigned Risk loss cost level is expected to exceed the average as represented by the filed loss costs.

It is calculated using the concept of differentials. A differential is usually expressed as a ratio of ratios. The Rate Bureau first calculates a numerator ratio that is based solely on the experience of the Assigned Risk market. That numerator ratio is itself comprised of a numerator of losses developed to ultimate and adjusted to the current benefit level and a denominator consisting of the pure premiums developed to ultimate and adjusted to the 4/1/2026 voluntary loss cost level. Essentially, the numerator ratio is the loss ratio that would have resulted if the Assigned Risks were not charged a fully loaded rate but were instead charged the voluntary market loss costs. The numerator ratio thus represents as a factor the percentage by which Assigned Risk losses either exceed or are short of the voluntary market pure premiums at the 4/1/2026 level.

The denominator ratio is comprised of the same elements as the numerator ratio but is based on the experience of the entire market (both assigned risk and voluntary). This denominator ratio represents as a factor the percentage by which the total market losses either exceed or are short of the voluntary market pure premiums at the 4/1/2026 level.

When taking the ratio of the ratios, the measurement unit in the denominator of each is common, both representing pure premiums at the 4/1/2026 level. They therefore cancel and we are left with a scaled factor representing the relative percentage amount that Assigned Risk losses either exceed or are short of the total market losses. As mentioned earlier, the differentials are expected to exceed 1.000, since Assigned Risk loss costs are anticipated to be higher than the average of all North Carolina employers.

The Rate Bureau calculates a differential as described above for each of the most recent complete ten policy years, 2015 through 2024. Additionally, differentials are calculated using the paid loss development method and the case-incurred loss development method. The ten-year average

differential for each method is divided by the current impact of assigned risk pricing programs (the current differential of 2.502 and the impact of the Assigned Risk Adjustment Program, or ARAP, of 1.007) to determine an indicated change for each method. The Rate Bureau gives equal weight to the indicated changes for each method. The average indicated change (0.959) multiplied by the current assigned risk differential results in an indicated assigned risk differential of 2.399.

An adjustment is made to prevent a double counting of the loss adjustment provision included within the servicing carrier allowance. Voluntary market loss costs include a provision for loss adjustment expenses. Loss adjustment expense is also provided to servicing carriers through their servicing carrier allowance, and the servicing carrier allowance is included in the Assigned Risk rates in a different part of the formula (in the provision for other acquisition and general expenses). Additionally, it is also assumed that the servicing carrier allowance is applicable to direct assignment carriers as well. Therefore, an adjustment needs to be made to the loss cost modification factor to exclude the loss adjustment expenses that are provided through the servicing carrier allowance. This second adjustment is a factor of 0.830 and is the inverse of the loss adjustment expense factor. The indicated differential of 2.399 multiplied by the adjustment factor of 0.830 results in the proposed loss cost modification factor of 1.991 and is shown on Exhibit I-A, Sheet 3 of the Filing.

Q. Is this the same procedure used in last year's filing?

A. Yes, it is.

Q. In your opinion is the loss cost modification factor of 1.991 reasonable?

A. Yes.

Q. How is the provision for commission and brokerage determined?

A. The WCIP provides for a flat commission of 5% of premium to be used for all Assigned Risks, regardless of whether they are written by direct assignment carriers or servicing carriers.

Q. How is the provision for other acquisition and general expenses determined?

A. It is based on the average servicing carrier allowance (which includes loss adjustment expenses) and is assumed to be applicable to both servicing carriers as well as direct assignment carriers.

The provision is the weighted average of the January 1, 2026 three-year servicing carrier allowances (which include loss adjustment expenses), plus a provision for Assigned Risk Pool administrative expenses. The Assigned Risk Pool administrative expense provision consists of the average over the most recent ten calendar years of the ratio of Pool administrative and separately reimbursable

expenses to the gross written premium of servicing carriers and direct assignment carriers combined.

Q. Is this the same procedure used in last year's filing?

A. Yes, it is.

Q. In your opinion, is the provision for other acquisition and general expenses reasonable?

A. Yes.

Q. How is the provision for taxes, licenses and fees determined?

A. The provision for taxes, licenses and fees is based on the North Carolina premium tax rate of 2.5% multiplied by the regulatory surcharge factor (1.065), producing a total of 2.66%. These values are shown on Exhibit II of the Filing.

Q. In your opinion, is the provision for taxes, licenses and fees reasonable?

A. Yes.

Q. How is the provision for underwriting profit determined?

A. The Rate Bureau selected an underwriting profit provision of -1.0% based on a cost of capital analysis and a rate of return model provided by Dr. Zanjani. The negative provision reduces the indicated premium requirement produced by the formula. The Rate Bureau relied upon Dr. Zanjani for this purpose due to his expertise in economics.

I did not independently evaluate the underwriting profit provision because that work was outside the scope of my assignment. For the purpose of my remaining opinions, I rely on Dr. Zanjani's analysis and assume that the selected -1.0% underwriting profit provision is reasonable.

Q. Is a contingency provision included in the Filing?

A. No, the Rate Bureau considered a contingency provision, but elected not to include one in this filing.

Q. How is the provision for uncollectible premiums determined?

A. The data regarding uncollectible premium is contained in Exhibit II-F. The provision for uncollectible premium is selected based on a review of various indications calculated from policy years 2014 through 2024 uncollectible premium ratios after development. There is also an adjustment to reflect the savings resulting from commissions and the servicing carrier allowance that are not paid on uncollectible premiums.

Q. In your opinion, is the provision for uncollectible premium the Rate Bureau has included reasonable?

A. Yes, it is.

Q. How is the impact of the expense constant and minimum premiums determined?

A. Expense constant and minimum premiums provide additional premium revenues apart from those produced by the rates. This additional revenue therefore reduces the rate need, and consequently the loss cost multiplier that would otherwise apply. The Rate Bureau calculates the impact of the expense constant and minimum premiums in Exhibit II-D. The impact of the expense constant is based on the Assigned Risk premiums for policy years 2023 through 2025. The impact of minimum premiums is based on Unit Statistical Data for policy years 2015 to 2022. The combined impact of the expense constant and minimum premiums is 15.8% of assigned risk premium excluding these items. This impact is expressed as a factor (1.158) and used as a divisor in the loss cost multiplier formula to reduce the rates to account for these alternate premium sources.

Q. Has the Rate Bureau changed the formula to determine the impact of the expense constant and minimum premiums from the prior Assigned Risk rate filing?

A. No, it is the same formula used in the prior Assigned Risk rate filing.

Q. In your opinion, is the impact of the expense constant and minimum premiums that the Rate Bureau has calculated reasonable?

A. Yes, it is.

Q. In your opinion, is the formula provided by the NCDOL a reasonable method to determine the Assigned Risk loss cost multiplier?

A. Yes, it is.

Q. What is the Assigned Risk loss cost multiplier filed by the Rate Bureau?

A. It is 2.756 as shown on Exhibit I-A, Sheet 1.

Q. How does the proposed loss cost multiplier compare with the currently filed multiplier?

A. The proposed multiplier is 2.756, compared with the current multiplier of 2.875. The primary driver of the decrease is the reduction in the loss cost modification factor. Although several expense and profit components also changed, the changes were offsetting in nature, and the total expense and profit percentage has remained the same at 37.6%.

Q. How are the Assigned Risk rates calculated?

A. The filed loss cost multiplier (above) is multiplied by the loss costs by classification code as contained in the voluntary market loss cost filing.

Q. How is the overall change in Assigned Risk rate level calculated?

A. For the industrial classifications, it is derived from the product of the change in the voluntary market loss costs expressed as a factor and the change in the Assigned Risk loss cost multiplier. Since the change in the loss cost multiplier is a constant for every industrial class code, this will hold for each class code and each industry group in addition to the average overall change. The same approach is used to calculate the overall rate level change for the F classifications.

Q. Have there been changes to any other aspects of the filing, including disclosures, assumptions, adjustments, or methodology changes?

A. In this filing, the Rate Bureau removed the “per ginning location” minimum premium calculation procedure for Class Code 0401 (Cotton Gin Operation – Local Managers & Drivers).

Q. I understand that you are not providing an opinion concerning the underwriting profit provision. If I ask you to assume that the underwriting profit provision is reasonable and actuarially sound, is the Assigned Risk loss cost multiplier as filed by the Rate Bureau reasonable in your opinion?

A. Yes, if I assume that the underwriting profit provision is reasonable, in my opinion, the Assigned Risk loss cost multiplier filed by the Rate Bureau also is reasonable and actuarially sound.

Q. Again, assuming the underwriting profit provision is reasonable, do you have an opinion whether the filed Assigned Risk rates are actuarially sound and reasonably reflect the needed level to cover all costs for Assigned Risk workers compensation insurance in North Carolina?

A. Yes, if I assume that the underwriting profit provision is reasonable, it is my opinion that the overall level of the Assigned Risk rates as filed by the Rate Bureau reasonably reflects the expected level of all costs for workers compensation Assigned Risk insurance in North Carolina for the time period during which they are proposed to be in effect, and the rates by classification as contained in that filing are actuarially sound.

Q. Assuming that the underwriting profit provision is reasonable, in your opinion are the Assigned Risk rates included in the Filing not excessive, inadequate, or unfairly discriminatory?

A. Yes, if I assume that the underwriting profit provision is reasonable, it is my opinion that the Assigned Risk rates included in the Filing are not excessive, inadequate, or unfairly discriminatory.

Q. Does this conclude your testimony?

A. Yes, it does.

**PREFILED TESTIMONY
OF
GEORGE ZANJANI**

**2026 WORKERS COMPENSATION
ASSIGNED RISK INSURANCE RATE FILING
NORTH CAROLINA RATE BUREAU**

I. Qualifications and Summary

Q: What is your name, occupation, and business address?

A: My name is George Zanjani. I am Professor of Finance and the holder of the Frank Park Samford Chair of Insurance at the University of Alabama. My business address is 1074 Alderwood Lane NE, Marietta, Georgia 30068.

Q: Please describe your educational and employment background.

A: A complete curriculum vitae is attached as Exhibit RB-6 with this testimony. To summarize, my undergraduate studies were at Stanford University from 1987-1990, where I earned an A.B./B.S. in Economics and Biology. I joined the commercial lines actuarial department of Fireman's Fund Insurance Companies in 1990 as an Assistant Actuarial Analyst. Upon leaving in 1994, I was a Senior Actuarial Analyst, an Associate of the Casualty Actuarial Society, and the head of the company's Workers Compensation actuarial unit. I did my graduate studies in Economics at the University of Chicago, earning a Ph.D. in 2000. I joined the Research Department of the Federal Reserve Bank of New York in the Capital Markets Function as a Research Economist in 2000, leaving as a Senior Economist in 2008. I joined the Robinson College of Business of Georgia State University in 2008 as an Associate Professor of Risk Management and Insurance and was honored as the inaugural holder of the AAMGA Distinguished Chair in Risk Management and Insurance in 2011. I started my current position in 2017.

Q: Please elaborate on some of your professional activities.

A: My professional career has been focused on insurance. After four years of actuarial work in commercial lines insurance, my dissertation addressed the economics of insurance pricing. I specialized on insurance issues while at the Federal Reserve Bank of New York. In particular, I served for the Bank on the Presidential Working Group on Financial Markets during its review of the renewal of the Terrorism Risk Insurance Act in 2006 and on the Committee on the Global Financial System Task Force on Institutional Investors, Global Savings, and Asset Allocation.

My academic service activities include 1) service as referee for various academic journals, 2) service as an associate editor of the *Journal of Insurance Issues*, 3) service as a senior editor of the *Journal of Risk and Insurance*, and 4) (current) service as a deputy editor-in-chief for the *Journal of Risk and Insurance* and an associate editor for *Insurance: Mathematics and Economics*. In addition, I have served on the Board of the American Risk and Insurance Association and served as President of that association. I have also served as President of the

Risk Theory Society. I currently serve on the International Research Advisory Board of National Chengchi University.

As an academic, I continue to write on insurance pricing, participate in academic conferences on insurance, and engage in various sponsored research and consulting activities related to insurance. The latter activities include two research projects on capital allocation and a third on loss reserving, all sponsored by the Casualty Actuarial Society, and a project on the financial crisis and the insurance industry sponsored by the Society of Actuaries in 2009. In addition, I have taught various courses at the undergraduate and graduate levels over the past decade, including classes on financial risk management, risk modeling, and property-casualty insurance.

Q: Have you published any papers or books?

A: Yes. I have published various articles, book chapters, reviews, and white papers on insurance pricing and other aspects of insurance markets. Published or forthcoming work includes articles on insurance topics in the *American Economic Review*, *Insurance: Mathematics and Economics*, the *Journal of Banking and Finance*, the *Journal of Financial Economics*, the *Journal of Public Economics*, the *Journal of Risk and Insurance*, *Management Science*, and the *North American Actuarial Journal*. My co-authors and I have a chapter in the 2025 edition of the Handbook of Insurance on the theory and practice of insurance pricing. Two papers have won awards for their contributions to the field of actuarial science: I received the 2010 ARIA award from the Casualty Actuarial Society and shared the 2015 Charles A. Hachemeister Prize (also from the Casualty Actuarial Society) with a co-author.

Q: Are you a member of any professional organizations?

A: I am a member of the American Economic Association, the American Finance Association, the American Risk and Insurance Association, and the Risk Theory Society. I am also an Associate of the Casualty Actuarial Society. I served on the Board of Directors of the American Risk and Insurance Association from 2007 to 2014 and served as President in 2012-2013. I served as President of the Risk Theory Society in 2012.

Q: Have you ever testified in insurance rate regulatory proceedings?

A: Yes. I have offered testimony in Workers Compensation insurance rate filings in Florida (2015 and 2017), Massachusetts (2020, 2022, 2023, 2024, and 2025), and Virginia (2016). I offered testimony in support of State Farm General's emergency rate application in California in 2025. In addition, I have supplied testimony for various rate filings in North Carolina starting in 2019, including Workers Compensation, Private Passenger Auto, Homeowners, Mobile Homeowners, Flood, and Dwelling.

Q: What was the nature of your testimony in those previous cases?

A: In the Florida, Massachusetts, and Virginia cases, I offered testimony on the underwriting profit factors used in the rates. Specifically, I evaluated the suitability of the methods and assumptions used to develop those factors, as well as whether the rate of return on capital implied by those factors was reasonable. For the North Carolina filings, I estimated the rate of return on capital implied by the selected underwriting profit factors and assessed whether that

rate of return was reasonable. In the State Farm General case, my testimony addressed the company's financial condition and ability to operate successfully under the rate regulation that applied to the company's initial rate filing in 2024.

Q: What is the purpose of your testimony?

A: I was asked by the North Carolina Rate Bureau, as a financial economist with expertise in insurance, 1) to assist the Bureau committee with the underwriting profit factor selection, 2) to determine the expected return on insurance net worth implicit in the filing, and 3) to assess whether the expected return on net worth constitutes a reasonable rate of return and thus whether the selected underwriting profit factor satisfies North Carolina's statutory requirements.

Q: Please summarize the main findings of your testimony.

A: The first task was to determine the range for a reasonable rate of return on capital. I started by creating a set of estimates of the cost of insurance equity relevant for the North Carolina Workers Compensation insurance market. I consulted various third-party estimates of the cost of equity for the property-casualty insurance industry. I also generated my own estimates using a single-factor risk premium approach, where the cost of equity was determined by 1) the historical excess return of the overall stock market over bonds, 2) the historical correlation of the equity prices of the firms serving the North Carolina Workers Compensation market with the overall stock market, and 3) the current level of bond yields. Finally, I adjusted the cost of equity to account for the significant presence of private companies in the North Carolina market. The cost of equity estimates resulting from this exercise ranged from 7.58% to 13.6%.

Next, I calculated a weighted average cost of capital (WACC) by estimating the fraction of debt in the typical insurance holding company capital structure and weighting together the cost of equity with the cost of debt based on this fraction. The resulting range for the WACC was 7.10% to 12.4%.

The next task was to determine the projected rate of return on capital associated with the selected underwriting profit provision. Using a pro forma return model similar to that used in previous filings, I analyzed how the selected underwriting profit provision used in the filing translates into an expected return on net worth. These calculations, as detailed in Exhibit RB-7, follow the conventions used for all lines of business in North Carolina and show a total return of 13.63%.

I next considered various adjustments to the conventional model that I believe to be appropriate for the particular case of North Carolina Workers Compensation insurance. I started by considering two adjustments to the investment return. First, I adjusted the asset portfolio allocations (across bonds, stocks, and various other investments) to reflect the allocations actually supporting North Carolina Workers Compensation business, rather than the overall average industry allocations. Second, I adjusted the prospective portfolio yields to reflect current market conditions, as opposed to the average of current market yields and embedded yields. The combined effect of these changes is to decrease the total return produced by the selected underwriting profit factor to 12.95%.

Next, I considered the effect of adjusting leverage in the model. To test the sensitivity of the results to alternative leverage assumptions, I computed the total return under the leverage implied by reserves-to-surplus ratios of the Commercial Casualty Composite (an aggregate of diversified insurers underwriting various casualty lines of insurance) and the Workers Compensation Composite (an aggregate of insurers heavily focused on Workers Compensation insurance). I found that the total return on capital associated with the selected underwriting profit factor fell to 10.68% in the former case and 7.61% in the latter. If the leverage changes are combined with the adjustments to the investment yields described above, the total returns fall to 10.15% and 7.24%, respectively.

I then compared the projected total returns on capital associated with the selected underwriting profit factor with the cost of equity and WACC ranges described earlier. After making the adjustments described above, the projected total returns fell, in most cases, within the range of the cost of equity and the range of WACC estimates.¹ I therefore conclude that the expected return implied by the underwriting profit provision used in the filing is reasonable and not excessive.

II. Expected Return on Net Worth

Q: In general terms, how did you determine the expected return on net worth implied by the underwriting profit provision used in the filing?

A: I started with a *pro forma* return model similar to that used in previous filings in North Carolina. The model accounts for underwriting income, investment income on unearned premium and loss/loss adjustment expense (LAE) reserves and on surplus, and taxes as a percentage of premium. Total after-tax income from these sources (as a percentage of premium) is then related to net worth (as a percentage of premium) to obtain an expected return on net worth.

Q: What do you mean by *pro forma*?

A: The model is *pro forma* in the sense that it assumes 1) that the indicated rate change will be implemented and 2) that all loss, expense, and investment return realizations will coincide with their projected expected values.

The results of the model and supporting information are presented in Exhibit RB-7.

Q: Could you state what you mean by “net worth”?

A: Net worth is the book value of equity of a company under Generally Accepted Accounting Principles (GAAP) rather than Statutory Accounting Principles (SAP).

¹ The exception was the 7.24% total return resulting from adjusting investment yields and adjusting leverage to be in line with the reserve-to-surplus ratio of the Workers Compensation Composite, which fell below the 7.58% lower bound of the range of cost of equity estimates.

Q: Are you aware that the North Carolina statutes were amended effective July 1, 2025, to expressly require that due consideration be given to investment income from capital and surplus?

A: Yes, I have been advised by Rate Bureau counsel of that change to the North Carolina statutes.

Q: Have you given due consideration to investment income from capital and surplus in your analysis?

A: Yes.

Q: Would you please elaborate on the elements of the return and how they are calculated?

A: The return is composed of underwriting profit (Line 2 of Exhibit RB-7, Page 1), the investment gain on insurance transaction (Line 6 of Exhibit RB-7, Page 1), and the investment gain on surplus shown on Line 7 of Exhibit RB-7, Page 1. (Please note that, in my exhibits and sometimes in my testimony, I refer to investment income on surplus as a shorthand reference to investment income on capital and surplus.) All of the foregoing income components are adjusted for taxes. The components are discussed in greater detail below:

Underwriting profit - As a matter of arithmetic and definition, the underwriting profit as a percentage of premium matches the underwriting profit provision selected by the NCRB. It is the percentage of premium left over after accounting for the loss and expense provisions. Expenses include Commissions; Taxes, Licenses, and Fees; Servicing Carrier Allowance and Other Pool Expenses; an Other Acquisition and General provision attributable to direct writers; and a provision for uncollectible premium. The underwriting profit is assumed to be taxed at the current corporate rate of 21% (Line 3 of Exhibit RB-7, Page 1). I also account for additional tax liabilities relating to IRS rules regarding the treatment of unearned premium reserves and of loss reserves (Line 4 of Exhibit RB-7, Page 1). Details of the calculation of these additional tax liabilities are found on Pages 3, 3A, and 3B of Exhibit RB-7.

Net Investment Gain on Insurance Transaction – This portion of the return reflects investment income on investible funds generated by the insurance transaction. Specifically, this quantity is estimated as the product of an investment yield and the average loss/LAE and unearned premium reserves. Adjustments are made for prepaid expenses and agents' balances (to account for the fact that agents' balances, which are premiums held by agents and not yet remitted to the company, are not available for investment by the insurance company). The details of the estimation of investible reserves and the pre-tax investment income generated from those reserves are found on Pages 4 to 7 of Exhibit RB-7. The tax liability is based on a weighted average of estimated tax rates on the different sources of investment income, with the weights based on the composition of the overall North Carolina industry portfolio.

Investment Gain on Surplus – This portion of the return reflects investment income generated from surplus. The pre-tax investment yield is applied to investible surplus, the amount of which is based on the ten-year average premium-to-surplus ratio for groups writing Workers Compensation insurance in North Carolina from Page 11 of Exhibit RB-7. The premium-to-surplus ratio for each year is calculated by taking a premium-weighted average of individual group surplus-to-premium ratios and inverting the result. The tax liability is again based on a

weighted average of estimated tax rates on the different sources of investment income, with the weights based on the composition of the overall North Carolina industry portfolio.

These components of after-tax return, all denominated as a percent of premium, are then summed and related to net worth. This is accomplished by multiplying the returns as a percent of premium by the product of the premium-to-surplus ratio from Page 11 of Exhibit RB-7 and the inverse of the industry-wide net worth-to-surplus ratio from Page 12 of Exhibit RB-7.

Q: Please explain how the investment yield is calculated.

A: My understanding is that the accepted approach in North Carolina, based on a decision by the Commissioner in the 1990's, is to estimate the investment yield as an average of the "embedded yield" based on the industry statutory annual statement reports and a "current yield" based on current market rates. I have followed this convention in the analysis presented in Exhibit RB-7, though I contemplate the consequences of this convention in more detail later in my testimony.

For the current yield, I start with the overall weighted average invested asset portfolio for the North Carolina insurance market (using total North Carolina DPW for weights) and use various sources to estimate the current market yields for those assets. Sources for current market rates, and a summary of the overall calculation, are provided on Page 8 of Exhibit RB-7. For the US Government, Municipal, and Corporate bond subcategories, I obtain a maturity distribution for the North Carolina industry portfolio in each subcategory from the Schedule D summary exhibits and match each maturity level from the exhibits to a corresponding bond yield of similar maturity, so that the average yield within each subcategory shown on Page 8 is a weighted average across maturities according to the North Carolina industry portfolio. The bond yields are based on the sources described on Page 8 of Exhibit RB-7, with linear interpolation being used in cases where the available bond yields do not match up with the average maturity from Schedule D. The calculation of the current yields for other investment categories are described in the notes of Page 8 of Exhibit RB-7.

The overall pre-tax current yield on the industry portfolio as thus determined is 5.50%. The embedded yield calculations, based on the actual investment income reported by the industry, are shown on Pages 9 and 10 of Exhibit RB-7; the pre-tax embedded yield is 4.72%. For the pro forma calculations, I average these two figures to obtain 5.11% (shown on Page 6 of Exhibit RB-7).

The tax liability for investment income is determined for each asset class, reflecting tax advantages as appropriate on municipal bond interest, preferred and common stock dividends, and capital gains on stock. The expected return on equity is split into a capital gain and dividend component, for tax purposes, based on the experience of the S&P 500 over the 2000-2025 period.

Q: What is the expected return on net worth?

A: To calculate the implied return on insurance company equity, components of after-tax return are summed and related to net worth, which, as a percentage of premium, is calculated based on the product of the premium-to-surplus ratio from Page 11 of Exhibit RB-7 and the inverse of the industry-wide net worth-to-surplus ratio from Page 12 of Exhibit RB-7. This approach

indicates that the selected underwriting profit factor of -1.0%, if achieved, and under the assumptions described above, would yield a total return on net worth of 13.63%.

Q: Have you considered the impact of any other alternative assumptions on your estimates?

A: Yes, I have considered an alternative investment yield calculation and alternative leverage assumptions.

For the alternative investment yield, I considered the combined impact of several changes.

First, I based the asset distribution on a premium-weighted average of the portfolio allocations used by the companies writing Workers Compensation in North Carolina. The pro forma model relied on the weighted average invested asset distribution for the overall North Carolina insurance industry. While I have followed this convention in Exhibit RB-7, the assumption may not be suitable for the case of Workers Compensation because the North Carolina industry portfolio reflects heavy common stock allocations by certain personal lines carriers and other companies that do not underwrite Workers Compensation. The high common stock allocation tends to inflate the estimated investment yields, particularly current yields, where the expected rate of return on common stock is much higher than typical bond yields (see Page 8 of Exhibit RB-7). Basing the allocation assumption on the portfolios of the companies actually writing Workers Compensation business in North Carolina, in my opinion, offers a closer approximation to the average investment portfolio supporting North Carolina Workers Compensation underwriting.

Second, I based the investment yield solely on the current yield. The practice of averaging embedded yields with current yields makes little difference when the yields are relatively close together. But there is a divergence between the current yields on investments and embedded yields, with the pre-tax current yield being higher than the embedded yield. The current yield, in my opinion, is the better indicator of investment yields for a prospective ratemaking exercise, where the relevant questions concern the terms on which money will be invested today and in the future.

The combined effect of these two changes is to decrease the total return to 12.95%.

The more consequential assumption change I considered concerned leverage. The conventional approach in North Carolina determines leverage by allocating surplus within insurers on the basis of premiums. While premium-based allocation is common in personal lines, the more typical approach in Workers Compensation ratemaking allocates surplus on the basis of reserves. For example, reserves-based allocation is the source of the leverage input in the rate filings of the National Council on Compensation Insurance (NCCI) and the Workers Compensation Rating and Inspection Bureau of Massachusetts (WCRIBMA).

Allocating surplus on the basis of reserves makes a significant difference in the model because of the substantial loss reserves. As can be seen on Page 4 of Exhibit RB-7, every \$1 million of premium is associated with \$339,672 of unearned premium reserves (Line A.2) and \$3,084,277 of loss and LAE reserves, meaning that the reserve-to-premium ratio is about 3.42 in the model.

The A.M. Best Commercial Casualty Composite and the A.M. Best Workers Compensation Composite provide readily available indications of the aggregate reserves-to-surplus ratio for firms underwriting Workers Compensation. The Commercial Casualty Composite includes companies that are focused on commercial casualty lines generally, while the Workers Compensation Composite includes companies that are heavily focused on Workers Compensation alone. The 2025 reserves-to-surplus ratio of the former composite is 1.996 (calculated as the sum of unearned premium, loss, and LAE reserves divided by surplus) while the 2025 ratio for the latter composite is 1.106. Thus, the premium-to-surplus ratio in the model would be approximately $1.996 / 3.42 = 0.584$ (if using the reserves-to-surplus ratio of the Commercial Casualty Composite) and $1.106 / 3.42 = 0.323$ (if using the reserves-to-surplus ratio of the Workers Compensation Composite). Both figures entail substantial reductions from the ratio of 0.835 shown on Page 11 of Exhibit RB-7.

Moreover, as shown in Exhibits RB-8 and RB-9, these alternative leverage figures have a significant impact on the total return associated with the selected underwriting profit provision. Exhibit 8 shows the Page 1 total return summary calculation when replacing the 0.835 premium-to-surplus ratio used in RB-7 with the 0.584 premium-to-surplus ratio based on the Commercial Casualty Composite: The total return on net worth drops to 10.68%. Exhibit RB-9 makes a similar calculation using the 0.323 figure associated with the Workers Compensation Composite, showing a total return of 7.61%. If these changes are combined with the alternative investment yields described earlier, the total return drops to 10.15% (in the case of the Commercial Casualty Composite leverage) and 7.24% (in the case of the Workers Compensation Composite leverage).

Q: How was the underwriting profit factor determined?

A: The Bureau selected the -1.0% provision. I participated in the Bureau's Workers Compensation Committee meeting for the discussion of the profit portion of the rate review. I described for the Committee my pro forma profit analysis and provided an array of underwriting profit provisions and their associated returns on net worth. The returns shown in that array spanned the ranges for the cost of equity and the WACC that I had established, as I will describe in more detail below, as the numbers that I viewed as being reasonable. Following my presentation and the committee discussion, the committee selected the underwriting profit factor.

III. Rate of Return on Capital

Q: What steps did you take in the course of assessing whether the returns described above would produce a reasonable rate of return on capital?

A: I first established ranges for reasonable estimates of the cost of capital. I then compared the estimated statutory and total returns on net worth determined in Section II above to these cost of capital ranges.

Q: How did you establish ranges for reasonable estimates of the cost of capital?

A: The cost of capital for an industry is a difficult figure to pin down, and my approach is to gather a broad sample of estimates. I started by gathering various third-party estimates of the cost of capital for property-casualty firms associated with publicly traded holding companies. I also made an independent set of estimates of the same tailored specifically for the North Carolina

Workers Compensation market. I then made adjustments to all of these estimates to account for the presence of private companies in the North Carolina market.

Q: Please describe the third-party estimate sources and methodologies.

A: Kroll (formerly Duff & Phelps) and Damodaran Online (an open-access website maintained by Aswath Damodaran, a valuation expert affiliated with New York University) both publish estimates for the property-casualty industry. Kroll updates the estimates quarterly (the estimates reported below are from 3/31/2026), while Damodaran Online updates the estimates annually (1/1/2026).

Kroll reports estimates from a variety of methodologies. Some estimates are produced using factor models, where the industry's sensitivity to a pricing factor (or sensitivities to a set of factors) are measured and used to generate a cost of capital. For example, single factor models (such as the CAPM) typically mark the overall stock market return in excess of a "base" fixed income return as the pricing factor. The cost of capital is generated in this case by estimating a risk premium for each factor, adjusting that risk premium to account for the sensitivity of the industry in question to that factor, and then adding the adjusted risk premium to the current yield of the "base" fixed income instrument to produce a cost of capital. In addition to CAPM estimates, Kroll also reports a "CAPM + size premium" estimate to recognize the higher cost of capital endured by smaller firms and thus correct for the average size of firms within an industry. The "Buildup Method" employs a related approach, adding a size premium and an industry premium to the standard market risk premium. The Fama-French-5-factor model extends the single risk factor framework of the CAPM to a five factor risk framework, thus pricing an industry's equity on the basis of its sensitivity to four additional factors in addition to overall market returns. Kroll also utilizes discounted cash flow (DCF) models, where free cash flow or dividends are forecasted into the future, with the cost of capital estimate being the implied discount rate on the future cash flows that explains the current equity valuation. In general, the two classes of methods---factor models and DCF models---are perhaps the two most widely accepted and widely deployed methods for estimating the cost of equity.

Damodaran reports estimates from a single-factor risk premium model. However, rather than estimating the risk premium associated with the stock market on the basis of simple averages of historical excess returns (as is typically done), he attempts to modify the premium to account for the current level of stock market valuation. This distinction is one example of the substantial variation in implementation of factor models, which can have significant effects on the estimates. There is also substantial methodological variation in implementation of the DCF model, which is estimated with different time period stages, with time-varying growth rates. All of this underscores the importance of consulting multiple sources of estimates and testing sensitivities where possible.

The approaches described above all produce estimates of the cost of equity. In the case of Damodaran Online, I updated the 10-year Treasury yield used as the reference point in the calculation to be consistent with 10-year yield used in the other parts of the filing. In each case, the cost of equity is then weighted together with an estimated cost of debt for the industry to produce a WACC for publicly traded firms. The weights are based on the composition of the capital structure (equity versus debt) for the industry.

Q: Please describe how you derived your independent estimates of the cost of equity capital for publicly traded firms.

A: I used a single factor model, also referred to as a “risk premium” approach in previous filings in North Carolina. This approach estimates the cost of equity as

$$r + \beta * (ERP)$$

where r is the current yield on a reference fixed income instrument, ERP is the estimated expected excess return of the stock market over that fixed income yield, and β is the estimated covariation between the equity of the property-casualty industry and the overall stock market (more precisely, the covariance of property-casualty equities with the S&P 500, divided by the variance of the S&P 500).

For the reference interest rate, I tried four different fixed income assets---the 3-month Treasury Bill, the 10-year Treasury Note, the Moody’s Seasoned Aaa Corporate Bond Index, and the Moody’s Seasoned Baa Corporate Bond Index. In each case, I estimated the equity risk premium as the average excess return of the S&P 500 over the return on the reference fixed income asset over the 1928-2025 period. To calculate the average returns, I used the formula from Blume (1974)² by weighting together the arithmetic average and the geometric average, as in:

$$\left[\frac{N-T}{N-1} (1 + \pi_A)^T + \frac{T-1}{N-1} (1 + \pi_G)(1 + \pi_G)^T \right]^{\frac{1}{T}}$$

where N is the sample size, T is the return horizon (corresponding to the maturity of the fixed income asset), π_A is the arithmetic average return in the sample, and π_G is the geometric average return in the sample. The data used in the analysis to establish the equity risk premia are included in Exhibit RB-10.

For β (beta), I estimated a weighted average beta for the North Carolina Workers Compensation market. For each publicly traded holding company associated with an operating subsidiary underwriting Workers Compensation insurance in North Carolina in 2025, I pulled the beta provided by S&P Global (based on 1-year and 3-year daily returns) and adjusted them using a Blume correction (a weighted average of the raw beta and one, with the weight on the raw beta being 0.67). I then calculated a weighted average based on 2025 North Carolina Workers Compensation DPW. The company-level data used in this analysis are included in Exhibit RB-11.

Given current yields for the reference fixed income assets and estimates for the equity risk premium and beta, I then calculate a cost of equity according to the cost of equity formula given above.

Next, I estimated a WACC for the North Carolina market. For the capital structure, I estimated a weighted average debt percentage for the North Carolina Workers Compensation market. For each publicly traded holding company, I calculated the percentage of debt in the capital

² Blume, M.E. (1974), “Unbiased Estimates of Long-Run Expected Rates of Return,” *Journal of the American Statistical Association* (September), pp. 634-8.

structure based on the latest fiscal year report. The company-level capital structure details are included in Exhibit RB-11. For the after-tax cost of debt, I used the figure from Damodaran Online of 3.88%, based on a 4.39% 10-year Treasury rate.

Q: What were the results?

A: The following table lists the cost of equity and the WACC for publicly traded companies, including the estimates I produced and those reported by Kroll and Damodaran Online for the property-casualty industry.

Cost of Capital for Publicly Traded Companies									
Source	Method	Current Yield 6/2/2026	Equity Risk Premium	Cost of Equity		Cost of Debt	% Debt	WACC	
Kroll	CAPM			7.3%		4.29%	13.3%	6.9%	
Kroll	CAPM + Size Premium			7.5%		4.49%	13.3%	7.1%	
Kroll	Build-Up			8.5%		3.99%	13.3%	7.9%	
Kroll	Fama-French 5-factor			10.4%		4.38%	13.3%	9.6%	
Kroll	DCF (1-stage)			7.0%		4.74%	13.3%	6.7%	
Kroll	DCF (3-stage)			11.8%		4.28%	13.3%	10.8%	
Damodaran Online	Implied Premium			6.58%		3.88%	12.91%	6.23%	
				Low	High			Low	High
Zanjani	Risk Premium over T-Bill	3.72%	8.44%	7.79%	9.14%	3.88%	13.88%	7.25%	8.41%
Zanjani	Risk Premium over T-Note	4.39%	6.90%	7.72%	8.82%	3.88%	13.88%	7.18%	8.14%
Zanjani	Risk Premium over Aaa Bond	5.49%	6.06%	8.41%	9.38%	3.88%	13.88%	7.78%	8.62%
Zanjani	Risk Premium over Baa Bond	6.06%	4.82%	8.39%	9.16%	3.88%	13.88%	7.76%	8.43%

* After-tax cost of debt for Kroll is not reported but is inferred based on the cost of equity, % of debt, and the WACC.

I have also shown the cost of debt, percentage of debt in the capital structure, and, for my own estimates, equity risk premiums and current yields to facilitate reconstruction. Other parameters I used were calculated as described above: 1) the weighted average beta for the North Carolina industry (0.4826 to 0.6428), 2) the cost of debt (3.88%, from Damodaran Online), and 3) the percentage of debt in the capital structure (13.88%).

To illustrate, the lower cost of equity for my “Risk Premium over T-Note” method is:

$$4.39\% + 0.4826 \times 6.90\% = 7.72\%,$$

where 4.39% is the 3-month average 10-year Treasury yield on 6/2/2026 (measured as the average of the yields on 6/2, 5/1, and 4/1---consistent with the yield averaging method in other parts of the filing), 0.4826 is the 1-year weighted average beta for the publicly traded holding companies of carriers serving the North Carolina Workers Compensation market, and 6.90% is the average long-horizon risk premium of the equity market over the 10-year Treasury yield. The corresponding WACC is:

$$(1 - .1388) \times 7.72\% + .1388 \times 3.88\% = 7.18\%,^3$$

³ Slight discrepancies may arise due to rounding.

where .1388 is the weighted average share of debt in the capital structure for the publicly traded holding companies of carriers serving the North Carolina Workers Compensation market, 7.72% is the cost of equity calculated in the previous step, and 3.88% is the after-tax cost of debt calculated using Damodaran Online. Note that the estimates for capital structure and the cost of debt differ across sources, so the relationship between the cost of equity and the WACC for Kroll and Damodaran Online will not follow the exact formula listed above.

Q: Do you believe any adjustments are necessary to the estimated cost of equity in the context of this filing?

A: Yes. All of the foregoing estimates are based on the data of publicly traded companies, which have the easiest access to financing and thus the lowest costs of capital. However, I found that operating companies affiliated with publicly traded holding companies wrote about 54.4% of the 2024 direct premiums written for North Carolina Workers Compensation insurance. The remaining 45.6% was underwritten by companies associated with private, often mutual, ownership---a segment well known to have more difficulty in accessing the capital markets.⁴ The industry average cost of equity needs to be adjusted upward to account for this non-public ownership.

Q: How much higher is the cost of equity for non-public firms?

A: Research dating back at least as far as the 1960's has demonstrated that private equity trades at a substantial discount to public equity. The discount is thought to derive from a variety of factors, most notably the illiquid nature of private equity stakes (also known as a "lack of marketability") as well as information, monitoring, and control issues. The discount translates into a higher cost of equity. For example, if a public firm's cost of equity is estimated at 10% and the equity of a comparable private firm is selling at a 20% discount to that of the public firm, the private firm's cost of equity would be estimated as:

$$12.5\% = 10\% / (1 - 20\%)$$

The discount is difficult to estimate. Exhibit RB-12 summarizes some of the academic research on the private firm discount. Studies have taken a variety of approaches to measurement. "IPO" studies compare the prices of pre-IPO share transactions in a private company with post-IPO share prices after the company is public. "Acquisition" studies compare the valuations of acquired private companies versus the valuations of acquired public companies. "Restricted stock" and "private placement" studies compare the prices of restricted stock issued by public companies with the prices of their traded shares.

All the approaches have their flaws. IPO studies, for example, are thought to have a bias toward overstating the discount because of the differences in timing of transactions. Restricted stock and private placement studies tend to understate the discount: Since they confine their attention to public companies, they do not account for factors other than the discount for lack

⁴ See, for examples, Harrington, S.E., and Niehaus, G. (2002), "Capital Structure Decisions in the Insurance Industry: Stocks versus Mutuals," *Journal of Financial Services Research* 21, 145-163, and Cummins, J.D., and Viswanathan, K. (2003), "Ownership Structure Changes in the Insurance Industry: An Analysis of Demutualization," *Journal of Risk and Insurance* 70, 401-437.

of marketability (DLOM), and, moreover, the actual restrictions on marketability for private placements have been loosened significantly over the years by the Securities and Exchange Commission.

On balance, however, the studies point to a substantial discount. For purposes of this testimony, I use a discount of 25%, which is slightly below the average of the averages of the three groups in Exhibit RB-12 (when taking the midpoint of the ranges for the studies with ranges of estimates).

Q: How would this affect the estimated cost of equity for the industry?

A: Assuming a 25% private company discount and a 45.6% market share for non-public companies, I calculate adjusted estimates of the private cost of equity and the public cost of equity:

$$45.6\% * \left(\frac{COE}{(1 - 0.25)} \right) + (54.4\%) * (COE),$$

where *COE* is the estimated cost of equity for public companies. The adjusted estimates are as follows:

Cost of Capital, Adjusted for Non-Public Ownership					
Source	Method	Cost of Equity		WACC	
Kroll	CAPM	8.4%		7.9%	
Kroll	CAPM + Size Premium	8.6%		8.1%	
Kroll	Build-Up	9.8%		9.0%	
Kroll	Fama-French 5-factor	12.0%		11.0%	
Kroll	DCF (1-stage)	8.1%		7.6%	
Kroll	DCF (3-stage)	13.6%		12.4%	
Damodaran Online	Implied Premium	7.58%		7.10%	
		Low	High	Low	High
Zanjani	Risk Premium over T-Bill	8.97%	10.53%	8.27%	9.61%
Zanjani	Risk Premium over T-Note	8.89%	10.16%	8.19%	9.29%
Zanjani	Risk Premium over Aaa Bond	9.69%	10.81%	8.89%	9.85%
Zanjani	Risk Premium over Baa Bond	9.66%	10.55%	8.86%	9.63%

Q: How do these figures speak to the issue of whether or not the pro forma expected return on net worth is reasonable?

A: There are at least two schools of thought on this issue.

The first is that the “net worth” in the pro forma return exhibit should be interpreted as an equity investment akin to the equity considered in the cost of equity analysis. Thus, it should be entitled to a similar rate of return. Under this school of thought, the return on net worth calculated in the previous section should be compared directly with the figures in the table above. If one does this, the projected returns are, in my opinion, reasonable and not excessive. The projected total returns of 7.61% (when basing leverage on the reserve-to-surplus ratio of the A.M. Best Workers Compensation Composite) and 10.68% (when basing leverage on the reserve-to-surplus ratio of the A.M. Best Commercial Casualty Composite) fall within the span of estimates, which range from 7.58% to 13.6%. The projected total return when using the premium-based surplus allocation as shown in Exhibit RB-7 falls near the upper bound of the span of estimates at 13.63%. When testing robustness by 1) adjusting the investment portfolio to the allocations matched to the North Carolina Workers Compensation market and 2) substituting current yields for embedded yields, this total return falls to 12.95%, which falls within the range of estimates. Similarly, the total returns associated with the alternate leverage figures fall to 10.15% (when using the Commercial Casualty Composite) and 7.24% (when using the Workers Compensation Composite). The former figure falls within the span of estimates, while the latter falls below the lower bound.

A second school of thought is that, although the capital of the operating subsidiaries may be fully financed by equity, the holding companies are the source of that equity. Thus, one should “look through” the operating subsidiaries to the level of the holding companies to determine a cost of capital, which is important because the holding companies---unlike the insurance subsidiaries---typically hold significant debt in the capital structure. Holding companies that are classified as property-casualty companies have, in recent history and on average, had in the neighborhood of 10% to 15% debt. Thus, the cost of capital for the holding company is, under this school of thought, calculated as a weighted average of the cost of equity and the cost of debt, with the weights based on each component’s share of the capital structure. The result is the WACC discussed above, which, as can be seen above, is typically lower than the cost of equity due to the lower cost of debt.

On the other hand, the market value of the capital of the holding company will be different from the book value of the capital invested in the insurance subsidiaries. Thus, a particular return on net worth at the level of the operating subsidiary will translate into a lower (higher) return on holding company capital if the market value of the holding company capital exceeds (is less than) the net worth of the insurance subsidiaries.

Stock market valuations typically put the market-to-net worth ratio of the public companies that own the major underwriters of Workers Compensation insurance in North Carolina, on average, well above one. However, even if one assumes that the market value of holding company capital is equal to the net worth of the operating subsidiaries, the table demonstrates that the total returns on capital, when using the alternative leverage figures associated with the A.M. Best composites, fall comfortably within the span of estimates (7.10% to 12.4%). A similar conclusion applies after adjusting these projected returns to account for the investment portfolio of companies serving the North Carolina Workers Compensation market and the current level of investment yields.

IV. Conclusion

Q: Based on your knowledge and experience and on the studies and analyses you have performed, have you come to any conclusions regarding the underwriting profit factor selected by the Bureau and used in its indicated rate level calculations in this filing?

A: Yes. When using the pro forma return model with inputs selected in a manner consistent with previous filings, I found that the expected total return on net worth implied by the selected -1.0% underwriting profit factor was 13.63%. When making adjustments to align the surplus allocation method with the typical approach in Workers Compensation ratemaking---which is based on ratios to reserves rather than premiums---the expected total return fell to 10.68% (when using leverage based on the reserve-to-surplus ratio of the Commercial Casualty Composite) and 7.61% (when using leverage based on the reserve-to-surplus ratio of the Workers Compensation Composite). Making adjustments to the investment yield dropped the expected total return to 12.95% (using the conventional approach), 10.15% (when using leverage based on the reserve-to-surplus ratio of the Commercial Casualty Composite), and 7.24% (when using leverage based on the reserve-to-surplus ratio of the Workers Compensation Composite).

After reviewing the cost of capital estimates for the industry produced by third parties and producing my own estimates tailored to the North Carolina market, I found the expected returns on net worth resulting from the selected underwriting profit factor, when using leverage methodologies commonly implemented in Workers Compensation ratemaking, to be consistent with a reasonable and not excessive return on invested capital. Thus, I believe that the selected underwriting profit factor is reasonable and not excessive.

An important caveat to this analysis, however, is that all conclusions are predicated on the assumption that the indicated rate level is achieved. In the event that a lower rate level is implemented, the expected rate of return could be inadequate.

Q: Does that conclude your testimony?

A: Yes.

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Education

Ph.D., Economics, University of Chicago, 2000
ACAS, Casualty Actuarial Society, 1994
A.B./B.S., Economics and Biology, Stanford University, 1990

Work Experience

University of Alabama (Tuscaloosa, Alabama)

Professor of Finance and Frank Park Samford Chair of Insurance, 2017-

University of Cologne

Gen Re Visiting Professor, 2023

Georgia State University (Atlanta, Georgia)

AAMGA Distinguished Chair in Risk Management & Insurance, 2011-2017

Associate Professor, 2008-2017

Nanyang Technological University (Singapore)

Visiting Senior Research Fellow, 2011-12, 2013-2014

Federal Reserve Bank of New York (New York, New York)

Senior Economist, 2006-2008

Economist, 2000-2006

Fireman's Fund Insurance Companies (Novato, California)

Senior Actuarial Analyst, 1993-94

Actuarial Analyst, 1991-1993

Assistant Actuarial Analyst, 1990-1991

Publications: Refereed Scholarly

"Dynamic Capital Allocation in General Insurance," (with Daniel Bauer and Qiheng Guo), *Journal of Risk and Insurance* (forthcoming)

"The Impact of Income Smoothing on Accounting Aggregates: The Case of the Property-Casualty Industry," (with Eren Cifci, Qianlong Liu, Steve Mildenhall, Lars Powell, and Kenny Wunder), *Journal of Risk and Insurance* (forthcoming)

- "Pricing Insurance Risk: Reconciling Theory and Practice," (with Daniel Bauer and Richard D. Phillips), in *Handbook of Insurance* (3rd edition), Georges Dionne (ed.), New York: Springer (2025)
- "Market Discipline and Government Guarantees: Evidence from the Insurance Industry," (with Yiling Deng, Tyler Leverty, and Kenny Wunder), *Journal of Risk & Insurance* 92: 76-115, (2025)
- "Economic Capital and RAROC in a Dynamic Model," (with Daniel Bauer), *Journal of Banking and Finance*, 125: Article 106071, (2021) [Winner of Casualty Actuarial Society Hachemeister Prize, 2015]
- "Capital Allocation Techniques: Review and Comparison," (with Daniel Bauer and Qiheng Guo), *Variance*, 14(2), (2021)
- "Dynamic Capital Allocation with Irreversible Investments," (with Daniel Bauer, Shinichi Kamiya, and Xiaohu Ping), *Insurance: Mathematics and Economics* 85: 138-52, (2019)
- "What Drives Tort Reform Legislation? Economics and Politics of the State Decisions to Restrict Liability Torts," (with Yiling Deng), *Journal of Risk & Insurance* 85: 959-991, (2018)
- "Egalitarian Equivalent Capital Allocation," (with Shinichi Kamiya), *North American Actuarial Journal* 21: 382-96, (2017)
- "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," (with Daniel Bauer), *Management Science* 62: 1431-1457 (2016)
- "Economic Analysis of Risk and Uncertainty Induced by Health Shocks: A Review and Extension," (with Tomas J. Philipson), in *Handbook of the Economics of Risk and Uncertainty*, Volume 1, Mark J. Machina and W. Kip Viscusi (eds.), North Holland: Elsevier (2014)
- "Capital Allocation and Its Discontents," (with Daniel Bauer), in *Handbook of Insurance* (2nd edition), Georges Dionne (ed.), New York: Springer (2013)
- "Financial Pricing of Insurance," (with Daniel Bauer and Richard D. Phillips), in *Handbook of Insurance* (2nd edition), Georges Dionne (ed.), New York: Springer (2013)
- "Insurance Risk, Risk Measures, and Capital Allocation: Navigating a Copernican Shift," (with Michael R. Powers), *Annual Review of Financial Economics* 5: 201-223 (2013)
- "Catastrophe Bonds, Reinsurance, and the Optimal Collateralization of Risk Transfer," (with Darius Lakdawalla), *Journal of Risk & Insurance* 79, pp. 449-76 (2012)

- "An Economic Approach to Capital Allocation," *Journal of Risk and Insurance* 77, pp. 523-549 (2010) [Winner of Casualty Actuarial Society ARIA Award, 2010]
- "Federal Financial Exposure to Catastrophic Risk," (with J. David Cummins and Michael Suher), in *Measuring and Managing Federal Financial Risk*, Deborah Lucas (ed.), Chicago: University of Chicago Press (2010)
- "Public versus Private Underwriting of Catastrophe Risk: Lessons from the California Earthquake Authority," in *Risking House and Home: Disasters, Cities, Public Policy*, John M. Quigley and Larry A. Rosenthal (eds.), Berkeley: Berkeley Public Policy Press (2008)
- "Regulation, Capital, and the Evolution of Organizational Form in U.S. Life Insurance," *American Economic Review* 97, pp. 973-983 (2007)
- "Insurance, Self Protection, and the Economics of Terrorism," (with Darius Lakdawalla), *Journal of Public Economics* 89, pp. 1891-1905 (2005)
- "Terrorism Insurance Policy and the Public Good," (with Darius Lakdawalla), *St. John's Journal of Legal Commentary* 18, pp. 463-469 (2004)
- "The Production and Regulation of Health Insurance: Limiting Opportunism in Proprietary and Non-Proprietary Organizations," (with Tomas Philipson) in *Individual Decisions for Health*, Bjorn Lindgren (ed.), pp. 194-206, Routledge International Studies in Health Economics, Routledge: London (2003)
- "Pricing and Capital Allocation in Catastrophe Insurance," *Journal of Financial Economics* 65, pp. 283-305 (2002) [reprinted in *Insurance and Risk Management Volume I: Economics of Insurance Markets*, Gregory Niehaus (ed.), Northampton: Edward Elgar Publishing, (2008)]

Publications: Professional/Practitioner

- Book review of "Moral Hazard in Health Insurance," *Journal of Economic Literature* 53, pp. 682-3 (2015)
- "Microinsurance Lessons from History," (with Rick Koven), *Microinsurance Learning and Knowledge (MILK)* (2013)
- "Institutional Investors and Asset Allocations: Accounting and Regulation of Private Defined Benefit Pension Plans and Other Institutional Investors in the United States, Mexico, and Australia," (with John Broadbent, Michael Palumbo, and Julio Santaella), CGFS Publication No. 27, Working Group on Institutional Investors, Global Savings, and Asset Allocation (2006)
- "An Overview of Political Risk Insurance" (with Kausar Hamdani and Elise Liebers), CGFS Publication No. 22, Working Group on Foreign Direct Investment in the Financial Sector of Emerging Market Economies (2005)

Work in Progress

- "Life Insurance and Annuity Pricing During the Financial Crisis, Revisited," (with Daniel Bauer, Lars Powell, and Boheng Su), working paper, 2025
- "Market Discipline and Guaranty Funds in Life Insurance," (with Martin Grace, Shinichi Kamiya, Robert W. Klein, and Kenny Wunder), working paper, 2025 (revise and resubmit, *Journal of Financial and Quantitative Analysis*)
- "An Integrated Approach to Measuring Asset and Liability Risks in Financial Institutions," (with Daniel Bauer), working paper, 2023
- "Optimal Insurance Contracts with Insurer Background Risk," (with Xiaohu Ping), working paper, 2015
- "The Effect of Banking Crises: Evidence from Non-Life Insurance Consumption," (with Shinichi Kamiya and Jackie Li), working paper, 2015
- "Bankruptcy in the Core and Periphery of Financial Groups: The Case of the Property-Casualty Insurance Industry" working paper, 2010
- "The Rise and Fall of the Fraternal Life Insurer: Law and Organizational Form in U.S. Life Insurance, 1870-1920," working paper, (*revise and resubmit, Journal of Law & Economics*), 2007
- "Organizational Form and the Underwriting Cycle: Theory with Evidence from the Pennsylvania Fire Insurance Market, 1873-1909," working paper, 2004
- "Consumption versus Production of Insurance," (with Tomas Philipson), *NBER Working Paper #6225*, 1997

External Research Projects and Consulting

- 2025 Expert Witness, State Farm General Homeowners Rate Filing, California
- 2025 Expert Witness, Insurance Rate Filings, North Carolina
- 2025 Expert Witness, Workers' Compensation Rate Filing, Massachusetts
- 2024 Expert Witness, Capstone Associated Services, Ltd. v. United States of America
- 2024 Expert Witness, Insurance Rate Filings, North Carolina
- 2024 Expert Witness, Workers' Compensation Rate Filing, Massachusetts
- 2023 Using Industry Level Experience to Improve Company Loss Reserving, sponsored by CAS
- 2023 Expert Witness, Insurance Rate Filings, North Carolina
- 2023 Expert Witness, Workers' Compensation Rate Filing, Massachusetts
- 2022 Expert Witness, Insurance Rate Filings, North Carolina
- 2022 Expert Witness, Workers' Compensation Rate Filing, Massachusetts
- 2021 Expert Witness, Golson v. Provident Life, Alabama
- 2021 Expert Witness, Insurance Rate Filings, North Carolina
- 2020 Expert Witness, Insurance Rate Filings, North Carolina

- 2020 Expert Witness, Workers' Compensation Rate Filing, Massachusetts
- 2019 NCCI Review of Cost of Capital Methodology
- 2019 Expert Witness, Insurance Rate Filings, North Carolina
- 2018 NCCI Review of TCJA
- 2017 Expert Witness, Workers' Compensation Rate Hearing, Florida
- 2016 Expert Witness, Assigned Risk Workers' Compensation Rate Hearing, Virginia
- 2015 Expert Witness, Workers' Compensation Rate Hearing, Florida
- 2015 NCCI Revision of Underwriting Profit and Contingency Internal Rate of Return Model
- 2015 An Extension of the Project on the Costs of Holding Capital, sponsored by the CAS
- 2013 Microinsurance Centre Lessons from History Project
- 2012 Allocation of the Costs of Holding Capital, sponsored by the CAS,
- 2011 CRO Risk Index Project, co-sponsored by SOA and Bloomberg, co-founder
- 2009 "The Financial Crisis and Lessons for Insurers," \$50,000 SOA grant, role: report co-author

Papers Presented at Professional Meetings

- 2023 "Life Insurance and Annuity Pricing During the Financial Crisis, Revisited" EGRIE Annual Seminar, Malaga, Spain
- 2023 "Life Insurance and Annuity Pricing During the Financial Crisis, Revisited" IME Annual Conference, Edinburgh, UK
- 2023 "Understanding Loss Reserving Errors in the Liability Catastrophe of 1997-2001," IME Annual Conference, Edinburgh, UK
- 2023 "Understanding Loss Reserving Errors in the Liability Catastrophe of 1997-2001," Gen Re Seminar, Cologne, Germany
- 2022 "Understanding Loss Reserving Errors in the Liability Catastrophe of 1997-2001," Conference in Honor of J.David Cummins and Mary Weiss, Temple University, Philadelphia
- 2020 "Life Insurance and Annuity Pricing During the Financial Crisis, Revisited" WRIEC, virtual meeting
- 2019 "An Integrated Approach to Measuring Asset and Liability Risks in Financial Institutions," EGRIE Annual Meeting, Rome, Italy
- 2019 "An Integrated Approach to Measuring Asset and Liability Risks in Financial Institutions," ARIA Annual Meeting, San Francisco, CA
- 2019 "An Integrated Approach to Measuring Asset and Liability Risks in Financial Institutions," RTS Annual Seminar, Tuscaloosa, AL
- 2017 "The Effect of Government Guarantees on Market Discipline in the Property-Casualty Insurance Industry," NBER Insurance Project Workshop, Boston, MA
- 2015 "The Marginal Cost of Risk in a Multi-Period Model," NBER Insurance Project Workshop, Stanford, CA
- 2015 "The Marginal Cost of Risk in a Multi-Period Model," CAS Annual Meeting, Philadelphia, PA
- 2015 "Dynamic Capital Allocation," IME Annual Conference, Liverpool UK
- 2015 "What Drives Tort Reform Legislation? Economics and Politics of the State Decisions to Restrict Liability Torts," ASSA Annual Meeting, Boston, MA
- 2014 "The Marginal Cost of Risk in a Multi-Period Model," CAS Centennial, New York, NY
- 2014 "Market Discipline and Guaranty Funds in Life Insurance," EGRIE Annual Seminar, St. Gallen, CH
- 2014 "Dynamic Capital Allocation with Irreversible Investments," EGRIE Annual Seminar, St. Gallen, CH
- 2014 "What Drives Tort Reform Legislation? Economics and Politics of the State Decisions to Restrict Liability Torts," ARIA Annual Meeting, Seattle, WA
- 2014 "The Marginal Cost of Risk in a Multi-Period Model," ARIA Annual Meeting, Seattle, WA
- 2014 "Market Discipline and Guaranty Funds in Life Insurance," ARIA Annual Meeting, Seattle, WA
- 2014 "The Marginal Cost of Risk in a Multi-Period Model," IME Conference, Shanghai, CN
- 2014 "The Effect of Banking Crises: Evidence from Non-Life Insurance Consumption," Risk Theory Seminar, Munich, Germany
- 2013 "The Effect of Banking Crises: Evidence from Non-Life Insurance Consumption," ASSA Annual Meeting, Philadelphia, PA
- 2013 "Optimal Insurance Contracts with Insurer Background Risk," EGRIE Annual Meeting, Paris, FR

- 2013 "The Effect of Banking Crises: Evidence from Non-Life Insurance Consumption," ARIA Annual Meeting, Washington D.C.
- 2013 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," IRFRC Catastrophe Risk Conference, Singapore
- 2013 "Optimal Insurance Contracts with Insurer Background Risk," ARIA Annual Meeting, Washington D.C.
- 2013 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," CEAR/ETH Indices of Risk and New Risk Measures Conference, Zurich, CH
- 2012 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," CAS Spring Meeting, Phoenix, AZ
- 2012 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," Symposium: Risk and Catastrophic Events, State College, PA
- 2012 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," ASSA Annual Meeting, Chicago, IL
- 2011 "The Marginal Cost of Risk, Risk Measures, and Capital Allocation," NBER Insurance Project Workshop, Cambridge, MA
- 2010 "Bankruptcy in the Core and Periphery of Financial Groups: The Case of the Property-Casualty Insurance Industry," ASSA Annual Meeting, Atlanta, GA
- 2009 "Bankruptcy in the Core and Periphery of Financial Groups: The Case of the Property-Casualty Insurance Industry," Risk Management and Corporate Governance Conference, Loyola University of Chicago
- 2009 "Bankruptcy in the Core and Periphery of Financial Groups: The Case of the Property-Casualty Insurance Industry," ARIA Annual Meeting, Providence, RI
- 2008 "An Economic Approach to Capital Allocation," Risk Theory Society, Annual Meeting, Fort Collins, CO
- 2007 "Federal Financial Exposure to Catastrophic Risk," ARIA Annual Meeting, Quebec City, CA
- 2007 "Catastrophe Bonds, Reinsurance, and the Optimal Collateralization of Risk Transfer," EFMA Annual Meeting, Vienna, AT
- 2007 "Catastrophe Bonds, Reinsurance, and the Optimal Collateralization of Risk Transfer," 5th Infiniti Conference on International Financial Integration, Dublin, IE
- 2007 "Federal Financial Exposure to Catastrophic Risk," NBER Conference on Measuring and Managing Federal Financial Risk, Evanston, IL
- 2006 Insuring Catastrophic Losses: The Status of TRIA and Proposed Natural Disaster Backstops, Wash., D.C.
- 2006 "Catastrophe Bonds, Reinsurance, and the Optimal Collateralization of Risk Transfer," Risk Theory Society, Annual Meeting, Richmond, VA
- 2006 "Public versus Private Underwriting of Catastrophe Risk: Lessons from the California Earthquake Authority," Berkeley Symposium on Real Estate, Catastrophic Risk, and Public Policy
- 2006 "Catastrophe Bonds, Reinsurance, and the Optimal Collateralization of Risk Transfer," NBER Insurance Project Workshop, Cambridge, MA
- 2005 "Regulation, Capital, and the Evolution of Organizational Form in U.S. Life Insurance," NBER Insurance Project Workshop, Cambridge, MA
- 2004 "The Rise and Fall of the Fraternal Life Insurer: Law and Organizational Form in U.S. Life Insurance," NBER Insurance Project Workshop, Cambridge, MA
- 2004 "Regulation, Capital, and the Evolution of Organizational Form in U.S. Life Insurance," American Finance Association, Annual Meeting, San Diego, CA
- 2003 "Insurance, Self-Protection, and the Economics of Terrorism," Risk Theory Society, Annual Meeting, Atlanta, GA
- 2003 "Terrorism Insurance Policy and the Public Good," St. John's Journal of Legal Commentary 10th Annual Legal Symposium: Terrorism and its Impact on Insurance: Legislative Responses and Coverage Issues, Queens, NY
- 2003 "Insurance, Self-Protection, and the Economics of Terrorism," NBER Insurance Project Workshop, Cambridge, MA
- 2002 "Pricing and Capital Allocation in Catastrophe Insurance," CAS Risk and Capital Management Seminar, Toronto, CA
- 2002 "Market Discipline and Government Guarantees in U.S. Life Insurance," Risk Theory Society, Annual Meeting, Urbana-Champaign, IL
- 2001 "Pricing and Capital Allocation in Catastrophe Insurance," Risk Theory Society, Annual Meeting, Montreal

Other Conferences Talks and Panel Participation

- 2018 Surplus Lines Automation Conference, Florida

- 2017 International Conference on Business Sciences, Cairo University, Egypt
- 2016 IIF Insurance Colloquium, Basel, Switzerland
- 2016 Surplus Lines Association of California, California (keynote)
- 2014 Surplus Lines Automation Conference, Florida
- 2011 PRMIA Annual Risk Leadership Conference, Atlanta, GA
- 2011 7th International Microinsurance Conference, Rio de Janeiro, Brazil
- 2010 Property Loss Research Bureau Eastern Adjusters Conference, Atlanta, GA (keynote)
- 2008 NCOIL Annual Meeting, Duck Key, FL
- 2007 Capital Markets Symposium on Securitizing Insurance Risk, New York, NY
- 2006 Insuring Catastrophic Losses: The Status of TRIA and Proposed Natural Disaster Backstops, Wash., D.C.
- 2006 Catastrophe Bonds and Insurance Linked Securities Summit, New York, NY
- 2005 12th Annual International Conference Promoting Business Ethics, New York, NY

Service Activities in Academic and Professional Organizations

Deputy Editor-in-Chief, *Journal of Risk and Insurance* (2024-)
 Associate Editor, *Insurance: Mathematics and Economics* (2022-)
 Senior Editor, *Journal of Risk and Insurance* (2019-2024)
 International Research Advisory Board, Risk and Insurance Research Center, NCCU, Taiwan
 American Risk & Insurance Association President (2012-13)
 Risk Theory Society President (2011-2012)
 American Risk & Insurance Association Board Member (2007-2014)
 Editorial Board, *Journal of Insurance Issues* (2012-2014)
 Huebner Colloquium Panelist (2016-2019)

External Committees

American Risk & Insurance Association Program Committee, various years; ARIA Nominations Committee, 2015, 2016, 2018; Kulp-Wright Book Award Committee, 2005; ARIA Mehr Award Committee, 2019 - 2025

Discussant: *ARIA Annual Meeting, Denver, 2024; EGRIE Annual Seminar, Malaga, 2023; ARIA Annual Meeting, Los Angeles, 2022; WRIEC 2020; EGRIE Annual Meeting, Rome, 2019; ARIA Annual Meeting, San Francisco, 2019; ARIA Annual Meeting, Chicago, 2018; ARIA Annual Meeting, Boston, 2016; SIFR Insurance Conference, Stockholm, 2015; EGRIE Annual Seminar, St. Gallen, 2014; ARIA Annual Meeting, Seattle, 2014; ARIA Annual Meeting, San Diego, 2011; CEAR Workshop on Insurance for the Poor, Atlanta, 2010; CEAR Workshop on Risk Perception and Subjective Beliefs, Atlanta, 2010; Midwest Finance Association Annual Meeting, Chicago, 2009; 5th Infiniti Conference, Dublin, 2007; EFMA Annual Meeting, Vienna, 2007; AEA Annual Meeting, San Diego, 2004*

Session Chair: *ARIA Annual Meeting, Chicago, 2018, ARC, Atlanta, 2017; IME, Atlanta, 2017; ARIA Annual Meeting, San Diego, 2011; Midwest Finance Association Annual Meeting, Chicago, 2009; ARIA Annual Meeting, Quebec City, 2007; EFMA Annual Meeting, Vienna, 2007;*

Referee for *Asia-Pacific Journal of Risk and Insurance, Astin Bulletin, Australian Social Monitor, Contemporary Economic Policy, Current Issues in Economics and Finance, Defense and Peace Economics, European Economic Review, Financial Review, Geneva Papers: Issues and Practice, Geneva Risk and Insurance Review, Health Affairs, Insurance: Mathematics and Economics, Journal of Banking and Finance, Journal of Business, Journal of Finance, Journal of Financial Intermediation, Journal of Financial Services Research, Journal of Financial and Quantitative Analysis, Journal of Law and Economics, Journal of Mathematical Economics, Journal of Money, Credit, and Banking,*

Journal of Political Economy, Journal of Risk and Insurance, Management Science, Mathematical Social Sciences, North American Actuarial Journal, Proceedings of the National Academy of Sciences, Review of Financial Studies, Risk Management and Insurance Review, Scandinavian Actuarial Journal, and Science.

Working Group Participation

Committee on the Global Financial System, Working Group on Institutional Investors, Global Savings, and Asset Allocation (2006); Presidential Working Group on Financial Markets, Working Group on Terrorism Insurance (2006)

Continuing Education Activities

2004-2007	Central Banking Seminar, Federal Reserve Bank of New York, Topics: Introduction to U.S. Financial Markets; Introduction to Non-bank Financial Institutions
2009	Texas Farm Bureau Program, Georgia State University, Topic: Securitization, the Insurance Industry, and the Panic of 2007
2009-2012	Horst K. Jannott Visiting Fellows Program, Georgia State University, Topics: Securitization, the Insurance Industry, and the Panic of 2007; Introduction to Statistics

NCRB - Pro Forma Total Rate of Return Workers Compensation			
	Pre-Tax	Tax Liability	Post-Tax
1 Premiums	100.00%		
Loss & LAE	65.60%		
Commissions	5.00%		
Other Acquisition & General	1.75%		
Taxes, Licenses & Fees	2.66%		
Servicing Carrier Allowance & Other	16.62%		
Uncollectible Premium	9.38%		
2 Pro Forma Underwriting Profit	-1.00%		
3 Regular Tax		-0.21%	
4 Additional Tax Due to IRS Treatment of Reserves		0.20%	
5 Return from Underwriting Post-Tax			-0.99%
6 Investment Gain on Insurance Transaction	16.53%	2.82%	13.71%
7 Investment Gain on Surplus	6.54%	1.12%	5.42%
8 Total Return as a Percent of Premium (post-tax)			18.14%
9 Premium-to-Net Worth Ratio			0.75
10 Total Return as a Percent of Net Worth (post-tax)			13.63%
<i>Lines (1) to (8) are expressed as a percentage of premium.</i>			

Assumptions and Parameters

(a) Underwriting Income Tax Rate	21.00%
(b) Investment Income Tax Rate	17.08%
(c) Pre-tax Investment Yield	5.11%
(d) Premium-to-Surplus Ratio	0.835
(e) Net Worth-to-Surplus Ratio	1.11
(f) Uncollectible Premium (adjusted for expense offsets)	9.38%
(g) Additional Tax Due to IRS Treatment of Loss Reserves and UEPR	0.20%
(h) Prepaid Expense Ratio	23.96%
(i) Unearned Premium Reserve to Premium Ratio	33.97%

Notes to Exhibit RB-7 Page 1

1 Selected expense provisions from the filing. 'Servicing Carrier Allowance & Other' calculated as servicing carrier allowance times servicing carrier market share plus other pool administration expense: $0.2 \times 0.75609 + 0.015 = 0.1662$. Servicing carrier allowance is assumed to be reflective of direct assignment carrier expenses for the same items, with Other Acquisition & General (OA&G) for direct assignment carriers estimated as: $0.07194675 \times 0.24391 = 0.0175$, where 0.07194675 is the portion of the servicing carrier allowance assigned as OA&G, based on the LAE factor used in the filing. Loss and LAE Ratio is thus the average of the loss ratio for servicing carriers and the loss and LAE ratio for direct assignment carriers.

2 Selected by North Carolina Rate Bureau

3 (2) x (a)

4 See Exhibit RB-7, Page 3

5 (2) - (3) - (4)

6 See Exhibit RB-7, Pages 4-7

7 (c) x [(1 / (d)) + (h) x (i)]

8 (5) + (6) + (7)

9 (d) / (e)

10 (8) x (9)

Assumptions

- (a) Current corporate tax rate, based on the Tax Cut and Jobs Act of 2017.
- (b) See Exhibit RB-7, Pages 8-10. Calculated as 1- average post-tax yield/average pre-tax yield.
- (c) See Exhibit RB-7, Page 6, with supporting information on Pages 8-10
- (d) See Exhibit RB-7, Page 11
- (e) See Exhibit RB-7, Page 12
- (f) See RB-1, Exhibit II-F
- (g) See Exhibit RB-7, Pages 3, 3A, and 3B
- (h) See Exhibit RB-7, Page 4
- (i) See Exhibit RB-7, Pages 4-5

**North Carolina
Workers Compensation
Calculation of Additional Tax Liability**

1. Collected Earned Premium for Current Year	100.00%
2. Unearned Premium Reserve 12/31/Current	33.94%
3. Unearned Premium Reserve 12/31/Prior	33.90%
4. Increase: (2) - (3)	0.04%
5. 20% of Increase = Taxable Income	0.01%
 6. Additional Tax Liability due to Unearned Premium Reserve	 0.00%
 7. Unpaid Loss Current Year	 130.20%
8. Discounted Unpaid Loss Current Year	112.38%
 9. Unpaid Loss Prior Year	 127.75%
10. Discounted Unpaid Loss Prior Year	110.87%
 11. Additional Income	 0.93%
12. Additional Tax Liability due to Loss Reserve Discounting	0.20%
 13. Total Additional Tax Liabilities (6) + (12)	 0.20%

**NORTH CAROLINA
Workers Compensation
Calculation of Taxable Income**

Calculation of Unpaid Loss for Current Accident Year					Calculation of Discounted Unpaid Loss for Current Accident Year			Calculation of Discounted Unpaid Loss for Prior Accident Year				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
AY Avg Acc Date	AY Pay Pattern	Percent Unpaid	Total Losses	Unpaid Losses	AY at 12/31 yr t	Discount Factor	Discounted Unpaid Loss	AY at 12/31/yr t-1	Unpaid Losses	Discount Factor	Discounted Unpaid Loss	
0.5	28.15%	71.85%	65.595	47.13	2025	0.867823	40.9005					
1.5	58.80%	41.20%	65.517	26.99	2024	0.864322	23.3306	2024	47.074	0.880319	41.4401	
2.5	77.05%	22.95%	65.439	15.02	2023	0.868945	13.0501	2023	26.961	0.874781	23.5849	
3.5	85.80%	14.20%	65.361	9.28	2022	0.873806	8.1101	2022	15.000	0.878161	13.1728	
4.5	90.25%	9.75%	65.284	6.37	2021	0.839002	5.3404	2021	9.270	0.844348	7.8273	
5.5	92.50%	7.50%	65.206	4.89	2020	0.821898	4.0194	2020	6.358	0.827387	5.2602	
6.5	93.75%	6.25%	65.128	4.07	2019	0.825155	3.3588	2019	4.885	0.821401	4.0122	
7.5	94.60%	5.40%	65.051	3.51	2018	0.841036	2.9543	2018	4.066	0.832567	3.3850	
8.5	95.30%	4.70%	64.974	3.05	2017	0.84715	2.5870	2017	3.509	0.841036	2.9508	
9.5	95.85%	4.15%	64.896	2.69	2016	0.865946	2.3322	2016	3.050	0.84715	2.5839	
10.5	96.15%	3.85%	64.819	2.50	2015	0.878065	2.1912	2015	2.690	0.865946	2.3294	
11.5	96.30%	3.70%	64.742	2.40	2014	0.890414	2.1329	2014	2.493	0.878065	2.1886	
12.5	96.45%	3.55%	64.665	2.30	2013	0.902995	2.0729	2013	2.393	0.890414	2.1304	
13.5	96.75%	3.25%	64.588	2.10	2012	0.915813	1.9224	2012	2.293	0.902995	2.0705	
14.5	97.10%	2.90%	64.511	1.87	2011	0.928867	1.7378	2011	2.097	0.915813	1.9201	
15.5	97.35%	2.65%	64.435	1.71	2010	0.942154	1.6087	2010	1.869	0.928867	1.7357	
16.5	97.65%	2.35%	64.358	1.51	2009	0.955661	1.4454	2009	1.705	0.942154	1.6068	
17.5	97.85%	2.15%	64.281	1.38	2008	0.969334	1.3397	2008	1.511	0.955661	1.4436	
18.5	98.00%	2.00%	64.205	1.28	2007	0.982913	1.2622	2007	1.380	0.969334	1.3381	
19.5	98.20%	1.80%	64.129	1.15	2006	0.985513	1.1376	2006	1.283	0.982913	1.2607	
20.5	98.32%	1.68%	64.052	1.08	2005	0.985513	1.0605	2005	1.153	0.985513	1.1362	
21.5	98.44%	1.56%	63.976	1.00	2004	0.985513	0.9836	2004	1.075	0.985513	1.0592	
22.5	98.56%	1.44%	63.900	0.92	2003	0.985513	0.9068	2003	0.997	0.985513	0.9824	
23.5	98.68%	1.32%	63.824	0.84	2002	0.985513	0.8303	2002	0.919	0.985513	0.9058	
24.5	98.80%	1.20%	63.748	0.76	2001	0.985513	0.7539	2001	0.841	0.985513	0.8293	
25.5	98.92%	1.08%	63.673	0.69	2000	0.985513	0.6777	2000	0.764	0.985513	0.7530	
26.5	99.04%	0.96%	63.597	0.61	1999	0.985513	0.6017	1999	0.687	0.985513	0.6769	
27.5	99.16%	0.84%	63.521	0.53	1998	0.985513	0.5258	1998	0.610	0.985513	0.6010	
28.5	99.28%	0.72%	63.446	0.46	1997	0.985513	0.4502	1997	0.533	0.985513	0.5252	
29.5	99.40%	0.60%	63.370	0.38	1996	0.985513	0.3747	1996	0.456	0.985513	0.4497	
30.5	99.52%	0.48%	63.295	0.30	1995	0.985513	0.2994	1995	0.380	0.985513	0.3743	
31.5	99.64%	0.36%	63.220	0.23	1994	0.985513	0.2243	1994	0.303	0.985513	0.2991	
32.5	99.76%	0.24%	63.144	0.15	1993	0.985513	0.1494	1993	0.227	0.985513	0.2240	
33.5	99.88%	0.12%	63.069	0.08	1992	0.985513	0.0746	1992	0.151	0.985513	0.1492	
34.5	100.00%	0.00%	62.994	0.00	1991	0.985513	0.0000	1991	0.076	0.985513	0.0745	
Totals					112.38			127.75				110.87

Notes to Pages 3 and 3APage 3

- 2 Page 5, line (2) divided by Page 5, line (1)
- 3 $(2) / (1 \text{ plus the 10 year average growth rate of North Carolina Workers Compensation DPW})$
- 4 $(2) - (3)$
- 5 $(4) \times 20\%$
- 6 $(5) \times \text{current corporate tax rate}$
- 7 Unpaid current-year losses at year-end as a percent of current year premium.
Sum of Page 3A, Column (5)
- 8 Discounted unpaid current-year losses at year-end as a percent of current year premium.
Sum of Page 3A, Column (8)
- 9 Unpaid prior-year losses at year-end as a percent of current year premium.
Sum of Page 3A, Column (10)
- 10 Discounted unpaid prior-year losses at year-end as a percent of current year premium.
Sum of Page 3A, Column (12)
- 11 Change in loss reserve discount: $[(7) - (8)] - [(9) - (10)]$
- 12 $(11) \times \text{current corporate tax rate}$
- 13 $(6) + (12)$

Page 3A

- 1 Midpoint of number of years since end of accident period
- 2 Most recent available loss payment pattern for North Carolina Workers Compensation. Source: NCCI
- 3 $1 - (2)$
- 4 Latest period losses are based on projected loss ratio from Page 1. For previous years, losses are detrended at the 10 year average DPW growth rate for North Carolina Workers Compensation.
- 5 $(3) \times (4)$
- 6 Accident Year at current year end
- 7 IRS discount factors for Workers Compensation for most recent tax year from IRS Rev Proc 2026-13
- 8 $(5) \times (7)$
- 9 Accident Year at prior year end
- 10 Column (3), previous period $\times$ Column (4), current period
- 11 IRS discount factors for Workers Compensation for previous tax year from Rev. Proc. 2025-15
- 12 $(10) \times (11)$

**NCRB Investment Income Calculation
Workers Compensation**

**Projected Investment Earnings on Loss, Loss
Adjustment Expense and Unearned Premium Reserves**

A. UNEARNED PREMIUM RESERVES

1. Direct Earned Premiums		1,000,000
2. Mean Unearned Premium Reserve	33.97%	339,672
3. Deductions for Prepaid Expenses		
Commissions & Brokerage	5.00%	
Taxes, Licenses, & Fees (5/6)	2.22%	
Direct Assignment Carriers		
Other Acquisition & General (1/2)	0.88%	
Servicing Carriers		
Servicing Carrier Allowance (100%) + Other (1/2)	15.87%	
Total	23.96%	
4. Deduction for Prepaid Expense: (2) x (3)		81,397
5. Net Unearned Premium Reserve Subject to Investment (2) - (4)		258,275

B. Delayed Remission of Premiums (Agents Balances)

1. Direct Earned Premiums		1,000,000
2. Average Agents Balances		0.109
3. Delayed Remissions: (1) x (2)		109,456

C. Loss and Loss Expense Reserves

1. Direct Earned Premiums		1,000,000
2. Expected Incurred Loss & LAE-to-Premium Ratio	0.6560	655,950
3. Expected Mean Loss and LAE Reserve-to-Incurred Ratio	4.702	3,084,277

D. Net Policyholder Funds Subject to Investment (A5 - B3 + C3)

3,233,096

E. Average Rate of Return

5.11%

F. Investment Earnings from Net Reserves: (D) x (E)

165,293

G. Average Rate of Return as a Percent of Direct Earned Premiums: (F) / (A1)

16.53%

**NORTH CAROLINA
Workers Compensation**

**ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES**

EXPLANATORY NOTES

Line A-1

Calculations displayed are per million of direct earned premiums.

Line A-2

The mean unearned premium reserve (UEPR) is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the direct earned premium for the current calendar year ended 12/31. The data are for North Carolina Workers Compensation.

1 Direct Earned Premium for most recent calendar year	1,506,539,227
2 UEPR at end of most recent calendar year	511,295,772
3 UEPR at end of previous calendar year	512,161,491
4 Mean UEPR	511,728,632
5 Ratio [(4) / (1)]	33.97%

Line A-3

Deduction for prepaid expenses

Commissions are assumed to be incurred when the policy is written and before the premium is paid. In addition, 5/6 of Taxes, Licenses and Fees are assumed to be prepaid.

Servicing Carriers Market Share	75.61%
Direct Assignment Carriers Market Share	24.39%

The entire servicing carrier allowance and half of the other pool administration expense are assumed to be prepaid so the provision is calculated as: $0.75609 \times 0.2 + 0.5 \times 0.015$. For direct assignment carriers, one-half of OA&G is assumed to be prepaid, so the provision is calculated as: $0.5 \times 0.07194675 \times 0.24391$.

Line B-2

Delayed remission of premium

This deduction is necessary because of delay in collection and remission of premium to the companies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus. Based on the distribution of North Carolina Workers Compensation assigned risk premiums by installment pay plan, the average percentage of premium still to be remitted is estimated, using the distribution of premium across months and assuming that the distribution by plan is the same within months.

**NORTH CAROLINA
Workers Compensation**

**ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES**

EXPLANATORY NOTES

Line C-2

The expected loss and loss adjustment ratio reflects the expense provisions used in this filing.

Line C-3

The mean loss and LAE reserve-to-incurred ratio is based on the weighted average of the figure for servicing carriers and the figure for direct assignment carriers. For servicing carriers, the ratio is based only on losses, since LAE is included in the servicing carrier allowance. Market shares are used for the weights. Thus, the calculation is: $0.75609 \times 4.772 + 0.24391 \times 4.485 = 4.702$

Line E

The average rate of return is the average of the pretax current yield calculated on Page 8 and the pretax embedded yield. The embedded yield (see Page 9) is the sum of the ratio of investment income to invested assets for the most recent year plus the ten year average ratio of capital gains to invested assets (see Page 10). The current yield is the estimated currently available rate of return (including both income and capital gains) on the industry investment portfolio (see Page 8).

Embedded Yield	4.72%
Current Yield	5.50%
Average	5.11%

**North Carolina Workers Compensation
Ratios to Incurred Loss**

Year	(1) Loss Reserve	(2) LAE Reserve	(3) Incurred Loss	(4) Incurred LAE	(5) ((1) + (2))/ ((3) + (4))
2016	4.562	0.671	1.000	0.233	4.245
2017	5.165	0.790	1.000	0.274	4.673
2018	5.804	0.905	1.000	0.239	5.413
2019	5.449	0.848	1.000	0.224	5.145
2020	4.488	0.670	1.000	0.179	4.375
2021	4.521	0.667	1.000	0.186	4.373
2022	4.739	0.743	1.000	0.245	4.403
2023	4.012	0.659	1.000	0.230	3.798
2024	4.500	0.738	1.000	0.200	4.365
2025	4.476	0.759	1.000	0.292	4.054
Average	4.772				4.485

Source: NCCI

Portfolio Yield and Tax Rate - Current Yield					
Investable Asset	Percent of Assets	Estimated Prospective Pre-Tax Return	Tax Rate	Estimated Prospective Post-Tax Return	
Bonds					
US Gov't	12.93%	4.01%	21.00%	3.17%	
Municipal	10.47%	2.64%	5.25%	2.50%	
Corporate	25.51%	4.45%	21.00%	3.51%	
Agency RMBS	5.61%	5.01%	21.00%	3.96%	
Private RMBS	1.94%	5.96%	21.00%	4.71%	
CMBS	4.52%	4.75%	21.00%	3.75%	
CLO/CDO/CBO	1.64%	5.08%	21.00%	4.01%	
Other ABS	3.06%	5.29%	21.00%	4.18%	
Preferred Stock	0.43%	5.54%	13.13%	4.81%	
Common Stock	17.36%	12.16%	19.44%	9.79%	
Mortgage Loans	1.06%	6.29%	21.00%	4.97%	
Real Estate	0.59%	5.70%	21.00%	4.50%	
Cash & Short-term Investments	7.28%	3.72%	21.00%	2.94%	
Other Long-Term Investments	7.60%	6.79%	19.58%	5.46%	
Rate of Return Before Expenses	100.00%	5.81%	19.53%	4.67%	
Investment Expenses		0.31%	21.00%	0.24%	
Portfolio Rate of Return		5.50%	19.44%	4.43%	

Sources

Preferred Stock	Current yield on iShares Preferred Stock Index ETF, 6/2/26
Real Estate	REIT Sector Cost of Capital, using 10-year Treasury of 4.387%. (source: Damodaran Online)
Cash	3 month Treasury rate, averaged over 3 months (source: US Treasury)
Municipal	Maturity-weighted average of MBIS Investment Grade yield curve, using the average of the curves reported for 6/2/2026, 5/1/2026, and 4/2/2026. Linear interpolation used to match maturity midpoints from Schedule D where necessary.
Industrial	Maturity-weighted average of latest available three month average of HQM yields from FRED, using the 6 month spot yield and the 2-, 5-, 10-, and 30-year par yields. Linear interpolation used to match maturity midpoints from Schedule D where necessary.
Treasury	Maturity-weighted average of US Treasury par yield curve, using the average of the curves reported for 6/2/2026, 5/1/2026, and 4/1/2026. Linear interpolation used to match maturity midpoints from Schedule D where necessary.
Agency RMBS	Current yield -to-maturity on S&P US MBS Index, 6/2/26
Private RMBS	Current yield -to-maturity on Doubleline MBS ETF, 8/12/26
CMBS	Current yield-to-maturity on iShares CMBS ETF, 6/2/26
CLO/CDO/CBO	90/10 weighting of current yield-to-maturity on Janus Henderson AAA CLO ETF and current yield-to-maturity on Janus Henderson BBB CLO ETF (6/2/26)
Other ABS	Current yield-to-maturity on Janus Henderson ABS ETF, 6/2/26
Common Stock	Damodaran Online ERP (source: Damodaran Online) plus 3 month average T-Bill Rate
Other LTI	Average of yields on bond portfolio, preferred stock, common stock, mortgages, and real estate.
Investment Expenses	Investment Expenses from Page 9 divided by Mean Invested Assets from Page 9.

Portfolio Yield and Tax Rate Embedded Yield			
		Income	Tax Rate
Bonds			
	Taxable	51,054,529	21.00%
	Non-Taxable	4,733,898	5.25%
Stocks			
	Taxable	9,375,922	13.13%
	Non-Taxable	3,396,135	5.25%
Mortgage Loans		2,017,674	21.00%
Real Estate		1,837,148	21.00%
Contract Loans		6,054	21.00%
Cash & Short Term Inv		14,625,584	21.00%
All Other		9,258,862	21.00%
Total		96,305,806	18.90%
Inv. Expenses		7,532,312	21.00%
Net Inv. Income		88,773,494	18.72%
Mean Invested Assets		2,456,888,663	
Inv. Inc. Yield Rate		3.61%	18.72%
Capital Gains (10 yr. avg.) (% of Inv. Assets)		1.11%	0.00%
Invest. Yield Rate (pre=tax)		4.72%	14.32%
Invest. Yield Rate (post-tax)		4.05%	

Source: A.M. Best's Aggregates and Averages, 2025 Edition, statutory Page 12 - Exhibit of Net Investment Income (Column 2 - Earned During Year) for Total Property-Casualty Industry. For capital gains, see Exhibit RB-7, Page 10. 'Mean Invested Assets' are based on the average of the current and prior year values.

**Realized Capital Gains or Losses
As a Percentage of Mean Invested Assets
(Amounts in Thousands of Dollars)**

Calendar Year	Mean Invested Assets	Realized Capital Gains Amount	Percent
2015	1,567,611,077	9,887,732	0.63%
2016	1,596,937,470	8,086,268	0.51%
2017	1,676,831,258	15,725,303	0.94%
2018	1,733,729,297	10,825,733	0.62%
2019	1,822,857,949	11,238,484	0.62%
2020	1,975,605,647	10,933,304	0.55%
2021	2,156,355,790	18,153,320	0.84%
2022	2,251,339,204	2,090,986	0.09%
2023	2,305,242,991	50,414,662	2.19%
2024	2,456,888,663	79,755,725	3.25%
Total	19,543,399,342	217,111,517	1.11%

"Mean Invested Assets" is the average of current and prior year values for Cash and Invested Assets (from statutory Page 2). Sourced from 2015-2025 editions of A.M. Best's Aggregates and Averages. Capital gains are expressed net of taxes.

North Carolina**Workers Compensation****Premium-to-Surplus Ratios**

Year	Net
2016	0.814
2017	0.800
2018	0.880
2019	0.810
2020	0.764
2021	0.762
2022	0.855
2023	0.894
2024	0.921
2025	0.852
Average	0.835

Data from NAIC Statutory Filings for all groups and unaffiliated companies writing Workers Compensation insurance in North Carolina. Weighted average of group level surplus-to-premium ratios is based on group level North Carolina Workers Compensation premiums, which is then inverted for the premium-to-surplus ratio.

North Carolina
Workers Compensation
Calculation of Ratio of GAAP Net Worth to Statutory Surplus

	2019	2020	2021	2022	2023
Policyholder Surplus	847,278,658,173	910,066,482,410	1,028,834,642,825	958,964,082,808	1,013,452,561,011
+ Deferred Acquisition Costs	46,002,606,289	48,118,482,109	51,883,319,641	54,714,320,843	60,500,602,221
+ Non-Admitted DTA Provision	6,045,409,090	6,001,020,602	5,674,496,962	6,641,006,360	6,637,837,705
+ Non-admitted Assets (non-tax part)	50,520,441,190	51,971,123,366	62,815,925,708	54,765,183,036	56,459,331,836
+ Provision for Reinsurance	2,944,031,835	3,290,710,172	3,665,749,561	2,962,166,230	3,153,445,256
+ Provision for FASB 115(after-tax)	32,483,869,271	57,249,505,836	30,528,918,187	(69,664,596,475)	(41,952,605,672)
- Surplus Notes	(11,606,263,627)	(13,225,869,920)	(13,699,558,971)	(15,548,449,729)	(16,242,205,955)
GAAP-adjusted Net Worth	973,668,752,221	1,063,471,454,574	1,169,703,493,912	992,833,713,073	1,082,008,966,402
Ratio of Net Worth to Surplus	1.149	1.169	1.137	1.035	1.068
Five Year Average	1.112				

Source: ISO

NCRB - Pro Forma Total Rate of Return Workers Compensation (Leverage Recalculated using 2025 Reserve-to-Surplus Ratio of AM Best Commercial Casualty Composite)			
	Pre-Tax	Tax Liability	Post-Tax
1 Premiums	100.00%		
Loss & LAE	65.60%		
Commissions	5.00%		
Other Acquisition & General	1.75%		
Taxes, Licenses & Fees	2.66%		
Servicing Carrier Allowance & Other	16.62%		
Uncollectible Premium	9.38%		
2 Pro Forma Underwriting Profit	-1.00%		
3 Regular Tax		-0.21%	
4 Additional Tax Due to IRS Treatment of Reserves		0.20%	
5 Return from Underwriting Post-Tax			-0.99%
6 Investment Gain on Insurance Transaction	16.53%	2.82%	13.71%
7 Investment Gain on Surplus	9.17%	1.57%	7.60%
8 Total Return as a Percent of Premium (post-tax)			20.32%
9 Premium-to-Net Worth Ratio			0.53
10 Total Return as a Percent of Net Worth (post-tax)			10.68%
<i>Lines (1) to (8) are expressed as a percentage of premium.</i>			

Assumptions and Parameters

(a) Underwriting Income Tax Rate	21.00%
(b) Investment Income Tax Rate	17.08%
(c) Pre-tax Investment Yield	5.11%
(d) Premium-to-Surplus Ratio	0.584
(e) Net Worth-to-Surplus Ratio	1.11
(f) Uncollectible Premium (adjusted for expense offsets)	9.38%
(g) Additional Tax Due to IRS Treatment of Loss Reserves and UEPR	0.20%
(h) Prepaid Expense Ratio	23.96%
(i) Unearned Premium Reserve to Premium Ratio	33.97%

NCRB - Pro Forma Total Rate of Return Workers Compensation (Leverage Recalculated using 2025 Reserve-to-Surplus Ratio of AM Best Workers Compensation Composite)			
	Pre-Tax	Tax Liability	Post-Tax
1 Premiums	100.00%		
Loss & LAE	65.60%		
Commissions	5.00%		
Other Acquisition & General	1.75%		
Taxes, Licenses & Fees	2.66%		
Servicing Carrier Allowance & Other	16.62%		
Uncollectible Premium	9.38%		
2 Pro Forma Underwriting Profit	-1.00%		
3 Regular Tax		-0.21%	
4 Additional Tax Due to IRS Treatment of Reserves		0.20%	
5 Return from Underwriting Post-Tax			-0.99%
6 Investment Gain on Insurance Transaction	16.53%	2.82%	13.71%
7 Investment Gain on Surplus	16.24%	2.77%	13.47%
8 Total Return as a Percent of Premium (post-tax)			26.19%
9 Premium-to-Net Worth Ratio			0.29
10 Total Return as a Percent of Net Worth (post-tax)			7.61%
<i>Lines (1) to (8) are expressed as a percentage of premium.</i>			

Assumptions and Parameters

(a) Underwriting Income Tax Rate	21.00%
(b) Investment Income Tax Rate	17.08%
(c) Pre-tax Investment Yield	5.11%
(d) Premium-to-Surplus Ratio	0.323
(e) Net Worth-to-Surplus Ratio	1.11
(f) Uncollectible Premium (adjusted for expense offsets)	9.38%
(g) Additional Tax Due to IRS Treatment of Loss Reserves and UEPR	0.20%
(h) Prepaid Expense Ratio	23.96%
(i) Unearned Premium Reserve to Premium Ratio	33.97%

Risk Premiums and Market Returns, 1928-2025

Annual Returns on Investments in						Annual Returns on Investments in					
Year	S&P 500	US 3 mo	US 10 yr	Baa Corp	AAA Corp	Year	S&P 500	US 3 mo	US 10 yr	Baa Corp	AAA Corp
1928	43.81%	3.08%	0.84%	3.22%	3.28%	1977	-6.98%	5.26%	1.29%	9.95%	6.58%
1929	-8.30%	3.16%	4.20%	3.02%	4.14%	1978	6.51%	7.18%	-0.78%	3.14%	2.01%
1930	-25.12%	4.55%	4.54%	0.54%	5.86%	1979	18.52%	10.05%	0.67%	-2.01%	-0.25%
1931	-43.84%	2.31%	-2.56%	-15.68%	-1.56%	1980	31.74%	11.39%	-2.99%	-3.32%	-2.55%
1932	-8.64%	1.07%	8.79%	23.59%	11.07%	1981	-4.70%	14.04%	8.20%	8.46%	7.94%
1933	49.98%	0.96%	1.86%	12.97%	5.30%	1982	20.42%	11.09%	32.81%	29.05%	27.89%
1934	-1.19%	0.28%	7.96%	18.82%	10.15%	1983	22.34%	8.95%	3.20%	16.19%	7.85%
1935	46.74%	0.17%	4.47%	13.31%	6.90%	1984	6.15%	9.92%	13.73%	15.62%	14.80%
1936	31.94%	0.17%	5.02%	11.38%	6.33%	1985	31.24%	7.72%	25.71%	23.86%	25.97%
1937	-35.34%	0.28%	1.38%	-4.42%	2.17%	1986	18.49%	6.15%	24.28%	21.35%	18.95%
1938	29.28%	0.07%	4.21%	9.24%	4.31%	1987	5.81%	5.96%	-4.96%	2.81%	-0.85%
1939	-1.10%	0.05%	4.41%	7.98%	4.28%	1988	16.54%	6.89%	8.22%	14.38%	12.87%
1940	-10.67%	0.04%	5.40%	8.65%	4.93%	1989	31.48%	8.39%	17.69%	15.95%	14.39%
1941	-12.77%	0.13%	-2.02%	5.01%	1.93%	1990	-3.06%	7.75%	6.24%	6.28%	7.72%
1942	19.17%	0.34%	2.29%	5.18%	2.71%	1991	30.23%	5.54%	15.00%	18.93%	14.98%
1943	25.06%	0.38%	2.49%	8.04%	3.42%	1992	7.49%	3.51%	9.36%	11.31%	9.84%
1944	19.03%	0.38%	2.58%	6.57%	3.09%	1993	9.97%	3.07%	14.21%	15.47%	14.30%
1945	35.82%	0.38%	3.80%	6.80%	3.48%	1994	1.33%	4.37%	-8.04%	-0.97%	-2.78%
1946	-8.43%	0.38%	3.13%	2.51%	2.61%	1995	37.20%	5.66%	23.48%	21.29%	21.16%
1947	5.20%	0.60%	0.92%	0.26%	0.46%	1996	22.68%	5.15%	1.43%	3.42%	2.83%
1948	5.70%	1.05%	1.95%	3.44%	3.46%	1997	33.10%	5.20%	9.94%	12.75%	11.26%
1949	18.30%	1.12%	4.66%	5.38%	4.62%	1998	28.34%	4.91%	14.92%	7.63%	10.20%
1950	30.81%	1.20%	0.43%	4.24%	1.80%	1999	20.89%	4.78%	-8.25%	0.91%	-3.39%
1951	23.68%	1.52%	-0.30%	-0.19%	-0.23%	2000	-9.03%	6.00%	16.66%	9.39%	10.99%
1952	18.15%	1.72%	2.27%	4.44%	3.35%	2001	-11.85%	3.48%	5.57%	8.54%	11.09%
1953	-1.21%	1.89%	4.14%	1.62%	1.61%	2002	-21.97%	1.64%	15.12%	12.14%	10.42%
1954	52.56%	0.94%	3.29%	6.16%	5.10%	2003	28.36%	1.03%	0.38%	12.32%	9.54%
1955	32.60%	1.72%	-1.34%	2.04%	0.78%	2004	10.74%	1.40%	4.49%	10.35%	7.14%
1956	7.44%	2.62%	-2.26%	-2.35%	-1.78%	2005	4.83%	3.22%	2.87%	5.30%	6.73%
1957	-10.46%	3.22%	6.80%	-0.72%	3.26%	2006	15.61%	4.85%	1.96%	5.20%	3.75%
1958	43.72%	1.77%	-2.10%	6.43%	1.63%	2007	5.48%	4.48%	10.21%	4.84%	5.84%
1959	12.06%	3.39%	-2.65%	1.57%	0.14%	2008	-36.55%	1.40%	20.10%	-3.54%	10.97%
1960	0.34%	2.87%	11.64%	6.66%	6.41%	2009	25.94%	0.15%	-11.12%	20.21%	-0.09%
1961	26.64%	2.35%	2.06%	5.10%	3.79%	2010	14.82%	0.14%	8.46%	9.41%	8.83%
1962	-8.81%	2.77%	5.69%	6.50%	5.86%	2011	2.10%	0.05%	16.04%	12.26%	13.99%
1963	22.61%	3.16%	1.68%	5.46%	3.36%	2012	15.89%	0.09%	2.97%	9.33%	4.59%
1964	16.42%	3.55%	3.73%	5.16%	3.64%	2013	32.15%	0.06%	-9.10%	-0.98%	-3.43%
1965	12.40%	3.95%	0.72%	3.19%	2.56%	2014	13.52%	0.03%	10.75%	10.78%	11.56%
1966	-9.97%	4.86%	2.91%	-3.45%	-0.70%	2015	1.38%	0.05%	1.28%	-1.50%	1.13%
1967	23.80%	4.29%	-1.58%	0.90%	-0.45%	2016	11.77%	0.32%	0.69%	11.52%	4.53%
1968	10.81%	5.34%	3.27%	4.85%	4.32%	2017	21.61%	0.95%	2.80%	9.23%	8.40%
1969	-8.24%	6.67%	-5.01%	-2.03%	-2.18%	2018	-4.23%	1.97%	-0.02%	-3.27%	-0.93%
1970	3.56%	6.39%	16.75%	5.65%	8.27%	2019	31.21%	2.11%	9.64%	15.25%	12.08%
1971	14.22%	4.33%	9.79%	14.00%	10.35%	2020	18.02%	0.36%	11.33%	10.60%	10.23%
1972	18.76%	4.06%	2.82%	11.41%	8.44%	2021	28.47%	0.04%	-4.42%	0.93%	-1.93%
1973	-14.31%	7.04%	3.66%	4.32%	3.00%	2022	-18.04%	2.09%	-17.83%	-15.14%	-12.88%
1974	-25.90%	7.85%	1.99%	-4.38%	-0.12%	2023	26.06%	5.28%	3.88%	8.74%	5.09%
1975	37.00%	5.79%	3.61%	11.05%	9.54%	2024	24.88%	5.18%	-1.64%	1.74%	-1.03%
1976	23.83%	4.98%	15.98%	19.75%	14.23%	2025	17.72%	4.21%	7.80%	6.96%	6.08%

Arithmetic Average Historical Return					
1928-2025	11.85%	3.41%	4.82%	6.90%	5.65%

Geometric Average Historical Return					
1928-2025	10.02%	3.37%	4.53%	6.63%	5.47%

Blume-Weighted Average Historical Return (10 yr horizon for stocks)					
1928-2025	11.69%	3.41%	4.80%	6.88%	5.63%

Blume Risk Premium					
	US 3 month	US 10 yr	Baa Bond	Aaa Bond	
1928-2025	8.44%	6.90%	4.82%	6.06%	

Notes: Source is Damodaran Online. Blume Risk Premium calculated as difference between Blume-Weighted Averages except for the US 3 month, which is based on the difference in Arithmetic Averages.

Public Company Level Capital Market Data

Group Name	Ultimate Parent Ticker	2024 NC WC DPW (\$000)	1-year Beta	3-year Beta	Debt%
The Hartford	HIG	113,326	0.49	0.64	11.19%
Travelers	TRV	111,485	0.46	0.60	13.11%
Great American Insurance	AFG	62,777	0.51	0.66	16.02%
Zurich	ZURN	60,977	0.78	0.85	15.41%
Berkshire Hathaway Inc.	BRK.A	55,356	0.42	0.64	11.28%
Chubb	CB	54,639	0.27	0.47	15.99%
Erie Insurance	ERIE	45,174	0.32	0.54	0.00%
W. R. Berkley Corp.	WRB	44,567	0.31	0.48	10.99%
Old Republic Insurance	ORI	32,165	0.39	0.61	15.34%
AIG	AIG	30,770	0.53	0.72	19.04%
CNA	L	28,232	0.50	0.66	29.49%
ProAssurance Corp.	PRA	19,749	0.36	0.58	26.05%
Arch Capital	ACGL	19,728	0.26	0.57	8.12%
The Hanover Insurance Group	THG	19,361	0.48	0.58	11.53%
AMERISAFE	AMSF	18,875	0.43	0.50	0.09%
The Cincinnati Insurance Cos.	CINF	13,581	0.55	0.71	3.52%
Employers	EIG	12,750	0.49	0.56	13.98%
AXA SA	CS	11,886	0.91	0.93	45.50%
Markel	MKL	10,197	0.60	0.69	16.37%
Tokio Marine	8766	10,076	0.99	1.25	1.70%
Selective	SIGI	10,048	0.49	0.56	14.88%
Fairfax Financial	FFH	7,020	0.56	0.72	28.52%
QBE	QBE	6,780	0.72	0.81	14.28%
Sompo	8630	6,040	0.98	1.11	19.10%
Brookfield Wealth Solutions Ltd	BN	2,952	1.22	1.48	72.24%
Everest Re	EG	2,811	0.51	0.65	21.83%
MS&AD Insurance	8725	2,622	0.95	1.13	13.94%
Progressive	PGR	2,383	0.24	0.45	6.93%
Allianz	ALV	1,577	0.90	0.90	25.85%
Intact Financial Corp.	IFC	813	0.49	0.65	9.48%
RLI	RLI	338	0.26	0.52	7.26%
Skyward Spclty Ins Grp	SKWD	209	0.66	0.73	21.33%
Samsung Fire & Marine Ins Co.	A000810	82	0.66	0.74	1.85%
Premium Weighted Average			0.4826	0.6428	13.88%
Betas are based on daily returns over the indicated horizon and are Blume-adjusted (with a weight of 0.67 on the raw beta and a weight of 0.33 on one. Debt percentage is estimated as the Total Debt divided by the sum of Total Debt and the most recent available equity market capitalization. Only publicly traded companies are included. Source is S&P Global.					

Sample of Findings on the Private Company Discount

Study	Years	Discount	Type
Emory (1994)	1992-1993	45%	IPO
Willamette Management Associates (various)	1975-1997	29% to 60%	IPO
Garland and Reilly (2004)	1998-2002	35%	IPO
Larcker et al. (2018)	2017	39% to 47%	IPO
Koeplin et al. (2000)	1984-1998	20% to 30%	Acquisitions
Block (2007)	1999-2006	20% to 25%	Acquisitions
Officer (2007)	1979-2003	15% to 30%	Acquisitions
Paglia and Harjoto (2010)	1993-2008	65% to 70%	Acquisitions
Jaffe et al. (2018)	1985-2014	0%	Acquisitions
Lohrey (2020)	2005-2015	48% to 62%	Acquisitions
Goetz (2021)	1997-2014	13%	Acquisitions
Silber (1991)	1981-1988	34%	Restricted Stock
Johnson (1999)	1991-1995	20%	Restricted Stock
Bajaj et al. (2001)	1990-1995	7%	Private placements
Comment (2012)	2004-2010	5% to 6%	Private placements
Finnerty (2013)	1991-1997	21%	Private placements
Finnerty (2013)	1997-2007	15%	Private placements
Chen et al. (2015)	1999-2012	10%	Private placements
Umar et al. (2023)	2002-2016	8%	Private placements

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