NORTH CAROLINA
Rate Bureau

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Raleigh, NC 27612
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August 29, 2025

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

Re: Workers Compensation Insurance 2025 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, 2026 and shall be applied to all residual market policies as of the first normal anniversary rating date which is on or after April 1, 2026, 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 29, 2025 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 7.6%.

This premium level change includes a 7.8% decrease in loss costs detailed in the 2025 loss cost filing and a 0.2% increase in the loss cost multiplier detailed in this filing.

By industry group, the changes are: Manufacturing, 7.3% decrease; Contracting, 8.8% decrease; Office and Clerical, 7.7% decrease; Goods & Services, 6.8% decrease; and Miscellaneous, 7.7% 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 12.7% 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,

Joanna Biliouris

Joanna Biliouris
General Manager

JB:ko
Attachments

NORTH CAROLINA - ASSIGNED RISK

SUMMARY

Proposed Effective Date: April 1, 2026

I. Industrial Classifications

Overall Proposed Change in Rate Level

- New and Renewal Policies: -7.6%

By Industry Group

Manufacturing	-7.3%
Contracting	-8.8%
Office and Clerical	-7.7%
Goods and Services	-6.8%
Miscellaneous	-7.7%
Overall	-7.6%

II. Federal Classifications

Overall Proposed Change in Rate Level

- New and Renewal Policies: -12.7%

III. Summary of Miscellaneous Changes

	Current	Proposed
- USL&HW %	56%	56%
- Experience Rating Split Point	$25,500	$26,000
- Experience Rating Premium Eligibility Thresholds		
24-Month Subject Premium	$14,500	$15,000
Average Annual Subject Premium	$7,250	$7,500

NORTH CAROLINA – ASSIGNED RISK

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EXHIBIT I

Determination of Indicated Rate Level Change

Section A - Policy Year 2023 Experience

Premium:

(1)	Standard Earned Premium Developed to Ultimate (Appendix A-II)	$946,585,200
(2)	Premium On-level Factor (Appendix A-I)	0.796
(3)	Premium Available for Benefit Costs = (1) x (2)	$753,481,819

Indemnity Benefit Cost:

(4)	Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	$365,997,358
(5)	Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.200
(7)	Composite Adjustment Factor = (5) x (6)	1.200
(8)	Adjusted Limited Indemnity Losses = (4) x (7)	$439,196,830
(9)	Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.583
(10)	Factor to Reflect Indemnity Trend (Appendix A-III)	0.859
(11)	Projected Limited Indemnity Cost Ratio = (9) x (10)	0.501
(12)	Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.014
(13)	Projected Indemnity Cost Ratio = (11) x (12)	0.508
(14)	Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(15)	Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.508

Medical Benefit Cost:

(16)	Limited Medical Losses Developed to Ultimate (Appendix A-II)	$280,532,058
(17)	Medical Loss On-level Factor (Appendix A-I)	1.003
(18)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.200
(19)	Composite Adjustment Factor = (17) x (18)	1.204
(20)	Adjusted Limited Medical Losses = (16) x (19)	$337,760,598
(21)	Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.448
(22)	Factor to Reflect Medical Trend (Appendix A-III)	0.844
(23)	Projected Limited Medical Cost Ratio = (21) x (22)	0.378
(24)	Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.014
(25)	Projected Medical Cost Ratio = (23) x (24)	0.383
(26)	Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.006
(27)	Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.385

Total Benefit Cost:

(28)	Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.893

NORTH CAROLINA

EXHIBIT I

Determination of Indicated Rate Level Change

Section B - Policy Year 2022 Experience

Premium:

(1)	Standard Earned Premium Developed to Ultimate (Appendix A-II)	$930,596,638
(2)	Premium On-level Factor (Appendix A-I)	0.757
(3)	Premium Available for Benefit Costs = (1) x (2)	$704,461,655

Indemnity Benefit Cost:

(4)	Limited Indemnity Losses Developed to Ultimate (Appendix A-II)	$374,711,116
(5)	Indemnity Loss On-level Factor (Appendix A-I)	1.000
(6)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.200
(7)	Composite Adjustment Factor = (5) x (6)	1.200
(8)	Adjusted Limited Indemnity Losses = (4) x (7)	$449,653,339
(9)	Adjusted Limited Indemnity Cost Ratio excluding Trend and Benefits = (8) / (3)	0.638
(10)	Factor to Reflect Indemnity Trend (Appendix A-III)	0.820
(11)	Projected Limited Indemnity Cost Ratio = (9) x (10)	0.523
(12)	Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.014
(13)	Projected Indemnity Cost Ratio = (11) x (12)	0.530
(14)	Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.000
(15)	Projected Indemnity Cost Ratio including Benefit Changes = (13) x (14)	0.530

Medical Benefit Cost:

(16)	Limited Medical Losses Developed to Ultimate (Appendix A-II)	$297,805,992
(17)	Medical Loss On-level Factor (Appendix A-I)	1.008
(18)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.200
(19)	Composite Adjustment Factor = (17) x (18)	1.210
(20)	Adjusted Limited Medical Losses = (16) x (19)	$360,345,250
(21)	Adjusted Limited Medical Cost Ratio excluding Trend and Benefits = (20) / (3)	0.512
(22)	Factor to Reflect Medical Trend (Appendix A-III)	0.802
(23)	Projected Limited Medical Cost Ratio = (21) x (22)	0.411
(24)	Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.014
(25)	Projected Medical Cost Ratio = (23) x (24)	0.417
(26)	Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.006
(27)	Projected Medical Cost Ratio including Benefit Changes = (25) x (26)	0.420

Total Benefit Cost:

(28)	Indicated Change Based on Experience, Trend and Benefits = (15) + (27)	0.950

NORTH CAROLINA

EXHIBIT I

Determination of Indicated Rate Level Change

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

(1)	Policy Year 2023 Indicated Change Based on Experience, Trend, and Benefits	0.893 (-10.7%)
(2)	Policy Year 2022 Indicated Change Based on Experience, Trend, and Benefits	0.950 (-5.0%)
(3)	Indicated Change Based on Experience, Trend, and Benefits* = [(1) + (2)] / 2	0.922 (-7.8%)

* 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	0.922 (-7.8%)
(2)	Proposed Change in Assigned Risk Loss Cost Multiplier = [Exhibit I-A, Sheet 1, Line (9)] / [Exhibit I-A, Sheet 2, Line (9)]	1.002 (+0.2%)
(3)	Indicated Assigned Risk Rate Level Change = (1) x (2)	0.924 (-7.6%)

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

Industry Group Differentials (Appendix A-V):

Manufacturing	1.003
Contracting	0.987
Office & Clerical	0.999
Goods & Services	1.009
Miscellaneous	0.999

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	0.924	1.003	0.927	(-7.3%)
Contracting	0.924	0.987	0.912	(-8.8%)
Office & Clerical	0.924	0.999	0.923	(-7.7%)
Goods & Services	0.924	1.009	0.932	(-6.8%)
Miscellaneous	0.924	0.999	0.923	(-7.7%)
Overall	0.924	1.000	0.924	(-7.6%)

North Carolina Department of Insurance

Summary of Supporting Information Form
Calculation of INDICATED 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 (see attached) Cite the nature and percent modification. Attach supporting data and/or rationale for the modification(s).		
	B. Loss Cost Modification Factor:	2.084	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	5.0%	
	B. Other Acquisition	20.8%	
	C. General Expenses	Incl. in B	
	D. Taxes, Licenses, Fees & Loss Based Assessments	2.66%	
	E. Profit, Contingencies and Investment Income	0.0%	
	F. Uncollectible Premium Provision	9.1%	
	G. Total (A + B + C + D + E + F)	37.6%	
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	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)	1.000	
7.	Provision for loss based assessments	0.000	
8.	Formula Loss Cost Multiplier : 2B x (1.0 - 7) / ((6 - 3G) x 5)	2.875	
9.	Selected Loss Cost Multiplier: (Explain any differences between 8 and 9, other than rounding)	2.875	
10.	Rate Level Changes for the Coverages to which this page applies	-7.6%	
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, 2025

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): 2.092 Cite the nature and percent modification. Attach supporting data and/or rationale for the modification(s).	
	B. Loss Cost Modification Factor:	2.092
	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	5.0%
	B. Other Acquisition	20.9%
	C. General Expenses	Incl. in B
	D. Taxes, Licenses, Fees & Loss Based Assessments	2.59%
	E. Profit, Contingencies and Investment Income	0.0%
	F. Uncollectible Premium Provision	9.1%
	G. Total (A + B + C + D + E + F)	37.6%
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)	1.169
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 x (1.0 - 7) / ((6 - 3G) x 5)	2.869
9.	Selected Lost Cost Multiplier	2.869

North Carolina - Assigned Risk

Calculation of Loss Cost Modification Factor

1.	Current Assigned Risk Differential	2.512
2.	Proposed Change in Assigned Risk Differential (See Exh. II-E, Sheet 1)	0.996
3.	Proposed Assigned Risk Differential (1) x (2)	2.502
4.	Selected loss adjustment expense provision (See Exhibit II-A, Sheet 1)	1.200
5.	Factor to Adjust Loss Costs to Avoid Double Counting Servicing Carrier LAE 1 / (4)	0.833
6.	Loss Cost Modification Factor (3) x (5)	2.084

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)		20.0%
Factor to adjust loss costs to avoid double counting Servicing Carrier LAE (See Exhibit I-A, Sheet 3)	0.833	
3. Other Acquisition, General Expense * and LAE (See Exhibit II-B)		20.8%
4. Uncollectible Premium Provision (See Exhibit II-F, Sheet 1)		12.0%
5. Underwriting Profit and Contingencies		0.0%
a. Underwriting Profit (See Exhibits RB-6 and RB-8)	0.0%	
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)		16.2%

* 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^
2020	18.1%	10.4%	2019	10.2%
2021	18.2%	10.1%	2020	9.8%
2022	23.2%	9.8%	2021	9.8%
2023	21.8%	9.7%	2022	10.4%
2024	20.3%	9.9%	2023	10.5%

Current North Carolina Loss Adjustment Expense Provision	20.0%
Selected North Carolina Loss Adjustment Expense Provision	20.0%

* Source: NCCI Call for Calendar Year Expense (Financial Call 14)
\+ Source: NCCI Call for Loss Adjustment Expense (See Exhibit RB-4)
^ Exhibit II-A, Sheet 2.

North Carolina

Selection of DCCE Provision

Policy Year	(1) Reported Ratio of Paid DCCE to Paid Losses	(2) Age to Ultimate Development Factor	(3) Ultimate DCCE Ratio (1) x (2)
2019	10.3%	0.988	10.2%
2020	10.0%	0.984	9.8%
2021	10.1%	0.975	9.8%
2022	10.6%	0.982	10.4%
2023	10.1%	1.042	10.5%

Summary of Paid DCCE to Paid Loss Ratio Development Factors

Report	(1) DCCE Ratio Development To Next Report	(2) DCCE Ratio Development To Ultimate
1st	1.061	1.042
2nd	1.007	0.982
3rd	0.991	0.975
4th	0.996	0.984
5th	1.000	0.988
6th	0.998	0.988
7th	0.997	0.990
8th	0.997	0.993
9th	1.000	0.996
10th	1.000	0.996
11th	1.000	0.996
12th	0.999	0.996
13th	0.998	0.997
14th	1.000	0.999
15th	1.000	0.999
16th	0.999	0.999
17th	1.001	1.000
18th	0.999	0.999
19th		1.000*

(1) Selected two-year average
(2) = Cumulative upward product of column (1)
* Selection

North Carolina - Assigned Risk

Expense Provision
Other Acquisition, General Expense and LAE

1.	Weighted-Average of 1/1/2025 Three-Year Servicing Carrier Allowances* (Includes LAE)	19.28%
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)	20.8%

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

North Carolina - Assigned Risk

Pool Expense Provision*

Data Valued as of 12/31/2024

Calendar Year	Gross Written Premium^	Administrative & Separately Reimbursable Expense	Expenses as a % of GWP
2015	84,398,595	1,163,942	1.4%
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%
		Weighted Average	1.5%

* Source: Data collected by NCCI, Inc.
^ Includes premium for both servicing carriers and direct assignment carriers.

Exhibit II-D

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 *	$	2,872,648	$	2,872,648
(4) Standard Premium Including Additional Premium Generated by MPM and MMP *	$	32,614,829	$	32,614,829
(5) Impact of MPM and MMP = (3) / (4)		0.088		0.088
(6) Expense Constant		160		160
(7) Standard Premium Including Expense Constant Premium and Balance to Minimum Premium **	$	68,647,510	$	68,647,510
(8) Standard Premium Excluding Expense Constant Premium and Balance to Minimum Premium **	$	59,101,531	$	59,101,531
(9) Premium Generated from Expense Constant and Balance to Minimum Premium = (7) - (8)	$	9,545,979	$	9,545,979
(10) Effect of Expense Constant and Minimum Premiums = (9) / (8)				0.162

* Source: Unit Statistical Data for policy years 2014 through 2021.
** Source: Policy Data collected by the NCRB for policy years 2022 through 2024.

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

Policy Year	(1) Standard Pure Premium *	(2) Paid Losses **	(3) = (2) / (1) Ratio of Losses to Premium	(4) Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Residual Market Experience Valued as of 12/31/2024				
2014	11,080,389	38,534,867	3.478	
2015	11,695,686	45,419,127	3.883	
2016	12,374,098	41,866,949	3.383	
2017	12,921,381	38,615,307	2.988	
2018	14,980,522	56,420,083	3.766	
2019	15,901,715	66,029,026	4.152	
2020	16,482,668	26,009,847	1.578	
2021	17,707,079	35,401,531	1.999	
2022	18,287,315	46,228,909	2.528	
2023	17,821,168	27,956,171	1.569	
II. Statewide Experience Valued as of 12/31/2024				
2014	379,901,465	572,897,556	1.508	2.306
2015	404,838,855	559,314,487	1.382	2.810
2016	432,607,183	536,030,349	1.239	2.730
2017	460,196,843	547,631,592	1.190	2.511
2018	498,621,307	604,171,580	1.212	3.107
2019	531,343,741	611,643,196	1.151	3.607
2020	558,960,649	606,230,902	1.085	1.454
2021	629,960,954	638,992,160	1.014	1.971
2022	703,781,937	685,389,426	0.974	2.595
2023	753,995,550	663,791,183	0.880	1.783
			Average Differential ^	2.487

(a)	Indicated Differential in Standard Pure Premium Based on Experience	2.487
(b)	Current Impact of Standard Pure Premium Programs@	2.530
(c)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid Losses = (a) / (b)	0.983
(d)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid+Case Losses [See Exhibit II-E, Sheet 4, Item (c)]	1.009
(e)	Selected Change in Assigned Risk Pure Premium Differential (Proposed Assigned Risk Pure Premium Differential = 2.502)	0.996

* Developed to fifth report and brought to the 4/1/2025 pure premium level.
** Developed to ultimate and brought to the 3/9/2024 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 2.512. ARAP impact from Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk

(Residual Market)

Policy Year	(1) Standard Premium*	(2) On-level Factor^	(3) Effect of Current Standard Premium Programs#	(4) = (1) x ((2) / (3)) Stand. Pure Prem. at Current Level
2014	78,584,317	0.364	2.585	11,080,389
2015	81,788,012	0.369	2.577	11,695,686
2016	84,754,094	0.374	2.557	12,374,098
2017	82,829,368	0.397	2.542	12,921,381
2018	84,635,716	0.450	2.545	14,980,522
2019	76,450,551	0.527	2.532	15,901,715
2020	70,741,063	0.590	2.532	16,482,668
2021	71,979,995	0.624	2.537	17,707,079
2022	75,567,416	0.615	2.537	18,287,315
2023	73,338,140	0.616	2.537	17,821,168

Policy Year	(5) Ind. Losses Paid	(6) Development Factor	(7) On-level Factor^	(8) = ((5) x (6)) x (7) Adjusted Ind. Losses
2014	20,754,560	1.042	1.000	21,626,252
2015	20,474,828	1.046	1.000	21,416,670
2016	18,258,503	1.055	1.000	19,262,721
2017	19,994,965	1.064	1.000	21,274,643
2018	24,582,989	1.079	1.000	26,525,045
2019	22,849,263	1.098	1.000	25,088,491
2020	14,667,125	1.136	1.000	16,661,854
2021	15,461,957	1.242	1.000	19,203,751
2022	14,082,256	1.538	1.000	21,658,510
2023	5,209,911	2.858	1.000	14,889,926

Policy Year	(9) Med. Losses Paid	(10) Development Factor	(11) On-level Factor^	(12) = ((9) x (10)) x (11) Adjusted Med. Losses
2014	15,515,452	1.056	1.032	16,908,615
2015	21,382,273	1.059	1.060	24,002,457
2016	20,004,449	1.066	1.060	22,604,228
2017	15,246,792	1.076	1.057	17,340,664
2018	26,268,697	1.088	1.046	29,895,038
2019	35,860,155	1.102	1.036	40,940,535
2020	8,043,083	1.135	1.024	9,347,993
2021	13,425,618	1.191	1.013	16,197,780
2022	18,910,315	1.289	1.008	24,570,399
2023	7,452,611	1.748	1.003	13,066,245

* Developed to a fifth report. See Exhibit II-E, Sheet 7.
^ See Appendix A-I for the derivation of the factors for Policy Years 2022 and 2023. Factors for the remaining years are calculated in a similar manner.
# This is composed of a differential of 2.512 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 Premum On-level
2014	368,821,076	11,080,389	379,901,465
2015	393,143,169	11,695,686	404,838,855
2016	420,233,085	12,374,098	432,607,183
2017	447,275,462	12,921,381	460,196,843
2018	483,640,785	14,980,522	498,621,307
2019	515,442,026	15,901,715	531,343,741
2020	542,477,981	16,482,668	558,960,649
2021	612,253,875	17,707,079	629,960,954
2022	685,494,622	18,287,315	703,781,937
2023	736,174,382	17,821,168	753,995,550

Policy Year	(4) Ind. Losses Paid	(5) Development Factor	(6) On-level Factor^	(7) = ((4) x (5)) x (6) Adjusted Ind. Losses
2014	290,214,678	1.042	1.000	302,403,694
2015	279,175,894	1.046	1.000	292,017,985
2016	271,867,691	1.055	1.000	286,820,414
2017	278,407,629	1.064	1.000	296,225,717
2018	298,160,462	1.079	1.000	321,715,138
2019	295,924,987	1.098	1.000	324,925,636
2020	284,284,853	1.136	1.000	322,947,593
2021	276,035,702	1.242	1.000	342,836,342
2022	246,416,706	1.538	1.000	378,988,894
2023	131,893,367	2.858	1.000	376,951,243

Policy Year	(8) Med. Losses Paid	(9) Development Factor	(10) On-level Factor^	(11) = ((8) x (9)) x (10) Adjusted Med. Losses
2014	248,206,870	1.056	1.032	270,493,862
2015	238,117,574	1.059	1.060	267,296,502
2016	220,547,572	1.066	1.060	249,209,935
2017	221,048,801	1.076	1.057	251,405,875
2018	248,193,786	1.088	1.046	282,456,442
2019	251,138,296	1.102	1.036	286,717,560
2020	243,739,080	1.135	1.024	283,283,309
2021	245,470,361	1.191	1.013	296,155,818
2022	235,817,519	1.289	1.008	306,400,532
2023	163,605,260	1.748	1.003	286,839,940

* 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 2022 and 2023.
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

Policy Year	(1) Standard Pure Premium *	(2) Paid+Case Losses **	(3) = (2) / (1) Ratio of Losses to Premium	(4) Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Residual Market Experience Valued as of 12/31/2024				
2014	11,080,389	37,410,624	3.376	
2015	11,695,686	43,498,504	3.719	
2016	12,374,098	42,138,165	3.405	
2017	12,921,381	37,275,466	2.885	
2018	14,980,522	59,545,898	3.975	
2019	15,901,715	65,990,760	4.150	
2020	16,482,668	24,437,004	1.483	
2021	17,707,079	32,169,777	1.817	
2022	18,287,315	49,188,821	2.690	
2023	17,821,168	30,114,391	1.690	
II. Statewide Experience Valued as of 12/31/2024				
2014	379,901,465	557,631,472	1.468	2.300
2015	404,838,855	543,945,488	1.344	2.767
2016	432,607,183	522,885,297	1.209	2.816
2017	460,196,843	531,312,444	1.155	2.498
2018	498,621,307	587,810,244	1.179	3.372
2019	531,343,741	598,177,243	1.126	3.686
2020	558,960,649	588,904,948	1.054	1.407
2021	629,960,954	628,832,753	0.998	1.821
2022	703,781,937	664,409,685	0.944	2.850
2023	753,995,550	630,950,840	0.837	2.019
			Average Differential ^	2.554

(a)	Indicated Differential in Standard Pure Premium Based on Experience	2.554
(b)	Current Impact of Standard Pure Premium Programs@	2.530
(c)	Indicated Change in Assigned Risk Pure Premium Differential = (a)/(b)	1.009

* Developed to fifth report and brought to the 4/1/2025 pure premium level.
** Developed to ultimate and brought to the 3/9/2024 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 2.512. ARAP impact from Exhibit II-E, Sheet 9.

North Carolina - Assigned Risk

(Residual Market)

Policy Year	(1) Standard Premium*	(2) On-level Factor^	(3) Effect of Current Standard Premium Programs#	(4) = (1) x ((2) / (3)) Stand. Pure Prem. at Current Level
2014	78,584,317	0.364	2.585	11,080,389
2015	81,788,012	0.369	2.577	11,695,686
2016	84,754,094	0.374	2.557	12,374,098
2017	82,829,368	0.397	2.542	12,921,381
2018	84,635,716	0.450	2.545	14,980,522
2019	76,450,551	0.527	2.532	15,901,715
2020	70,741,063	0.590	2.532	16,482,668
2021	71,979,995	0.624	2.537	17,707,079
2022	75,567,416	0.615	2.537	18,287,315
2023	73,338,140	0.616	2.537	17,821,168

Policy Year	(5) Ind. Losses Paid+Case	(6) Development Factor	(7) On-level Factor^	(8) = ((5) x (6)) x (7) Adjusted Ind. Losses
2014	21,051,856	1.016	1.000	21,388,686
2015	20,487,191	1.018	1.000	20,855,960
2016	18,635,972	1.021	1.000	19,027,327
2017	20,516,344	1.023	1.000	20,988,220
2018	25,305,268	1.027	1.000	25,988,510
2019	23,980,015	1.034	1.000	24,795,336
2020	15,155,043	1.047	1.000	15,867,330
2021	16,902,835	1.074	1.000	18,153,645
2022	18,984,695	1.158	1.000	21,984,277
2023	10,040,109	1.492	1.000	14,979,843

Policy Year	(9) Med. Losses Paid+Case	(10) Development Factor	(11) On-level Factor^	(12) = ((9) x (10)) x (11) Adjusted Med. Losses
2014	15,525,134	1.000	1.032	16,021,938
2015	21,382,273	0.999	1.060	22,642,544
2016	21,846,370	0.998	1.060	23,110,838
2017	15,470,820	0.996	1.057	16,287,246
2018	32,145,925	0.998	1.046	33,557,388
2019	39,763,923	1.000	1.036	41,195,424
2020	8,436,313	0.992	1.024	8,569,674
2021	14,191,037	0.975	1.013	14,016,132
2022	27,996,509	0.964	1.008	27,204,544
2023	15,734,390	0.959	1.003	15,134,548

* Developed to a fifth report. See Exhibit II-E, Sheet 7.
^ See Appendix A-I for the derivation of the factors for Policy Years 2022 and 2023. Factors for the remaining years are calculated in a similar manner.
# This is composed of a differential of 2.512 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 Premum On-level
2014	368,821,076	11,080,389	379,901,465
2015	393,143,169	11,695,686	404,838,855
2016	420,233,085	12,374,098	432,607,183
2017	447,275,462	12,921,381	460,196,843
2018	483,640,785	14,980,522	498,621,307
2019	515,442,026	15,901,715	531,343,741
2020	542,477,981	16,482,668	558,960,649
2021	612,253,875	17,707,079	629,960,954
2022	685,494,622	18,287,315	703,781,937
2023	736,174,382	17,821,168	753,995,550

Policy Year	(4) Ind. Losses Paid+Case	(5) Development Factor	(6) On-level Factor^	(7) = ((4) x (5)) x (6) Adjusted Ind. Losses
2014	292,609,220	1.016	1.000	297,290,968
2015	281,491,493	1.018	1.000	286,558,340
2016	277,798,716	1.021	1.000	283,632,489
2017	283,535,510	1.023	1.000	290,056,827
2018	307,042,393	1.027	1.000	315,332,538
2019	308,804,982	1.034	1.000	319,304,351
2020	303,302,908	1.047	1.000	317,558,145
2021	317,956,786	1.074	1.000	341,485,588
2022	319,890,619	1.158	1.000	370,433,337
2023	237,964,794	1.492	1.000	355,043,473

Policy Year	(8) Med. Losses Paid+Case	(9) Development Factor	(10) On-level Factor^	(11) = ((8) x (9)) x (10) Adjusted Med. Losses
2014	252,267,930	1.000	1.032	260,340,504
2015	243,061,125	0.999	1.060	257,387,148
2016	226,162,521	0.998	1.060	239,252,808
2017	229,162,266	0.996	1.057	241,255,617
2018	261,016,973	0.998	1.046	272,477,706
2019	269,182,328	1.000	1.036	278,872,892
2020	267,124,105	0.992	1.024	271,346,803
2021	290,932,913	0.975	1.013	287,347,165
2022	302,534,442	0.964	1.008	293,976,348
2023	286,842,671	0.959	1.003	275,907,367

* 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 2022 and 2023.
Factors for the remaining years are calculated in a similar manner.

North Carolina - Assigned Risk
(Residual Market)

Section A - Assigned Risk Premium Development Factors

Policy Year	Standard Premium for Matching Companies		Development Factor
	1st Report	2nd Report	
2020	$69,752,594	$69,595,678	0.998
2021	71,443,251	70,830,290	0.991
2022	72,639,892	73,868,442	1.017
Average			1.002
	2nd Report	3rd Report	
2019	$75,091,969	$76,156,327	1.014
2020	69,595,678	70,179,316	1.008
2021	70,830,290	70,846,452	1.000
Average			1.007
	3rd Report	4th Report	
2018	$82,733,261	$84,513,181	1.022
2019	76,156,327	76,465,363	1.004
2020	70,179,316	70,249,318	1.001
Average			1.009
	4th Report	5th Report	
2017	$81,308,854	$82,838,003	1.019
2018	84,513,181	84,686,625	1.002
2019	76,465,363	76,450,551	1.000
Average			1.007

Three-year average premium development factors

1st/5th	2nd/5th	3rd/5th	4th/5th
1.025	1.023	1.016	1.007

Section B - Calculation of Developed Assigned Risk Standard Premium

Policy Year	Standard Premium	Development Factor	Developed Premium
2014	78,584,317	1.000	78,584,317
2015	81,788,012	1.000	81,788,012
2016	84,754,094	1.000	84,754,094
2017	82,829,368	1.000	82,829,368
2018	84,635,716	1.000	84,635,716
2019	76,450,551	1.000	76,450,551
2020	70,249,318	1.007	70,741,063
2021	70,846,452	1.016	71,979,995
2022	73,868,442	1.023	75,567,416
2023	71,549,405	1.025	73,338,140

North Carolina - Assigned Risk
(Statewide Market)

Section A - Voluntary Premium Development Factors

Policy Year	Standard Premium for Matching Companies		Development Factor
	1st Report	2nd Report	
2020	$747,801,336	$757,659,111	1.013
2021	782,914,973	804,978,069	1.028
2022	832,346,399	855,798,529	1.028
Average			1.023
	2nd Report	3rd Report	
2019	$823,020,918	$822,243,036	0.999
2020	757,659,111	758,324,413	1.001
2021	804,135,973	805,343,944	1.002
Average			1.001
	3rd Report	4th Report	
2018	$899,943,822	$899,043,990	0.999
2019	822,243,036	822,241,371	1.000
2020	758,507,530	758,409,221	1.000
Average			1.000
	4th Report	5th Report	
2017	$951,472,787	$949,658,691	0.998
2018	899,043,990	898,936,477	1.000
2019	822,241,371	822,076,596	1.000
Average			0.999

Three-year average premium development factors

1st/5th	2nd/5th	3rd/5th	4th/5th
1.023	1.000	0.999	0.999

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

Policy Year	Standard Premium	Development Factor	Voluntary On-level Factor*	Voluntary Prem Dev't & On-level
2014	996,813,719	1.000	0.370	368,821,076
2015	1,042,820,077	1.000	0.377	393,143,169
2016	1,024,958,744	1.000	0.410	420,233,085
2017	949,629,431	1.000	0.471	447,275,462
2018	898,960,567	1.000	0.538	483,640,785
2019	822,076,596	1.000	0.627	515,442,026
2020	758,409,221	0.999	0.716	542,477,981
2021	805,343,944	0.999	0.761	612,253,875
2022	855,798,529	1.000	0.801	685,494,622
2023	854,659,206	1.023	0.842	736,174,382

* See Appendix A-I for the derivation of the figures for Policy Years 2022 and 2023.

North Carolina - Assigned Risk

Impact of the Assigned Risk Adjustment Program*

Based on Assigned Risk Data for Policies with Effective Dates in 2024

Type of Risk	(1) Experience Modified Premium	(2) ARAP Premium	(3) ARAP Impact (2) / (1)
Risks with Credit Mods	$2,152,643	$2,152,643	1.000
Risks with Debit Mods	1,579,346	2,001,052	1.267
Risks with No Mods / Mods of 1.00	54,330,964	54,330,964	1.000
Totals	$58,062,953	$58,484,659	1.007

Historical Impacts of the Assigned Risk Adjustment Program

Policy Year	ARAP Impact
2014	1.029
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

* Source: North Carolina Rate Bureau

North Carolina - Assigned Risk

Uncollectible Premium Provision

Section 1 - Gross Premium as of 12/31/2024 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Gross
2013				62,246	62,181	62,142	62,118	62,118	62,118
2014			57,964	57,800	57,768	57,770	57,770	57,771	57,771
2015		62,941	62,906	62,871	62,871	62,880	62,879	62,910	62,910
2016	59,840	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	63,219		63,219
2018	63,020	62,127	61,941	63,687	63,924	63,715			63,715
2019	57,076	55,421	56,201	56,466	56,024				56,024
2020	53,198	51,597	51,943	51,430					51,482
2021	53,296	51,908	51,735						51,839
2022	50,308	50,378							50,579
2023	48,641								47,716

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2013						1.000	1.000	
2014					1.000	1.000	1.000	
2015				1.000	1.000	1.000	1.000	
2016			0.996	1.000	1.000	1.000	1.000	
2017		1.002	1.002	1.016	1.000	0.999		
2018	0.986	0.997	1.028	1.004	0.997			
2019	0.971	1.014	1.005	0.992				
2020	0.970	1.007	0.990					
2021	0.974	0.997						
2022	1.001							
5-Yr Avg x H/L	0.977	1.002	1.001	1.001	1.000	1.000	1.000	0.000
Selected	0.977	1.002	1.001	1.001	1.000	1.000	1.000	1.000
Ultimate	0.981	1.004	1.002	1.001	1.000	1.000	1.000	1.000

Section 2 - Collected Premium as of 12/31/2024 - Traumatic Only (000s)

Policy Year	1st	2nd	3rd	4th	5th	6th	7th	8th	Ultimate Collected	Uncollected/ Gross
2013				57,683	57,661	56,156	55,654	56,151	56,151	9.6%
2014			55,184	55,141	54,490	52,818	53,246	53,954	53,954	6.6%
2015		58,787	59,314	58,232	57,486	57,656	57,928	57,976	57,976	7.8%
2016	57,434	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	54,683		54,957	13.1%
2018	57,965	53,658	54,003	54,374	54,430	54,305			54,685	14.2%
2019	53,992	49,147	49,358	49,345	49,003				49,395	11.8%
2020	49,681	46,761	46,929	46,867					47,148	8.4%
2021	50,008	45,619	45,620						45,940	11.4%
2022	45,825	42,644							43,113	14.8%
2023	43,974								41,028	14.0%

Policy Year	1 / 2	2 / 3	3 / 4	4 / 5	5 / 6	6 / 7	7 / 8	8 / Ult
2013						0.991	1.009	
2014					0.969	1.008	1.013	
2015				0.987	1.003	1.005	1.001	
2016			0.986	1.001	1.002	1.002	1.000	
2017		1.004	1.004	1.002	1.003	0.999		
2018	0.926	1.006	1.007	1.001	0.998			
2019	0.910	1.004	1.000	0.993				
2020	0.941	1.004	0.999					
2021	0.912	1.000						
2022	0.931							
5-Yr Avg x H/L	0.923	1.004	1.001	0.998	1.001	1.002	1.005	
Selected	0.923	1.004	1.001	0.998	1.001	1.002	1.005	1.000
Ultimate	0.933	1.011	1.007	1.006	1.008	1.007	1.005	1.000

3-Yr Avg	13.4%
5-Yr Avg	12.1%
10-Yr Avg	11.4%
Selected	12.0%

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

North Carolina - Assigned Risk

Uncollectible Premium Provision

1. Selected Uncollectible Premium Provision	12.0%
2. Expense Components Calculated as a Percentage of Collected Premium	
A. Commission and Brokerage	5.0%
B. Servicing Carrier Allowance	19.28%
C. Total (A + B)	24.28%
3. Uncollectible Premium Provision Adjustment Factor (1.000 - 2C)	0.757
4. Adjusted Uncollectible Premium Provision (1 x 3)	9.1%

North Carolina - Assigned Risk

Factor to Convert Loss Costs to Assigned Risk Rates

For all classification codes, the proposed loss cost multiplier of 2.875 is applied to the advisory loss costs (contained in the Rate Bureau's Loss Costs Reference Filing proposed effective April 1, 2026) 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.

Effective April 1, 2026

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	3.096	779	0.827	0.44	2089	2.708	702	0.711	0.44	2835	2.619	684	0.743	0.48
0008	2.542	668	0.676	0.44	2095	3.076	775	0.780	0.41	2836	2.907	741	0.823	0.48
0016	4.338	1028	0.988	0.37	2105	4.448	1050	1.260	0.48	2841	3.648	890	0.972	0.44
0034	4.039	968	1.030	0.41	2110	3.942	948	1.045	0.44	2881	3.065	773	0.866	0.48
0035	2.907	741	0.752	0.41	2111	2.317	623	0.608	0.44	2883	3.723	905	0.988	0.44
0036	4.663	1093	1.224	0.44	2112	4.893	1139	1.293	0.44	2915	3.292	818	0.739	0.37
0037	4.045	969	0.917	0.37	2114	2.337	627	0.665	0.48	2916	3.709	902	0.841	0.37
0042	4.637	1087	1.179	0.41	2121	1.639	488	0.467	0.48	2923	1.794	519	0.510	0.48
0050	6.302	1420	1.421	0.37	2130	2.406	641	0.615	0.41	2960	5.063	1173	1.281	0.41
0059	–	–	–	–	2131	1.872	534	0.495	0.44	3004	1.826	525	0.379	0.33
0065	–	–	–	–	2143	2.757	711	0.780	0.48	3018	3.482	856	0.726	0.33
0066	–	–	–	–	2157	4.531	1066	1.184	0.44	3022	4.485	1057	1.184	0.44
0067	–	–	–	–	2172	2.225	605	0.499	0.37	3027	2.559	672	0.573	0.37
0079	2.467	653	0.629	0.41	2174	3.838	928	1.028	0.44	3028	3.634	887	0.822	0.37
0083	4.773	1115	1.219	0.41	2211	8.223	1500	1.860	0.37	3030	4.798	1120	1.080	0.37
0106	12.394	1500	2.581	0.33	2220	3.128	786	0.794	0.41	3040	4.517	1063	1.146	0.41
0113	3.982	956	1.057	0.44	2286	–	–	0.794	0.41	3041	3.901	940	0.988	0.41
0170	2.720	704	0.717	0.44	2288	5.109	1182	1.361	0.44	3042	3.030	766	0.768	0.41
0251	5.293	1219	1.351	0.41	2302	2.309	622	0.592	0.41	3064	3.502	860	0.893	0.41
0401	8.110	A	1.692	0.33	2305	3.128	786	0.705	0.37	3076	2.705	701	0.713	0.44
0771N	0.489	–	–	–	2361	2.329	626	0.599	0.41	3081	3.878	936	0.982	0.41
0908P	184.000	344	46.652	0.41	2362	3.151	790	0.836	0.44	3082	4.591	1078	1.037	0.37
0913P	474.000	634	119.907	0.41	2380	2.602	680	0.690	0.44	3085	5.626	1285	1.445	0.41
0917	3.669	894	1.037	0.48	2388	1.415	443	0.403	0.48	3110	3.623	885	0.923	0.41
1005	7.521	1500	1.387	0.32	2402	2.498	660	0.567	0.37	3111	2.979	756	0.793	0.44
1164	4.614	1083	0.864	0.32	2413	2.657	691	0.679	0.41	3113	1.938	548	0.493	0.41
1165X	3.611	882	0.675	0.32	2416	2.990	758	0.796	0.44	3114	2.645	689	0.676	0.41
1320	2.268	614	0.466	0.33	2417	1.716	503	0.457	0.44	3118	2.001	560	0.568	0.48
1322	11.086	1500	2.073	0.32	2501	2.622	684	0.696	0.44	3119	0.771	314	0.231	0.51
1430	5.652	1290	1.276	0.37	2503	1.305	421	0.348	0.44	3122	2.473	655	0.701	0.48
1438	3.827	925	0.860	0.37	2570	4.160	992	1.093	0.44	3126	1.935	547	0.492	0.41
1452	2.142	588	0.480	0.37	2585	3.516	863	0.895	0.41	3131	1.688	498	0.432	0.41
1463	8.660	1500	1.625	0.32	2586	4.793	1119	1.276	0.44	3132	2.363	633	0.629	0.44
1472	3.361	832	0.756	0.37	2587	3.654	891	0.958	0.44	3145	2.018	564	0.515	0.41
1624	3.206	801	0.660	0.33	2589	2.240	608	0.575	0.41	3146	2.107	581	0.539	0.41
1642	3.579	876	0.803	0.37	2600	4.747	1109	1.242	0.44	3169	2.616	683	0.689	0.44
1654	8.050	1500	1.795	0.37	2623	5.848	1330	1.325	0.37	3179	1.935	547	0.506	0.44
1699	3.424	845	0.776	0.37	2651	1.587	477	0.419	0.44	3180	2.199	600	0.580	0.44
1701	3.010	762	0.622	0.33	2660	2.358	632	0.676	0.48	3188	1.653	491	0.420	0.41
1710	5.644	1289	1.265	0.37	2670	–	–	0.626	0.44	3220	2.099	580	0.530	0.41
1747	3.229	806	0.718	0.37	2683	–	–	0.696	0.44	3224	3.536	867	0.997	0.48
1748	4.689	1098	1.071	0.37	2688	2.352	630	0.626	0.44	3227	4.039	968	1.067	0.44
1803	6.124	1385	1.383	0.37	2702	23.302	1500	4.382	0.32	3240	–	–	0.927	0.44
1924	3.482	856	0.916	0.44	2705X*	63.980	1500	13.222	0.33	3241	3.717	903	0.978	0.44
1925	3.993	959	1.018	0.41	2709	8.110	1500	1.668	0.33	3255	2.728	706	0.771	0.48
2002	4.413	1043	1.161	0.44	2710	6.515	1463	1.469	0.37	3257	3.499	860	0.927	0.44
2003	3.913	943	0.989	0.41	2714	4.962	1152	1.331	0.44	3270	2.274	615	0.602	0.44
2014	5.460	1252	1.234	0.37	2727X	11.609	1500	2.403	0.33	3300	4.384	1037	1.248	0.48
2016	3.200	800	0.834	0.44	2731	5.063	1173	1.335	0.44	3303	3.016	763	0.799	0.44
2021	3.416	843	0.866	0.41	2735	5.304	1221	1.414	0.44	3307	2.743	709	0.698	0.41
2039	3.306	821	0.871	0.44	2759	6.210	1402	1.651	0.44	3315	3.562	872	0.940	0.44
2041	2.800	720	0.736	0.44	2790	2.099	580	0.599	0.48	3334	4.612	1082	1.150	0.41
2065	2.343	629	0.592	0.41	2797	4.491	1058	1.285	0.48	3336	2.622	684	0.665	0.41
2070	6.207	1401	1.557	0.41	2799	8.783	1500	2.231	0.41	3365	6.866	1500	1.413	0.33
2081	3.844	929	1.092	0.48	2802	4.589	1078	1.164	0.41	3372	3.122	784	0.793	0.41

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CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO
3373	4.482	1056	1.181	0.44	4207	2.510	662	0.515	0.33	5037	9.183	1500	1.715	0.32
3383	1.604	481	0.423	0.44	4239	3.223	805	0.668	0.33	5040	8.453	1500	1.592	0.32
3385	1.222	404	0.325	0.44	4240	2.685	697	0.767	0.48	5057	4.778	1116	0.899	0.32
3400	3.289	818	0.872	0.44	4243	2.191	598	0.556	0.41	5059	15.128	1500	2.852	0.32
3507	2.381	636	0.602	0.41	4244	2.780	716	0.625	0.37	5102	6.664	1493	1.380	0.33
3515	1.814	523	0.464	0.41	4250	2.220	604	0.563	0.41	5146	5.425	1245	1.217	0.37
3548	1.676	495	0.444	0.44	4251	3.085	777	0.815	0.44	5160	2.884	737	0.539	0.32
3559	2.084	577	0.530	0.41	4263	4.054	971	1.026	0.41	5183	3.743	909	0.771	0.33
3574	1.044	369	0.275	0.44	4273	2.800	720	0.713	0.41	5188	4.925	1145	1.020	0.33
3581	1.133	387	0.298	0.44	4279	3.600	880	0.814	0.37	5190	3.838	928	0.794	0.33
3612	1.840	528	0.467	0.41	4283	2.171	594	0.574	0.44	5191	1.052	370	0.236	0.37
3620	3.131	786	0.710	0.37	4299	2.001	560	0.509	0.41	5192	3.502	860	0.887	0.41
3629	1.567	473	0.397	0.41	4304	4.893	1139	1.246	0.41	5213	6.627	1485	1.253	0.32
3632	2.294	619	0.582	0.41	4307	1.751	510	0.499	0.48	5215	5.146	1189	1.147	0.37
3634	1.751	510	0.445	0.41	4351	1.613	483	0.421	0.44	5221	4.433	1047	0.916	0.33
3635	1.604	481	0.407	0.41	4352	1.478	456	0.391	0.44	5222	7.889	1500	1.475	0.32
3638	2.041	568	0.540	0.44	4361	0.934	347	0.247	0.44	5223	4.445	1049	0.998	0.37
3642	1.587	477	0.421	0.44	4410	3.079	776	0.810	0.44	5348	4.387	1037	0.984	0.37
3643	1.895	539	0.424	0.37	4420	4.042	968	0.831	0.33	5402	7.604	1500	2.022	0.44
3647	2.915	743	0.732	0.41	4431	1.481	456	0.424	0.48	5403	6.109	1382	1.263	0.33
3648	1.256	411	0.355	0.48	4432	1.693	499	0.480	0.48	5437	5.920	1344	1.225	0.33
3681	0.756	311	0.200	0.44	4452	2.772	714	0.705	0.41	5443	4.543	1069	1.150	0.41
3685	1.044	369	0.275	0.44	4459	3.140	788	0.707	0.37	5445	10.764	1500	2.035	0.32
3719	1.325	425	0.247	0.32	4470	2.783	717	0.706	0.41	5462	6.690	1498	1.500	0.37
3724	4.614	1083	0.871	0.32	4484	2.812	722	0.744	0.44	5472	7.530	1500	1.420	0.32
3726	3.899	940	0.731	0.32	4493	2.211	602	0.563	0.41	5473	12.064	1500	2.277	0.32
3803	3.045	769	0.803	0.44	4511	0.463	253	0.118	0.41	5474	7.993	1500	1.515	0.32
3807	1.903	541	0.500	0.44	4557	2.815	723	0.633	0.37	5478	3.600	880	0.736	0.33
3808	8.424	1500	2.121	0.41	4558	2.352	630	0.594	0.41	5479	6.650	1490	1.500	0.37
3821	6.170	1394	1.391	0.37	4568	2.898	740	0.650	0.37	5480	6.788	1500	1.393	0.33
3822X	5.095	1179	1.354	0.44	4581	0.874	335	0.182	0.33	5491	2.953	751	0.609	0.33
3824X	4.025	965	1.066	0.44	4583	5.281	1216	1.101	0.33	5506	5.414	1243	1.112	0.33
3826	0.857	331	0.216	0.41	4611	1.072	374	0.282	0.44	5507	5.120	1184	1.057	0.33
3827	2.383	637	0.624	0.44	4635	3.516	863	0.730	0.33	5535	9.289	1500	1.761	0.32
3830	1.688	498	0.428	0.41	4653	3.056	771	0.804	0.44	5537	4.494	1059	1.009	0.37
3851	1.949	550	0.517	0.44	4665	9.856	1500	2.219	0.37	5551	19.654	1500	3.719	0.32
3865	2.950	750	0.834	0.48	4683	4.451	1050	1.125	0.41	5606	1.084	377	0.204	0.32
3881	3.924	945	0.994	0.41	4686	2.332	626	0.523	0.37	5610	5.572	1274	1.259	0.37
4000	6.242	1408	1.280	0.33	4692	0.756	311	0.199	0.44	5645	17.630	1500	3.340	0.32
4021	3.962	952	1.011	0.41	4693	1.087	377	0.286	0.44	5703	17.354	1500	3.970	0.37
4024	3.812	922	0.859	0.37	4703	2.015	563	0.508	0.41	5705	20.013	1500	4.537	0.37
4034	7.878	1500	1.782	0.37	4717	2.358	632	0.669	0.48	5951	0.578	276	0.153	0.44
4036	2.392	638	0.539	0.37	4720	2.366	633	0.602	0.41	6003	6.935	1500	1.442	0.33
4038	2.746	709	0.778	0.48	4740	1.466	453	0.278	0.32	6005	6.477	1455	1.464	0.37
4062	2.504	661	0.637	0.41	4741	3.045	769	0.771	0.41	6018	3.784	917	0.838	0.37
4101	3.349	830	0.855	0.41	4751	5.126	1185	1.169	0.37	6045	5.115	1183	1.142	0.37
4109	0.618	284	0.162	0.44	4771N	2.777	813	0.570	0.33	6204	7.239	1500	1.485	0.33
4110	0.808	322	0.211	0.44	4777	3.910	942	0.813	0.33	6206	3.539	868	0.660	0.32
4111	2.795	719	0.729	0.44	4825	1.047	369	0.234	0.37	6213	2.501	660	0.469	0.32
4114	3.108	782	0.786	0.41	4828	2.116	583	0.436	0.33	6214	1.748	510	0.360	0.33
4130	3.953	951	1.044	0.44	4829	1.412	442	0.291	0.33	6216	9.502	1500	1.804	0.32
4131	9.125	1500	2.430	0.44	4902	2.231	606	0.592	0.44	6217	5.376	1235	1.017	0.32
4133	2.864	733	0.822	0.48	4923	1.340	428	0.343	0.41	6229	4.149	990	0.931	0.37
4149	0.886	337	0.250	0.48	5020	6.006	1361	1.235	0.33	6233	2.225	605	0.416	0.32
4206	2.590	678	0.682	0.44	5022	8.631	1500	1.634	0.32	6235	6.532	1466	1.217	0.32

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6236	6.227	1405	1.390	0.37	7380	6.912	1500	1.540	0.37	8102	2.326	625	0.617	0.44
6237	1.975	555	0.404	0.33	7382	7.711	1500	1.946	0.41	8103	2.769	714	0.704	0.41
6251	6.230	1406	1.280	0.33	7390	5.325	1225	1.399	0.44	8106	4.226	1005	0.953	0.37
6252	3.970	954	0.741	0.32	7394M	7.415	1500	1.359	0.32	8107	3.217	803	0.668	0.33
6306	5.138	1188	1.064	0.33	7395M	8.237	1500	1.510	0.32	8111	2.349	630	0.597	0.41
6319	3.694	899	0.698	0.32	7398M	11.696	1500	2.076	0.32	8116	2.320	624	0.589	0.41
6325	4.425	1045	0.836	0.32	7402	0.152	190	0.040	0.44	8203	7.360	1500	1.857	0.41
6400	4.508	1062	1.014	0.37	7403	5.379	1236	1.404	0.44	8204	4.594	1079	1.180	0.41
6503	2.602	680	0.684	0.44	7405N	1.829	648	0.474	0.44	8209	4.065	973	1.071	0.44
6504	3.551	870	0.941	0.44	7420	10.497	1500	1.940	0.32	8215	3.686	897	0.836	0.37
6702M*	5.333	1227	1.195	0.37	7421	0.779	316	0.174	0.37	8227	4.298	1020	0.889	0.33
6703M*	8.415	1500	1.824	0.37	7422	1.231	406	0.252	0.33	8232	6.196	1399	1.394	0.37
6704M*	5.925	1345	1.327	0.37	7425	3.148	790	0.636	0.33	8233	4.419	1044	0.972	0.37
6801F	7.860	1500	1.564	0.34	7431N	1.173	473	0.238	0.33	8235	4.537	1067	1.148	0.41
6811	4.980	1156	1.127	0.37	7445N	0.610	–	–	–	8236X	5.957	1351	1.231	0.33
6824F	8.496	1500	1.690	0.34	7453N	0.391	–	–	–	8263	6.270	1414	1.593	0.41
6826F	4.571	1074	0.909	0.34	7502	2.869	734	0.643	0.37	8264	5.123	1185	1.154	0.37
6834	3.022	764	0.796	0.44	7515	1.325	425	0.250	0.32	8265	6.015	1363	1.242	0.33
6836	3.154	791	0.803	0.41	7520	2.973	755	0.751	0.41	8279	7.021	1500	1.462	0.33
6843F	9.801	1500	1.716	0.28	7529X	12.880	1500	2.410	0.32	8288	7.101	1500	1.821	0.41
6845F	9.338	1500	1.635	0.28	7538	3.186	797	0.599	0.32	8291X	4.290	1018	1.093	0.41
6854	6.147	1389	1.269	0.33	7539	1.892	538	0.391	0.33	8292X	3.853	931	1.015	0.44
6872F	10.494	1500	1.837	0.28	7540	4.554	1071	0.858	0.32	8293X	8.225	1500	2.160	0.44
6874F	17.644	1500	3.089	0.28	7580	3.332	826	0.752	0.37	8304	5.894	1339	1.221	0.33
6882	3.413	843	0.709	0.33	7590	4.298	1020	0.963	0.37	8350	8.217	1500	1.699	0.33
6884	3.818	924	0.779	0.33	7600	6.161	1392	1.372	0.37	8380	2.156	591	0.546	0.41
7016M	5.181	1196	0.962	0.32	7605	3.177	795	0.655	0.33	8381	2.059	572	0.526	0.41
7024M	5.756	1311	1.068	0.32	7610	0.782	316	0.175	0.37	8385	3.007	761	0.765	0.41
7038M	8.591	1500	1.681	0.32	7705	6.673	1495	1.689	0.41	8392	2.174	595	0.619	0.48
7046M	7.363	1500	1.394	0.32	7710	5.555	1271	1.152	0.33	8393	1.955	551	0.436	0.37
7047M	8.174	1500	1.469	0.32	7711	5.555	1271	1.152	0.33	8500	6.383	1437	1.460	0.37
7050M	13.553	1500	2.569	0.32	7720X	3.824	925	0.865	0.37	8601	0.348	230	0.072	0.33
7090M	9.545	1500	1.868	0.32	7723X	2.516	663	0.521	0.33	8602	1.619	484	0.366	0.37
7098M	8.179	1500	1.549	0.32	7855	4.390	1038	0.983	0.37	8603	0.095	179	0.025	0.44
7099M	11.615	1500	2.130	0.32	8001	2.438	648	0.649	0.44	8606	1.394	439	0.290	0.33
7133	3.582	876	0.747	0.33	8002	2.271	614	0.605	0.44	8709F	4.620	1084	0.809	0.28
7151M	4.353	1031	0.908	0.33	8006	2.360	632	0.666	0.48	8719	1.935	547	0.401	0.33
7152M	6.868	1500	1.386	0.33	8008	1.242	408	0.356	0.48	8720	1.130	386	0.233	0.33
7153M	4.836	1127	1.009	0.33	8010	1.892	538	0.502	0.44	8721	0.279	216	0.064	0.37
7219	11.302	1500	2.308	0.33	8013	0.334	227	0.085	0.41	8723	0.104	181	0.027	0.41
7222X	9.858	1500	2.009	0.33	8015	0.980	356	0.251	0.41	8725	2.358	632	0.536	0.37
7225	9.893	1500	2.193	0.37	8017	1.668	494	0.475	0.48	8726F	2.444	649	0.486	0.34
7230X	10.497	1500	2.635	0.41	8018	4.108	982	1.070	0.44	8734M	0.391	238	0.088	0.37
7231	10.405	1500	2.609	0.41	8021	2.645	689	0.696	0.44	8737M	0.354	231	0.080	0.37
7232X	13.067	1500	2.653	0.33	8031	1.952	550	0.516	0.44	8738M	0.558	272	0.121	0.37
7309F	10.494	1500	1.837	0.28	8032	2.188	598	0.578	0.44	8742	0.290	218	0.065	0.37
7313F	4.623	1085	0.809	0.28	8033	2.110	582	0.599	0.48	8745	4.959	1152	1.276	0.41
7317F	8.530	1500	1.493	0.28	8037	1.808	522	0.538	0.51	8748	0.512	262	0.105	0.33
7327F	18.305	1500	3.205	0.28	8039	2.332	626	0.665	0.48	8755	0.345	229	0.077	0.37
7333M	3.318	824	0.618	0.32	8044	2.786	717	0.734	0.44	8799	0.633	287	0.167	0.44
7335M	3.686	897	0.686	0.32	8045	0.923	345	0.245	0.44	8800	2.300	620	0.606	0.44
7337M	5.233	1207	0.943	0.32	8046	2.657	691	0.704	0.44	8803	0.046	169	0.010	0.37
7350F	11.437	1500	2.143	0.30	8047	1.072	374	0.283	0.44	8805M	0.170	194	0.045	0.44
7360	6.038	1368	1.352	0.37	8058	2.596	679	0.689	0.44	8810	0.127	185	0.034	0.44
7370	6.546	1469	1.719	0.44	8072	0.851	330	0.246	0.48	8814M	0.152	190	0.040	0.44

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

Effective April 1, 2026

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
8815M	0.242	208	0.063	0.44	9522	2.326	625	0.654	0.48					
8820	0.121	184	0.027	0.37	9534	6.095	1379	1.148	0.32					
8824	2.657	691	0.791	0.51	9554	9.312	1500	1.928	0.33					
8826	2.395	639	0.684	0.48	9586	0.472	254	0.133	0.48					
8831	1.446	449	0.442	0.51	9600	2.389	638	0.633	0.44					
8832	0.359	232	0.094	0.44	9620	1.875	535	0.424	0.37					
8833	1.150	390	0.302	0.44										
8835	2.283	617	0.598	0.44										
8842X	2.306	621	0.689	0.51										
8855	0.092	178	0.024	0.44										
8856	0.635	287	0.166	0.44										
8864X	1.041	368	0.295	0.48										
8868	0.569	274	0.164	0.48										
8869	1.279	416	0.366	0.48										
8871	0.049	170	0.013	0.44										
8901	0.227	205	0.051	0.37										
9012	1.058	372	0.238	0.37										
9014	2.996	759	0.791	0.44										
9015	3.229	806	0.819	0.41										
9016	2.205	601	0.589	0.44										
9019	4.100	980	0.927	0.37										
9033	2.237	607	0.564	0.41										
9040	3.025	765	0.858	0.48										
9044	1.478	456	0.419	0.48										
9052	1.650	490	0.468	0.48										
9058	1.524	465	0.454	0.51										
9060	1.538	468	0.439	0.48										
9061	1.251	410	0.354	0.48										
9062	1.369	434	0.389	0.48										
9063	0.748	310	0.215	0.48										
9077F	7.860	1500	1.757	0.42										
9082	1.231	406	0.369	0.51										
9083	1.400	440	0.420	0.51										
9084	1.369	434	0.387	0.48										
9089	1.041	368	0.298	0.48										
9093	1.308	422	0.373	0.48										
9101	3.056	771	0.873	0.48										
9102	3.137	787	0.798	0.41										
9154	1.889	538	0.501	0.44										
9156	2.435	647	0.691	0.48										
9170	11.034	1500	2.282	0.33										
9178	7.162	1500	2.244	0.51										
9179	22.373	1500	6.649	0.51										
9180	4.666	1093	1.206	0.41										
9182	2.484	657	0.671	0.44										
9186	8.769	1500	1.851	0.33										
9220	5.109	1182	1.298	0.41										
9402	6.486	1457	1.334	0.33										
9403	9.781	1500	2.012	0.33										
9410	2.766	713	0.732	0.44										
9501	3.364	833	0.759	0.37										
9505	3.899	940	0.996	0.41										
9516	2.760	712	0.696	0.41										
9519	5.385	1237	1.204	0.37										
9521	3.387	837	0.761	0.37										

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

Effective April 1, 2026
APPLICABLE TO ASSIGNED RISK POLICIES ONLY

FOOTNOTES

A Minimum Premium $100 per ginning location for policy minimum premium computation.

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 1.917 and elr x 1.856.

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.

Effective April 1, 2026
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..... $97,900
Leased or rented vehicle..... $65,300

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	1.2
Tax Multiplier	1.027

Loss Development Factors	
1st Adjustment	0.15
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"..... $2,500

Minimum Premium Multiplier..... 200

Minimum Weekly Payroll applicable in accordance with ***Basic Manual*** Rule 2-E-1 -- "Executive Officers" $1,250

Premium Determination for Partners and Sole Proprietors in accordance with ***Basic Manual*** Rule 2-E-3 (Annual Payroll)..... $65,300

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

	Total Losses						
Deductible	**HAZARD GROUP**						
Amount	**A**	**B**	**C**	**D**	**E**	**F**	**G**
$100	0.8%	0.7%	0.4%	0.4%	0.2%	0.1%	0.1%
$200	1.5%	1.2%	0.9%	0.7%	0.5%	0.3%	0.2%
$300	2.1%	1.7%	1.2%	1.0%	0.7%	0.4%	0.3%
$400	2.7%	2.1%	1.5%	1.2%	0.9%	0.6%	0.4%
$500	3.2%	2.5%	1.8%	1.5%	1.1%	0.7%	0.5%
$1,000	5.2%	4.0%	3.1%	2.5%	1.8%	1.2%	0.9%
$1,500	6.6%	5.2%	3.9%	3.4%	2.4%	1.7%	1.3%
$2,000	7.8%	6.1%	4.7%	4.0%	3.0%	2.1%	1.7%
$2,500	8.8%	7.0%	5.5%	4.7%	3.5%	2.5%	2.0%
$5,000	12.8%	10.3%	8.3%	7.2%	5.5%	4.2%	3.4%

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

Effective April 1, 2026
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 (1.038).)

Experience Rating Eligibility

A risk is eligible for experience rating when the payrolls or other exposures developed in the last year or last two years of the experience period produced a premium of at least $15,000. If more than two years, an average annual premium of at least $7,500 is required. These amounts are applicable for ratings effective April 1, 2026, and subsequent. The ***Experience Rating Plan Manual*** should be referenced for the latest approved eligibility amounts by state.

Effective April 1, 2026

TABLE OF WEIGHTING VALUES
APPLICABLE TO ALL POLICIES

Expected Losses			Weighting Values	Expected Losses			Weighting Values
0	--	2,617	0.14	1,475,698	--	1,549,924	0.49
2,618	--	7,374	0.15	1,549,925	--	1,628,145	0.50
7,375	--	12,244	0.16	1,628,146	--	1,710,690	0.51
12,245	--	17,233	0.17	1,710,691	--	1,797,927	0.52
17,234	--	18,974	0.18	1,797,928	--	1,890,273	0.53
18,975	--	21,460	0.17	1,890,274	--	1,988,188	0.54
21,461	--	24,855	0.16	1,988,189	--	2,092,191	0.55
24,856	--	29,965	0.15	2,092,192	--	2,202,872	0.56
29,966	--	39,687	0.14	2,202,873	--	2,320,894	0.57
39,688	--	91,200	0.13	2,320,895	--	2,447,013	0.58
91,201	--	122,554	0.14	2,447,014	--	2,582,094	0.59
122,555	--	149,935	0.15	2,582,095	--	2,727,128	0.60
149,936	--	176,273	0.16	2,727,129	--	2,883,257	0.61
176,274	--	202,401	0.17	2,883,258	--	3,051,805	0.62
202,402	--	228,699	0.18	3,051,806	--	3,234,317	0.63
228,700	--	255,384	0.19	3,234,318	--	3,432,603	0.64
255,385	--	282,603	0.20	3,432,604	--	3,648,802	0.65
282,604	--	310,463	0.21	3,648,803	--	3,885,457	0.66
310,464	--	339,053	0.22	3,885,458	--	4,145,614	0.67
339,054	--	368,451	0.23	4,145,615	--	4,432,960	0.68
368,452	--	397,440	0.24	4,432,961	--	4,751,991	0.69
397,441	--	425,930	0.25	4,751,992	--	5,108,257	0.70
425,931	--	455,316	0.26	5,108,258	--	5,508,681	0.71
455,317	--	485,648	0.27	5,508,682	--	5,962,015	0.72
485,649	--	516,979	0.28	5,962,016	--	6,479,489	0.73
516,980	--	549,364	0.29	6,479,490	--	7,075,752	0.74
549,365	--	582,861	0.30	7,075,753	--	7,770,285	0.75
582,862	--	617,532	0.31	7,770,286	--	8,589,563	0.76
617,533	--	653,444	0.32	8,589,564	--	9,570,511	0.77
653,445	--	690,666	0.33	9,570,512	--	10,766,224	0.78
690,667	--	729,274	0.34	10,766,225	--	12,255,905	0.79
729,275	--	769,352	0.35	12,255,906	--	14,163,160	0.80
769,353	--	810,985	0.36	14,163,161	--	16,692,185	0.81
810,986	--	854,266	0.37	16,692,186	--	20,206,244	0.82
854,267	--	899,299	0.38	20,206,245	--	25,420,020	0.83
899,300	--	946,194	0.39	25,420,021	--	33,960,112	0.84
946,195	--	995,070	0.40	33,960,113	--	50,500,819	0.85
995,071	--	1,046,056	0.41	50,500,820	--	96,191,848	0.86
1,046,057	--	1,099,294	0.42	96,191,849	--	819,515,757	0.87
1,099,295	--	1,154,936	0.43	819,515,758	--	AND OVER	0.88
1,154,937	--	1,213,151	0.44				
1,213,152	--	1,274,123	0.45				
1,274,124	--	1,338,053	0.46				
1,338,054	--	1,405,164	0.47				
1,405,165	--	1,475,697	0.48				

(a) G	12.10
(b) State Per Claim Accident Limitation	$192,500
(c) State Multiple Claim Accident Limitation	$385,000
(d) USL&HW Per Claim Accident Limitation	$298,500
(e) USL&HW Multiple Claim Accident Limitation	$597,000
(f) Employers Liability Accident Limitation	$55,000
(g) Primary/Excess Loss Split Point	$26,000
(h) USL&HW Act—Expected Loss Factor—Non-F Classes	1.50

(Multiply a Non-F classification ELR by the USL&HW Act—Expected Loss Factor of 1.50.)

Effective April 1, 2026

TABLE OF BALLAST VALUES
APPLICABLE TO ALL POLICIES

Expected Losses			Ballast Values	Expected Losses			Ballast Values	Expected Losses			Ballast Values
0	--	436,604	55,660	4,100,752	--	4,208,758	267,410	7,881,475	--	7,989,502	479,160
436,605	--	542,679	61,710	4,208,759	--	4,316,767	273,460	7,989,503	--	8,097,531	485,210
542,680	--	649,381	67,760	4,316,768	--	4,424,778	279,510	8,097,532	--	8,205,559	491,260
649,382	--	756,453	73,810	4,424,779	--	4,532,789	285,560	8,205,560	--	8,313,587	497,310
756,454	--	863,761	79,860	4,532,790	--	4,640,802	291,610	8,313,588	--	8,421,616	503,360
863,762	--	971,228	85,910	4,640,803	--	4,748,815	297,660	8,421,617	--	8,529,645	509,410
971,229	--	1,078,807	91,960	4,748,816	--	4,856,830	303,710	8,529,646	--	8,637,674	515,460
1,078,808	--	1,186,468	98,010	4,856,831	--	4,964,846	309,760	8,637,675	--	8,745,704	521,510
1,186,469	--	1,294,191	104,060	4,964,847	--	5,072,862	315,810	8,745,705	--	8,853,733	527,560
1,294,192	--	1,401,961	110,110	5,072,863	--	5,180,879	321,860	8,853,734	--	8,961,763	533,610
1,401,962	--	1,509,770	116,160	5,180,880	--	5,288,897	327,910	8,961,764	--	9,069,792	539,660
1,509,771	--	1,617,608	122,210	5,288,898	--	5,396,916	333,960	9,069,793	--	9,177,822	545,710
1,617,609	--	1,725,471	128,260	5,396,917	--	5,504,935	340,010	9,177,823	--	9,285,852	551,760
1,725,472	--	1,833,354	134,310	5,504,936	--	5,612,955	346,060	9,285,853	--	9,393,882	557,810
1,833,355	--	1,941,254	140,360	5,612,956	--	5,720,976	352,110	9,393,883	--	9,501,913	563,860
1,941,255	--	2,049,168	146,410	5,720,977	--	5,828,997	358,160	9,501,914	--	9,609,943	569,910
2,049,169	--	2,157,094	152,460	5,828,998	--	5,937,019	364,210	9,609,944	--	9,717,973	575,960
2,157,095	--	2,265,031	158,510	5,937,020	--	6,045,041	370,260	9,717,974	--	9,826,004	582,010
2,265,032	--	2,372,977	164,560	6,045,042	--	6,153,063	376,310	9,826,005	--	9,934,035	588,060
2,372,978	--	2,480,930	170,610	6,153,064	--	6,261,086	382,360	9,934,036	--	10,042,066	594,110
2,480,931	--	2,588,890	176,660	6,261,087	--	6,369,110	388,410	10,042,067	--	10,150,097	600,160
2,588,891	--	2,696,857	182,710	6,369,111	--	6,477,134	394,460	10,150,098	--	10,258,128	606,210
2,696,858	--	2,804,828	188,760	6,477,135	--	6,585,158	400,510	10,258,129	--	10,366,159	612,260
2,804,829	--	2,912,805	194,810	6,585,159	--	6,693,183	406,560	10,366,160	--	10,474,190	618,310
2,912,806	--	3,020,785	200,860	6,693,184	--	6,801,208	412,610	10,474,191	--	10,582,221	624,360
3,020,786	--	3,128,770	206,910	6,801,209	--	6,909,233	418,660	10,582,222	--	10,689,140	630,410
3,128,771	--	3,236,758	212,960	6,909,234	--	7,017,259	424,710				
3,236,759	--	3,344,748	219,010	7,017,260	--	7,125,285	430,760				
3,344,749	--	3,452,742	225,060	7,125,286	--	7,233,311	436,810				
3,452,743	--	3,560,738	231,110	7,233,312	--	7,341,338	442,860				
3,560,739	--	3,668,737	237,160	7,341,339	--	7,449,365	448,910				
3,668,738	--	3,776,738	243,210	7,449,366	--	7,557,392	454,960				
3,776,739	--	3,884,740	249,260	7,557,393	--	7,665,419	461,010				
3,884,741	--	3,992,745	255,310	7,665,420	--	7,773,447	467,060				
3,992,746	--	4,100,751	261,360	7,773,448	--	7,881,474	473,110				

For Expected Losses greater than $10,689,140, the Ballast Value can be calculated using the following formula (rounded to the nearest 1):

Ballast = (0.056)(Expected Losses) + 2876.4(Expected Losses)(12.10) / (Expected Losses + (600)(12.10))

G = 12.10

NORTH CAROLINA

APPENDIX E

Assigned Risk Rates Comparison

Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
0005	3.33	3.096	-7.0%
0008	2.64	2.542	-3.7%
0016	4.79	4.338	-9.4%
0034	4.27	4.039	-5.4%
0035	2.75	2.907	5.7%
0036	4.65	4.663	0.3%
0037	4.25	4.045	-4.8%
0042	5.54	4.637	-16.3%
0050	7.66	6.302	-17.7%
0079	2.55	2.467	-3.3%
0083	5.08	4.773	-6.0%
0106	13.77	12.394	-10.0%
0113	4.59	3.982	-13.2%
0170	2.84	2.720	-4.2%
0251	5.65	5.293	-6.3%
0401	9.24	8.110	-12.2%
0771	0.57	0.489	-14.2%
0908	201.00	184.000	-8.5%
0913	505.00	474.000	-6.1%
0917	4.45	3.669	-17.6%
1005	8.64	7.521	-13.0%
1164	4.73	4.614	-2.5%
1165	3.79	3.611	-4.7%
1320	2.47	2.268	-8.2%
1322	11.25	11.086	-1.5%
1430	7.00	5.652	-19.3%
1438	4.45	3.827	-14.0%
1452	2.52	2.142	-15.0%
1463	9.70	8.660	-10.7%
1472	3.59	3.361	-6.4%
1624	3.70	3.206	-13.4%
1642	3.44	3.579	4.0%
1654	9.35	8.050	-13.9%
1699	3.53	3.424	-3.0%
1701	3.10	3.010	-2.9%
1710	5.48	5.644	3.0%
1747	3.53	3.229	-8.5%
1748	5.37	4.689	-12.7%
1803	7.43	6.124	-17.6%
1924	3.99	3.482	-12.7%
1925	4.68	3.993	-14.7%
2002	4.45	4.413	-0.8%
2003	4.22	3.913	-7.3%
2014	5.80	5.460	-5.9%

NORTH CAROLINA

APPENDIX E

Assigned Risk Rates Comparison

Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
2016	3.36	3.200	-4.8%
2021	4.16	3.416	-17.9%
2039	3.82	3.306	-13.5%
2041	3.07	2.800	-8.8%
2065	2.73	2.343	-14.2%
2070	6.74	6.207	-7.9%
2081	4.59	3.844	-16.3%
2089	2.90	2.708	-6.6%
2095	3.41	3.076	-9.8%
2105	4.65	4.448	-4.3%
2110	4.02	3.942	-1.9%
2111	2.61	2.317	-11.2%
2112	5.57	4.893	-12.2%
2114	2.55	2.337	-8.4%
2121	1.72	1.639	-4.7%
2130	2.78	2.406	-13.5%
2131	2.09	1.872	-10.4%
2143	3.18	2.757	-13.3%
2157	4.53	4.531	0.0%
2172	2.41	2.225	-7.7%
2174	4.25	3.838	-9.7%
2211	8.95	8.223	-8.1%
2220	3.47	3.128	-9.9%
2288	5.19	5.109	-1.6%
2302	2.61	2.309	-11.5%
2305	3.39	3.128	-7.7%
2361	2.50	2.329	-6.8%
2362	3.30	3.151	-4.5%
2380	2.61	2.602	-0.3%
2388	1.52	1.415	-6.9%
2402	2.78	2.498	-10.1%
2413	3.01	2.657	-11.7%
2416	3.27	2.990	-8.6%
2417	1.98	1.716	-13.3%
2501	2.90	2.622	-9.6%
2503	1.46	1.305	-10.6%
2570	4.25	4.160	-2.1%
2585	3.90	3.516	-9.8%
2586	4.85	4.793	-1.2%
2587	3.84	3.654	-4.8%
2589	2.27	2.240	-1.3%
2600	5.39	4.747	-11.9%
2623	6.63	5.848	-11.8%
2651	1.66	1.587	-4.4%

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Assigned Risk Rates Comparison

Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
2660	2.73	2.358	-13.6%
2688	2.67	2.352	-11.9%
2702	27.31	23.302	-14.7%
2705	70.63	63.980	-9.4%
2709	9.38	8.110	-13.5%
2710	7.92	6.515	-17.7%
2714	5.25	4.962	-5.5%
2727	12.51	11.609	-7.2%
2731	5.34	5.063	-5.2%
2735	5.59	5.304	-5.1%
2759	6.68	6.210	-7.0%
2790	2.27	2.099	-7.5%
2797	4.76	4.491	-5.7%
2799	9.90	8.783	-11.3%
2802	5.45	4.589	-15.8%
2835	2.84	2.619	-7.8%
2836	3.13	2.907	-7.1%
2841	4.07	3.648	-10.4%
2881	3.41	3.065	-10.1%
2883	4.33	3.723	-14.0%
2915	3.33	3.292	-1.1%
2916	4.05	3.709	-8.4%
2923	2.09	1.794	-14.2%
2960	5.31	5.063	-4.7%
3004	2.07	1.826	-11.8%
3018	3.82	3.482	-8.8%
3022	5.05	4.485	-11.2%
3027	2.61	2.559	-2.0%
3028	3.84	3.634	-5.4%
3030	5.37	4.798	-10.7%
3040	4.88	4.517	-7.4%
3041	4.10	3.901	-4.9%
3042	3.61	3.030	-16.1%
3064	3.79	3.502	-7.6%
3076	3.07	2.705	-11.9%
3081	4.16	3.878	-6.8%
3082	4.91	4.591	-6.5%
3085	5.94	5.626	-5.3%
3110	4.27	3.623	-15.2%
3111	3.21	2.979	-7.2%
3113	2.21	1.938	-12.3%
3114	2.98	2.645	-11.2%
3118	2.18	2.001	-8.2%
3119	0.83	0.771	-7.1%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
3122	2.70	2.473	-8.4%
3126	1.98	1.935	-2.3%
3131	1.78	1.688	-5.2%
3132	2.78	2.363	-15.0%
3145	2.12	2.018	-4.8%
3146	2.27	2.107	-7.2%
3169	2.81	2.616	-6.9%
3179	2.07	1.935	-6.5%
3180	2.55	2.199	-13.8%
3188	1.86	1.653	-11.1%
3220	2.55	2.099	-17.7%
3224	3.96	3.536	-10.7%
3227	4.30	4.039	-6.1%
3241	3.67	3.717	1.3%
3255	2.93	2.728	-6.9%
3257	3.67	3.499	-4.7%
3270	2.55	2.274	-10.8%
3300	4.88	4.384	-10.2%
3303	3.21	3.016	-6.0%
3307	3.04	2.743	-9.8%
3315	4.10	3.562	-13.1%
3334	4.96	4.612	-7.0%
3336	3.01	2.622	-12.9%
3365	7.26	6.866	-5.4%
3372	3.33	3.122	-6.2%
3373	4.73	4.482	-5.2%
3383	1.72	1.604	-6.7%
3385	1.29	1.222	-5.3%
3400	3.33	3.289	-1.2%
3507	2.58	2.381	-7.7%
3515	2.04	1.814	-11.1%
3548	1.92	1.676	-12.7%
3559	2.38	2.084	-12.4%
3574	1.18	1.044	-11.5%
3581	1.29	1.133	-12.2%
3612	1.95	1.840	-5.6%
3620	3.33	3.131	-6.0%
3629	1.81	1.567	-13.4%
3632	2.55	2.294	-10.0%
3634	1.92	1.751	-8.8%
3635	1.72	1.604	-6.7%
3638	2.21	2.041	-7.6%
3642	1.89	1.587	-16.0%
3643	2.09	1.895	-9.3%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
3647	3.10	2.915	-6.0%
3648	1.29	1.256	-2.6%
3681	0.89	0.756	-15.1%
3685	1.15	1.044	-9.2%
3719	1.32	1.325	0.4%
3724	4.82	4.614	-4.3%
3726	4.96	3.899	-21.4%
3803	2.98	3.045	2.2%
3807	2.04	1.903	-6.7%
3808	8.06	8.424	4.5%
3821	6.66	6.170	-7.4%
3822	5.31	5.095	-4.0%
3824	4.56	4.025	-11.7%
3826	0.89	0.857	-3.7%
3827	2.07	2.383	15.1%
3830	1.78	1.688	-5.2%
3851	2.18	1.949	-10.6%
3865	3.33	2.950	-11.4%
3881	4.13	3.924	-5.0%
4000	6.66	6.242	-6.3%
4021	4.27	3.962	-7.2%
4024	4.13	3.812	-7.7%
4034	8.75	7.878	-10.0%
4036	2.70	2.392	-11.4%
4038	3.10	2.746	-11.4%
4062	2.98	2.504	-16.0%
4101	3.27	3.349	2.4%
4109	0.63	0.618	-1.9%
4110	0.92	0.808	-12.2%
4111	2.73	2.795	2.4%
4114	3.47	3.108	-10.4%
4130	4.10	3.953	-3.6%
4131	9.67	9.125	-5.6%
4133	3.13	2.864	-8.5%
4149	0.95	0.886	-6.7%
4206	2.93	2.590	-11.6%
4207	2.52	2.510	-0.4%
4239	3.30	3.223	-2.3%
4240	3.13	2.685	-14.2%
4243	2.52	2.191	-13.1%
4244	2.87	2.780	-3.1%
4250	2.30	2.220	-3.5%
4251	3.59	3.085	-14.1%
4263	4.25	4.054	-4.6%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
4273	3.01	2.800	-7.0%
4279	3.79	3.600	-5.0%
4283	2.44	2.171	-11.0%
4299	2.27	2.001	-11.9%
4304	5.77	4.893	-15.2%
4307	1.92	1.751	-8.8%
4351	1.86	1.613	-13.3%
4352	1.72	1.478	-14.1%
4361	1.00	0.934	-6.6%
4410	3.59	3.079	-14.2%
4420	4.16	4.042	-2.8%
4431	1.49	1.481	-0.6%
4432	1.52	1.693	11.4%
4452	2.98	2.772	-7.0%
4459	3.47	3.140	-9.5%
4470	3.01	2.783	-7.5%
4484	2.98	2.812	-5.6%
4493	2.55	2.211	-13.3%
4511	0.49	0.463	-5.5%
4557	2.84	2.815	-0.9%
4558	2.30	2.352	2.3%
4568	3.18	2.898	-8.9%
4581	1.03	0.874	-15.1%
4583	6.17	5.281	-14.4%
4611	1.12	1.072	-4.3%
4635	3.76	3.516	-6.5%
4653	3.07	3.056	-0.5%
4665	10.76	9.856	-8.4%
4683	4.39	4.451	1.4%
4686	2.38	2.332	-2.0%
4692	0.83	0.756	-8.9%
4693	1.12	1.087	-2.9%
4703	1.92	2.015	4.9%
4717	2.55	2.358	-7.5%
4720	2.30	2.366	2.9%
4740	1.49	1.466	-1.6%
4741	3.47	3.045	-12.2%
4751	5.16	5.126	-0.7%
4771	3.27	2.777	-15.1%
4777	3.84	3.910	1.8%
4825	1.06	1.047	-1.2%
4828	2.30	2.116	-8.0%
4829	1.55	1.412	-8.9%
4902	2.38	2.231	-6.3%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
4923	1.26	1.340	6.3%
5020	7.20	6.006	-16.6%
5022	9.07	8.631	-4.8%
5037	10.79	9.183	-14.9%
5040	9.78	8.453	-13.6%
5057	5.59	4.778	-14.5%
5059	18.53	15.128	-18.4%
5102	7.46	6.664	-10.7%
5146	5.97	5.425	-9.1%
5160	3.16	2.884	-8.7%
5183	4.19	3.743	-10.7%
5188	4.71	4.925	4.6%
5190	4.25	3.838	-9.7%
5191	1.15	1.052	-8.5%
5192	3.47	3.502	0.9%
5213	7.52	6.627	-11.9%
5215	5.65	5.146	-8.9%
5221	4.79	4.433	-7.5%
5222	8.95	7.889	-11.9%
5223	5.25	4.445	-15.3%
5348	4.79	4.387	-8.4%
5402	8.29	7.604	-8.3%
5403	6.94	6.109	-12.0%
5437	6.34	5.920	-6.6%
5443	4.59	4.543	-1.0%
5445	11.65	10.764	-7.6%
5462	7.17	6.690	-6.7%
5472	8.61	7.530	-12.5%
5473	13.14	12.064	-8.2%
5474	8.32	7.993	-3.9%
5478	4.05	3.600	-11.1%
5479	7.60	6.650	-12.5%
5480	7.60	6.788	-10.7%
5491	3.16	2.953	-6.6%
5506	6.14	5.414	-11.8%
5507	5.42	5.120	-5.5%
5535	9.35	9.289	-0.7%
5537	5.31	4.494	-15.4%
5551	19.65	19.654	0.0%
5606	1.15	1.084	-5.7%
5610	6.08	5.572	-8.4%
5645	19.05	17.630	-7.5%
5703	18.76	17.354	-7.5%
5705	23.73	20.013	-15.7%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
5951	0.60	0.578	-3.7%
6003	6.80	6.935	2.0%
6005	7.37	6.477	-12.1%
6018	4.36	3.784	-13.2%
6045	5.97	5.115	-14.3%
6204	8.69	7.239	-16.7%
6206	3.53	3.539	0.3%
6213	2.75	2.501	-9.1%
6214	1.95	1.748	-10.4%
6216	8.92	9.502	6.5%
6217	5.94	5.376	-9.5%
6229	5.11	4.149	-18.8%
6233	2.47	2.225	-9.9%
6235	7.12	6.532	-8.3%
6236	7.03	6.227	-11.4%
6237	2.09	1.975	-5.5%
6251	5.62	6.230	10.9%
6252	4.45	3.970	-10.8%
6306	5.39	5.138	-4.7%
6319	4.22	3.694	-12.5%
6325	4.91	4.425	-9.9%
6400	5.28	4.508	-14.6%
6503	3.07	2.602	-15.2%
6504	3.84	3.551	-7.5%
6702	5.48	5.333	-2.7%
6703	8.64	8.415	-2.6%
6704	6.08	5.925	-2.5%
6801	8.87	7.860	-11.4%
6811	5.91	4.980	-15.7%
6824	9.58	8.496	-11.3%
6826	5.37	4.571	-14.9%
6834	3.39	3.022	-10.9%
6836	3.70	3.154	-14.8%
6843	11.50	9.801	-14.8%
6845	10.53	9.338	-11.3%
6854	6.91	6.147	-11.0%
6872	11.85	10.494	-11.4%
6874	20.71	17.644	-14.8%
6882	3.93	3.413	-13.2%
6884	4.27	3.818	-10.6%
7016	5.48	5.181	-5.5%
7024	6.08	5.756	-5.3%
7038	9.15	8.591	-6.1%
7046	8.06	7.363	-8.6%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
7047	8.64	8.174	-5.4%
7050	14.43	13.553	-6.1%
7090	10.16	9.545	-6.1%
7098	8.95	8.179	-8.6%
7099	12.71	11.615	-8.6%
7133	4.25	3.582	-15.7%
7151	5.16	4.353	-15.6%
7152	8.15	6.868	-15.7%
7153	5.74	4.836	-15.7%
7219	12.25	11.302	-7.7%
7222	10.73	9.858	-8.1%
7225	10.27	9.893	-3.7%
7230	11.50	10.497	-8.7%
7231	12.22	10.405	-14.9%
7232	15.00	13.067	-12.9%
7309	11.85	10.494	-11.4%
7313	5.22	4.623	-11.4%
7317	10.01	8.530	-14.8%
7327	21.49	18.305	-14.8%
7333	3.76	3.318	-11.8%
7335	4.19	3.686	-12.0%
7337	5.94	5.233	-11.9%
7350	13.43	11.437	-14.8%
7360	6.51	6.038	-7.3%
7370	7.09	6.546	-7.7%
7380	7.26	6.912	-4.8%
7382	7.77	7.711	-0.8%
7390	5.34	5.325	-0.3%
7394	6.66	7.415	11.3%
7395	7.40	8.237	11.3%
7398	10.50	11.696	11.4%
7402	0.17	0.152	-10.6%
7403	5.62	5.379	-4.3%
7405	2.12	1.829	-13.7%
7420	10.18	10.497	3.1%
7421	0.89	0.779	-12.5%
7422	1.43	1.231	-13.9%
7425	3.16	3.148	-0.4%
7431	1.41	1.173	-16.8%
7445	0.72	0.610	-15.3%
7453	0.46	0.391	-15.0%
7502	2.87	2.869	0.0%
7515	1.49	1.325	-11.1%
7520	3.16	2.973	-5.9%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
7529	13.23	12.880	-2.6%
7538	4.05	3.186	-21.3%
7539	2.07	1.892	-8.6%
7540	5.19	4.554	-12.3%
7580	3.61	3.332	-7.7%
7590	4.88	4.298	-11.9%
7600	6.91	6.161	-10.8%
7605	3.24	3.177	-1.9%
7610	0.72	0.782	8.6%
7705	7.00	6.673	-4.7%
7710	5.65	5.555	-1.7%
7711	5.65	5.555	-1.7%
7720	4.02	3.824	-4.9%
7723	2.73	2.516	-7.8%
7855	4.50	4.390	-2.4%
8001	2.67	2.438	-8.7%
8002	2.35	2.271	-3.4%
8006	2.78	2.360	-15.1%
8008	1.35	1.242	-8.0%
8010	2.04	1.892	-7.3%
8013	0.40	0.334	-16.5%
8015	0.95	0.980	3.2%
8017	1.86	1.668	-10.3%
8018	4.02	4.108	2.2%
8021	2.84	2.645	-6.9%
8031	2.21	1.952	-11.7%
8032	2.18	2.188	0.4%
8033	2.24	2.110	-5.8%
8037	1.98	1.808	-8.7%
8039	2.32	2.332	0.5%
8044	3.18	2.786	-12.4%
8045	0.92	0.923	0.3%
8046	2.98	2.657	-10.8%
8047	1.06	1.072	1.1%
8058	2.67	2.596	-2.8%
8072	0.98	0.851	-13.2%
8102	2.35	2.326	-1.0%
8103	3.01	2.769	-8.0%
8106	4.22	4.226	0.1%
8107	3.50	3.217	-8.1%
8111	2.55	2.349	-7.9%
8116	2.50	2.320	-7.2%
8203	8.43	7.360	-12.7%
8204	4.82	4.594	-4.7%

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Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
8209	4.22	4.065	-3.7%
8215	3.96	3.686	-6.9%
8227	4.93	4.298	-12.8%
8232	6.54	6.196	-5.3%
8233	4.42	4.419	0.0%
8235	4.85	4.537	-6.5%
8236	6.20	5.957	-3.9%
8263	7.17	6.270	-12.6%
8264	5.71	5.123	-10.3%
8265	6.54	6.015	-8.0%
8279	7.63	7.021	-8.0%
8288	7.83	7.101	-9.3%
8291	4.50	4.290	-4.7%
8292	4.13	3.853	-6.7%
8293	8.95	8.225	-8.1%
8304	6.51	5.894	-9.5%
8350	8.66	8.217	-5.1%
8380	2.41	2.156	-10.5%
8381	2.18	2.059	-5.6%
8385	3.16	3.007	-4.8%
8392	2.52	2.174	-13.7%
8393	2.09	1.955	-6.5%
8500	7.34	6.383	-13.0%
8601	0.34	0.348	2.4%
8602	1.61	1.619	0.6%
8603	0.09	0.095	5.6%
8606	1.69	1.394	-17.5%
8709	5.42	4.620	-14.8%
8719	2.18	1.935	-11.2%
8720	1.23	1.130	-8.1%
8721	0.34	0.279	-17.9%
8723	0.14	0.104	-25.7%
8725	2.24	2.358	5.3%
8726	2.87	2.444	-14.8%
8734	0.43	0.391	-9.1%
8737	0.37	0.354	-4.3%
8738	0.60	0.558	-7.0%
8742	0.32	0.290	-9.4%
8745	4.85	4.959	2.2%
8748	0.60	0.512	-14.7%
8755	0.40	0.345	-13.8%
8799	0.66	0.633	-4.1%
8800	2.07	2.300	11.1%
8803	0.06	0.046	-23.3%

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APPENDIX E

Assigned Risk Rates Comparison

Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
8805	0.20	0.170	-15.0%
8810	0.14	0.127	-9.3%
8814	0.17	0.152	-10.6%
8815	0.29	0.242	-16.6%
8820	0.11	0.121	10.0%
8824	2.93	2.657	-9.3%
8826	2.35	2.395	1.9%
8831	1.49	1.446	-3.0%
8832	0.37	0.359	-3.0%
8833	1.26	1.150	-8.7%
8835	2.61	2.283	-12.5%
8842	2.55	2.306	-9.6%
8855	0.11	0.092	-16.4%
8856	0.72	0.635	-11.8%
8864	1.18	1.041	-11.8%
8868	0.57	0.569	-0.2%
8869	1.29	1.279	-0.9%
8871	0.06	0.049	-18.3%
8901	0.23	0.227	-1.3%
9012	1.06	1.058	-0.2%
9014	3.24	2.996	-7.5%
9015	3.27	3.229	-1.3%
9016	2.32	2.205	-5.0%
9019	4.45	4.100	-7.9%
9033	2.35	2.237	-4.8%
9040	3.36	3.025	-10.0%
9044	1.52	1.478	-2.8%
9052	1.69	1.650	-2.4%
9058	1.69	1.524	-9.8%
9060	1.64	1.538	-6.2%
9061	1.38	1.251	-9.3%
9062	1.41	1.369	-2.9%
9063	0.83	0.748	-9.9%
9077	8.87	7.860	-11.4%
9082	1.38	1.231	-10.8%
9083	1.43	1.400	-2.1%
9084	1.41	1.369	-2.9%
9089	1.15	1.041	-9.5%
9093	1.46	1.308	-10.4%
9101	3.53	3.056	-13.4%
9102	3.47	3.137	-9.6%
9154	2.01	1.889	-6.0%
9156	2.27	2.435	7.3%
9170	11.59	11.034	-4.8%

NORTH CAROLINA

APPENDIX E

Assigned Risk Rates Comparison

Class Code	Current 04/01/25	Proposed 04/01/26	Percent Change
9178	7.34	7.162	-2.4%
9179	23.15	22.373	-3.4%
9180	5.45	4.666	-14.4%
9182	2.58	2.484	-3.7%
9186	10.50	8.769	-16.5%
9220	5.65	5.109	-9.6%
9402	6.74	6.486	-3.8%
9403	9.90	9.781	-1.2%
9410	3.04	2.766	-9.0%
9501	3.47	3.364	-3.1%
9505	4.39	3.899	-11.2%
9516	2.78	2.760	-0.7%
9519	5.19	5.385	3.8%
9521	3.79	3.387	-10.6%
9522	2.52	2.326	-7.7%
9534	6.68	6.095	-8.8%
9554	10.87	9.312	-14.3%
9586	0.55	0.472	-14.2%
9600	2.67	2.389	-10.5%
9620	1.89	1.875	-0.8%

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-6 through RB-11).

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-8) are expected to be 5.13% of premium. Given the 0.0% 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 13.44% as shown in the prefiled testimony and exhibits of G. Zanjani (Exhibits RB-6 through RB-11). Also shown therein is the ratio of net worth to surplus of 1.122. Accordingly, the corresponding return on statutory surplus would be 15.08%. 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 .313. Accordingly, the corresponding return on assets would be 4.72%. If 0.0% is not in fact earned as underwriting profit, the resulting returns would be correspondingly lower.

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

EXHIBIT RB-2

PRE-FILED TESTIMONY
OF
JOANNA BILIOURIS

NORTH CAROLINA WORKERS COMPENSATION INSURANCE
2025 ASSIGNED RISK RATE 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 27616.

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 assigned risk rates for Workers Compensation insurance?

A. The Bureau promulgates assigned risk rates for Workers Compensation insurance for North Carolina.

Q. Can you identify Exhibits RB-1 through RB-9?

A. Yes. Exhibit RB-1 is an exhibit setting forth the filed final rates for the workers compensation insurance residual market in North Carolina, as well as the data and calculations underlying those rates. RB-1 also includes the 11 NCAC 10.1111 data and exhibits required. Exhibits RB-2 through RB-9 contain the required accompanying pre-filed testimony and exhibits. Together, these materials constitute a filing (the "Filing") that is dated August 29, 2025, submitted by the Bureau to the Honorable Mike Causey, Commissioner of Insurance, with respect to workers compensation insurance assigned risk rates 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. Would you briefly describe the workers compensation insurance residual market mechanism for North Carolina?

A. Yes. North Carolina General Statute 58-36-1(5) requires every insurer that writes workers compensation insurance in North Carolina to insure and accept any eligible workers compensation insurance risk that has been certified to be “difficult to place” by a licensed fire and casualty insurance producer. The Commissioner of Insurance

has approved the North Carolina Workers Compensation Insurance Plan, which describes the rules and procedures for assigning applicant employers to an insurance company. The designated insurer must issue the standard Workers Compensation and Employers Liability Insurance Policy for each assigned employer and provide the usual and customary service to their insureds.

Q. Do all insurance companies receive assignments?

A. No. Many insurance companies have opted to meet their residual market participation requirements by becoming a member of the National Workers Compensation Reinsurance Association ("National Pool"). Under the pool arrangement, all assignments for those members of the National Pool are made to insurers designated as "servicing carriers" of the pool. Insurers who do not elect to participate in the National Pool are designated as direct assignment carriers for North Carolina and applicant employers are assigned to the direct assignment carriers on the basis of their voluntary workers compensation insurance premium writings in North Carolina.

Q. How many servicing carriers are there and how are they selected?

A. There are currently three servicing carriers, and they were selected through a competitive bid process.

Q. How many direct assignment carriers are there?

A. At this time, there are seven companies or company groups that have been approved as direct assignment carriers.

Q. What will be the residual market quota shares of the direct assignment carriers compared to the servicing carriers?

A. On the basis of 2024 premium writings, the direct assignment carriers will receive approximately 31% of the assigned risk premium starting July 2025 and the servicing carriers will be assigned approximately 69% of the premium. These quota shares are updated each year based on premium writings, and as needed for other changes.

Q. How many insurance companies were licensed to write workers compensation insurance in North Carolina during 2024?

A. Five hundred ninety-two (592) insurance companies.

Q. How many insurance companies were actually writing workers compensation insurance in North Carolina during 2024?

A. Two-hundred and ninety-seven (297) insurance companies had positive premium in workers compensation.

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 pre-filed testimony?

A. Yes.

EXHIBIT RB-3

PREFILED TESTIMONY
OF
BRETT S. FOSTER

2025 NORTH CAROLINA WORKERS COMPENSATION
LOSS COST AND ASSIGNED RISK RATE FILINGS
PROPOSED TO BE EFFECTIVE ON APRIL 1, 2026

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

A. My name is Brett Foster, and I am an Executive Director and Actuary for the National Council on Compensation Insurance, Inc. ("NCCI") in Boca Raton, Florida. My current responsibilities include oversight of the actuarial function, including the preparation of rate filings and presentation of actuarial testimony, for multiple jurisdictions (including North Carolina).

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 and Economic Services division, including class ratemaking, individual risk rating research, legislative analysis, and aggregate ratemaking. In addition to overseeing the actuarial function for three jurisdictions, I am currently responsible for leading NCCI's Actuarial Communications area.

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, 2026 through March 31, 2027 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 sum 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 2023 and then $10 million in 2024 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. *Are 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 7.8% 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 7.6% 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, 2026. 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, 2026 through March 31, 2027. 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 2023 and is commonly referred to as "Policy Year 2023" data. The second block of data reflects the experience from all policies with effective dates during 2022 and is referred to as "Policy Year 2022" 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 2022 and 2023 serve 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 2023 (Exhibit I, Section A) and 2022 (Exhibit I, Section B). An average of the separate Policy Year 2022 and 2023 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 reserves 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). 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 20.0% 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 -4.5% per year for indemnity losses and -5.0% per year for 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 2022 and 2023 are calculated by summing the respective indemnity and medical cost ratios (line 28). These individual-year changes are then averaged,

resulting in an indicated overall average decrease of 7.8% to the current voluntary loss cost level (Exhibit I, Section C).

Q. *What loss development methodologies were analyzed and utilized in connection with the Filings?*

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.

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 2025 and 2026 (Moody's Analytics). These forecasts for more moderate wage growth relative to 2020-2022 are supported by the latest observed data for 2023 and 2024.

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 2008, 2009, and 2010 to less than 1% in 2015, before increasing slowly to nearly 3% in 2023 and 2024. Annual changes in the PHC index are projected to hover near 3% per year through the prospective rate effective period (Centers for Medicare & Medicaid Services).

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 2020-2023 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 20.0% loss adjustment expense provision for use in the Filings. See also RB-4 for detail underlying the Adjusting and Other Expense (AOE) ratios in Exhibit II-A.

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-I through B-V 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 7.6% (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 16.2% 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 -12.8% from the current loss cost level. The Assigned Risk filing proposes an overall average rate level change of -12.7% from the current assigned risk rate level.

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.

NATIONAL COUNCIL ON COMPENSATION INSURANCE
2025 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

Exhibit 1: 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
2018	9.2%	9.4%	9.3%
2019	9.7%	9.8%	9.8%
2020	10.5%	10.2%	10.4%
2021	10.0%	10.1%	10.1%
2022	9.7%	9.9%	9.8%
2023	9.6%	9.8%	9.7%
2024	9.8%	10.0%	9.9%

NATIONAL COUNCIL ON COMPENSATION INSURANCE
2025 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

Exhibit 2: 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
2018	2,152,261,629	1.044	2,246,961,141	17,571,425,364	1.049	18,432,425,207	0.96
2019	2,251,130,310	1.072	2,413,211,692	17,550,898,726	1.079	18,937,419,725	0.96
2020	2,070,235,620	1.108	2,293,821,067	15,086,783,887	1.130	17,048,065,792	0.96
2021	2,047,843,974	1.166	2,387,786,074	15,222,996,769	1.219	18,556,833,061	0.96
2022	2,015,612,336	1.259	2,537,655,931	14,513,051,234	1.393	20,216,680,369	0.96
2023	1,820,921,699	1.467	2,671,292,132	11,471,739,679	1.818	20,855,622,736	0.96
2024	1,222,551,226	2.269	2,773,968,732	5,177,591,741	4.080	21,124,574,303	0.96

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
2018	11.7%	0.011	1.034	0.70	-	9.2%
2019	12.2%	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	1.034	0.70	0.8%	10.0%
2022	12.1%	0.012	1.034	0.70	0.1%	9.7%
2023	12.3%	0.011	1.034	0.69	0.0%	9.6%
2024	12.6%	0.011	1.035	0.69	-	9.8%

NATIONAL COUNCIL ON COMPENSATION INSURANCE
2025 ANNUAL COUNTRYWIDE ADJUSTING AND OTHER EXPENSE REVIEW

Exhibit 3: Calculation of Ultimate AOE Ratios—Incurred Data

Accident Year	(1) Incurred AOE at Current Report	(2) Cumulative Incurred AOE Development Factors	(3)=(1)x(2) Estimated Incurred AOE Developed to a 10th Report	(4) Incurred Losses at Current Report	(5) Cumulative Incurred Loss Development Factors	(6)=(4)x(5) Estimated Incurred Losses Developed to a 10th Report	(7) 10th Report-to-Ultimate Incurred AOE Ratio Tail Factor
2018	2,363,170,412	1.008	2,382,075,775	21,900,230,366	0.966	21,155,622,534	1.05
2019	2,527,614,710	1.009	2,550,363,242	22,798,716,412	0.948	21,613,183,159	1.05
2020	2,365,723,415	1.007	2,382,283,479	21,465,269,866	0.927	19,898,305,166	1.05
2021	2,461,145,199	1.007	2,478,373,215	22,837,431,414	0.905	20,667,875,430	1.05
2022	2,600,133,662	1.002	2,605,333,929	24,806,884,777	0.882	21,879,672,373	1.05
2023	2,654,346,075	1.014	2,691,506,920	25,995,696,211	0.865	22,486,277,223	1.05
2024	2,579,043,792	1.047	2,700,258,850	25,545,003,309	0.862	22,019,792,852	1.05

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
2018	11.9%	0.011	1.034	0.70	-	9.4%
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	12.6%	0.012	1.034	0.70	0.8%	10.1%
2022	12.5%	0.012	1.034	0.70	0.1%	9.9%
2023	12.6%	0.011	1.034	0.69	0.0%	9.8%
2024	12.9%	0.011	1.035	0.69	-	10.0%

Pre-Filed Testimony

of

Stephen Koca

2025 North Carolina Workers Compensation

Assigned Risk Rate Filing

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 Chairperson of the AAA Committee on Property and Liability Financial Reporting and 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 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 5,100 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 2025 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 them 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 the provision of 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 limited in any way.

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 it makes 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-5 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 7.6% decrease in rate level for the industrial classifications, and a 12.7% 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 7.6% decrease for the industrial classifications and a 12.7% decrease for the F classifications, different class codes will change by different amounts. The industrial classifications are further organized by industry group and the average changes are as follows:

Manufacturing 7.3% decrease
Contracting 8.8% decrease
Office and Clerical 7.7% decrease
Goods and Services 6.8% decrease
Miscellaneous 7.7% decrease

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

A. April 1, 2026.

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

A. The current Assigned Risk rates became effective April 1, 2025.

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 NCDOI'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 4/1/2025 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 4/1/2025 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 4/1/2025 level.

When taking the ratio of the ratios, the measurement unit in the denominator of each is common, both representing pure premiums at the 4/1/2025 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, 2014 through 2023. 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 2.512 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 (0.996) multiplied by the current assigned risk differential results in an indicated assigned risk differential of 2.502.

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 0.833 and is the inverse of the loss adjustment expense factor. The indicated differential of 2.502 multiplied by the adjustment factor of 0.833 results in the proposed loss cost modification factor of 2.084 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 2.084 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, 2025 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 0.0% based on a cost of capital analysis and a rate of return model provided by Dr. Zanjani. The Rate Bureau relied upon Dr. Zanjani for this purpose due to his expertise in economics.

I have not reviewed nor have I been asked to provide an opinion concerning the underwriting profit provision. I am unable to judge the reasonableness of the assumption or method without performing a substantial amount of additional work beyond the scope of the assignment, and did not do so. I am relying on Dr. Zanjani and the Rate Bureau as to the reasonableness of this value.

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 the previous eleven-year 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 2022 through 2024. The impact of minimum premiums is based on Unit Statistical Data for policy years 2014 to 2021. The combined impact of the expense constant and minimum premiums is 16.2% of assigned risk premium excluding these items. This impact is expressed as a factor (1.162) 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 NCDOI 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 2.875 as shown on Exhibit I-A, Sheet 1.

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 any other changes to the methodology?

A. No. I note, though, that the loss costs and expected loss rates (ELRs) have been extended from two decimal places (X.XX) to three decimal places (X.XXX). It is my understanding that this change enables the Rate Bureau to recommend more precise and responsive loss costs and ELRs across all individual classification codes.

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

2025 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-7 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). 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.

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 8.08% to 25.8%.

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 7.54% to 23.4%.

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. My calculations, as detailed in Exhibit RB-8, show a total return of 13.44%.

I next considered two adjustments to the model that I believe produce a more accurate representation of the rate of return produced by the selected underwriting profit factor. 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 increase the total return to 13.75%.

I then compared the projected return on capital associated with the selected underwriting profit factor with the cost of equity and WACC ranges described above. The projected total return fell within the range of the cost of equity and the range of WACC estimates. After adjusting the portfolio allocations and prospective yields as described above, the projected total return still fell within the range of the cost of equity estimates and within the range of

WACC estimates. 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 used 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-8.

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).

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-8, Page 1), the investment gain on insurance transaction (Line 6 of Exhibit RB-8, Page 1), and the investment gain on surplus shown on Line 7 of Exhibit RB-8, 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-8, Page 1), as revised in the Tax Cut and Jobs Act of 2017. 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-8, Page 1). Details of the calculation of these additional tax liabilities are found on Pages 3, 3A, and 3B of Exhibit RB-8.

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-8. 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-8. 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-8 and the inverse of the industry-wide net worth-to-surplus ratio from Page 12 of Exhibit RB-8.

Q: Please explain how the investment yield is calculated.

A: My understanding is that the accepted approach in North Carolina 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-8, 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-8. For each of the bond subcategories, I obtain a maturity distribution for the North Carolina industry portfolio in that 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 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-8, 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-8.

The overall pre-tax current yield on the industry portfolio as thus determined is 5.67%. The embedded yield calculations, based on the actual investment income reported by the industry, are shown on Pages 9 and 10 of Exhibit RB-8; the pre-tax embedded yield is 4.01%. For the pro forma calculations, I average these two figures to obtain 4.84% (shown on Page 6 of Exhibit RB-8).

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 2000-2024 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-8 and the inverse of the industry-wide net worth-to-surplus ratio from Page 12 of Exhibit RB-8. This approach indicates that the selected underwriting profit factor of 0.0%, if achieved, would yield a total return on net worth of 13.44%.

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

A: Yes, I have considered the impact of an alternative investment yield calculation.

Specifically, I considered the combined impact of two 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-8, 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-8). 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 significant divergence between the current yields on investments and embedded yields, with the pre-tax current yield being significantly 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 increase the total return to 13.75%.

Q: How was the underwriting profit factor determined?

A: The Bureau selected the 0.0% 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 3/31/2025), while Damodaran Online updates the estimates annually (1/1/2025).

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 1928-2024 period. To calculate the average returns, I used the formula from Blume (1974)[1] 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-9.

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 2024, 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 2024 North Carolina Workers Compensation DPW. The company-level data used in this analysis are included in Exhibit RB-10.

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 structure based on the latest fiscal year report. The company-level capital structure details are included in Exhibit RB-10. For the after-tax cost of debt, I used the figure from Damodaran Online of 4.01%, based on a 4.40% 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.

[1] Blume, M.E. (1974), "Unbiased Estimates of Long-Run Expected Rates of Return," *Journal of the American Statistical Association* (September), pp. 634-8.

Cost of Capital for Publicly Traded Companies

Source	Method	Current Yield 6/9/2025	Equity Risk Premium	Cost of Equity		Cost of Debt	% Debt	WACC	
Kroll	CAPM			7.2%		4.47%	11.0%	6.9%	
Kroll	CAPM + Size Premium			7.3%		4.57%	11.0%	7.0%	
Kroll	Build-Up			8.2%		4.56%	11.0%	7.8%	
Kroll	Fama-French 5-factor			8.7%		4.15%	11.0%	8.2%	
Kroll	DCF (1-stage)			22.4%		4.22%	11.0%	20.4%	
Kroll	DCF (3-stage)			19.0%		4.45%	11.0%	17.4%	
Damodaran Online	Implied Premium			7.02%		4.01%	13.39%	6.62%	
				Low	High			Low	High
Zanjani	Risk Premium over T-Bill	4.38%	8.44%	10.43%	10.56%	4.01%	12.51%	9.63%	9.74%
Zanjani	Risk Premium over T-Note	4.40%	6.87%	9.33%	9.43%	4.01%	12.51%	8.66%	8.75%
Zanjani	Risk Premium over Aaa Bond	5.54%	6.01%	9.85%	9.94%	4.01%	12.51%	9.12%	9.20%
Zanjani	Risk Premium over Baa Bond	6.28%	4.76%	9.69%	9.76%	4.01%	12.51%	8.98%	9.04%

* 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 (0.7175 to 0.7332), 2) the cost of debt (4.01%, from Damodaran Online), and 3) the percentage of debt in the capital structure (12.51%).

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

$$4.40\% + 0.7175 \times 6.87\% = 9.33\%,$$

where 4.40% is the 3-month average 10-year Treasury yield on 6/9/2025 (measured as the average of the yields on 6/9, 5/9, and 4/9---consistent with the yield averaging method in other parts of the filing), 0.7175 is the 1-year weighted average beta for the publicly traded holding companies of carriers serving the North Carolina Workers Compensation market, and 6.87% is the average long-horizon risk premium of the equity market over the 10-year Treasury yield. The corresponding WACC is:

$$(1 - .1251) \times 9.33\% + .1251 \times 4.01\% = 8.66\%,$$

where .1251 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, 9.33% is the cost of equity calculated in the previous step, and 4.01% 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 54.5% of the

2024 direct premiums written for North Carolina Workers Compensation insurance. The remaining 45.5% was underwritten by companies associated with private, often mutual, ownership---a segment well-known to have more difficulty in accessing the capital markets.[2] 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-11 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 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-11 (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?

[2] 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.

A: Assuming a 25% private company discount and a 45.5% market share for non-public companies, I calculate adjusted estimates of the private cost of equity and the public cost of equity:

$$45.5\% * \left(\frac{COE}{(1-0.25)}\right) + (54.5\%) * (COE),$$

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	8.3%		7.9%	
Kroll	CAPM + Size Premium	8.4%		8.0%	
Kroll	Build-Up	9.4%		8.9%	
Kroll	Fama-French 5-factor	10.0%		9.4%	
Kroll	DCF (1-stage)	25.8%		23.4%	
Kroll	DCF (3-stage)	21.9%		20.0%	
Damodaran Online	Implied Premium	8.08%		7.54%	
		Low	**High**	**Low**	**High**
Zanjani	Risk Premium over T-Bill	12.01%	12.17%	11.01%	11.15%
Zanjani	Risk Premium over T-Note	10.74%	10.86%	9.90%	10.01%
Zanjani	Risk Premium over Aaa Bond	11.34%	11.45%	10.42%	10.52%
Zanjani	Risk Premium over Baa Bond	11.16%	11.24%	10.26%	10.34%

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 return of 13.44% falls within the span of estimates, which range from 8.08% to 25.8%. 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, the total return rises to 13.75%, which still falls within the range of estimates.

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 at current levels 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 a total return on capital of 13.44% is reasonable and not excessive; it falls within the span of estimates (7.54% to 23.4%). A similar conclusion applies after adjusting the projected return 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 0.0% underwriting profit factor was 13.44%. When making adjustments that I regard as appropriate to account for the asset distribution relevant for this line of business and the yields currently in the marketplace, the expected total return rises to 13.75%. 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 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

"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

"Dynamic Capital Allocation in General Insurance," (with Daniel Bauer and Qiheng Guo), working paper, 2025

"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), 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

"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, Insurance Rate Filings, North Carolina
2025	Expert Witness, Workers' Compensation Rate Filing, Massachusetts
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	66.31%		
	Commissions	5.00%		
	Other Acquisition & General	2.10%		
	Taxes, Licenses & Fees	2.66%		
	Servicing Carrier Allowance & Other	14.85%		
	Uncollectible Premium	9.08%		
2	**Pro Forma Underwriting Profit**	0.00%		
3	**Regular Tax**		0.00%	
4	**Additional Tax Due to IRS Treatment of Reserves**		0.16%	
5	**Return from Underwriting Post-Tax**			-0.16%
6	**Investment Gain on Insurance Transaction**	15.78%	2.65%	13.14%
7	**Investment Gain on Surplus**	6.17%	1.03%	5.13%
8	**Total Return as a Percent of Premium (post-tax)**			18.11%
9	**Premium-to-Net Worth Ratio**			0.74
10	**Total Return as a Percent of Net Worth (post-tax)**			13.44%

Lines (1) to (8) are expressed as a percentage of premium.

Assumptions and Parameters

(a)	Underwriting Income Tax Rate	21.00%
(b)	Investment Income Tax Rate	16.76%
(c)	Pre-tax Investment Yield	4.84%
(d)	Premium-to-Surplus Ratio	0.833
(e)	Net Worth-to-Surplus Ratio	1.12
(f)	Uncollectible Premium (adjusted for expense offsets)	9.08%
(g)	Additional Tax Due to IRS Treatment of Loss Reserves and UEPR	0.16%
(h)	Prepaid Expense Ratio	22.37%
(i)	Unearned Premium Reserve to Premium Ratio	33.22%

Notes to Exhibit RB-8 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: 0.193 x 0.69176 + 0.015 = 0.1485. 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: 0.068088 x 0.30824 = 0.021, where 0.068088 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-8, Page 3

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

6 See Exhibit RB-8, 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-8, Pages 8-10. Calculated as 1- average post-tax yield/average pre-tax yield.
(c) See Exhibit RB-8, Page 6, with supporting information on Pages 8-10
(d) See Exhibit RB-8, Page 11
(e) See Exhibit RB-8, Page 12
(f) See RB-1, Exhibit II-F
(g) See Exhibit RB-8, Pages 3, 3A, and 3B
(h) See Exhibit RB-8, Page 4
(i) See Exhibit RB-8, 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	33.15%
3. Unearned Premium Reserve 12/31/Prior	32.91%
4. Increase: (2) - (3)	0.25%
5. 20% of Increase = Taxable Income	0.05%
6. Additional Tax Liability due to Unearned Premium Reserve	0.01%
7. Unpaid Loss Current Year	140.83%
8. Discounted Unpaid Loss Current Year	122.20%
9. Unpaid Loss Prior Year	136.87%
10. Discounted Unpaid Loss Prior Year	118.96%
11. Additional Income	0.73%
12. Additional Tax Liability due to Loss Reserve Discounting	0.15%
13. Total Additional Tax Liabilities (6) + (12)	0.16%

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	27.40%	72.60%	66.306	48.14	2024	0.880319	42.3769				
1.5	57.85%	42.15%	65.813	27.74	2023	0.874781	24.2666	2023	47.780	0.889551	42.5031
2.5	76.00%	24.00%	65.324	15.68	2022	0.878161	13.7676	2022	27.534	0.883566	24.3282
3.5	84.50%	15.50%	64.839	10.05	2021	0.844348	8.4857	2021	15.561	0.858758	13.3633
4.5	88.75%	11.25%	64.357	7.24	2020	0.827387	5.9904	2020	9.975	0.83318	8.3112
5.5	90.80%	9.20%	63.878	5.88	2019	0.821401	4.8272	2019	7.186	0.826909	5.9424
6.5	92.05%	7.95%	63.403	5.04	2018	0.832567	4.1966	2018	5.833	0.828905	4.8351
7.5	93.05%	6.95%	62.932	4.37	2017	0.841036	3.6785	2017	5.003	0.832567	4.1654
8.5	93.80%	6.20%	62.465	3.87	2016	0.84715	3.2808	2016	4.341	0.841036	3.6512
9.5	94.30%	5.70%	62.000	3.53	2015	0.865946	3.0603	2015	3.844	0.84715	3.2565
10.5	94.70%	5.30%	61.539	3.26	2014	0.878065	2.8639	2014	3.508	0.865946	3.0375
11.5	94.95%	5.05%	61.082	3.08	2013	0.890414	2.7466	2013	3.237	0.878065	2.8426
12.5	95.15%	4.85%	60.628	2.94	2012	0.902995	2.6552	2012	3.062	0.890414	2.7262
13.5	95.55%	4.45%	60.177	2.68	2011	0.915813	2.4525	2011	2.919	0.902995	2.6355
14.5	95.90%	4.10%	59.730	2.45	2010	0.928867	2.2747	2010	2.658	0.915813	2.4342
15.5	96.10%	3.90%	59.286	2.31	2009	0.942154	2.1784	2009	2.431	0.928867	2.2578
16.5	96.25%	3.75%	58.846	2.21	2008	0.955661	2.1089	2008	2.295	0.942154	2.1622
17.5	96.40%	3.60%	58.408	2.10	2007	0.969334	2.0382	2007	2.190	0.955661	2.0932
18.5	96.70%	3.30%	57.974	1.91	2006	0.982913	1.8805	2006	2.087	0.969334	2.0231
19.5	97.05%	2.95%	57.543	1.70	2005	0.985513	1.6729	2005	1.899	0.982913	1.8665
20.5	97.25%	2.75%	57.116	1.57	2004	0.985513	1.5498	2004	1.685	0.985513	1.6605
21.5	97.44%	2.56%	56.691	1.45	2003	0.985513	1.4284	2003	1.561	0.985513	1.5383
22.5	97.64%	2.36%	56.270	1.33	2002	0.985513	1.3087	2002	1.439	0.985513	1.4178
23.5	97.84%	2.16%	55.851	1.21	2001	0.985513	1.1907	2001	1.318	0.985513	1.2990
24.5	98.03%	1.97%	55.436	1.09	2000	0.985513	1.0745	2000	1.199	0.985513	1.1819
25.5	98.23%	1.77%	55.024	0.97	1999	0.985513	0.9598	1999	1.082	0.985513	1.0665
26.5	98.43%	1.57%	54.615	0.86	1998	0.985513	0.8468	1998	0.967	0.985513	0.9527
27.5	98.62%	1.38%	54.209	0.75	1997	0.985513	0.7355	1997	0.853	0.985513	0.8405
28.5	98.82%	1.18%	53.806	0.63	1996	0.985513	0.6257	1996	0.741	0.985513	0.7300
29.5	99.02%	0.98%	53.407	0.53	1995	0.985513	0.5176	1995	0.630	0.985513	0.6211
30.5	99.21%	0.79%	53.010	0.42	1994	0.985513	0.4110	1994	0.521	0.985513	0.5137
31.5	99.41%	0.59%	52.616	0.31	1993	0.985513	0.3059	1993	0.414	0.985513	0.4079
32.5	99.61%	0.39%	52.225	0.21	1992	0.985513	0.2024	1992	0.308	0.985513	0.3037
33.5	99.80%	0.20%	51.836	0.10	1991	0.985513	0.1005	1991	0.204	0.985513	0.2009
34.5	100.00%	0.00%	51.451	0.00	1990	0.985513	0.0000	1990	0.101	0.985513	0.0997
Totals				140.83			122.20		136.87		118.96

Notes to Pages 3 and 3A

Page 3

2	Page 5, line (2) divided by Page 5, line (1)
3	(2) / (1 plus the 10 year average growth rate of North Carolina Workers Compensation DPW)
4	(2) - (3)
5	(4) x 20%
6	(5) x 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) x 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) x (4)
6	Accident Year at current year end
7	IRS discount factors for Workers Compensation for most recent tax year from IRS Rev Proc 2025-15
8	(5) x (7)
9	Accident Year at prior year end
10	Column (3), previous period x Column (4), current period
11	IRS discount factors for Workers Compensation for previous tax year from Rev. Proc. 2023-41
12	(10) x (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	33.22%	332,245
3. Deductions for Prepaid Expenses		
Commissions & Brokerage	5.00%	
Taxes, Licenses, & Fees (5/6)	2.22%	
Direct Assignment Carriers		
Other Acquisition & General (1/2)	1.05%	
Servicing Carriers		
Servicing Carrier Allowance (100%) + Other (1/2)	14.10%	
Total	22.37%	
4. Deduction for Prepaid Expense: (2) x (3)		74,315
5. Net Unearned Premium Reserve Subject to Investment (2) - (4)		257,930
B. Delayed Remission of Premiums (Agents Balances)		
1. Direct Earned Premiums		1,000,000
2. Average Agents Balances		0.094
3. Delayed Remissions: (1) x (2)		94,208
C. Loss and Loss Expense Reserves		
1. Direct Earned Premiums		1,000,000
2. Expected Incurred Loss & LAE-to-Premium Ratio	0.6631	663,060
3. Expected Mean Loss and LAE Reserve-to-Incurred Ratio	4.673	3,098,479
D. Net Policyholder Funds Subject to Investment (A5 - B3 + C3)		3,262,201
E. Average Rate of Return		4.84%
F. Investment Earnings from Net Reserves: (D) x (E)		157,831
G. Average Rate of Return as a Percent of Direct Earned Premiums: (F) / (A1)		15.78%

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	1,544,861,570
2	UEPR at end of most recent calendar year	512,161,491
3	UEPR at end of previous calendar year	514,383,173
4	Mean UEPR	513,272,332
5	Ratio [(4) / (1)]	33.22%

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	69.18%
Direct Assignment Carriers Market Share	30.82%

The entire servicing carrier allowance and half of the other pool administration expense are assumed to be prepaid so the provision is calculated as: 0.69176 x 0.193 + 0.5 x 0.015. For direct assignment carriers, one-half of OA&G is assumed to be prepaid, so the provision is calculated as: 0.5 x 0.068088 x 0.30824.

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: 0.69176 x 4.754 + 0.30824 x 4.49 = 4.673

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	4.01%
Current Yield	5.67%
Average	4.84%

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))
2015	4.294	0.610	1.000	0.194	4.107
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	0.652	1.000	0.228	3.797
2024	4.500	0.731	1.000	0.199	4.364
Average	**4.754**				**4.490**

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	13.52%	4.14%	21.00%	3.27%
Municipal	19.90%	3.17%	5.25%	3.00%
Industrial	35.77%	4.73%	21.00%	3.73%
Preferred Stock	0.34%	6.68%	13.13%	5.80%
Common Stock	17.38%	12.82%	19.44%	10.32%
Mortgage Loans	1.15%	6.75%	21.00%	5.33%
Real Estate	0.65%	6.46%	21.00%	5.10%
Cash & Short-term Investments	3.79%	4.38%	21.00%	3.46%
Other Long-Term Investments	7.51%	7.37%	18.64%	6.00%
Rate of Return Before Expenses	100.00%	5.97%	18.51%	4.87%
Investment Expenses		0.30%	21.00%	0.24%
Portfolio Rate of Return		5.67%	18.37%	4.63%

Sources

Preferred Stock	Current yield on iShares Preferred Stock Index ETF, 6/9/25
Real Estate	REIT Sector Cost of Capital, using 10-year Treasury of 4.4%. (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 6/9/2025, 5/9/2025, and 4/9/2025. 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 6/9/2025, 5/9/2025, and 4/9/2025. Linear interpolation used to match maturity midpoints from Schedule D where necessary.
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	41,812,677	21.00%
	Non-Taxable	5,245,347	5.25%
Stocks			
	Taxable	9,342,333	13.13%
	Non-Taxable	3,585,207	5.25%
Mortgage Loans		1,874,497	21.00%
Real Estate		1,839,199	21.00%
Contract Loans		3,099	21.00%
Cash & Short Term Inv		8,600,662	21.00%
All Other		8,557,569	21.00%
Total		80,860,590	18.37%
Inv. Expenses		6,966,300	21.00%
Net Inv. Income		73,894,290	18.12%
Mean Invested Assets		2,305,242,991	
Inv. Inc. Yield Rate		3.21%	18.12%
Capital Gains (10 yr. avg.) (% of Inv. Assets)		0.80%	0.00%
Invest. Yield Rate (pre=tax)		4.01%	14.49%
Invest. Yield Rate (post-tax)		3.43%	

Source: A.M. Best's Aggregates and Averages, 2024 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-8, 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
2014	1,543,882,375	12,093,078	0.78%
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%
Total	18,630,393,055	149,448,870	0.80%

"Mean Invested Assets" is the average of current and prior year values for Cash and Invested Assets (from statutory Page 2). Sourced from 2014-2024 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
2015	0.829
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
Average	0.833

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

	2018	2019	2020	2021	2022
Policyholder Surplus	742,079,084,495	847,278,658,173	910,066,482,410	1,028,834,642,825	958,964,082,808
+ Deferred Acquisition Costs	43,991,738,565	46,002,606,289	48,118,482,109	51,883,319,641	54,714,320,843
+ Non-Admitted DTA Provision	6,314,927,861	6,045,409,090	6,001,020,602	5,674,496,962	6,641,006,360
+ Non-admitted Assets (non-tax part)	46,502,063,197	50,520,441,190	51,971,123,366	62,815,925,708	54,765,183,036
+ Provision for Reinsurance	2,737,598,756	2,944,031,835	3,290,710,172	3,665,749,561	2,962,166,230
+ Provision for FASB 115(after-tax)	912,505,274	32,483,869,271	57,249,505,836	30,528,918,187	(69,664,596,475)
- Surplus Notes	(11,660,367,237)	(11,606,263,627)	(13,225,869,920)	(13,699,558,971)	(15,548,449,729)
GAAP-adjusted Net Worth	830,877,550,911	973,668,752,221	1,063,471,454,574	1,169,703,493,912	992,833,713,073
Ratio of Net Worth to Surplus	1.120	1.149	1.169	1.137	1.035
Five Year Average	1.122				

Source: ISO

Risk Premiums and Market Returns, 1928-2024

	Annual Returns on Investments in				
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%
1929	-8.30%	3.16%	4.20%	3.02%	4.14%
1930	-25.12%	4.55%	4.54%	0.54%	5.86%
1931	-43.84%	2.31%	-2.56%	-15.68%	-1.56%
1932	-8.64%	1.07%	8.79%	23.59%	11.07%
1933	49.98%	0.96%	1.86%	12.97%	5.30%
1934	-1.19%	0.28%	7.96%	18.82%	10.15%
1935	46.74%	0.17%	4.47%	13.31%	6.90%
1936	31.94%	0.17%	5.02%	11.38%	6.33%
1937	-35.34%	0.28%	1.38%	-4.42%	2.17%
1938	29.28%	0.07%	4.21%	9.24%	4.31%
1939	-1.10%	0.05%	4.41%	7.98%	4.28%
1940	-10.67%	0.04%	5.40%	8.65%	4.93%
1941	-12.77%	0.13%	-2.02%	5.01%	1.93%
1942	19.17%	0.34%	2.29%	5.18%	2.71%
1943	25.06%	0.38%	2.49%	8.04%	3.42%
1944	19.03%	0.38%	2.58%	6.57%	3.09%
1945	35.82%	0.38%	3.80%	6.80%	3.48%
1946	-8.43%	0.38%	3.13%	2.51%	2.61%
1947	5.20%	0.60%	0.92%	0.26%	0.46%
1948	5.70%	1.05%	1.95%	3.44%	3.46%
1949	18.30%	1.12%	4.66%	5.38%	4.62%
1950	30.81%	1.20%	0.43%	4.24%	1.80%
1951	23.68%	1.52%	-0.30%	-0.19%	-0.23%
1952	18.15%	1.72%	2.27%	4.44%	3.35%
1953	-1.21%	1.89%	4.14%	1.62%	1.61%
1954	52.56%	0.94%	3.29%	6.16%	5.10%
1955	32.60%	1.72%	-1.34%	2.04%	0.78%
1956	7.44%	2.62%	-2.26%	-2.35%	-1.78%
1957	-10.46%	3.22%	6.80%	-0.72%	3.26%
1958	43.72%	1.77%	-2.10%	6.43%	1.63%
1959	12.06%	3.39%	-2.65%	1.57%	0.14%
1960	0.34%	2.87%	11.64%	6.66%	6.41%
1961	26.64%	2.35%	2.06%	5.10%	3.79%
1962	-8.81%	2.77%	5.69%	6.50%	5.86%
1963	22.61%	3.16%	1.68%	5.46%	3.36%
1964	16.42%	3.55%	3.73%	5.16%	3.64%
1965	12.40%	3.95%	0.72%	3.19%	2.56%
1966	-9.97%	4.86%	2.91%	-3.45%	-0.70%
1967	23.80%	4.29%	-1.58%	0.90%	-0.45%
1968	10.81%	5.34%	3.27%	4.85%	4.32%
1969	-8.24%	6.67%	-5.01%	-2.03%	-2.18%
1970	3.56%	6.39%	16.75%	5.65%	8.27%
1971	14.22%	4.33%	9.79%	14.00%	10.35%
1972	18.76%	4.06%	2.82%	11.41%	8.44%
1973	-14.31%	7.04%	3.66%	4.32%	3.00%
1974	-25.90%	7.85%	1.99%	-4.38%	-0.12%
1975	37.00%	5.79%	3.61%	11.05%	9.54%
1976	23.83%	4.98%	15.98%	19.75%	14.23%

	Annual Returns on Investments in				
Year	S&P 500	US 3 mo	US 10 yr	Baa Corp	AAA Corp
1977	-6.98%	5.26%	1.29%	9.95%	6.58%
1978	6.51%	7.18%	-0.78%	3.14%	2.01%
1979	18.52%	10.05%	0.67%	-2.01%	-0.25%
1980	31.74%	11.39%	-2.99%	-3.32%	-2.55%
1981	-4.70%	14.04%	8.20%	8.46%	7.94%
1982	20.42%	10.60%	32.81%	29.05%	27.89%
1983	22.34%	8.62%	3.20%	16.19%	7.85%
1984	6.15%	9.54%	13.73%	15.62%	14.80%
1985	31.24%	7.47%	25.71%	23.86%	25.97%
1986	18.49%	5.97%	24.28%	21.35%	18.95%
1987	5.81%	5.78%	-4.96%	2.81%	-0.85%
1988	16.54%	6.67%	8.22%	14.38%	12.87%
1989	31.48%	8.11%	17.69%	15.95%	14.39%
1990	-3.06%	7.50%	6.24%	6.28%	7.72%
1991	30.23%	5.38%	15.00%	18.93%	14.98%
1992	7.49%	3.43%	9.36%	11.31%	9.84%
1993	9.97%	3.00%	14.21%	15.47%	14.30%
1994	1.33%	4.25%	-8.04%	-0.97%	-2.78%
1995	37.20%	5.49%	23.48%	21.29%	21.16%
1996	22.68%	5.01%	1.43%	3.42%	2.83%
1997	33.10%	5.06%	9.94%	12.75%	11.26%
1998	28.34%	4.78%	14.92%	7.63%	10.20%
1999	20.89%	4.64%	-8.25%	0.91%	-3.39%
2000	-9.03%	5.82%	16.66%	9.39%	10.99%
2001	-11.85%	3.40%	5.57%	8.54%	11.09%
2002	-21.97%	1.61%	15.12%	12.14%	10.42%
2003	28.36%	1.01%	0.38%	12.32%	9.54%
2004	10.74%	1.37%	4.49%	10.35%	7.14%
2005	4.83%	3.15%	2.87%	5.30%	6.73%
2006	15.61%	4.73%	1.96%	5.20%	3.75%
2007	5.48%	4.36%	10.21%	4.84%	5.84%
2008	-36.55%	1.37%	20.10%	-3.54%	10.97%
2009	25.94%	0.15%	-11.12%	20.21%	-0.09%
2010	14.82%	0.14%	8.46%	9.41%	8.83%
2011	2.10%	0.05%	16.04%	12.26%	13.99%
2012	15.89%	0.09%	2.97%	9.33%	4.59%
2013	32.15%	0.06%	-9.10%	-0.98%	-3.43%
2014	13.52%	0.03%	10.75%	10.78%	11.56%
2015	1.38%	0.05%	1.28%	-1.50%	1.13%
2016	11.77%	0.32%	0.69%	11.52%	4.53%
2017	21.61%	0.93%	2.80%	9.23%	8.40%
2018	-4.23%	1.94%	-0.02%	-3.27%	-0.93%
2019	31.21%	2.06%	9.64%	15.25%	12.08%
2020	18.02%	0.35%	11.33%	10.60%	10.23%
2021	28.47%	0.05%	-4.42%	0.93%	-1.93%
2022	-18.04%	2.02%	-17.83%	-15.14%	-12.88%
2023	26.06%	5.07%	3.88%	8.74%	5.09%
2024	24.88%	4.97%	-1.64%	1.74%	-1.03%

Arithmetic Average Historical Return					
1928-2024	11.79%	3.36%	4.79%	6.90%	5.64%

Geometric Average Historical Return					
1928-2024	9.94%	3.31%	4.50%	6.62%	5.46%

Blume-Weighted Average Historical Return (10 yr horizon for stocks					
1928-2024	11.63%	3.35%	4.76%	6.87%	5.62%

Blume Risk Premium				
	US 3 month	US 10 yr	Baa Bond	Aaa Bond
1928-2024	8.44%	6.87%	4.76%	6.01%

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	1-year Beta	3-year Beta	Debt%
Travelers	TRV	117,464	0.675253	0.662006	12.22%
The Hartford	HIG	114,922	0.729927	0.755354	11.25%
Zurich	ZURN	63,666	0.923293	0.87966	14.80%
Chubb	CB	60,109	0.540109	0.60593	14.38%
Great American Insurance	AFG	59,171	0.715643	0.743529	14.16%
Berkshire Hathaway Inc.	BRK.A	55,832	0.698769	0.779044	11.06%
Erie Insurance	ERIE	45,882	0.663424	0.657783	0.00%
W. R. Berkley Corp.	WRB	45,557	0.543702	0.589023	9.91%
Old Republic Insurance	ORI	34,872	0.691529	0.72091	16.44%
AIG	AIG	27,334	0.790543	0.862191	16.72%
CNA	CNA	25,293	0.655707	0.672884	20.64%
The Hanover Insurance Group	THG	19,910	0.641138	0.67709	11.40%
Arch Capital	ACGL	19,030	0.706404	0.696579	7.85%
ProAssurance Corp.	PRA	18,128	0.548086	0.675329	27.34%
AMERISAFE	AMSF	16,640	0.532975	0.589677	0.05%
Employers	EIG	13,763	0.602882	0.628466	0.38%
The Cincinnati Insurance Cos.	CINF	13,657	0.785849	0.826559	3.68%
QBE	QBE	12,086	0.984031	0.852976	11.23%
Selective	SIGI	12,049	0.647233	0.628628	9.70%
Tokio Marine	8766	10,730	1.408305	1.276107	5.93%
AXA SA	CS	10,349	0.905931	0.952526	40.72%
Markel	MKL	8,598	0.798767	0.734647	17.12%
Fairfax Financial	FFH	8,029	0.91885	0.79028	26.01%
Sompo	8630	5,536	1.187288	1.108085	22.22%
Everest Re	EG	4,046	0.73651	0.689717	20.69%
Accredited Am Ins Hldg Corp.	ONEX	3,246	1.213333	1.1	0.76%
Brookfield Wealth Solutions Lt	BNT	2,949	1.293944	1.251417	24.55%
MS&AD Insurance	8725	2,710	1.218567	1.142013	12.19%
Progressive	PGR	2,627	0.584727	0.610396	4.32%
Allianz	ALV	2,236	0.88808	0.898393	24.34%
James River Group Hldgs Ltd.	JRVR	1,331	0.859954	0.881686	53.63%
Sirius	SPNT	1,218	0.766267	0.837504	33.64%
Intact Financial Corp.	IFC	943	0.696026	0.714616	8.56%
Skyward Spclty Ins Grp	SKWD	309	0.793701	N/A	4.93%
RLI	RLI	290	0.619952	0.64162	1.70%
Samsung Fire & Marine Ins Co.	A000810	27	0.980879	0.831571	2.49%
Munich Re	MUV2	3	0.873985	0.817175	8.00%
Premium Weighted Average			0.717526	0.733156	12.51%

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.