NCRB-NCRF-NCIGA

north carolina
RATE BUREAU
REINSURANCE FACILITY
INSURANCE GUARANTY ASSOCIATION

NORTH CAROLINA RATE BUREAU

September 1, 2009

The Honorable Wayne Goodwin
Commissioner
North Carolina Dept. of Insurance
P. O. Box 26387
Raleigh, NC 27611

<div align="right">

Re: Workers Compensation Insurance
2009 Residual Market Rate Filing

</div>

Dear Commissioner Goodwin:

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, 2010 and shall be applied to all residual market policies as of the first normal anniversary rating date which is on or after April 1, 2010, but shall not otherwise be available to outstanding policies. No policy may be canceled and rewritten to take advantage of or to avoid the application of this rule.

The enclosed memoranda, exhibits, testimony and other supporting data, along with various memoranda, exhibits, testimony and other supporting data incorporated herein by reference to the September 1, 2009 loss cost filing for the voluntary market loss costs, explain the calculations supporting an average increase in the overall premium for residual market workers compensation insurance of 1.3%.

This premium level change includes a 9.6% decrease in loss costs detailed in the 2009 loss cost filing (which filing is incorporated herein by reference) and a 12.1% increase in the loss cost multiplier detailed in this filing.
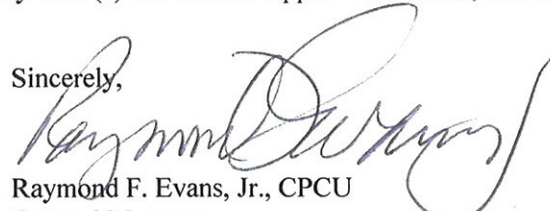
By industry group, the changes are: Manufacturing, 1.3% decrease; Contracting, 1.4% increase; Office and Clerical, 8.5% decrease; Goods & Services, 4.0% increase; and Miscellaneous, 9.0% increase. Within each industry group the change will vary from the average by classification depending upon the volume 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 an increase of 22.0% to the overall residual market premium level of the "F" classifications.

The filing proposes no change in the expense constant of $250. The filing proposes increasing the maximum minimum premium to $1000 and increasing the minimum premium multiplier to 200.

Information and statistical data required pursuant to NCGS §58-36-15 and 11 NCAC 10.1111 are submitted. Additionally, the prefiled testimony of (a) Raymond F. Evans, Jr., CPCU, General Manager - North Carolina Rate Bureau, (b) Jay A. Rosen, FCAS, MAAA - National Council on Compensation Insurance, Inc. (c) Mark Mulvaney, FCAS, MAAA - Milliman, Inc., (d) Dr. James H. Vander Weide - Fuqua School of Business, Duke University and (e) Dr. David Appel – Milliman, Inc. and exhibits referenced therein are enclosed.

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Sincerely,

Raymond F. Evans, Jr., CPCU
General Manager

</div>

RFE/dg
Enclosure

SUMMARY

NORTH CAROLINA - ASSIGNED RISK

Proposed Effective Date   April 1, 2010

I.   Industrial Classifications

          Overall Proposed Change in Rate Level
          -    New and Renewal Policies   +1.3%

          By Industry Group
              Manufacturing   -1.3%
              Contracting   +1.4%
              Office and Clerical   -8.5%
              Goods and Services   +4.0%
              Miscellaneous   +9.0%
              Overall   +1.3%

II.   Federal Classifications

          Overall Proposed Change in Rate Level
          -    New and Renewal Policies   +22.0%

III. Summary of Miscellaneous Changes   Current   Proposed

          A.   USL&HW %   95%   88%
          B.   Minimum Premium Multiplier   185   200
          C.   Maximum Minimum Premium $850 $1,000

NORTH CAROLINA – ASSIGNED RISK

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PART II

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PART III

Supplemental Material

*Sections incorporated by reference to the Loss Cost Filing submitted 9/1/2009

NORTH CAROLINA – ASSIGNED RISK

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<u>PART I</u>

Exhibit I

NORTH CAROLINA

DETERMINATION OF FILED CHANGE IN PURE PREMIUM LEVEL

Section A - Policy Year 2007 Experience

Premium:

(1)	Standard Earned Premium Developed to Ultimate (Appendix A-II)	$1,200,663,543
(2)	Premium On-level Factor (Appendix A-I)	0.944
(3)	Premium Available for Benefits Costs = (1)x(2)	$1,133,426,385

Indemnity Benefit Cost:

(4)	Average Limited Indemnity Paid and Pd+Cs Losses Developed to Ultimate (App. A-II)	$485,916,410
(5)	Indemnity Loss On-level Factor (Appendix A-I)	1.008
(6)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.160
(7)	Composite Adjustment Factor = (5)x(6)	1.169
(8)	Adjusted Limited Indemnity Losses = (4)x(7)	$568,036,283
(9)	Adjusted Limited Indemnity Cost Ratio Excluding Trend and Benefits = (8)/(3)	0.501
(10)	Factor to Reflect Indemnity Trend (Appendix A-III)	0.951
(11)	Projected Limited Indemnity Cost Ratio = (9)x(10)	0.476
(12)	Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.005
(13)	Projected Indemnity Cost Ratio = (11)x(12)	0.478
(14)	Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.005
(15)	Projected Indemnity Cost Ratio Including Benefit Changes = (13)x(14)	0.480

Medical Benefit Cost:

(16)	Average Limited Medical Paid and Pd+Cs Losses Developed to Ultimate (App. A-II)	$412,469,479
(17)	Medical Loss On-level Factor (Appendix A-I)	1.000
(18)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.160
(19)	Composite Adjustment Factor = (17)x(18)	1.160
(20)	Adjusted Limited Medical Losses = (16)x(19)	$478,464,596
(21)	Adjusted Limited Medical Cost Ratio Excluding Trend and Benefits = (20)/(3)	0.422
(22)	Factor to Reflect Medical Trend (Appendix A-III)	1.017
(23)	Projected Limited Medical Cost Ratio = (21)x(22)	0.429
(24)	Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.005
(25)	Projected Medical Cost Ratio = (23)x(24)	0.431
(26)	Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(27)	Projected Medical Cost Ratio Including Benefit Changes = (25)x(26)	0.431

Total Benefit Cost:

(28)	Policy Year 2007 Indicated Pure Premium Level Change = (15)+(27)	0.911	(-8.9%)

Exhibit I

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NORTH CAROLINA

DETERMINATION OF FILED CHANGE IN PURE PREMIUM LEVEL

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Section B - Policy Year 2006 Experience

Premium:

(1)	Standard Earned Premium Developed to Ultimate (Appendix A-II)	$1,046,111,336
(2)	Premium On-level Factor (Appendix A-I)	1.009
(3)	Premium Available for Benefits Costs = (1)x(2)	$1,055,526,338

Indemnity Benefit Cost:

(4)	Average Limited Indemnity Paid and Pd+Cs Losses Developed to Ultimate (App. A-II)	$436,996,836
(5)	Indemnity Loss On-level Factor (Appendix A-I)	1.015
(6)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.160
(7)	Composite Adjustment Factor = (5)x(6)	1.177
(8)	Adjusted Limited Indemnity Losses = (4)x(7)	$514,345,276
(9)	Adjusted Limited Indemnity Cost Ratio Excluding Trend and Benefits = (8)/(3)	0.487
(10)	Factor to Reflect Indemnity Trend (Appendix A-III)	0.937
(11)	Projected Limited Indemnity Cost Ratio = (9)x(10)	0.456
(12)	Factor to Adjust Indemnity Cost Ratio to an Unlimited Basis (Appendix A-II)	1.005
(13)	Projected Indemnity Cost Ratio = (11)x(12)	0.458
(14)	Factor to Reflect Proposed Changes in Indemnity Benefits (Appendix C)	1.005
(15)	Projected Indemnity Cost Ratio Including Benefit Changes = (13)x(14)	0.460

Medical Benefit Cost:

(16)	Average Limited Medical Paid and Pd+Cs Losses Developed to Ultimate (App. A-II)	$387,040,896
(17)	Medical Loss On-level Factor (Appendix A-I)	1.000
(18)	Factor to Include Loss Adjustment Expense (Exhibit II)	1.160
(19)	Composite Adjustment Factor = (17)x(18)	1.160
(20)	Adjusted Limited Medical Losses = (16)x(19)	$448,967,439
(21)	Adjusted Limited Medical Cost Ratio Excluding Trend and Benefits = (20)/(3)	0.425
(22)	Factor to Reflect Medical Trend (Appendix A-III)	1.022
(23)	Projected Limited Medical Cost Ratio = (21)x(22)	0.434
(24)	Factor to Adjust Medical Cost Ratio to an Unlimited Basis (Appendix A-II)	1.005
(25)	Projected Medical Cost Ratio = (23)x(24)	0.436
(26)	Factor to Reflect Proposed Changes in Medical Benefits (Appendix C)	1.000
(27)	Projected Medical Cost Ratio Including Benefit Changes = (25)x(26)	0.436

Total Benefit Cost:

(28)	Policy Year 2006 Indicated Pure Premium Level Change = (15)+(27)	0.896 (-10.4%)

Exhibit I

NORTH CAROLINA

DETERMINATION OF FILED CHANGE IN RATE LEVEL

Section C - Indicated Pure Premium Level Change

(1) Policy Year 2007 Indicated Pure Premium Level Change   0.911   (-8.9%)

(2) Policy Year 2006 Indicated Pure Premium Level Change   0.896   (-10.4%)

(3) Indicated Average Pure Premium Level Change = [(1)+(2)] / 2   0.904   (-9.6%)

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

(1) Indicated Average Pure Premium Level Change   0.904   (-9.6%)

(2) Proposed Change in the Assigned Risk Loss Cost Multiplier   1.121   (+12.1%)
     = [Exhibit I-A, Sheet 1, Line (9) / Exhibit I-A, Sheet 2, Line (9)]

(3) Indicated Assigned Risk Rate Level Change = [(1)x(2)]   1.013   (+1.3%)

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

Industry Group Differentials

Manufacturing	0.974
Contracting	1.001
Office & Clerical	0.903
Goods & Services	1.027
Miscellaneous	1.076

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

Industry Group	(1) Overall Rate Level Change	(2) Industry Group Differential	(3) = (1)x(2) Rate Level Change by Industry Group	
Manufacturing	1.013	0.974	0.987	(-1.3%)
Contracting	1.013	1.001	1.014	(+1.4%)
Office & Clerical	1.013	0.903	0.915	(-8.5%)
Goods & Services	1.013	1.027	1.040	(+4.0%)
Miscellaneous	1.013	1.076	1.090	(+9.0%)
Overall	1.013	1.000	1.013	(+1.3%)

Exhibit I-A
Sheet 1

North Carolina Department of Insurance

Summary of Supporting Information Form
Calculation of INDICATED Assigned Risk Loss Cost Multiplier
Effective April 1, 2010

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

2. Loss Cost Modification:

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

    ☐ Without modification (factor = 1.000)

    ☒ With the following modification(s): 1.304 (see attached)
          Cite the nature and percent modification. Attach supporting data and/or rationale for the
          modification(s).

    B. Loss Cost Modification Factor: 1.304   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	21.6%
C.	General Expenses	Incl. in B
D.	Taxes, Licenses, Fees & Loss Based Assessments	2.95%
E.	Profit, Contingencies and Investment Income	13.5%
F.	Other	0.0%
G.	Total (A + B + C + D + E + F)	43.1%

4. Development of Expected Loss & Loss Adjustment Expense (Target Cost) Ratio: 0.569
          (Expressed in decimal form: 1.000 - 3G)

5. Overall impact of expense constant & minimum premiums: 1.128   See Exhibit II
          (Expressed in decimal form: i.e., 1.2% overall impact would be 1.012)

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

7. Provision for loss based assessments   0.000

8. Formula Loss Cost Multiplier : 2B x (1.0 - 7) / ((6 - 3G) x 5)   2.032

9. Selected Loss Cost Multiplier: 2.032
          (Explain any differences between 8 and 9, other than rounding)

10. Rate Level Changes for the Coverages to which this page applies   1.3%

11. Are you amending: See Exhibit II-D, Sheet 2

    the minimum premium formula?   Yes
    the expense constant(s) ?   No
    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.

Exhibit I-A
Sheet 2

North Carolina Department of Insurance

Summary of Supporting Information Form
Calculation of CURRENT Assigned Risk Loss Cost Multiplier
Effective April 1, 2009

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

2. Loss Cost Modification:

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

    ☐ Without modification (factor = 1.000)

    ☒ With the following modification(s): 1.215
        Cite the nature and percent modification. Attach supporting data and/or rationale for the
        modification(s).

    B. Loss Cost Modification Factor: 1.215

        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   5.00%

    B. Other Acquisition   21.34%

    C. General Expenses   Incl. in B

    D. Taxes, Licenses, Fees & Loss Based Assessments   2.94%

    E. Profit, Contingencies and Investment Income   10.70%

    F. Other   0.00%

    G. Total (A + B + C + D + E + F)   39.98%

4. Development of Expected Loss & Loss Adjustment Expense (Target Cost) Ratio: 0.6002
        (Expressed in decimal form: 1.000 - 3G)

5. Overall impact of expense constant & minimum premiums: 1.1166
        (Expressed in decimal form: i.e., 1.2% overall impact would be 1.012)

6. Overall impact of size-of-risk discounts plus expense gradation recognition in retrospective rating: 1.0000
        (Expressed in decimal form: i.e., 8.6% average discount would be 0.914)

7. Provision for premium taxes, licenses, fees and loss based assessments   0.00%

8. Formula Loss Cost Multiplier : 2B x (1.0 - 7) / ((6 - 3G) x 5)   1.8129

9. Selected Lost Cost Multiplier   1.8129

Exhibit I-A
Sheet 3

North Carolina - Assigned Risk

Calculation of Loss Cost Modification Factor

1. Current Assigned Risk Differential   1.346

2. Proposed Change in Assigned Risk Differential (See Exh. II-E, Sheet 1)   1.072

3. Proposed Assigned Risk Differential (1) x (2)   1.443

4. Factor to Adjust Loss Costs to Avoid Double Counting
    Servicing Carrier LAE (See Exhibit II-A, Sheet 3)   0.904

5. Loss Cost Modification Factor (3) x (4)   1.304

Exhibit II

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)   16.0%

   Factor to adjust loss costs to avoid double counting
   Servicing Carrier LAE (See Exhibit II-A, Sheet 3)   0.904

3. Other Acquisition, General Expense *   21.6%
   (and LAE for Servicing Carriers) (See Exhibit II-B, Sheet 1)

4. Underwriting Profit and Contingencies   13.5%

   a. Underwriting Profit (See Exhibits RB-12 and RB-14)   12.5%
   b. Contingencies (See Exhibit RB-6)   1.0%

5. Taxes, Licenses, and Fees

   TLF Including Regulatory Surcharge (2.5% x 1.060)   2.65%
   Miscellaneous Tax (judgmentally selected)   0.3%
   Total Including Miscellaneous Tax   2.95%

6. Expense Constant Effect (See Exhibit II-D, Sheet 1)   9.8%
   (Expense Constant of $250)

7. Effect of Minimum Premiums (See Exhibit II-D, Sheet 2)   2.7%
   (Minimum Premium Multiplier of 200, Maximum Minimum Premium of $1,000)

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

Exhibit II-A
Sheet 1

North Carolina

Derivation of Indicated Loss Adjustment Expense Provision

<div align="center"><u>COUNTRYWIDE</u>   <u>NORTH CAROLINA</u></div>

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Calendar Year IEE Ratio	Accident Year Developed LAE	Accident Year Developed DCCE	Accident Year Developed AOE	Accident Year DCCE Ratio Adjusted to NC Relativity	Accident Year LAE Ratio Adjusted to NC Relativity	Calendar
Year	(Direct Basis)#	Ratio+	Ratio+	Ratio+	(4) x 0.673^	(5) + (6)	Year
2001	13.7%	16.4%	10.0%	6.4%	6.8%	13.2%	15.1%
2002	14.2%	17.1%	10.6%	6.6%	7.1%	13.7%	13.6%
2003	15.5%	18.1%	10.7%	7.4%	7.2%	14.6%	13.9%
2004	16.6%	17.7%	10.7%	7.0%	7.2%	14.2%	13.0%
2005	17.6%	18.7%	10.9%	7.8%	7.3%	15.1%	13.8%
2006	19.7%	19.2%	11.1%	8.1%	7.5%	15.6%	16.6%
2007	17.3%	19.9%	11.8%	8.1%	7.9%	16.0%	16.6%
2008	19.0%	20.1%	12.5%	7.6%	8.4%	16.0%	16.4%

Current North Carolina Loss Adjustment Expense Provision   16.0%

Selected North Carolina Loss Adjustment Expense Provision   16.0%

\# Source: Countrywide Insurance Expense Exhibit (See Exhibit RB-4).
\+ Source: NCCI Call for Loss Adjustment Expense (See Exhibit RB-4).
^ Exhibit II-A, Sheet 2.

Exhibit II-A
Sheet 2

North Carolina

Derivation of North Carolina DCCE relativity

	(1)	(2)	(3)
	Calendar Years 2007 and 2008 Paid Losses* ('000s)	Calendar Years 2007 and 2008 Paid DCCE* ('000s)	DCCE Ratio (2)/(1)
(a) North Carolina	$1,605,822	$118,417	7.4%
(b) Countrywide	41,998,775	4,638,316	11.0%

North Carolina DCCE relativity (3a) / (3b)   0.673

Selected DCCE relativity   0.673

* Source: Annual Statement Page 15 data, excluding state funds, collected and aggregated by NCCI, Inc.

Exhibit II-A
Sheet 3

North Carolina - Assigned Risk

Derivation of Loss Adjustment Expense Removal Factor

1. Selected loss adjustment expense provision   1.160
   (See Exhibit II-A, Sheet 1)

2. Servicing carrier 2010 quota (See Exhibit II-B, Sheet 1)   0.6959

3. Factor to adjust loss costs to avoid double counting
   servicing carrier LAE [(2) / (1)] + [1.0 - (2)]   0.904

Exhibit II-B
Sheet 1

North Carolina - Assigned Risk

Average Expense Provision
Other Acquisition, General Expense and Servicing Carrier LAE

1. Servicing Carriers (See Exhibit II-B, Sheet 2)

        a. Allowance and separate reimbursement (incl. LAE)   27.60%
        b. Quota (100% - 2b)   69.59%

2. Direct Assignment Carriers (See Exhibit II-B, Sheet 2)

        a. Other acquisition and general expense ratio   7.92%
        b. Quota   30.41%

3. Average expense provision, excluding taxes, licenses and fees and
    loss-based assessments and including servicing carrier LAE   21.6%
        (1a)x(1b) + (2a)x(2b)

Exhibit II-B
Sheet 2

North Carolina - Assigned Risk

Expense Ratios for Servicing Carriers

1. Weighted-Average of 1/1/2009 Three-Year Servicing Carrier Allowances* (Includes LAE)	26.25%
2. NCCI Pool Administration Expenses (See Exhibit II-C)	0.55%
3. Provision for Separately Reimbursable Expenses (See Exhibit II-C)	0.80%
Total Servicing Carrier Allowance and Separate Reimbursement	27.60%

Expense Ratios for 2010 Direct Assignment Carriers^

Calendar Year	Net Earned Premium Std. Basis	Commission & Brokerage	Other Acq. Field Super. Collection	General Expenses	Other Acq. Field Super. & Gen. Exp
2006	$482,867,520	$27,384,919	$21,477,890	$14,856,929	$36,334,819
2007	543,010,466	32,330,246	22,460,253	16,199,862	38,660,115
2008	504,431,561	24,941,079	18,867,534	13,663,312	32,530,846
Total	$1,530,309,547	$84,656,244	$62,805,677	$44,720,103	$107,525,780
Expense Ratios#			4.39%	3.53%	7.92%

Direct Assignment Carriers' Other Acquisition and General Expense Ratio	7.92%
Direct Assignment Carriers' 2010 Quota (See Exhibit II-B, Sheet 1)	30.41%

* Source: North Carolina Rate Bureau. Excludes commission and brokerage, taxes, licenses and fees.
^ Source: Data collected by NCCI, Inc.
# Weighted by individual carrier direct assignment market shares.

Exhibit II-C

North Carolina - Assigned Risk

Pool Expense Provision*

Data Valued as of 12/31/2008

Calendar Year	Gross Written Premium	NCCI Administrative Expense	Admin Expenses as a % of GWP
2006	$85,136,260	$397,662	0.47%
2007	79,009,902	429,072	0.54%
2008	67,829,798	437,993	0.65%
		Selected:	0.55%

Policy Year	Gross Written Premium	"Separately Reimbursable" Expense	Percent of Gross Written Premium
2005	$99,588,756	$1,034,440	1.04%
2006	86,440,342	859,510	0.99%
2007	81,184,424	297,178	0.37%
		Selected:	0.80%

* Source: Data collected by NCCI, Inc.

Exhibit II-D
Sheet 1

North Carolina - Assigned Risk

Effect of Expense Constant

	Policy Year		
	2005	2006	2007
(1) Assigned Risk Standard Premium at Current Level (Exhibit II-E, Sheet 2)	83,824,131	67,189,019	56,840,488
(2) Proposed Pure Premium Level Change (Exhibit I, Sheet 1)	-9.6%	-9.6%	-9.6%
(3) Assigned Risk Standard Premium at Proposed Level (1) x [100% + (2)]	75,777,014	60,738,873	51,383,801
(4) Selected Loss Cost Multiplier (Exhibit I-A, Sheet 1)	2.032	2.032	2.032
(5) Other Std. Premium Programs (Exhibit II-E, Sheet 9)	1.017	1.017	1.017
(6) Assigned Risk Policy Counts With Expense Constant Assigned to NC*	38,366	39,738	34,968
(7) Expense Constant Revenue Reported*	6,811,738	6,867,535	6,793,608
(8) Actual Expense Constant in Effect	$210	$210	$238
(9) Indicated Expense Constant	$250	$250	$250
(10) Estimated Expense Constant Effect [(9)x(6)] / [(3) x (4) x (5)]	0.061	0.079	0.082
(11) Average Premium Size*	2,856	2,633	2,432
(12) Assigned Risk on level factor to Present Pure Premium level	0.864	0.750	0.685
(13) On level Average Prem size (11) x (12)	2,468	1,975	1,666
(14) Estimated Impact of Change in Average Policy Size From historical policy years to the current estimate of the average on-level premium size of $1,503 Divided by (13) for each respective year.	0.609	0.761	0.902
(15) Adjusted Expense Constant Effect (10)/(14)	0.100	0.104	0.091
(16) Selected Expense Constant Effect			0.098

* Source: North Carolina Rate Bureau

Exhibit II-D
Sheet 2

North Carolina - Assigned Risk

Effect of Minimum Premiums*

Based on Assigned Risk Data for Policies with Effective Dates in 2006

Current Minimum Premium Program Parameters

(1) Minimum Premium Multiplier (MPM)   185

(2) Maximum Minimum Premium (MMP) $ 850

(3) Standard Premium Generated by Current MPM and MMP $ 1,545,404

(4) Standard Premium Including Additional Premium
       Generated by Current MPM and MMP $ 84,804,104

Proposed Minimum Premium Program Parameters

(5) Minimum Premium Multiplier (MPM)   200

(6) Maximum Minimum Premium (MMP) $ 1,000

(7) Standard Premium Generated by Proposed MPM and MMP $ 2,329,198

(8) Standard Premium Including Additional Premium
       Generated by Proposed MPM and MMP $ 85,587,898

(9) Impact of Proposed MPM and MMP = (7) / (8)   0.027

* Source: Unit Statistical Data

Exhibit II-E
Sheet 1

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

Policy Year	(1) Residual Market	(2) Statewide Market	(3) = (1) / (2) Ratio of Residual to Statewide Market	(4) Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Standard Pure Premium Valued as of 12/31/2008 *				
2003	$82,913,715	$861,950,601	0.096	
2004	82,954,764	932,587,916	0.089	
2005	83,824,131	1,001,764,902	0.084	
2006	67,189,019	1,054,786,151	0.064	
2007	56,840,488	1,132,043,365	0.050	
II. Paid Loss Experience Valued as of 12/31/2008 **				
2003	$84,091,145	$702,119,751	0.120	1.250
2004	101,749,043	791,600,792	0.129	1.449
2005	92,191,980	817,394,849	0.113	1.345
2006	79,894,100	845,499,727	0.094	1.469
2007	76,949,318	927,554,576	0.083	1.660
			Average Differential ^	1.435

(a)	Indicated Differential in Standard Pure Premium Based on Experience	1.435
(b)	Current Impact of Standard Pure Premium Programs@	1.369
(c)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid Losses = (a) / (b)	1.048
(d)	Indicated Change in Assigned Risk Pure Premium Differential Based on Paid+Case Losses [See Exhibit II-E, Sheet 4, Item (c)]	1.096
(e)	Selected Change in Assigned Risk Pure Premium Differential (Proposed Assigned Risk Pure Premium Differential = 1.443)	1.072

 * Developed to fifth report and brought to the 4/1/2009 pure premium level.
 ** Brought to the 1/1/2009 benefit level.
 ^ This is the indicated pure premium differential based on loss experience, calculated by comparing the ratio
     of assigned risk and statewide losses to the ratio of assigned risk and statewide premium.
 @ This is composed of an ARAP impact equal to 1.7% and a differential of 1.346. ARAP impact from
     Exhibit II-E, Sheet 9.

Exhibit II-E
Sheet 2

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
2003	$122,111,510	0.930	1.369	$82,913,715
2004	126,262,959	0.900	1.369	82,954,764
2005	132,843,314	0.864	1.369	83,824,131
2006	122,607,698	0.750	1.369	67,189,019
2007	113,680,975	0.685	1.369	56,840,488

Policy Year	(5) Ind. Losses Paid	(6) Development Factor	(7) On-level Factor^	(8) = ((5) x (6)) x (7) Adjusted Ind. Losses
2003	$38,319,091	1.276	1.030	$50,362,015
2004	40,658,018	1.396	1.022	58,007,282
2005	30,040,457	1.635	1.020	50,098,470
2006	17,875,479	2.294	1.015	41,621,444
2007	9,133,748	4.684	1.008	43,124,736

Policy Year	(9) Med. Losses Paid	(10) Development Factor	(11) On-level Factor^	(12) = ((9) x (10)) x (11) Adjusted Med. Losses
2003	$25,925,542	1.301	1.000	$33,729,130
2004	32,329,461	1.353	1.000	43,741,761
2005	29,353,912	1.434	1.000	42,093,510
2006	23,965,345	1.597	1.000	38,272,656
2007	15,947,469	2.121	1.000	33,824,582

* Developed to a fifth report. See Exhibit II-E, Sheet 7.
^ See Appendix A-I for the derivation of the factors for years 2006 and 2007. Factors for the remaining years are calculated in a similar manner.
# This is composed of an ARAP impact equal to 1.7% and a differential of 1.346. ARAP impact from Exhibit II-E, Sheet 9.

Exhibit II-E
Sheet 3

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
2003	$779,036,886	$82,913,715	$861,950,601
2004	849,633,152	82,954,764	932,587,916
2005	917,940,771	83,824,131	1,001,764,902
2006	987,597,132	67,189,019	1,054,786,151
2007	1,075,202,877	56,840,488	1,132,043,365

Policy Year	(4) Ind. Losses Paid	(5) Development Factor	(6) On-level Factor^	(7) = ((4) x (5)) x (6) Adjusted Ind. Losses
2003	$300,311,643	1.276	1.030	$394,693,586
2004	302,489,191	1.396	1.022	431,564,959
2005	265,012,208	1.635	1.020	441,960,859
2006	197,230,841	2.294	1.015	459,234,262
2007	108,865,445	4.684	1.008	514,005,150

Policy Year	(8) Med. Losses Paid	(9) Development Factor	(10) On-level Factor^	(11) = ((8) x (9)) x (10) Adjusted Med. Losses
2003	$236,299,896	1.301	1.000	$307,426,165
2004	266,101,872	1.353	1.000	360,035,833
2005	261,808,919	1.434	1.000	375,433,990
2006	241,869,421	1.597	1.000	386,265,465
2007	194,978,513	2.121	1.000	413,549,426

* 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 years 2006
  and 2007. Factors for the remaining years are calculated in a similar manner.

Exhibit II-E
Sheet 4

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

Policy Year	(1) Residual Market	(2) Statewide Market	(3) = (1) / (2) Ratio of Residual to Statewide Market	(4) Indicated Assigned Risk Pure Prem. Diff.^ (Std Basis)
I. Standard Pure Premium Valued as of 12/31/2008 *				
2003	$82,913,715	$861,950,601	0.096	
2004	82,954,764	932,587,916	0.089	
2005	83,824,131	1,001,764,902	0.084	
2006	67,189,019	1,054,786,151	0.064	
2007	56,840,488	1,132,043,365	0.050	
II. Paid + Case Loss Experience Valued as of 12/31/2008 **				
2003	$82,984,609	$698,987,866	0.119	1.240
2004	103,395,550	784,465,759	0.132	1.483
2005	89,637,581	805,460,980	0.111	1.321
2006	85,586,044	815,685,641	0.105	1.641
2007	79,775,344	876,991,864	0.091	1.820
			Average Differential ^	1.501

(a)   Indicated Differential in Standard Pure Premium Based on Experience   1.501

(b)   Current Impact of Standard Pure Premium Programs@   1.369

(c)   Indicated Change in Assigned Risk Pure Premium Differential
          = (a)/(b)   1.096

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 * Developed to fifth report and brought to the 4/1/2009 pure premium level.
** Brought to the 1/1/2009 benefit level.
 ^ This is the indicated pure premium differential based on loss experience, calculated by comparing the ratio
    of assigned risk and statewide losses to the ratio of assigned risk and statewide premium.
@ This is composed of an ARAP impact equal to 1.7% and a differential of 1.346. ARAP impact from
    Exhibit II-E, Sheet 9.

Exhibit II-E
Sheet 5

North Carolina - Assigned Risk

(Residual Market)

	(1)	(2)	(3)	(4) = (1) x ((2) / (3))
			Effect of	
Policy	Standard	On-level	Current Standard	Stand. Pure Prem.
Year	Premium*	Factor^	Premium Programs#	at Current Level
2003	$122,111,510	0.930	1.369	$82,913,715
2004	126,262,959	0.900	1.369	82,954,764
2005	132,843,314	0.864	1.369	83,824,131
2006	122,607,698	0.750	1.369	67,189,019
2007	113,680,975	0.685	1.369	56,840,488

	(5)	(6)	(7)	(8) = ((5) x (6)) x (7)
Policy	Ind. Losses	Development	On-level	Adjusted
Year	Paid+Case	Factor	Factor^	Ind. Losses
2003	$42,444,394	1.107	1.030	$48,395,522
2004	45,690,099	1.153	1.022	53,839,659
2005	38,708,283	1.245	1.020	49,155,648
2006	28,771,986	1.437	1.015	41,965,524
2007	19,863,663	1.969	1.008	39,424,444

	(9)	(10)	(11)	(12) = ((9) x (10)) x (11)
Policy	Med. Losses	Development	On-level	Adjusted
Year	Paid+Case	Factor	Factor^	Med. Losses
2003	$29,766,856	1.162	1.000	$34,589,087
2004	41,960,958	1.181	1.000	49,555,891
2005	33,706,855	1.201	1.000	40,481,933
2006	35,406,266	1.232	1.000	43,620,520
2007	29,582,771	1.364	1.000	40,350,900

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

^ See Appendix A-I for the derivation of the factors for years 2006 and 2007. Factors
  for the remaining years are calculated in a similar manner.

This is composed of an ARAP impact equal to 1.7% and a differential of 1.346.
  ARAP impact from Exhibit II-E, Sheet 9.

Exhibit II-E
Sheet 6

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
2003	$779,036,886	$82,913,715	$861,950,601
2004	849,633,152	82,954,764	932,587,916
2005	917,940,771	83,824,131	1,001,764,902
2006	987,597,132	67,189,019	1,054,786,151
2007	1,075,202,877	56,840,488	1,132,043,365

Policy Year	(4) Ind. Losses Paid+Case	(5) Development Factor	(6) On-level Factor^	(7) = ((4) x (5)) x (6) Adjusted Ind. Losses
2003	337,289,161	1.107	1.030	$384,580,474
2004	350,555,240	1.153	1.022	413,082,376
2005	338,797,726	1.245	1.020	430,239,232
2006	293,351,512	1.437	1.015	427,869,315
2007	234,589,678	1.969	1.008	465,602,333

Policy Year	(8) Med. Losses Paid+Case	(9) Development Factor	(10) On-level Factor^	(11) = ((8) x (9)) x (10) Adjusted Med. Losses
2003	270,574,348	1.162	1.000	$314,407,392
2004	314,465,185	1.181	1.000	371,383,383
2005	312,424,436	1.201	1.000	375,221,748
2006	314,785,979	1.232	1.000	387,816,326
2007	301,605,228	1.364	1.000	411,389,531

 * 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 years 2006
   and 2007. Factors for the remaining years are calculated in a similar manner.

Exhibit II-E
Sheet 7

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	
2004	122,799,851	124,281,180	1.012
2005	127,942,574	130,780,601	1.022
2006	117,995,337	121,273,687	1.028
Average			1.021
	2nd Report	3rd Report	
2003	122,236,182	122,229,387	1.000
2004	124,281,180	124,585,757	1.002
2005	130,780,601	131,789,002	1.008
Average			1.003
	3rd Report	4th Report	
2002	94,033,619	93,886,581	0.998
2003	122,229,387	122,303,071	1.001
2004	124,585,757	125,509,900	1.007
Average			1.002
	4th Report	5th Report	
2001	54,651,628	55,684,699	1.019
2002	93,886,581	94,114,100	1.002
2003	122,303,071	122,111,510	0.998
Average			1.006

Three-year average premium development factors

1st/5th	2nd/5th	3rd/5th	4th/5th
1.032	1.011	1.008	1.006

Section B - Calculation of Developed Assigned Risk Standard Premium

Policy Year	Standard Premium	Development Factor	Developed Premium
2003	122,111,510	1.000	122,111,510
2004	125,509,900	1.006	126,262,959
2005	131,789,002	1.008	132,843,314
2006	121,273,687	1.011	122,607,698
2007	110,155,984	1.032	113,680,975

Exhibit II-E
Sheet 8

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	
2004	672,313,986	677,640,094	1.008
2005	738,542,548	750,146,632	1.016
2006	919,086,391	925,126,844	1.007
Average			1.010
	2nd Report	3rd Report	
2003	627,919,789	627,196,029	0.999
2004	686,736,077	685,309,087	0.998
2005	803,761,507	802,395,779	0.998
Average			0.998
	3rd Report	4th Report	
2002	580,700,210	580,053,274	0.999
2003	633,498,529	633,363,988	1.000
2004	733,519,272	733,707,385	1.000
Average			1.000
	4th Report	5th Report	
2001	595,116,716	594,864,393	1.000
2002	581,624,620	581,688,904	1.000
2003	672,915,896	673,574,313	1.001
Average			1.000

Three-year average premium development factors

1st/5th	2nd/5th	3rd/5th	4th/5th
1.008	0.998	1.000	1.000

Section B - Calculation of Developed Voluntary Standard Premium

Policy Year	Standard Premium	Development Factor	Developed Premium
2003	677,423,379	1.000	677,423,379
2004	733,707,385	1.000	733,707,385
2005	802,395,779	1.000	802,395,779
2006	924,837,649	0.998	922,987,974
2007	1,077,443,960	1.008	1,086,063,512

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

Policy Year	Voluntary Premium*	Voluntary On-level Factor**	Voluntary Prem Dev't & On-level
2003	677,423,379	1.150	779,036,886
2004	733,707,385	1.158	849,633,152
2005	802,395,779	1.144	917,940,771
2006	922,987,974	1.070	987,597,132
2007	1,086,063,512	0.990	1,075,202,877

* Exhibit II-E, Sheet 8, Section B.
** See Appendix A-I for the derivation of the figures for years 2006 and 2007.

Exhibit II-E
Sheet 9

North Carolina - Assigned Risk

Impact of the Assigned Risk Adjustment Program*

Based on Assigned Risk Data for Policies with Effective Dates in 2008

Type of Risk	(1) Experience Modified Premium	(2) ARAP Premium	(3) ARAP Impact (2) / (1)
Risks with Credit Mods	$11,768,349	$11,768,349	1.000
Risks with Debit Mods	6,800,261	7,919,570	1.165
Risks with Mods of 1.00	113,594	113,594	1.000
Risks with No Mods	45,868,610	45,868,610	1.000
Totals	$64,550,814	$65,670,123	1.017

* Source: North Carolina Rate Bureau

Effective April 1, 2010
APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO
0005	6.30	1000	1.67	0.15	0.42	1925	6.56	1000	1.67	0.14	0.39
0008	4.57	1000	1.16	0.14	0.36	2001	5.28	1000	1.46	0.17	0.38
0016	14.04	1000	3.34	0.12	0.42	2002	6.62	1000	1.83	0.17	0.36
0034	6.69	1000	1.77	0.15	0.37	2003	4.96	1000	1.31	0.15	0.37
0035	4.80	1000	1.32	0.17	0.39	2014	10.59	1000	2.51	0.12	0.35
0036	7.58	1000	2.00	0.15	0.35	2016	4.92	1000	1.36	0.17	0.39
0037	7.76	1000	1.97	0.14	0.38	2021	5.65	1000	1.43	0.14	0.31
0042	8.25	1000	2.10	0.14	0.40	2039	8.47	1000	2.34	0.17	0.33
0050	26.03	1000	6.92	0.16	0.47	2041	5.67	1000	1.56	0.17	0.34
0059D	0.77	–	0.07	0.10	–	2065	7.68	1000	2.02	0.15	0.30
0065D	0.18	–	0.02	0.12	–	2070	9.25	1000	2.44	0.15	0.32
0066D	0.18	–	0.02	0.12	–	2081	6.79	1000	1.80	0.15	0.40
0067D	0.18	–	0.02	0.12	–	2089	7.17	1000	1.89	0.15	0.37
0079	5.85	1000	1.39	0.13	0.38	2095	7.84	1000	2.07	0.15	0.38
0083	6.50	1000	1.72	0.15	0.37	2105	4.82	1000	1.33	0.17	0.37
0106	41.39	1000	8.86	0.10	0.35	2110	3.41	932	0.94	0.17	0.38
0113	7.62	1000	2.01	0.15	0.35	2111	5.77	1000	1.60	0.17	0.45
0170	4.23	1000	1.11	0.15	0.32	2112	6.77	1000	1.87	0.17	0.37
0251	9.10	1000	2.40	0.15	0.32	2114	3.50	950	0.96	0.17	0.35
0400	14.04	1000	3.55	0.14	0.30	2121	7.05	1000	1.86	0.15	0.28
0401	15.42	A	3.30	0.10	0.36	2130	4.69	1000	1.24	0.15	0.34
0763FN	4.12	–	–	–	–	2131	4.69	1000	1.24	0.15	0.37
0771N	0.91	–	–	–	–	2143	5.51	1000	1.52	0.17	0.33
0908P	299.00	549	78.66	0.17	0.34	2150	–	–	3.56	0.15	–
0909	–	–	78.66	0.17	–	2156	–	–	2.43	0.15	–
0912	–	–	193.38	0.15	–	2157	9.20	1000	2.43	0.15	0.34
0913P	734.00	984	193.38	0.15	0.34	2172	4.12	1000	1.04	0.14	0.28
0917	6.16	1000	1.70	0.17	0.41	2174	5.73	1000	1.58	0.17	0.34
1005*	21.62	1000	2.26	0.09	0.24	2211	14.39	1000	3.43	0.12	0.42
1164	24.57	1000	4.52	0.09	0.30	2220	5.30	1000	1.40	0.15	0.35
1165XE	7.76	1000	1.64	0.10	0.32	2286	2.72	794	0.75	0.17	0.39
1320	7.50	1000	1.60	0.10	0.28	2288	5.93	1000	1.64	0.17	0.37
1322	22.76	1000	4.85	0.10	0.26	2300	5.47	1000	1.59	0.18	0.31
1430	7.56	1000	1.79	0.12	0.33	2302	3.31	912	0.88	0.15	0.36
1438	4.31	1000	0.92	0.12	0.33	2305	4.65	1000	1.17	0.14	0.32
1452	7.27	1000	1.72	0.12	0.29	2361	3.78	1000	1.00	0.15	0.37
1463	26.92	1000	5.78	0.11	0.38	2362	4.45	1000	1.18	0.15	0.37
1470X	7.70	1000	1.82	0.12	0.25	2380	4.29	1000	1.13	0.15	0.33
1473X	4.19	1000	0.99	0.12	0.28	2386	2.24	698	0.62	0.17	0.32
1474X	4.92	1000	1.16	0.12	0.26	2388	5.38	1000	1.49	0.17	0.40
1624E	8.84	1000	1.87	0.10	0.30	2402	5.24	1000	1.25	0.12	0.37
1642	7.92	1000	1.87	0.12	0.26	2413	4.47	1000	1.18	0.15	0.36
1654	18.31	1000	4.33	0.12	0.27	2416	2.72	794	0.72	0.16	0.41
1655	13.74	1000	3.26	0.12	0.35	2417	3.68	986	0.97	0.15	0.31
1699	6.50	1000	1.54	0.12	0.36	2501	4.45	1000	1.17	0.15	0.36
1701	12.54	1000	2.98	0.12	0.39	2503	2.03	656	0.56	0.17	0.35
1710	11.38	1000	2.70	0.12	0.34	2534	3.64	978	1.00	0.17	0.36
1741D	4.92	1000	0.78	0.10	0.33	2570	5.38	1000	1.48	0.17	0.32
1747	4.61	1000	1.09	0.12	0.28	2576	–	–	1.17	0.15	–
1748	8.53	1000	2.03	0.12	0.35	2578	–	–	1.17	0.15	–
1803D	15.28	1000	3.00	0.10	0.34	2585	6.48	1000	1.79	0.17	0.36
1852D	6.26	1000	1.12	0.12	0.38	2586	3.54	958	0.94	0.17	0.37
1853	3.52	954	0.89	0.14	0.27	2587	7.92	1000	2.19	0.17	0.36
1860	4.71	1000	1.30	0.17	0.34	2589	3.52	954	0.93	0.15	0.38
1924	5.75	1000	1.58	0.16	0.32	2600	3.23	896	0.89	0.15	0.26

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

Effective April 1, 2010
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CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO
2623	7.03	1000	1.78	0.14	0.38	3126	5.18	1000	1.37	0.15	0.33
2651	5.87	1000	1.62	0.17	0.41	3131	2.46	742	0.65	0.15	0.38
2660	4.47	1000	1.23	0.17	0.38	3132	6.06	1000	1.60	0.15	0.38
2670	2.99	848	0.87	0.20	0.38	3145	4.12	1000	1.09	0.15	0.37
2683	3.41	932	0.94	0.17	0.40	3146	4.27	1000	1.13	0.15	0.34
2688	8.19	1000	2.26	0.17	0.39	3169	4.92	1000	1.30	0.15	0.36
2702	25.52	1000	4.72	0.10	0.39	3175	5.32	1000	1.41	0.16	0.39
2705X*	73.33	1000	17.28	0.16	0.23	3179	2.84	818	0.79	0.17	0.33
2706X	–	–	4.72	0.10	–	3180	4.04	1000	1.12	0.17	0.37
2709	25.52	1000	4.72	0.10	0.39	3188	3.82	1000	1.06	0.17	0.34
2710	21.58	1000	4.63	0.11	0.39	3220	4.31	1000	1.14	0.15	0.32
2714	8.27	1000	2.29	0.17	0.45	3223	4.31	1000	1.26	0.20	0.41
2727X	16.40	1000	3.88	0.12	0.29	3224	5.77	1000	1.59	0.17	0.31
2731	8.66	1000	2.06	0.12	0.40	3227	6.77	1000	1.87	0.15	0.33
2735	8.07	1000	2.23	0.17	0.40	3240	4.33	1000	1.20	0.17	0.37
2759	9.92	1000	2.74	0.17	0.39	3241	8.39	1000	2.22	0.15	0.36
2790	4.25	1000	1.17	0.17	0.33	3255	3.45	940	1.00	0.18	0.37
2791X	3.54	958	1.03	0.21	0.37	3257	4.84	1000	1.28	0.15	0.36
2797X	11.30	1000	2.99	0.15	0.38	3270	4.23	1000	1.12	0.15	0.36
2802	7.60	1000	1.92	0.14	0.36	3300	10.14	1000	2.68	0.15	0.37
2812	7.50	1000	1.98	0.15	0.34	3303	6.01	1000	1.66	0.16	0.34
2835	4.65	1000	1.36	0.21	0.42	3307	8.88	1000	2.34	0.15	0.36
2836	5.02	1000	1.46	0.21	0.34	3315	10.06	1000	2.78	0.17	0.36
2841	5.91	1000	1.63	0.17	0.40	3334	6.50	1000	1.71	0.15	0.29
2881	5.51	1000	1.60	0.19	0.36	3336	5.08	1000	1.21	0.12	0.36
2883	5.55	1000	1.47	0.15	0.37	3365	20.42	1000	4.83	0.12	0.31
2913	6.08	1000	1.77	0.21	0.40	3372	6.01	1000	1.53	0.14	0.39
2915	8.25	1000	2.09	0.14	0.40	3373	8.21	1000	2.17	0.15	0.38
2916	6.42	1000	1.37	0.12	0.36	3383	2.34	718	0.65	0.17	0.36
2923	4.41	1000	1.21	0.17	0.32	3385	1.83	616	0.51	0.17	0.37
2942	4.06	1000	1.18	0.21	0.34	3400	5.65	1000	1.43	0.14	0.38
2960	7.70	1000	2.03	0.15	0.33	3507	4.53	1000	1.20	0.15	0.33
3004	3.29	908	0.78	0.12	0.33	3515	4.43	1000	1.17	0.15	0.32
3018	4.80	1000	1.14	0.12	0.36	3516X	2.97	844	0.81	0.17	0.27
3022	8.05	1000	2.22	0.17	0.34	3548	3.25	900	0.86	0.15	0.31
3027	4.57	1000	1.09	0.12	0.34	3559	6.73	1000	1.78	0.15	0.38
3028	10.95	1000	2.90	0.15	0.43	3574	1.73	596	0.48	0.17	0.36
3030	12.01	1000	2.85	0.12	0.35	3581	4.94	1000	1.36	0.17	0.36
3040	9.39	1000	2.23	0.12	0.36	3612	3.47	944	0.88	0.14	0.36
3041	8.39	1000	2.21	0.15	0.31	3620	11.28	1000	2.67	0.12	0.33
3042	6.79	1000	1.72	0.15	0.35	3629	3.80	1000	1.05	0.17	0.35
3064	11.16	1000	2.95	0.15	0.35	3632	5.67	1000	1.43	0.14	0.36
3066	–	–	1.59	0.17	–	3634	3.31	912	0.91	0.17	0.33
3069	14.18	1000	3.37	0.12	0.36	3635	5.47	1000	1.44	0.15	0.30
3076	5.77	1000	1.59	0.17	0.36	3638	3.37	924	0.93	0.17	0.36
3081D	6.34	1000	1.48	0.12	0.38	3642	1.34	518	0.36	0.15	0.33
3082D	9.75	1000	2.28	0.12	0.37	3643	4.94	1000	1.30	0.15	0.33
3085D	7.27	1000	1.69	0.12	0.34	3647	5.02	1000	1.27	0.14	0.31
3110	6.69	1000	1.76	0.15	0.30	3648	2.52	754	0.70	0.17	0.38
3111	6.64	1000	1.76	0.15	0.38	3681	2.93	836	0.81	0.17	0.36
3113	3.41	932	0.90	0.15	0.34	3685	2.42	734	0.66	0.17	0.34
3114	5.99	1000	1.58	0.15	0.35	3719	3.31	912	0.61	0.09	0.25
3118	6.48	1000	1.80	0.17	0.43	3724	10.22	1000	2.19	0.10	0.35
3119	1.69	588	0.49	0.21	0.39	3726	15.26	1000	2.81	0.09	0.30
3122	4.69	1000	1.30	0.17	0.39	3803	4.75	1000	1.26	0.15	0.34

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CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO
3807	4.04	1000	1.12	0.17	0.38	4431	3.17	884	0.92	0.19	0.38
3808	4.15	1000	1.05	0.14	0.31	4432	2.38	726	0.69	0.20	0.41
3821	9.20	1000	2.33	0.14	0.34	4439	3.01	852	0.71	0.12	0.30
3822X	11.01	1000	2.78	0.14	0.31	4452	6.40	1000	1.69	0.15	0.37
3824X	7.54	1000	1.91	0.14	0.34	4459	5.02	1000	1.33	0.15	0.36
3826	2.13	676	0.56	0.15	0.31	4470	3.82	1000	1.01	0.15	0.37
3827	2.40	730	0.61	0.14	0.40	4484	5.24	1000	1.39	0.15	0.38
3830	4.43	1000	1.12	0.14	0.31	4493	7.46	1000	1.97	0.15	0.36
3851	6.54	1000	1.81	0.17	0.39	4511	0.98	446	0.25	0.14	0.37
3865	3.62	974	1.05	0.18	0.32	4557	3.39	928	0.93	0.17	0.37
3881	7.17	1000	1.89	0.15	0.33	4558	3.80	1000	1.01	0.15	0.36
4000	13.74	1000	2.93	0.10	0.31	4561	3.68	986	0.96	0.13	0.21
4021	10.10	1000	2.39	0.12	0.36	4568	4.39	1000	1.04	0.12	0.32
4024E	6.87	1000	1.61	0.12	0.31	4581	2.56	762	0.55	0.10	0.35
4034	11.52	1000	2.74	0.12	0.37	4583	11.30	1000	2.42	0.10	0.36
4036	5.24	1000	1.24	0.12	0.31	4611	1.30	510	0.36	0.17	0.36
4038	10.06	1000	2.94	0.17	0.39	4635	4.61	1000	0.85	0.10	0.35
4053	6.54	1000	1.73	0.15	0.40	4653	4.53	1000	1.25	0.17	0.30
4061	10.42	1000	2.87	0.17	0.29	4665	17.74	1000	4.20	0.12	0.31
4062	3.58	966	0.95	0.15	0.35	4670	7.90	1000	1.87	0.12	0.31
4101	3.58	966	0.91	0.14	0.35	4683	4.41	1000	1.16	0.15	0.33
4111	4.49	1000	1.24	0.17	0.33	4686	3.33	916	0.79	0.12	0.35
4112	4.31	1000	1.14	0.15	0.33	4692	1.18	486	0.32	0.17	0.30
4113	3.39	928	0.89	0.15	0.33	4693	1.83	616	0.49	0.15	0.36
4114	12.40	1000	3.26	0.15	0.29	4703	4.25	1000	1.12	0.14	0.29
4130	10.83	1000	2.86	0.15	0.34	4717	4.04	1000	1.18	0.19	0.31
4131	8.13	1000	2.24	0.16	0.39	4720	2.68	786	0.71	0.15	0.35
4133	5.55	1000	1.54	0.17	0.40	4740	6.48	1000	1.54	0.12	0.43
4150	1.10	470	0.32	0.19	0.37	4741	3.82	1000	1.01	0.15	0.35
4206	5.02	1000	1.32	0.15	0.32	4751	6.20	1000	1.47	0.14	0.41
4207	2.46	742	0.58	0.12	0.30	4771N	5.16	1000	0.95	0.11	0.40
4239	6.73	1000	1.59	0.12	0.34	4777	12.09	1000	2.22	0.09	0.31
4240	3.66	982	1.01	0.17	0.34	4825	2.28	706	0.54	0.12	0.32
4243	4.75	1000	1.26	0.15	0.37	4828	3.74	998	0.95	0.14	0.32
4244	4.51	1000	1.19	0.15	0.35	4829	3.03	856	0.65	0.10	0.31
4250	3.33	916	0.88	0.15	0.35	4902	4.65	1000	1.28	0.17	0.38
4251	3.21	892	0.85	0.15	0.35	4923	2.26	702	0.60	0.15	0.36
4263	7.01	1000	1.86	0.15	0.44	5020	18.37	1000	4.36	0.12	0.36
4273	3.96	1000	1.05	0.15	0.38	5022	11.20	1000	2.40	0.11	0.37
4279	3.94	1000	1.04	0.15	0.37	5037	79.21	1000	14.53	0.09	0.24
4282	3.70	990	1.01	0.17	0.26	5040	71.34	1000	13.18	0.09	0.37
4283	7.64	1000	2.02	0.15	0.40	5057	20.89	1000	3.84	0.09	0.30
4299	3.54	958	0.98	0.17	0.34	5059	90.14	1000	16.67	0.09	0.38
4301X	2.30	710	0.63	0.17	0.26	5069	73.03	1000	13.38	0.10	0.21
4304	6.69	1000	1.69	0.14	0.37	5102	12.13	1000	2.60	0.10	0.34
4307	2.30	710	0.67	0.20	0.39	5146	9.98	1000	2.37	0.12	0.35
4308	–	–	0.98	0.17	–	5160	10.20	1000	2.18	0.10	0.29
4351	2.03	656	0.54	0.15	0.32	5183	9.04	1000	2.14	0.12	0.35
4352	2.15	680	0.59	0.17	0.42	5188	10.69	1000	2.53	0.12	0.32
4360	2.84	818	0.79	0.17	0.31	5190	10.10	1000	2.40	0.12	0.37
4361	2.93	836	0.81	0.17	0.37	5191	1.71	592	0.45	0.15	0.32
4362	2.42	734	0.64	0.15	0.37	5192	8.33	1000	2.20	0.15	0.35
4410	7.19	1000	1.90	0.15	0.37	5213	17.35	1000	3.72	0.10	0.37
4417X	5.14	1000	1.41	0.17	0.31	5215	8.07	1000	2.04	0.14	0.32
4420	14.28	1000	3.05	0.10	0.28	5221	8.25	1000	1.96	0.12	0.37

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5222	19.67	1000	4.21	0.10	0.32	6702M*	25.26	1000	5.39	0.10	0.30
5223	11.09	1000	2.63	0.12	0.38	6703M*	49.70	1000	11.18	0.12	0.30
5348	8.23	1000	1.95	0.12	0.33	6704M*	28.06	1000	5.99	0.10	0.30
5402	9.43	1000	2.60	0.17	0.32	6801F	7.19	1000	1.34	0.15	0.35
5403	18.88	1000	4.05	0.11	0.39	6811	6.62	1000	1.57	0.12	0.29
5437	11.70	1000	2.78	0.12	0.36	6824F	15.97	1000	2.72	0.11	0.37
5443	9.47	1000	2.49	0.15	0.30	6826F	12.40	1000	2.30	0.12	0.34
5445	15.63	1000	3.34	0.10	0.35	6834	5.55	1000	1.41	0.14	0.36
5462	12.03	1000	2.86	0.12	0.38	6836	9.90	1000	2.36	0.13	0.43
5472	15.50	1000	2.85	0.09	0.28	6843F	23.06	1000	3.47	0.10	0.42
5473	14.28	1000	2.63	0.09	0.33	6845F	25.48	1000	3.84	0.11	0.42
5474	12.01	1000	2.57	0.12	0.38	6854	12.44	1000	2.29	0.14	0.31
5478	9.81	1000	2.32	0.12	0.32	6872F	40.25	1000	6.32	0.10	0.21
5479	12.74	1000	3.22	0.14	0.32	6874F	52.20	1000	7.96	0.09	0.36
5480	13.82	1000	2.94	0.10	0.26	6882	9.14	1000	1.67	0.10	0.21
5491	7.09	1000	1.51	0.10	0.29	6884	19.02	1000	3.49	0.09	0.23
5506	15.22	1000	2.82	0.10	0.40	7016M	11.58	1000	2.12	0.10	0.19
5507	8.80	1000	1.88	0.10	0.33	7024M	12.86	1000	2.35	0.10	0.19
5508	46.61	1000	11.12	0.12	0.45	7038M	13.98	1000	2.58	0.14	0.37
5535	14.18	1000	3.37	0.12	0.36	7046M	14.20	1000	2.62	0.15	0.33
5536	–	–	2.94	0.12	–	7047M	22.78	1000	3.96	0.10	0.19
5537	12.37	1000	2.94	0.12	0.35	7050M	27.49	1000	4.83	0.14	0.37
5538	–	–	3.37	0.12	–	7090M	15.52	1000	2.87	0.14	0.37
5551	34.34	1000	6.36	0.10	0.41	7098M	15.79	1000	2.91	0.15	0.33
5606	3.58	966	0.76	0.10	0.36	7099M	27.96	1000	4.90	0.15	0.33
5610	12.88	1000	3.40	0.15	0.37	7133	10.63	1000	2.27	0.12	0.35
5645	25.32	1000	5.43	0.10	0.38	7151M	12.90	1000	3.06	0.12	0.35
5651	15.71	1000	3.36	0.10	0.35	7152M	25.40	1000	5.16	0.12	0.35
5703	41.07	1000	9.77	0.12	0.41	7153M	14.35	1000	3.40	0.12	0.35
5705	15.91	1000	3.77	0.12	0.34	7222	24.97	1000	5.91	0.12	0.29
5951	0.91	432	0.25	0.17	0.37	7228	18.39	1000	4.35	0.12	0.30
6003	17.05	1000	4.04	0.12	0.31	7229	20.93	1000	4.47	0.10	0.30
6005	10.16	1000	2.40	0.12	0.29	7230	13.17	1000	3.32	0.14	0.28
6017	15.85	1000	3.73	0.12	0.22	7231	14.37	1000	3.63	0.14	0.33
6018	5.77	1000	1.36	0.12	0.18	7232	17.50	1000	3.74	0.10	0.30
6045	7.11	1000	1.68	0.12	0.28	7309F	36.96	1000	5.63	0.09	0.36
6204	29.55	1000	6.32	0.10	0.34	7313F	7.44	1000	1.13	0.10	0.35
6206	8.70	1000	1.60	0.09	0.26	7317F	17.54	1000	2.69	0.12	0.32
6213	6.18	1000	1.32	0.10	0.24	7323FNX	9.61	1000	1.54	0.10	0.11
6214	6.38	1000	1.17	0.10	0.24	7327F	20.73	1000	3.11	0.10	0.42
6216	15.87	1000	2.92	0.09	0.27	7333M	9.81	1000	1.80	0.10	0.20
6217	13.29	1000	2.85	0.10	0.37	7335M	10.91	1000	2.00	0.10	0.20
6229	9.94	1000	2.12	0.10	0.34	7337M	19.32	1000	3.37	0.10	0.20
6233	9.10	1000	1.94	0.10	0.28	7350F	16.22	1000	2.79	0.10	0.32
6235	22.11	1000	4.06	0.09	0.25	7360	11.58	1000	2.75	0.12	0.33
6236	33.67	1000	7.96	0.12	0.29	7370	10.26	1000	2.71	0.15	0.37
6237	5.16	1000	1.22	0.12	0.28	7380	9.10	1000	2.30	0.14	0.33
6251D	36.33	1000	7.78	0.10	0.48	7382	12.19	1000	3.22	0.15	0.34
6252D	17.15	1000	3.12	0.09	0.27	7390	8.88	1000	2.35	0.15	0.34
6260	12.40	1000	2.27	0.10	0.18	7394M	23.08	1000	4.22	0.10	0.15
6306	14.61	1000	3.13	0.10	0.34	7395M	25.64	1000	4.68	0.10	0.15
6319	11.32	1000	2.43	0.10	0.38	7398M	45.42	1000	7.88	0.10	0.15
6325	21.44	1000	4.59	0.10	0.36	7402	0.47	344	0.12	0.15	0.36
6400	10.71	1000	2.71	0.14	0.32	7403	10.04	1000	2.38	0.12	0.34
6504	4.84	1000	1.34	0.17	0.34	7405N	2.40	888	0.57	0.14	0.33

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7409	–	–	9.38	0.09	–	8105	7.13	1000	1.97	0.16	0.39
7420	51.37	1000	9.38	0.09	0.16	8106	8.96	1000	2.13	0.12	0.36
7421	3.23	896	0.69	0.11	0.33	8107	7.64	1000	1.81	0.12	0.37
7422	5.59	1000	1.02	0.10	0.21	8111	5.51	1000	1.46	0.15	0.38
7423	–	–	2.38	0.12	–	8116	6.22	1000	1.64	0.15	0.38
7425	19.16	1000	3.51	0.09	0.22	8203	13.45	1000	3.56	0.15	0.39
7431N	8.66	1000	1.58	0.10	0.15	8204	6.30	1000	1.49	0.12	0.31
7445N	0.79	–	–	–	–	8209	5.77	1000	1.52	0.15	0.34
7453N	2.89	–	–	–	–	8215	7.52	1000	1.79	0.12	0.39
7502	9.55	1000	2.26	0.12	0.34	8227	10.69	1000	1.98	0.10	0.39
7515	4.29	1000	0.79	0.10	0.42	8232	7.70	1000	1.83	0.12	0.37
7520	7.90	1000	2.09	0.15	0.33	8233	11.48	1000	2.71	0.12	0.25
7529X	15.97	1000	2.95	0.09	0.34	8235	9.75	1000	2.58	0.15	0.39
7538	31.62	1000	5.83	0.09	0.35	8236X	11.09	1000	2.63	0.12	0.35
7539	6.44	1000	1.38	0.10	0.28	8263	20.93	1000	5.30	0.14	0.34
7540	11.07	1000	2.05	0.10	0.37	8264	10.71	1000	2.54	0.12	0.35
7580	6.30	1000	1.49	0.12	0.35	8265	15.63	1000	3.35	0.10	0.39
7590	9.49	1000	2.40	0.14	0.36	8279	13.33	1000	2.86	0.13	0.36
7600	8.86	1000	2.09	0.12	0.29	8288	11.20	1000	2.66	0.12	0.40
7601	17.17	1000	3.67	0.10	0.30	8291	14.41	1000	3.67	0.14	0.45
7605	6.81	1000	1.61	0.12	0.31	8292	6.54	1000	1.73	0.15	0.33
7610	1.04	458	0.26	0.14	0.36	8293	17.92	1000	4.24	0.12	0.32
7611	13.49	1000	3.20	0.12	0.31	8304	10.61	1000	2.51	0.12	0.35
7612	20.30	1000	4.81	0.12	0.32	8350	13.35	1000	2.86	0.10	0.35
7613	14.53	1000	3.44	0.12	0.29	8380	5.61	1000	1.42	0.14	0.34
7704	–	–	1.64	0.10	–	8381	4.39	1000	1.11	0.14	0.39
7705	10.26	1000	2.71	0.15	0.37	8385	7.86	1000	1.87	0.12	0.36
7710	7.68	1000	1.64	0.10	0.36	8392	5.24	1000	1.38	0.15	0.38
7711	7.68	1000	1.64	0.10	0.36	8393	4.33	1000	1.14	0.15	0.31
7720X	5.34	1000	1.27	0.12	0.36	8500	14.55	1000	3.45	0.12	0.36
7723X	5.85	1000	1.08	0.12	0.39	8601	1.65	580	0.42	0.14	0.35
7855	20.79	1000	4.92	0.12	0.30	8602	1.65	580	0.42	0.14	0.35
8001	3.27	904	0.91	0.17	0.38	8603	0.47	344	0.12	0.15	0.36
8002	3.70	990	0.98	0.15	0.39	8606	7.13	1000	1.52	0.10	0.28
8006	5.26	1000	1.39	0.15	0.38	8709F	6.87	1000	1.05	0.12	0.37
8008	2.91	832	0.81	0.17	0.41	8710X	4.94	1000	1.17	0.12	0.29
8010	3.25	900	0.90	0.17	0.37	8719	4.10	1000	0.75	0.11	0.30
8013	0.98	446	0.26	0.15	0.33	8720	2.87	824	0.68	0.12	0.35
8015	2.05	660	0.55	0.15	0.43	8721	1.12	474	0.27	0.12	0.39
8017	3.64	978	1.00	0.17	0.38	8725	2.87	824	0.68	0.12	0.35
8018	4.51	1000	1.24	0.17	0.36	8726F	7.15	1000	1.31	0.12	0.39
8021	4.21	1000	1.11	0.15	0.39	8734M	1.12	474	0.31	0.17	0.36
8031	5.10	1000	1.35	0.15	0.38	8737M	1.02	454	0.28	0.17	0.36
8032	4.67	1000	1.29	0.17	0.39	8738M	1.99	648	0.45	0.12	0.36
8033	3.78	1000	1.00	0.15	0.37	8742	0.83	416	0.20	0.12	0.36
8039	5.59	1000	1.55	0.17	0.44	8745	9.23	1000	2.34	0.14	0.36
8044	7.78	1000	1.97	0.14	0.33	8748	1.46	542	0.37	0.14	0.31
8045	1.50	550	0.42	0.17	0.39	8755	0.73	396	0.17	0.12	0.30
8046	5.61	1000	1.48	0.15	0.41	8799	1.81	612	0.53	0.21	0.37
8047	1.79	608	0.49	0.16	0.33	8800	1.81	612	0.53	0.21	0.37
8050	–	–	1.00	0.17	–	8803	0.20	290	0.05	0.12	0.35
8058	5.12	1000	1.35	0.15	0.41	8805M	0.63	376	0.17	0.17	0.36
8072	1.77	604	0.49	0.17	0.46	8810	0.47	344	0.12	0.15	0.36
8102	4.37	1000	1.21	0.17	0.40	8814M	0.57	364	0.15	0.17	0.36
8103	5.57	1000	1.42	0.14	0.43	8815M	1.12	474	0.27	0.15	0.36

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

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY

CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO	CLASS CODE	RATE	MIN PREM	ELR	D RATIO	EX-MED RATIO
8820	0.41	332	0.10	0.14	0.35	9519	7.52	1000	1.78	0.12	0.33
8824	6.77	1000	1.87	0.17	0.35	9521	8.51	1000	2.02	0.12	0.38
8825	3.90	1000	1.13	0.18	0.38	9522	3.17	884	0.84	0.15	0.35
8826	5.79	1000	1.53	0.15	0.38	9534	17.39	1000	3.71	0.10	0.29
8831	2.70	790	0.72	0.15	0.45	9554	24.49	1000	5.24	0.10	0.34
8832	0.71	392	0.19	0.15	0.37	9586	1.16	482	0.34	0.20	0.35
8833*	3.23	896	0.86	0.15	0.37	9600	3.88	1000	1.07	0.17	0.33
8835	5.08	1000	1.34	0.15	0.35	9620	1.81	612	0.46	0.14	0.34
8837	–	–	1.05	0.15	–						
8842X	3.96	1000	1.05	0.15	0.39						
8848X	5.75	1000	1.52	0.15	0.36						
8849X	5.67	1000	1.50	0.15	0.34						
8864X	3.96	1000	1.05	0.15	0.39						
8868	0.85	420	0.24	0.17	0.43						
8869	1.97	644	0.54	0.17	0.43						
8871	0.53	356	0.15	0.17	0.32						
8901	0.51	352	0.13	0.14	0.36						
9012	2.68	786	0.68	0.14	0.34						
9014	5.49	1000	1.45	0.15	0.36						
9015	5.30	1000	1.40	0.15	0.35						
9016	6.54	1000	1.74	0.15	0.44						
9019	3.96	1000	0.94	0.12	0.32						
9033	4.27	1000	1.12	0.15	0.32						
9040*	6.38	1000	1.76	0.17	0.39						
9044	3.15	880	0.87	0.17	0.39						
9052	3.70	990	1.02	0.17	0.38						
9058	2.40	730	0.70	0.20	0.39						
9059	4.65	1000	1.18	0.15	0.42						
9060	2.78	806	0.77	0.17	0.39						
9061	2.87	824	0.84	0.21	0.41						
9062	2.82	814	0.83	0.21	0.40						
9063	1.87	624	0.52	0.17	0.47						
9077F	2.72	794	0.54	0.15	0.35						
9082	2.76	802	0.81	0.20	0.42						
9083	2.68	786	0.78	0.19	0.40						
9084	2.52	754	0.67	0.15	0.38						
9089	1.18	486	0.33	0.17	0.32						
9093	2.95	840	0.82	0.17	0.41						
9101	6.34	1000	1.75	0.17	0.39						
9102	5.57	1000	1.47	0.15	0.38						
9154	4.15	1000	1.10	0.15	0.37						
9156	4.78	1000	1.21	0.14	0.39						
9170	5.49	1000	1.45	0.15	0.36						
9178	18.00	1000	5.27	0.21	0.47						
9179	53.75	1000	14.88	0.16	0.41						
9180	10.61	1000	2.52	0.12	0.42						
9182	4.21	1000	1.12	0.16	0.47						
9186	83.31	1000	17.95	0.11	0.47						
9220	10.00	1000	2.54	0.14	0.40						
9402	12.31	1000	2.92	0.12	0.34						
9403	17.13	1000	3.67	0.11	0.38						
9410	4.08	1000	1.08	0.15	0.36						
9501	4.39	1000	1.11	0.14	0.36						
9505	7.11	1000	1.80	0.14	0.36						
9516	5.61	1000	1.33	0.12	0.31						

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

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FOOTNOTES

a   Rate for each individual risk must be obtained by Home Office from Rating Organization having jurisdiction.

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

D   Rate for classification already includes the specific disease loading shown in the table below. See *Basic Manual* Rule 3-A-7.

E   Rate for classification already includes the specific disease loading shown in the table below.

Code No.	Disease Loading	Symbol	Code No.	Disease Loading	Symbol	Code No.	Disease Loading	Symbol
0059D	0.77	S	1624E	0.06	S	3082D	0.16	S
0065D	0.18	S	1741D	0.67	S	3085D	0.14	S
0066D	0.18	S	1803D	1.28	S	4024E	0.06	S
0067D	0.18	S	1852D	0.20	Asb	6251D	0.22	S
1165XE	0.08	S	3081D	0.12	S	6252D	0.14	S

Asb=Asbestos, S=Silica

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, 8815, and 8814 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
7323F	0763F
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

1005   Rate includes a non-ratable disease element of $9.29. (For coverage written separately for federal benefits only, $3.50.   For coverage written separately for state benefits only, $5.79.)

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 2.391 and elr x 2.272.

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.

8833   The ex-medical rate for this classification is $2.03.

9040   The ex-medical rate for this classification is $3.89.

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MISCELLANEOUS VALUES

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

Employee operated vehicle……………………………………………………………………………	$55,334.00
Leased or rented vehicle…………………………………………………………………………………	$36,889.00

Catastrophe (other than Certified Acts of Terrorism) - (Assigned Risk)……………………………………… $0.01

Expense Constant applicable in accordance with *Basic Manual* Rule 3-A-11………………………………… $250.00

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

Basic Premium Factor	0.30	Loss Development Factors	
Minimum Premium Factor	0.75	1st Adjustment	0.23
Maximum Premium Factor	1.75	2nd Adjustment	0.16
Loss Conversion Factor	1.16	3rd Adjustment	0.12
Tax Multiplier	1.031	4th Adjustment	0

Maximum 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: Noncontact Sports," Code 9179 -- "Athletic Sports or Park: Contact Sports," and Code 9186 -- "Carnival-- Traveling".. $1,400.00

Minimum Payroll applicable in accordance with *Basic Manual* Rule 2-E-1 -- "Executive Officers" $355.00

Per Passenger Seat Surcharge - In accordance with *Basic Manual* footnote instructions for Code 7421, the surcharge is:

Maximum surcharge per aircraft……………………………………………………………………………	$1,000
Per passenger seat………………………………………………………………………………………	$100

Premium Determination for Partners and Sole Proprietors in accordance with *Basic Manual* Rule 2-E-3……………………………...………………………………………………………………………… $37,300.00

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

Deductible	Total Losses						
	HAZARD GROUP						
Amount	A	B	C	D	E	F	G
$100	0.5%	0.4%	0.3%	0.3%	0.2%	0.1%	0.1%
$200	1.1%	0.8%	0.6%	0.5%	0.4%	0.3%	0.2%
$300	1.5%	1.1%	0.9%	0.7%	0.6%	0.4%	0.3%
$400	1.9%	1.4%	1.2%	1.0%	0.8%	0.5%	0.4%
$500	2.3%	1.7%	1.4%	1.2%	0.9%	0.6%	0.5%
$1,000	3.6%	2.8%	2.3%	1.9%	1.6%	1.1%	0.8%
$1,500	4.4%	3.4%	2.9%	2.4%	2.0%	1.4%	1.0%
$2,000	5.1%	4.0%	3.4%	2.8%	2.4%	1.7%	1.3%
$2,500	5.7%	4.5%	3.8%	3.2%	2.7%	1.9%	1.4%
$5,000	8.0%	6.4%	5.5%	4.7%	4.0%	3.0%	2.3%

Terrorism - (Assigned Risk)………………………………...………………………….…………………………… $0.02

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APPLICABLE TO ASSIGNED RISK POLICIES ONLY

MISCELLANEOUS VALUES (cont.)

United States Longshore and Harbor Workers' Compensation Coverage Percentage applicable
only in connection with *Basic Manual* Rule 3-A-4……..………..………   88%

(Multiply a Non-F classification rate by a factor of 1.88 to adjust for differences in benefits and loss-based
expenses. This factor is the product of the adjustment for differences in benefits (1.76) and the adjustment
for differences in loss-based expenses (1.068).)

Experience Rating Eligibility

A risk is eligible for intrastate 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 $8,000. If more than two
years, an average annual premium of at least $4,000 is required. Page R-4 of the *Experience Rating Plan
Manual* should be referenced for the latest approved eligibility amounts by state.

TABLE OF WEIGHTING VALUES
APPLICABLE TO ALL POLICIES

Expected Losses			Weighting Values	Expected Losses			Weighting Values
0	--	2,020	0.04	1,139,559	--	1,202,416	0.44
2,021	--	8,169	0.05	1,202,417	--	1,268,913	0.45
8,170	--	14,449	0.06	1,268,914	--	1,339,375	0.46
14,450	--	20,864	0.07	1,339,376	--	1,414,170	0.47
20,865	--	27,420	0.08	1,414,171	--	1,493,708	0.48
27,421	--	45,863	0.09	1,493,709	--	1,578,458	0.49
45,864	--	68,269	0.10	1,578,459	--	1,668,951	0.50
68,270	--	88,199	0.11	1,668,952	--	1,765,789	0.51
88,200	--	107,604	0.12	1,765,790	--	1,869,667	0.52
107,605	--	127,012	0.13	1,869,668	--	1,981,381	0.53
127,013	--	146,659	0.14	1,981,382	--	2,101,853	0.54
146,660	--	166,678	0.15	2,101,854	--	2,232,156	0.55
166,679	--	187,159	0.16	2,232,157	--	2,373,546	0.56
187,160	--	208,171	0.17	2,373,547	--	2,527,500	0.57
208,172	--	229,770	0.18	2,527,501	--	2,695,772	0.58
229,771	--	252,008	0.19	2,695,773	--	2,880,458	0.59
252,009	--	274,931	0.20	2,880,459	--	3,084,082	0.60
274,932	--	298,588	0.21	3,084,083	--	3,309,717	0.61
298,589	--	323,027	0.22	3,309,718	--	3,561,135	0.62
323,028	--	348,294	0.23	3,561,136	--	3,843,025	0.63
348,295	--	374,442	0.24	3,843,026	--	4,161,285	0.64
374,443	--	401,523	0.25	4,161,286	--	4,523,439	0.65
401,524	--	429,594	0.26	4,523,440	--	4,939,242	0.66
429,595	--	458,714	0.27	4,939,243	--	5,421,570	0.67
458,715	--	488,947	0.28	5,421,571	--	5,987,777	0.68
488,948	--	520,361	0.29	5,987,778	--	6,661,830	0.69
520,362	--	553,030	0.30	6,661,831	--	7,477,785	0.70
553,031	--	587,034	0.31	7,477,786	--	8,485,724	0.71
587,035	--	622,458	0.32	8,485,725	--	9,762,443	0.72
622,459	--	659,394	0.33	9,762,444	--	11,431,994	0.73
659,395	--	697,944	0.34	11,431,995	--	13,708,647	0.74
697,945	--	738,218	0.35	13,708,648	--	16,997,140	0.75
738,219	--	780,335	0.36	16,997,141	--	22,164,764	0.76
780,336	--	824,426	0.37	22,164,765	--	31,466,475	0.77
824,427	--	870,635	0.38	31,466,476	--	53,170,449	0.78
870,636	--	919,119	0.39	53,170,450	--	161,690,267	0.79
919,120	--	970,051	0.40	161,690,268	AND OVER		0.80
970,052	--	1,023,624	0.41				
1,023,625	--	1,080,048	0.42				
1,080,049	--	1,139,558	0.43				

(a) G 9.65
(b) State Per Claim Accident Limitation $241,000
(c) State Multiple Claim Accident Limitation $482,000
(d) USL&HW Per Claim Accident Limitation $507,000
(e) USL&HW Multiple Claim Accident Limitation $1,014,000
(f) Employers Liability Accident Limitation $55,000
(g) USL&HW Act -- Expected Loss Factor -- Non-F Classes 1.78
(Multiply a Non-F classification ELR by the USL&HW Act - Expected Loss Factor of 1.78.)

Effective April 1, 2010
TABLE OF BALLAST VALUES
APPLICABLE TO ALL POLICIES

Expected Losses		Ballast Values	Expected Losses		Ballast Values	Expected Losses		Ballast Values
0 --	51,905	24,125	1,665,600 --	1,713,822	193,000	3,353,860 --	3,402,103	361,875
51,906 --	89,334	28,950	1,713,823 --	1,762,046	197,825	3,402,104 --	3,450,346	366,700
89,335 --	132,340	33,775	1,762,047 --	1,810,271	202,650	3,450,347 --	3,498,589	371,525
132,341 --	177,709	38,600	1,810,272 --	1,858,498	207,475	3,498,590 --	3,546,833	376,350
177,710 --	224,181	43,425	1,858,499 --	1,906,726	212,300	3,546,834 --	3,595,077	381,175
224,182 --	271,237	48,250	1,906,727 --	1,954,955	217,125	3,595,078 --	3,643,321	386,000
271,238 --	318,633	53,075	1,954,956 --	2,003,185	221,950	3,643,322 --	3,691,565	390,825
318,634 --	366,244	57,900	2,003,186 --	2,051,416	226,775	3,691,566 --	3,739,809	395,650
366,245 --	413,998	62,725	2,051,417 --	2,099,648	231,600	3,739,810 --	3,788,054	400,475
413,999 --	461,852	67,550	2,099,649 --	2,147,881	236,425	3,788,055 --	3,836,299	405,300
461,853 --	509,779	72,375	2,147,882 --	2,196,114	241,250	3,836,300 --	3,884,543	410,125
509,780 --	557,761	77,200	2,196,115 --	2,244,348	246,075	3,884,544 --	3,932,788	414,950
557,762 --	605,785	82,025	2,244,349 --	2,292,583	250,900	3,932,789 --	3,981,033	419,775
605,786 --	653,841	86,850	2,292,584 --	2,340,819	255,725	3,981,034 --	4,029,278	424,600
653,842 --	701,924	91,675	2,340,820 --	2,389,055	260,550	4,029,279 --	4,077,524	429,425
701,925 --	750,028	96,500	2,389,056 --	2,437,291	265,375	4,077,525 --	4,125,769	434,250
750,029 --	798,149	101,325	2,437,292 --	2,485,528	270,200	4,125,770 --	4,174,014	439,075
798,150 --	846,285	106,150	2,485,529 --	2,533,766	275,025	4,174,015 --	4,222,260	443,900
846,286 --	894,433	110,975	2,533,767 --	2,582,004	279,850	4,222,261 --	4,270,506	448,725
894,434 --	942,591	115,800	2,582,005 --	2,630,242	284,675	4,270,507 --	4,318,751	453,550
942,592 --	990,758	120,625	2,630,243 --	2,678,481	289,500	4,318,752 --	4,366,997	458,375
990,759 --	1,038,933	125,450	2,678,482 --	2,726,721	294,325	4,366,998 --	4,415,243	463,200
1,038,934 --	1,087,114	130,275	2,726,722 --	2,774,960	299,150	4,415,244 --	4,463,489	468,025
1,087,115 --	1,135,301	135,100	2,774,961 --	2,823,200	303,975	4,463,490 --	4,511,735	472,850
1,135,302 --	1,183,494	139,925	2,823,201 --	2,871,441	308,800	4,511,736 --	4,559,981	477,675
1,183,495 --	1,231,690	144,750	2,871,442 --	2,919,681	313,625	4,559,982 --	4,607,875	482,500
1,231,691 --	1,279,891	149,575	2,919,682 --	2,967,922	318,450			
1,279,892 --	1,328,095	154,400	2,967,923 --	3,016,164	323,275			
1,328,096 --	1,376,303	159,225	3,016,165 --	3,064,405	328,100			
1,376,304 --	1,424,513	164,050	3,064,406 --	3,112,647	332,925			
1,424,514 --	1,472,726	168,875	3,112,648 --	3,160,889	337,750			
1,472,727 --	1,520,941	173,700	3,160,890 --	3,209,131	342,575			
1,520,942 --	1,569,159	178,525	3,209,132 --	3,257,374	347,400			
1,569,160 --	1,617,378	183,350	3,257,375 --	3,305,616	352,225			
1,617,379 --	1,665,599	188,175	3,305,617 --	3,353,859	357,050			

For Expected Losses greater than $4,607,875, the Ballast Value can be calculated using the following formula (rounded to the nearest 1):

Ballast = (0.10)(Expected Losses) + 2500(Expected Losses)(9.65) / (Expected Losses + (700)(9.65))

G = 9.65

NORTH CAROLINA – ASSIGNED RISK

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PART II

*Sections incorporated by reference to the Loss Cost Filing submitted 9/1/2009

NORTH CAROLINA – ASSIGNED RISK

TABLE OF CONTENTS

<u>PART II</u>

*Sections incorporated by reference to the Loss Cost Filing submitted 9/1/2009

<u>NORTH CAROLINA - ASSIGNED RISK</u>

<u>APPENDIX B</u>

<u>Factor to Convert Loss Costs to Assigned Risk Rates</u>

For all classification codes, the proposed loss cost multiplier of 2.032 is applied to the advisory loss costs (contained in the Rate Bureau's Loss Costs Reference Filing proposed effective April 1, 2010) 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.

North Carolina

Appendix E

Assigned Risk Rates Comparison

Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
0005	6.11	6.30	3.1%
0008	3.73	4.57	22.5%
0016	10.62	14.04	32.2%
0034	5.38	6.69	24.3%
0035	4.66	4.80	3.0%
0036	7.80	7.58	-2.8%
0037	7.29	7.76	6.4%
0042	9.08	8.25	-9.1%
0050	28.21	26.03	-7.7%
0059	0.78	0.77	-1.3%
0065	0.18	0.18	0.0%
0066	0.18	0.18	0.0%
0067	0.18	0.18	0.0%
0079	4.57	5.85	28.0%
0083	6.06	6.50	7.3%
0106	36.89	41.39	12.2%
0113	6.51	7.62	17.1%
0170	4.97	4.23	-14.9%
0251	8.12	9.10	12.1%
0400	14.79	14.04	-5.1%
0401	14.85	15.42	3.8%
0763	3.75	4.12	9.9%
0771	1.03	0.91	-11.7%
0908	263.00	299.00	13.7%
0913	638.00	734.00	15.0%
0917	5.53	6.16	11.4%
1005	23.07	21.62	-6.3%
1164	24.58	24.57	0.0%
1165	6.98	7.76	11.2%
1320	6.83	7.50	9.8%
1322	26.92	22.76	-15.5%
1430	6.91	7.56	9.4%
1438	4.79	4.31	-10.0%
1452	8.03	7.27	-9.5%
1463	25.18	26.92	6.9%
1470	7.83	7.70	-1.7%
1473	4.37	4.19	-4.1%
1474	5.04	4.92	-2.4%
1624	7.05	8.84	25.4%
1642	9.64	7.92	-17.8%
1654	16.04	18.31	14.2%
1655	11.86	13.74	15.9%
1699	5.15	6.50	26.2%
1701	11.26	12.54	11.4%
1710	10.06	11.38	13.1%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
1741	4.88	4.92	0.8%
1747	5.13	4.61	-10.1%
1748	9.10	8.53	-6.3%
1803	14.66	15.28	4.2%
1852	5.62	6.26	11.4%
1853	4.22	3.52	-16.6%
1860	4.66	4.71	1.1%
1924	6.00	5.75	-4.2%
1925	5.96	6.56	10.1%
2001	5.51	5.28	-4.2%
2002	5.87	6.62	12.8%
2003	4.59	4.96	8.1%
2014	9.52	10.59	11.2%
2016	4.84	4.92	1.7%
2021	6.36	5.65	-11.2%
2039	9.10	8.47	-6.9%
2041	6.36	5.67	-10.8%
2065	7.56	7.68	1.6%
2070	8.48	9.25	9.1%
2081	6.53	6.79	4.0%
2089	9.08	7.17	-21.0%
2095	9.30	7.84	-15.7%
2105	4.22	4.82	14.2%
2110	2.70	3.41	26.3%
2111	4.93	5.77	17.0%
2112	7.32	6.77	-7.5%
2114	4.26	3.50	-17.8%
2121	8.32	7.05	-15.3%
2130	4.79	4.69	-2.1%
2131	4.50	4.69	4.2%
2143	5.62	5.51	-2.0%
2157	10.41	9.20	-11.6%
2172	3.84	4.12	7.3%
2174	5.96	5.73	-3.9%
2211	18.26	14.39	-21.2%
2220	5.38	5.30	-1.5%
2286	2.16	2.72	25.9%
2288	6.91	5.93	-14.2%
2300	6.27	5.47	-12.8%
2302	3.39	3.31	-2.4%
2305	3.72	4.65	25.0%
2361	3.44	3.78	9.9%
2362	4.21	4.45	5.7%
2380	3.77	4.29	13.8%
2386	1.87	2.24	19.8%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
2388	4.73	5.38	13.7%
2402	5.26	5.24	-0.4%
2413	4.48	4.47	-0.2%
2416	2.56	2.72	6.3%
2417	3.68	3.68	0.0%
2501	4.19	4.45	6.2%
2503	2.03	2.03	0.0%
2534	3.35	3.64	8.7%
2570	5.84	5.38	-7.9%
2585	6.25	6.48	3.7%
2586	3.39	3.54	4.4%
2587	6.00	7.92	32.0%
2589	3.55	3.52	-0.8%
2600	3.83	3.23	-15.7%
2623	6.83	7.03	2.9%
2651	5.57	5.87	5.4%
2660	4.51	4.47	-0.9%
2670	3.14	2.99	-4.8%
2683	3.68	3.41	-7.3%
2688	8.32	8.19	-1.6%
2702	23.30	25.52	9.5%
2705	72.06	73.33	1.8%
2709	23.30	25.52	9.5%
2710	21.92	21.58	-1.6%
2714	9.12	8.27	-9.3%
2727	18.55	16.40	-11.6%
2731	8.90	8.66	-2.7%
2735	7.34	8.07	9.9%
2759	9.66	9.92	2.7%
2790	4.79	4.25	-11.3%
2791	3.70	3.54	-4.3%
2797	11.71	11.30	-3.5%
2802	7.90	7.60	-3.8%
2812	8.05	7.50	-6.8%
2835	3.68	4.65	26.4%
2836	4.12	5.02	21.8%
2841	6.07	5.91	-2.6%
2881	5.80	5.51	-5.0%
2883	5.73	5.55	-3.1%
2913	5.09	6.08	19.4%
2915	10.84	8.25	-23.9%
2916	5.95	6.42	7.9%
2923	4.42	4.41	-0.2%
2942	3.90	4.06	4.1%
2960	6.65	7.70	15.8%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
3004	3.77	3.29	-12.7%
3018	6.42	4.80	-25.2%
3022	7.09	8.05	13.5%
3027	6.00	4.57	-23.8%
3028	11.48	10.95	-4.6%
3030	11.00	12.01	9.2%
3040	10.12	9.39	-7.2%
3041	8.05	8.39	4.2%
3042	5.37	6.79	26.4%
3064	11.20	11.16	-0.4%
3069	15.43	14.18	-8.1%
3076	6.07	5.77	-4.9%
3081	6.40	6.34	-0.9%
3082	9.79	9.75	-0.4%
3085	7.62	7.27	-4.6%
3110	7.81	6.69	-14.3%
3111	6.73	6.64	-1.3%
3113	3.64	3.41	-6.3%
3114	6.22	5.99	-3.7%
3118	6.38	6.48	1.6%
3119	1.34	1.69	26.1%
3122	4.19	4.69	11.9%
3126	5.26	5.18	-1.5%
3131	1.98	2.46	24.2%
3132	7.03	6.06	-13.8%
3145	4.70	4.12	-12.3%
3146	4.53	4.27	-5.7%
3169	5.18	4.92	-5.0%
3175	5.38	5.32	-1.1%
3179	3.26	2.84	-12.9%
3180	5.26	4.04	-23.2%
3188	3.35	3.82	14.0%
3220	3.92	4.31	9.9%
3223	4.17	4.31	3.4%
3224	6.22	5.77	-7.2%
3227	7.76	6.77	-12.8%
3240	4.84	4.33	-10.5%
3241	8.74	8.39	-4.0%
3255	3.86	3.45	-10.6%
3257	4.37	4.84	10.8%
3270	5.13	4.23	-17.5%
3300	10.41	10.14	-2.6%
3303	7.00	6.01	-14.1%
3307	10.79	8.88	-17.7%
3315	9.72	10.06	3.5%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
3334	5.37	6.50	21.0%
3336	4.97	5.08	2.2%
3365	21.83	20.42	-6.5%
3372	5.53	6.01	8.7%
3373	11.60	8.21	-29.2%
3383	2.41	2.34	-2.9%
3385	2.18	1.83	-16.1%
3400	6.25	5.65	-9.6%
3507	5.06	4.53	-10.5%
3515	5.18	4.43	-14.5%
3516	3.23	2.97	-8.0%
3548	3.32	3.25	-2.1%
3559	7.70	6.73	-12.6%
3574	1.92	1.73	-9.9%
3581	4.55	4.94	8.6%
3612	3.39	3.47	2.4%
3620	11.46	11.28	-1.6%
3629	4.33	3.80	-12.2%
3632	5.46	5.67	3.8%
3634	3.10	3.31	6.8%
3635	6.16	5.47	-11.2%
3638	3.32	3.37	1.5%
3642	1.27	1.34	5.5%
3643	5.09	4.94	-2.9%
3647	5.53	5.02	-9.2%
3648	2.63	2.52	-4.2%
3681	2.85	2.93	2.8%
3685	2.65	2.42	-8.7%
3719	3.63	3.31	-8.8%
3724	9.75	10.22	4.8%
3726	11.75	15.26	29.9%
3803	5.24	4.75	-9.4%
3807	3.97	4.04	1.8%
3808	4.62	4.15	-10.2%
3821	7.47	9.20	23.2%
3822	11.46	11.01	-3.9%
3824	7.80	7.54	-3.3%
3826	1.92	2.13	10.9%
3827	2.79	2.40	-14.0%
3830	5.71	4.43	-22.4%
3851	5.17	6.54	26.5%
3865	3.97	3.62	-8.8%
3881	7.83	7.17	-8.4%
4000	12.18	13.74	12.8%
4021	10.08	10.10	0.2%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
4024	7.12	6.87	-3.5%
4034	11.68	11.52	-1.4%
4036	5.78	5.24	-9.3%
4038	9.83	10.06	2.3%
4053	6.00	6.54	9.0%
4061	9.75	10.42	6.9%
4062	3.86	3.58	-7.3%
4101	3.21	3.58	11.5%
4111	5.67	4.49	-20.8%
4112	3.41	4.31	26.4%
4113	3.44	3.39	-1.5%
4114	11.73	12.40	5.7%
4130	11.39	10.83	-4.9%
4131	9.57	8.13	-15.0%
4133	4.99	5.55	11.2%
4150	1.07	1.10	2.8%
4206	6.33	5.02	-20.7%
4207	2.92	2.46	-15.8%
4239	7.03	6.73	-4.3%
4240	4.01	3.66	-8.7%
4243	4.26	4.75	11.5%
4244	4.33	4.51	4.2%
4250	3.32	3.33	0.3%
4251	3.08	3.21	4.2%
4263	9.45	7.01	-25.8%
4273	3.70	3.96	7.0%
4279	4.97	3.94	-20.7%
4282	3.17	3.70	16.7%
4283	6.33	7.64	20.7%
4299	3.35	3.54	5.7%
4301	2.34	2.30	-1.7%
4304	6.07	6.69	10.2%
4307	2.34	2.30	-1.7%
4351	1.72	2.03	18.0%
4352	2.25	2.15	-4.4%
4360	2.36	2.84	20.3%
4361	3.01	2.93	-2.7%
4362	2.61	2.42	-7.3%
4410	7.60	7.19	-5.4%
4417	4.31	5.14	19.3%
4420	12.67	14.28	12.7%
4431	2.72	3.17	16.5%
4432	2.68	2.38	-11.2%
4439	3.44	3.01	-12.5%
4452	6.45	6.40	-0.8%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
4459	5.15	5.02	-2.5%
4470	3.83	3.82	-0.3%
4484	6.02	5.24	-13.0%
4493	9.26	7.46	-19.4%
4511	1.00	0.98	-2.0%
4557	3.52	3.39	-3.7%
4558	3.70	3.80	2.7%
4561	4.15	3.68	-11.3%
4568	4.84	4.39	-9.3%
4581	2.39	2.56	7.1%
4583	10.19	11.30	10.9%
4611	1.07	1.30	21.5%
4635	4.28	4.61	7.7%
4653	5.09	4.53	-11.0%
4665	16.86	17.74	5.2%
4670	7.67	7.90	3.0%
4683	5.44	4.41	-18.9%
4686	3.35	3.33	-0.6%
4692	1.21	1.18	-2.5%
4693	1.89	1.83	-3.2%
4703	4.91	4.25	-13.4%
4717	4.41	4.04	-8.4%
4720	2.86	2.68	-6.3%
4740	7.32	6.48	-11.5%
4741	3.03	3.82	26.1%
4751	6.54	6.20	-5.2%
4771	5.86	5.16	-11.9%
4777	9.55	12.09	26.6%
4825	2.25	2.28	1.3%
4828	4.59	3.74	-18.5%
4829	3.08	3.03	-1.6%
4902	4.82	4.65	-3.5%
4923	2.01	2.26	12.4%
5020	20.47	18.37	-10.3%
5022	11.33	11.20	-1.1%
5037	63.67	79.21	24.4%
5040	62.71	71.34	13.8%
5057	20.69	20.89	1.0%
5059	72.70	90.14	24.0%
5069	58.65	73.03	24.5%
5102	10.88	12.13	11.5%
5146	9.39	9.98	6.3%
5160	10.33	10.20	-1.3%
5183	9.46	9.04	-4.4%
5188	10.53	10.69	1.5%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
5190	10.73	10.10	-5.9%
5191	1.38	1.71	23.9%
5192	8.27	8.33	0.7%
5213	18.29	17.35	-5.1%
5215	7.61	8.07	6.0%
5221	8.30	8.25	-0.6%
5222	24.24	19.67	-18.9%
5223	9.86	11.09	12.5%
5348	9.08	8.23	-9.4%
5402	7.63	9.43	23.6%
5403	16.19	18.88	16.6%
5437	12.67	11.70	-7.7%
5443	11.28	9.47	-16.0%
5445	15.37	15.63	1.7%
5462	14.23	12.03	-15.5%
5472	12.45	15.50	24.5%
5473	12.64	14.28	13.0%
5474	11.44	12.01	5.0%
5478	9.16	9.81	7.1%
5479	12.38	12.74	2.9%
5480	14.68	13.82	-5.9%
5491	6.64	7.09	6.8%
5506	13.76	15.22	10.6%
5507	8.39	8.80	4.9%
5508	44.52	46.61	4.7%
5535	15.43	14.18	-8.1%
5537	11.87	12.37	4.2%
5551	26.41	34.34	30.0%
5606	3.68	3.58	-2.7%
5610	11.80	12.88	9.2%
5645	25.60	25.32	-1.1%
5651	16.57	15.71	-5.2%
5703	33.32	41.07	23.3%
5705	12.24	15.91	30.0%
5951	0.73	0.91	24.7%
6003	17.48	17.05	-2.5%
6005	11.71	10.16	-13.2%
6017	12.73	15.85	24.5%
6018	5.84	5.77	-1.2%
6045	7.58	7.11	-6.2%
6204	29.50	29.55	0.2%
6206	10.62	8.70	-18.1%
6213	7.76	6.18	-20.4%
6214	6.07	6.38	5.1%
6216	15.77	15.87	0.6%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
6217	11.86	13.29	12.1%
6229	9.90	9.94	0.4%
6233	11.93	9.10	-23.7%
6235	25.78	22.11	-14.2%
6236	33.79	33.67	-0.4%
6237	5.28	5.16	-2.3%
6251	27.93	36.33	30.1%
6252	15.25	17.15	12.5%
6260	12.51	12.40	-0.9%
6306	15.10	14.61	-3.2%
6319	10.99	11.32	3.0%
6325	25.14	21.44	-14.7%
6400	11.44	10.71	-6.4%
6504	4.77	4.84	1.5%
6702	34.12	25.26	-26.0%
6703	70.18	49.70	-29.2%
6704	37.91	28.06	-26.0%
6801	5.58	7.19	28.9%
6811	5.86	6.62	13.0%
6824	12.40	15.97	28.8%
6826	11.58	12.40	7.1%
6834	4.97	5.55	11.7%
6836	8.12	9.90	21.9%
6843	19.52	23.06	18.1%
6845	25.24	25.48	1.0%
6854	11.28	12.44	10.3%
6872	31.24	40.25	28.8%
6874	49.29	52.20	5.9%
6882	9.23	9.14	-1.0%
6884	19.69	19.02	-3.4%
7016	12.20	11.58	-5.1%
7024	13.56	12.86	-5.2%
7038	12.16	13.98	15.0%
7046	13.61	14.20	4.3%
7047	25.11	22.78	-9.3%
7050	25.04	27.49	9.8%
7090	13.52	15.52	14.8%
7098	15.12	15.79	4.4%
7099	27.99	27.96	-0.1%
7133	8.97	10.63	18.5%
7151	10.90	12.90	18.3%
7152	22.43	25.40	13.2%
7153	12.11	14.35	18.5%
7222	19.83	24.97	25.9%
7228	19.38	18.39	-5.1%

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Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
7229	17.64	20.93	18.7%
7230	16.32	13.17	-19.3%
7231	11.49	14.37	25.1%
7232	16.30	17.50	7.4%
7309	31.87	36.96	16.0%
7313	6.36	7.44	17.0%
7317	14.68	17.54	19.5%
7323	8.77	9.61	9.6%
7327	16.08	20.73	28.9%
7333	9.88	9.81	-0.7%
7335	10.99	10.91	-0.7%
7337	20.34	19.32	-5.0%
7350	16.41	16.22	-1.2%
7360	13.78	11.58	-16.0%
7370	8.39	10.26	22.3%
7380	9.21	9.10	-1.2%
7382	11.73	12.19	3.9%
7390	9.05	8.88	-1.9%
7394	23.57	23.08	-2.1%
7395	26.18	25.64	-2.1%
7398	48.46	45.42	-6.3%
7402	n/a	0.47	n/a
7403	7.61	10.04	31.9%
7405	1.76	2.40	36.4%
7420	48.88	51.37	5.1%
7421	3.32	3.23	-2.7%
7422	6.20	5.59	-9.8%
7425	17.46	19.16	9.7%
7431	7.03	8.66	23.2%
7445	0.58	0.79	36.2%
7453	2.34	2.89	23.5%
7502	8.34	9.55	14.5%
7515	3.25	4.29	32.0%
7520	7.49	7.90	5.5%
7529	13.03	15.97	22.6%
7538	29.01	31.62	9.0%
7539	6.65	6.44	-3.2%
7540	8.10	11.07	36.7%
7580	4.93	6.30	27.8%
7590	7.18	9.49	32.2%
7600	7.58	8.86	16.9%
7601	20.45	17.17	-16.0%
7605	6.76	6.81	0.7%
7610	1.40	1.04	-25.7%
7611	12.98	13.49	3.9%

* Effective 10/1/09 per item 01-NC-2006

North Carolina

Appendix E

Assigned Risk Rates Comparison

Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
7612	22.55	20.30	-10.0%
7613	15.28	14.53	-4.9%
7705	8.39	10.26	22.3%
7710	6.18	7.68	24.3%
7711	6.18	7.68	24.3%
7720	4.50	5.34	18.7%
7723	4.66	5.85	25.5%
7855	28.08	20.79	-26.0%
8001	2.56	3.27	27.7%
8002	3.64	3.70	1.6%
8006	4.91	5.26	7.1%
8008	2.77	2.91	5.1%
8010	3.32	3.25	-2.1%
8013	1.02	0.98	-3.9%
8015	2.16	2.05	-5.1%
8017	3.34	3.64	9.0%
8018	4.31	4.51	4.6%
8021	4.39	4.21	-4.1%
8031	4.73	5.10	7.8%
8032	4.59	4.67	1.7%
8033	3.54	3.78	6.8%
8039	5.55	5.59	0.7%
8044	7.43	7.78	4.7%
8045	1.21	1.50	24.0%
8046	5.22	5.61	7.5%
8047	1.83	1.79	-2.2%
8058	4.99	5.12	2.6%
8072	1.58	1.77	12.0%
8102	4.50	4.37	-2.9%
8103	4.35	5.57	28.0%
8105	6.54	7.13	9.0%
8106	8.10	8.96	10.6%
8107	7.65	7.64	-0.1%
8111	4.42	5.51	24.7%
8116	5.71	6.22	8.9%
8203	13.51	13.45	-0.4%
8204	5.96	6.30	5.7%
8209	4.80	5.77	20.2%
8215	6.74	7.52	11.6%
8227	9.32	10.69	14.7%
8232	7.12	7.70	8.1%
8233	11.11	11.48	3.3%
8235	10.46	9.75	-6.8%
8236	8.39	11.09	32.2%
8263	17.91	20.93	16.9%

* Effective 10/1/09 per item 01-NC-2006

North Carolina

Appendix E

Assigned Risk Rates Comparison

Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
8264	9.84	10.71	8.8%
8265	14.38	15.63	8.7%
8279	13.11	13.33	1.7%
8288	10.12	11.20	10.7%
8291	16.50	14.41	-12.7%
8292	6.54	6.54	0.0%
8293	16.41	17.92	9.2%
8304	9.39	10.61	13.0%
8350	10.75	13.35	24.2%
8380	5.60	5.61	0.2%
8381	4.37	4.39	0.5%
8385	7.51	7.86	4.7%
8392	4.66	5.24	12.4%
8393	4.12	4.33	5.1%
8500	15.17	14.55	-4.1%
8601	1.92	1.65	-14.1%
8602	n/a	1.65	n/a
8603	n/a	0.47	n/a
8606	6.94	7.13	2.7%
8709	6.40	6.87	7.3%
8710	4.84	4.94	2.1%
8719	3.52	4.10	16.5%
8720	3.37	2.87	-14.8%
8721	1.16	1.12	-3.4%
8725	n/a	2.87	n/a
8726	7.47	7.15	-4.3%
8734	1.23	1.12	-8.9%
8737	1.11	1.02	-8.1%
8738	2.27	1.99	-12.3%
8742	0.91	0.83	-8.8%
8745	9.01	9.23	2.4%
8748	1.65	1.46	-11.5%
8755	0.78	0.73	-6.4%
8799	1.72	1.81	5.2%
8800	1.72	1.81	5.2%
8803	0.20	0.20	0.0%
8805	0.71	0.63	-11.3%
8810	0.53	0.47	-11.3%
8814	0.63	0.57	-9.5%
8815	1.31	1.12	-14.5%
8820	0.44	0.41	-6.8%
8824	6.58	6.77	2.9%
8825	4.12	3.90	-5.3%
8826	4.79	5.79	20.9%
8831	2.43	2.70	11.1%

* Effective 10/1/09 per item 01-NC-2006

North Carolina

Appendix E

Assigned Risk Rates Comparison

Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
8832	0.71	0.71	0.0%
8833	3.54	3.23	-8.8%
8835	4.62	5.08	10.0%
8842 *	4.17	3.96	-5.0%
8848	6.04	5.75	-4.8%
8849	5.47	5.67	3.7%
8864 *	4.17	3.96	-5.0%
8868	0.89	0.85	-4.5%
8869	1.67	1.97	18.0%
8871	0.56	0.53	-5.4%
8901	0.54	0.51	-5.6%
9012	3.35	2.68	-20.0%
9014	5.75	5.49	-4.5%
9015	5.47	5.30	-3.1%
9016	5.64	6.54	16.0%
9019	3.99	3.96	-0.8%
9033	3.68	4.27	16.0%
9040	6.15	6.38	3.7%
9044	2.90	3.15	8.6%
9052	3.79	3.70	-2.4%
9058	2.45	2.40	-2.0%
9059	6.31	4.65	-26.3%
9060	2.97	2.78	-6.4%
9061	2.65	2.87	8.3%
9062	2.90	2.82	-2.8%
9063	1.65	1.87	13.3%
9077	2.12	2.72	28.3%
9082	2.96	2.76	-6.8%
9083	2.85	2.68	-6.0%
9084	2.56	2.52	-1.6%
9089	1.20	1.18	-1.7%
9093	3.34	2.95	-11.7%
9101	5.77	6.34	9.9%
9102	5.57	5.57	0.0%
9154	3.52	4.15	17.9%
9156	4.42	4.78	8.1%
9170	5.75	5.49	-4.5%
9178	18.00	18.00	0.0%
9179	50.56	53.75	6.3%
9180	11.53	10.61	-8.0%
9182	3.21	4.21	31.2%
9186	64.67	83.31	28.8%
9220	8.63	10.00	15.9%
9402	12.47	12.31	-1.3%
9403	14.56	17.13	17.7%

* Effective 10/1/09 per item 01-NC-2006

North Carolina

Appendix E

Assigned Risk Rates Comparison

Class Code	Current 04/01/09	Proposed 04/01/10	Percent Change
9410	3.57	4.08	14.3%
9501	4.77	4.39	-8.0%
9505	8.32	7.11	-14.5%
9516	5.09	5.61	10.2%
9519	8.10	7.52	-7.2%
9521	7.87	8.51	8.1%
9522	3.23	3.17	-1.9%
9534	15.86	17.39	9.6%
9554	25.91	24.49	-5.5%
9586	1.07	1.16	8.4%
9600	3.97	3.88	-2.3%
9620	1.76	1.81	2.8%

* Effective 10/1/09 per item 01-NC-2006

NORTH CAROLINA – ASSIGNED RISK

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<u>PART III</u>

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.

<u>Item</u>

*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 submitted 9/1/2009

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 M. Mulvaney, J. Vander Weide and D. Appel (Exhibits RB-5 through RB-14).

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) are expected to be 3.04% of premium. Given the 12.5% underwriting profit provision shown in the filing, the pro forma return on net worth (equity capital), including underwriting profit and investment income on reserves and surplus, is shown in the prefiled testimony and exhibits of D. Appel (Exhibits RB-12 through RB-14). Also shown therein is the ratio of net worth to surplus of 1.17. Accordingly, the corresponding return on statutory surplus would be 13.18%. Based on data from A.M. Best's Aggregates & Averages, the 5-year average ratio of net worth to assets is .361. Accordingly, the corresponding return on assets would be 4.07%. If 12.5% is not in fact earned as underwriting profit, the resulting returns would be correspondingly lower.

See also the pre-filed testimony of D. Appel (Exhibit RB-12) and J. Vander Weide (Exhibit RB-7).

PRE-FILED TESTIMONY
OF
RAYMOND F. EVANS

NORTH CAROLINA WORKERS COMPENSATION INSURANCE
2009 RESIDUAL MARKET RATE FILING
BY THE NORTH CAROLINA RATE BUREAU

Q.   Would you state your full name and business address?

A.   Raymond F. Evans, Jr. CPCU, 5401 Six Forks Road, Raleigh, North Carolina.

Q.   Are you employed by the North Carolina Rate Bureau ("Bureau")?

A.   Yes.

Q.   In what capacity?

A.   I am the General Manager.

Q.   How long have you been employed by the Bureau?

A.   Since September 2000.

Q.   Would you summarize your educational background?

A.   I graduated from Ohio State University with a Bachelor of Science Degree in Accounting. I also have the designation of Chartered Property Casualty Underwriter.

Q.   What was your work experience after graduation and prior to your employment by the Bureau?

A.   From March 1966 to July 2000, I was employed by the State Auto Insurance Companies, Columbus, Ohio in various capacities, including the position of Executive Vice President of a subsidiary.

Q.   Can you identify Exhibits RB-1 through RB-14?

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-14 contain the required accompanying prefiled testimony and exhibits. Together, these materials constitute a filing (the "Filing") that is dated September 1, 2009 submitted by the Bureau to the Honorable Wayne Goodwin, 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 recently added an actuary to its staff. However, the Bureau continues to obtain actuarial expertise for preparation of the Filing from the National Council on Compensation Insurance, Inc. and from Milliman, Inc.

Q. Would you describe briefly 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 agent. 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 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 four servicing carriers who 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 2008 premium writings, the direct assignment carriers will receive approximately 30% of the assigned risk premium during 2009 and the servicing carriers will be assigned approximately 70% of the premium.

Q. How many insurance companies were licensed to write workers compensation insurance in North Carolina during 2008?

A. Four hundred eighty seven (487) insurance companies.

Q. How many insurance companies were actually writing workers compensation insurance in North Carolina during 2008?

A. Two hundred eighty two (282) companies.

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 along with the Filing. As shown and explained in that submission, some data were not collected or, if collected, were not retrievable from the statistical data in the form requested. The individual circumstances with respect to such data are explained in the submission.

Q. Does that conclude your prefiled testimony?

A. Yes.

PREFILED TESTIMONY
OF
JAY A. ROSEN

2009 NORTH CAROLINA WORKERS COMPENSATION
LOSS COST AND ASSIGNED RISK RATE FILINGS

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

A. My name is Jay Rosen, and I am a 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 six jurisdictions in NCCI's Eastern Region (including North Carolina).

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

A. I have a Bachelor of Science degree and a Master of Science degree, both in Mathematics, from the University of Florida, in Gainesville, Florida. I am a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries.

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

A. I have been employed by NCCI since June of 1992.

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. It prepares manual loss costs, manual rates, rating plans and policy forms

for use by its members and subscribers and files same 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. These loss cost and rate filings are based on
the data submitted to NCCI and the North Carolina Rate Bureau (NCRB)
by insurance companies writing workers compensation business in North
Carolina.

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.

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

A.   I will provide testimony on the key actuarial issues and components in the
Filings. Specifically, my testimony will discuss 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 that have been
submitted to the North Carolina Department of Insurance?*

A.   Sure. 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.   Those insurers electing to provide employers workers compensation
coverage in North Carolina's competitive marketplace—incorporating their

own underwriting guidelines and expense needs—constitute the "voluntary market."

An employer unable to secure workers compensation insurance in the voluntary market obtains coverage through the Workers Compensation Insurance Plan—also referred to as the assigned risk 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 has been 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. Loss costs are also referred to as "pure premiums" and both of these terms are used throughout the Filings. 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 their individual expense needs, developing a loss cost multiplier (LCM), and determining their 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 their 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 increase 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 may vary between individual classification codes—both above and below this average.

The proposed overall average change is equitably distributed to the various industry groupings and then to the more than 600 individual classification codes during the ratemaking process. The final premium charged 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 their 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 revenue need and costs associated with writing workers compensation insurance in North Carolina during the period April 1, 2010 through March 31, 2011 are determined. In this process, expenses are analyzed and provisions for these components are included. A comparison of this expected revenue need to the expected future costs determines 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.   No. 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 clearly 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 2007 and then $10 million in 2008 would be questioned about the large change in premium amounts.

The third test is a 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.

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 9.6% from the current loss cost level for the industrial classifications.

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

A.   The Assigned Risk rate filing seeks an overall average rate level increase of 1.3% for the industrial classifications.

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

A.   The Loss Cost and Assigned Risk rate filings are both proposed to apply to new and renewal policies effective on or after April 1, 2010. 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 financial data experience and adjusting it to reflect conditions that are expected to exist during the period April 1, 2010 through March 31, 2011. 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 simply 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 2007 and is commonly referred to as "policy year 2007" data. The second block of data reflects the experience from all policies with effective dates during 2006 and is referred to as "policy year 2006" data. This data consists of earned premiums and losses during these periods reported to NCCI by those companies writing workers compensation insurance in North Carolina. "Losses" is simply another name 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 three years of data were reviewed in connection with this year's actuarial analysis, data

for policy years 2007 and 2006 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 2007 (Exhibit I, Section A) and 2006 (Exhibit I, Section B). An average of the separate policy year 2007 and 2006 loss cost level indications (Exhibit I, Section C) serves as the basis for the Rate Bureau's filed overall average voluntary pure premium level change.

In calculating the overall pure premium 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 pure premium 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 pure premium level. Once the historical premium has been adjusted to what it would be if it had been earned under the latest approved loss costs, 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. Limiting such claims is appropriate in determining future premiums.

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, many 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 16.0% so that the final loss costs will include a provision for loss adjustment expense (lines 6 and 18).

The resulting loss figures are compared to the total estimated premium that would be available to fund these losses (lines 9 and 21). 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 -1.5% per year for indemnity losses and +0.5% per year for medical losses.

The final step is to adjust the developed 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.

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 2007 and 2006 are calculated by summing the respective indemnity and medical cost ratios (line 28). These individual-year changes are then averaged—resulting in the Rate Bureau's proposed -9.6% overall average voluntary pure premium level change (Exhibit I, Section C).

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

A. The financial data were 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, the next step in the process is to compute the actual loss development factors. In calculating these factors, 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 this filing, (i) final paid loss development factors were derived based on an average of the two most recent historical factors at each loss 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 loss age interval. Consistent with prior years' Filings, statewide incurred including IBNR 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 based on an average of the most recent five 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 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 accident year total incurred losses after a nineteenth report to the volume of accident year total incurred losses as of a nineteenth report, along with the application of a growth adjustment factor. As the policy year loss data we wish to develop to an ultimate basis is at a slightly different maturity level than the accident year data on which the tail factors are based, an adjustment is necessary. The

adjustment is incorporated by raising the policy year eighteenth-to-nineteenth link ratio to the two-thirds power.

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 after reviewing the results of several different trend estimates, including (i) a North Carolina frequency/severity trend analysis and (ii) indicated countrywide annual trend factors.

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.

Combined countrywide trends were also included in the analysis as a verification to provide assurance as to the reasonableness of the selected North Carolina trend factors. It is beneficial and prudent to review national trends given the fact that North Carolina's workers compensation marketplace is influenced by issues that extend beyond its border.

Q.   *For inclusion in these Filings, did the NCRB select the highest possible trend factors that result from the various actuarially accepted approaches?*

A.   No. In fact, the final trend factors selected may be overly optimistic—that is, higher trend factors would also have been actuarially appropriate in view of the results of the various trending methodologies shown in the filing's Appendix A-III. All else equal, utilizing higher trend factors would result in a higher indicated loss cost level change than that filed.

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 16.0% loss adjustment expense provision for use in the Loss Cost filing.

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.   *Is this year's classification ratemaking process different than the process
     that has been used in prior years' Filings?*

A.   Yes.

Q.   *Please describe the methodology changes (versus those used in prior
     years' Filings) in connection with calculating the individual classification
     loss costs and experience rating values included in this year's Filings.*

A.   Part II, Appendices 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.

     The goals of the new class ratemaking methodology implemented in this
     year's filing are to improve class equity, improve loss cost and rate
     stability at a class code level from filing to filing, and to produce adequate
     loss costs and rates over time.

     The changes relate to (i) loss development, (ii) limiting losses, and (iii)
     how losses above the limit are spread to other classes.

     With regard to loss development: Permanent partial claims are no longer
     split into major and minor categories. Instead, other data elements
     captured in the statistical plan data are used to group claims into
     homogeneous categories. NCCI research has shown that, in addition to
     the injury type, the injured part of body and whether the claim is open at a
     first report both affect how a claim will develop in the future. Therefore,
     these three claim characteristics are used to group claims into the
     following two categories: (i) likely to develop and (ii) not likely to develop.

     With regard to limiting losses: Historically, claims were limited according
     to specific amounts that vary by jurisdiction, based on a jurisdiction's

average cost per case for serious claims. Beginning with this year's Filings, all claims have been limited to $500,000.

With regard to spreading losses in excess of the loss limitation: The revised method for spreading the excess losses involves the use of excess ratios which vary by hazard group. Under the methodology utilized in this year's Filings, excess losses have been loaded via the following formula:

$$\frac{1.000}{(1 - \text{Excess Ratio @ \$500,000 Limit for HG x})}$$

where x is one of the hazard groups A through G.

These class ratemaking methodology changes will impact individual class loss costs / rates. However, because the overall change across all industrial classes must balance to the overall average aggregate indication, they will not impact the overall average aggregate indication. The changes should result in increased class equity and stability. Any impacts to specific class codes will be subject to the current ratemaking formulas (swing limits, credibility-weighted average of indicated, national, and present-on-rate level pure premiums, etc.).

With regard to experience rating values:

(i)   In the past, the calculation of expected loss rates (ELRs) varied by serious and non-serious categories. Beginning with this filing, ELRs have been calculated by indemnity and medical categories.

(ii)   The claims used in an employer's experience rating are capped by an amount that varies by jurisdiction. The ELRs reflect this cap through the application of an excess loss adjustment factor. The calculation of this factor has been updated as a result of the changes to class ratemaking.

(iii)   In the past, the calculation of discount ratios (d-ratios) varied by serious and non-serious categories. Beginning with this filing, d-

ratios have been calculated by hazard group, separately for indemnity and medical. Under the methodology utilized in this year's filing, a swing limit of +/- 0.03 around the current approved d-ratio by individual classification has been incorporated.

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 of these 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). Combining the indicated change in the pure premium level and the proposed change in the Loss Cost Multiplier results in the final Assigned Risk rate level change of +1.3% (Exhibit I, Section D of the Assigned Risk filing).

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

A.   The primary purpose of the differential is to 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, five 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 proposed 5.0% provision is the commission payable on assigned risk business.

(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 and LAE for servicing carriers – This represents a weighted-average expense provision between the assigned risk (i) servicing carriers and (ii) direct assignment writers.

(iv)   Underwriting profit and contingencies – The underwriting profit analysis was conducted by Dr. Vander Weide and Dr. Appel.

The filed one percent contingency provision was judgmentally selected and unchanged from that filed in prior North Carolina workers compensation filings. This provision recognizes the likelihood that the loss costs and assigned risk rates that become

effective as a result of the filings may understate the true rate and premium need as the actual future experience develops. Exhibit RB-6 shows that the continued use of the one percent contingency provision is reasonable. Note that N.C. Gen. Stat. §58-36-100 (n) states that the assigned risk rates filed by the Rate Bureau shall "provide a reasonable margin for underwriting profit and contingencies."

(v)   Taxes, licenses, and fees – This includes a 2.65% provision for the premium tax, including the regulatory surcharge (which was increased for the coming year from 5.5% to 6.0% of the premium tax), and 0.3% for miscellaneous tax.

(vi)   Expense constant effect – It is expected that the $250 expense constant will generate 9.8% of premium in the assigned risk market (Exhibit II-D, Sheet 1).

(vii)   Effect of minimum premiums – It is expected that a minimum premium multiplier of 200 and a maximum minimum premium of $1,000 will generate 2.7% of premium in the assigned risk market (Exhibit II-D, Sheet 2).

Q.   *Please describe the rationale in support of increasing the minimum premium multiplier and maximum minimum premium.*

A.   There are several reasons that support the proposed increases in the above-mentioned minimum premium program parameters. These include:

(i)   Based on the current approved assigned risk rates in the state, the following percentage of classification codes by industry group are currently hitting the maximum minimum premium:

> Manufacturing – 84%
> Contracting – 100%
> Office and Clerical – 19%
> Goods and Services – 79%

Miscellaneous – 97%

(ii)   The changes allow a more equitable sharing of workers compensation costs between minimum premium and non-minimum premium risks.

(iii)   These minimum premium program parameters have not been updated for many years and are currently comparatively lower than those that exist in other states.

Q.   *Have the proposed assigned risk rates been lowered (or offset) in anticipation of the additional premium expected to be collected as a result of these minimum premium program parameter changes?*

A.   Yes, these program changes have been incorporated with the expectation that they will be revenue neutral within the assigned risk market.

Q.   *Are there any additional changes in miscellaneous rating values contained in the Filings?*

A.   Yes. The pages summarizing the Filings by component identify additional changes, as do the miscellaneous values and retrospective rating plan sections of Exhibit III. The Table of Weighting Values and the Table of Ballast Values in Exhibit III were also updated.

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 +8.8% from the current loss cost level. The assigned risk filing proposes an overall average rate level change of +22.0% 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 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 not result in loss costs that are 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 excessive, inadequate, or unfairly discriminatory?*

A.   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 not result in assigned risk market rates that are excessive, inadequate, or unfairly discriminatory.

Q.   *Does this conclude your testimony?*

A.   Yes, it does.

NATIONAL COUNCIL ON COMPENSATION INSURANCE

2009 ANNUAL EXPENSE REVIEW -- Evaluated as of 12/31/2008

LOSS ADJUSTMENT EXPENSE SUMMARY
Based on Private Carrier Data

Year	(1) Call # 19 DCCE Ratio (Avg. of Pgs 2 and 3, Col. 9)	(2) Call # 19 AOE Ratio (Avg. of Pgs 4 and 5, Col. 9)		(3)=(1)+(2) Call # 19 LAE Ratio	(4) Calendar Year Incurred DCCE Ratio From IEE**	(5) Calendar Year Incurred AOE Ratio IEE**	(6)=(4)+(5) Incurred LAE Ratio IEE**	(7)=(3)-(6) Difference
1999	9.15%	6.21%	*	15.36%	11.45%	6.77%	18.22%	-2.86%
2000	9.63%	6.12%	*	15.75%	8.18%	6.82%	15.00%	0.75%
2001	10.03%	6.37%	*	16.40%	7.30%	6.38%	13.68%	2.72%
2002	10.57%	6.56%	*	17.13%	8.35%	5.88%	14.23%	2.90%
2003	10.69%	7.39%	*	18.08%	9.91%	5.63%	15.54%	2.54%
2004	10.70%	6.99%	*	17.69%	10.24%	6.37%	16.61%	1.08%
2005	10.91%	7.76%	*	18.67%	10.40%	7.15%	17.55%	1.12%
2006	11.10%	8.09%	*	19.19%	12.55%	7.16%	19.71%	-0.52%
2007	11.80%	8.05%	*	19.85%	10.06%	7.25%	17.31%	2.54%
2008	12.53%	7.58%	*	20.11%	11.87%	7.12%	18.99%	1.12%

Notes

* Adjusted for impact of large deductibles.

** The IEE data is direct of reinsurance, excludes state funds and is from the NCCI Compiled IEE Validated Summary.

NATIONAL COUNCIL ON COMPENSATION INSURANCE

2009 ANNUAL EXPENSE REVIEW -- Evaluated as of 12/31/2008

DEFENSE and COST CONTAINMENT EXPENSES -- (DCCE)
Based on Private Carrier Data
PAID ANALYSIS

AY	(1) Paid Losses Excluding Large Deductibles @12/31/08	(2) Paid DCCE Excluding Large Deductibles @12/31/08	(3) Incremental Paid Loss Development Factors	(4) Incremental Paid DCCE Development Factors	(5) Cumulative Paid Loss Development Factors	(6) Cumulative Paid DCCE Development Factors	(7)=(1)x(5) Estimated Ultimate Losses	(8)=(2)x(6) Estimated Ultimate DCCE	(9)=(8)/(7) Estimated Ultimate DCCE Ratio
1999	15,440,858,892	1,418,481,972	n/a	n/a	1.187	1.171	18,328,299,505	1,661,042,389	9.06%
2000	16,011,259,962	1,540,744,822	1.017	1.019	1.207	1.193	19,325,590,774	1,838,108,573	9.51%
2001	15,511,281,646	1,538,702,283	1.021	1.026	1.232	1.224	19,109,898,988	1,883,371,594	9.86%
2002	13,797,209,442	1,431,708,729	1.027	1.034	1.265	1.266	17,453,469,944	1,812,543,251	10.39%
2003	12,484,101,678	1,296,062,591	1.035	1.047	1.309	1.326	16,341,689,097	1,718,578,996	10.52%
2004	11,298,227,590	1,136,941,117	1.051	1.067	1.376	1.415	15,546,361,164	1,608,771,681	10.35%
2005	10,650,186,561	1,076,120,685	1.078	1.105	1.483	1.564	15,794,226,670	1,683,052,751	10.66%
2006	10,179,023,036	992,050,869	1.137	1.188	1.686	1.858	17,161,832,839	1,843,230,515	10.74%
2007	8,358,414,913	802,387,204	1.289	1.404	2.173	2.609	18,162,835,606	2,093,428,215	11.53%
2008	4,106,195,795	341,286,940	2.122	2.667	4.611	6.958	18,933,668,811	2,374,674,529	12.54%

NATIONAL COUNCIL ON COMPENSATION INSURANCE

2009 ANNUAL EXPENSE REVIEW -- Evaluated as of 12/31/2008

DEFENSE and COST CONTAINMENT EXPENSES -- (DCCE)
Based on Private Carrier Data
INCURRED ANALYSIS

AY	(1) Incurred Losses Excluding Large Deductibles @12/31/08	(2) Incurred DCCE Excluding Large Deductibles @12/31/08	(3) Incremental Incurred Loss Development Factors	(4) Incremental Incurred DCCE Development Factors	(5) Cumulative Inc. Loss Development Factors	(6) Cumulative Inc. DCCE Development Factors	(7)=(1)x(5) Estimated Ultimate Losses	(8)=(2)x(6) Estimated Ultimate DCCE	(9)=(8)/(7) Estimated Ultimate DCCE Ratio
1999	17,834,107,154	1,581,787,937	n/a	n/a	1.063	1.106	18,957,655,905	1,749,457,458	9.23%
2000	18,717,844,874	1,744,471,944	1.006	1.011	1.069	1.118	20,009,376,170	1,950,319,633	9.75%
2001	18,740,361,525	1,815,534,172	1.010	1.017	1.080	1.137	20,239,590,447	2,064,262,354	10.20%
2002	16,974,604,721	1,712,839,192	1.010	1.021	1.091	1.161	18,519,293,751	1,988,606,302	10.74%
2003	16,038,150,540	1,617,664,513	1.012	1.023	1.104	1.188	17,706,118,196	1,921,785,441	10.85%
2004	15,206,071,745	1,544,251,769	1.010	1.020	1.115	1.212	16,954,769,996	1,871,633,144	11.04%
2005	15,725,242,984	1,584,258,038	1.002	1.020	1.117	1.236	17,565,096,413	1,958,142,935	11.15%
2006	17,721,030,009	1,779,370,054	0.990	1.020	1.106	1.261	19,599,459,190	2,243,785,638	11.45%
2007	18,586,817,492	1,931,439,299	0.970	0.987	1.073	1.245	19,943,655,169	2,404,641,927	12.06%
2008	18,954,153,539	1,982,527,453	0.951	0.980	1.020	1.220	19,333,236,610	2,418,683,493	12.51%

NATIONAL COUNCIL ON COMPENSATION INSURANCE

2009 ANNUAL EXPENSE REVIEW -- Evaluated as of 12/31/2008

ADJUSTING and OTHER EXPENSES -- (AOE)
Based on Private Carrier Data

PAID ANALYSIS

AY	(1) Paid Losses Including Large Deductibles @12/31/08	(2) Paid AOE Including Large Deductibles @12/31/08	(3) Incremental Paid Loss Development Factors	(4) Incremental Paid AOE Development Factors	(5) Cumulative Paid Loss Development Factors	(6) Cumulative Paid AOE Development Factors	(7)=(1)x(5) Estimated Ultimate Losses	(8)=(2)x(6) Estimated Ultimate AOE	(9)=(8)/(7) Estimated Ultimate AOE Ratio*
1999	16,598,228,573	1,589,775,417	n/a	n/a	1.215	1.082	20,166,847,716	1,720,137,001	6.29% (1)
2000	17,195,529,624	1,669,977,678	1.020	1.016	1.239	1.099	21,305,261,204	1,835,305,468	6.21% (2)
2001	16,739,962,078	1,728,169,879	1.024	1.019	1.269	1.120	21,243,011,877	1,935,550,264	6.54% (3)
2002	14,636,375,520	1,649,891,663	1.033	1.026	1.311	1.149	19,188,288,307	1,895,725,521	6.73% (4)
2003	13,109,319,638	1,706,689,887	1.043	1.033	1.367	1.187	17,920,439,945	2,025,840,896	7.68% (5)
2004	11,706,953,858	1,510,487,734	1.059	1.042	1.448	1.237	16,951,669,186	1,868,473,327	7.31% (6)
2005	10,960,362,533	1,561,211,209	1.084	1.050	1.570	1.299	17,207,769,177	2,028,013,360	8.12% (7)
2006	10,429,021,572	1,638,403,326	1.140	1.079	1.790	1.402	18,667,948,614	2,297,041,463	8.52% (8)
2007	8,534,243,369	1,416,337,466	1.295	1.149	2.318	1.611	19,782,376,129	2,281,719,658	8.33% (9)
2008	4,200,106,068	927,289,810	2.108	1.442	4.886	2.323	20,521,718,248	2,154,094,229	7.57% (10)

* Adjusted for Impact of Large Deductibles
(1) (Col.8/Col.7 + .010) x .66
(2) (Col.8/Col.7 + .008) x .66
(3) (Col.8/Col.7 + .008) x .66
(4) (Col.8/Col.7 + .008) x .63
(5) (Col.8/Col.7 + .007) x .64
(6) (Col.8/Col.7 + .004) x .64
(7) (Col.8/Col.7 + .007) x .65
(8) (Col.8/Col.7 + .008) x .65
(9) (Col.8/Col.7 + .009) x .67
(10) (Col.8/Col.7 + .008) x .67

NATIONAL COUNCIL ON COMPENSATION INSURANCE

2009 ANNUAL EXPENSE REVIEW -- Evaluated as of 12/31/2008

ADJUSTING and OTHER EXPENSES -- (AOE)
Based on Private Carrier Data

INCURRED ANALYSIS

AY	(1) Incurred Losses Including Large Deductibles @12/31/08	(2) Incurred AOE Including Large Deductibles @12/31/08	(3) Incremental Incurred Loss Development Factors	(4) Incremental Incurred AOE Development Factors	(5) Cumulative Incurred Loss Development Factors	(6) Cumulative Incurred AOE Development Factors	(7)=(1)x(5) Estimated Ultimate Losses	(8)=(2)x(6) Estimated Ultimate AOE	(9)=(8)/(7) Estimated Ultimate AOE Ratio*
1999	19,659,708,681	1,667,078,466	n/a	n/a	1.073	1.047	21,094,867,415	1,745,431,154	6.12% (1)
2000	20,775,744,575	1,771,104,958	1.008	1.010	1.082	1.057	22,479,355,630	1,872,057,941	6.03% (2)
2001	21,284,538,872	1,864,840,362	1.013	1.016	1.096	1.074	23,327,854,604	2,002,838,549	6.20% (3)
2002	18,906,940,626	1,793,756,400	1.015	1.017	1.112	1.092	21,024,517,976	1,958,781,989	6.38% (4)
2003	17,796,650,770	1,876,557,230	1.016	1.020	1.130	1.114	20,110,215,370	2,090,484,754	7.10% (5)
2004	16,971,064,013	1,707,811,318	1.014	1.024	1.146	1.141	19,448,839,359	1,948,612,714	6.67% (6)
2005	17,474,187,541	1,840,057,382	1.010	1.027	1.157	1.172	20,217,634,985	2,156,547,252	7.39% (7)
2006	19,450,774,992	2,048,213,335	1.002	1.030	1.159	1.207	22,543,448,216	2,472,193,495	7.65% (8)
2007	20,416,091,014	2,032,989,663	0.979	1.009	1.135	1.218	23,172,263,301	2,476,181,410	7.77% (9)
2008	20,696,690,248	2,013,892,771	0.954	0.962	1.083	1.172	22,414,515,539	2,360,282,328	7.59% (10)

* Adjusted for Impact of Large Deductibles
(1) (Col.8/Col.7 + .010) x .66
(2) (Col.8/Col.7 + .008) x .66
(3) (Col.8/Col.7 + .008) x .66
(4) (Col.8/Col.7 + .008) x .63
(5) (Col.8/Col.7 + .007) x .64
(6) (Col.8/Col.7 + .004) x .64
(7) (Col.8/Col.7 + .007) x .65
(8) (Col.8/Col.7 + .008) x .65
(9) (Col.8/Col.7 + .009) x .67
(10) (Col.8/Col.7 + .008) x .67

PRE-FILED TESTIMONY

OF

MARK MULVANEY

2009 NORTH CAROLINA WORKERS COMPENSATION

ASSIGNED RISK RATE FILING

Q. Please state your name and business address.

A. My name is Mark Mulvaney, my business address is Milliman, Inc. 1099 18th Street, Suite 3100, Denver Colorado, 80202.

Q. Are you an actuary?

A. Yes, I am a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries.

Q. Please describe your educational and professional background.

A. I graduated with a bachelor's of science degree in Mathematics from Georgetown University in 1978. I spent the first 10 years of my career with the National Council on Compensation Insurance. My experience there included the management of the legislative evaluation unit, a division of the National Council responsible for the review and estimation of the cost impact of workers compensation legislation countrywide, management of the "F" classification ratemaking unit, and as regional actuary.

I joined Milliman over 20 years ago, and have remained focused on workers compensation issues, but have broadened my client base to include casualty actuarial consulting services to insurance companies, reinsurers, rating bureaus, insurance regulators, state funds, self-insurance groups and pools, and to individual public and private self-insured employers. Activities include ratemaking, reserving, company formation, merger and acquisition valuation, financial analysis and company modeling, software development, expert testimony, research, and special project work.

Q. What is Milliman?

A. Milliman is among the world's largest independent actuarial and consulting firms. Founded in Seattle in 1947 as Milliman & Robertson, the company currently has 49 offices in key locations worldwide. Milliman employs more than 2100 people, with a professional staff of more than 1100 qualified consultants and actuaries, 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 2009 workers compensation insurance Assigned Risk rate filing (the "Filing")?

A. Yes I was.

Q. What was the scope of that engagement?

A. Milliman was engaged for two aspects of this filing. Dr. David Appel of Milliman's New York Office was engaged to review the Underwriting Profit factor to include in the Assigned Risk Filing. For this year's filing, the Rate Bureau also engaged NCCI to provide the preliminary analysis of the loss data, including preliminary analysis of loss development, trends, and expense levels. My role was to conduct an independent review and work with NCCI in order to present suitable alternatives to the Rate Bureau. The scope includes 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. David Appel and Dr. James Vander Weide as to 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 based on the directions of the Rate Bureau; my 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, I was provided all the information that was necessary and had adequate time for a complete review. My review was not limited in any way.

Q. What are assigned risks?

A. Assigned risks refer to those North Carolina employers that cannot find an insurance company in the voluntary market willing to provide a policy of insurance. 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. All licensed workers compensation insurers must participate in this plan, either as a direct assignment carrier or as a member 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 filed Assigned Risk rates and rating plans, and pay the agent a commission as designated in the Insurance Plan. For pool members, one or more servicing carriers will write the policy on a direct basis, again using the same filed 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, 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 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 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, and profit and contingency provisions 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 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, and the loss costs by classification as contained in that filing 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 seeking a 1.3% increase in rate level.

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 an increase of 1.3%, different class codes will change by different amounts. By industry group the changes are as follows:

Manufacturing   1.3% decrease
Contracting 1.4% increase
Office and Clerical 8.5% decrease
Goods and Services 4.0% increase
Miscellaneous 9.0% increase

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

A. April 1, 2010.

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

A. The current Assigned Risk Rates became effective April 1, 2009.

Q. Can you briefly explain the overall theory underpinning the rate 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 filing in this manner?

A. 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 a loadings for production and general expenses, taxes licenses and fees, 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, Field Supervision and General Expenses combined.

4. Determine the provision for Taxes, Licenses and Fees.

5. Determine the provision for Underwriting Profit.

6. Determine the provision for Contingencies.

7. Determine the impact of expense constants and minimum premiums.

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

A. The actual formula is somewhat complex, but the seven provisions above are entered into a formula provided by the North Carolina Insurance Department for company use in determining its 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)-(6)), with an offset for premium provided by expense constants and minimum premium rules (7). The Assigned Risk plan does not provide for premium discounts by size of insured and North Carolina state act losses do not have loss based assessments, so those parts of the Insurance Department's formula are not used.

Q. Is the Insurance Department'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. Let's take the provisions 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 compensate them. 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 (in this case 1/1/09) and a denominator consisting of the pure premiums developed to ultimate and adjusted to the 4/1/09 voluntary loss cost level. Essentially, the numerator 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 4/1/09 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 4/1/09 level.

After taking the ratio of the ratios, the denominators of each are common, both representing pure premiums at the 4/1/09 level. They therefore cancel and we are left with a factor representing the 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 five policy years, 2003 through 2007. Additionally, differentials are calculated using paid loss development method and the case-incurred loss development method producing a total of 10 ratios. The Rate Bureau gives each of these ratios equal weight in the calculation of the loss cost differential.   The unweighted average of these 10 ratios is a factor of 1.468.

There are two more adjustments that need to be made, however. The first is an adjustment due to the Assigned Risk Adjustment Program (ARAP). This is a program that provides additional premium from risks with debit experience modification factors (because of higher expected losses). Because this additional premium is produced through ARAP, it does not need to be provided for in the Assigned Risk rates. The average impact of ARAP is a factor of 1.017 as shown on Exhibit II-E, Sheet 9. The average differential of 1.468 as calculated above divided by the average impact of ARAP of 1.017 produces an indicated differential of 1.443.

A second adjustment is made to prevent a double counting of Servicing Carrier loss adjustment expenses. 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, Field Supervision and General Expenses). 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 .904 and is calculated in Exhibit II-A, Sheet 3 of the filing. The indicated differential of 1.443 multiplied by the adjustment factor of .904 results in the proposed loss cost modification

factor if 1.304 and is shown on Exhibit I-A, Sheet 3 of the filing.

Q. In your opinion is the resulting loss cost modification factor of 1.304 reasonable?

A. Yes.

Q. How is the provision for Commission and Brokerage determined?

A. The Workers Compensation Insurance Plan 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, Field Supervision, and General Expenses determined?

A. Separate provisions are calculated for Servicing Carriers and Direct Assignment Carriers, and the resulting provision is the weighted average of the two, using their respective Assigned Risk market shares (called "Quotas") as weights.

    For the Servicing Carriers, the provision is the weighted average of the January 1, 2009 three year servicing carrier allowances (which include loss adjustment expenses), plus a provision for Assigned Risk Pool administration expenses, plus a provision for expenses which are separately reimbursed by the Pool. The Pool administrative expenses are based on the average of calendar years 2006 through 2008, and the separately reimbursed expenses are based on the average of Policy Years 2005 through 2007.

    For direct assignment carriers, the provision is based the three year sum of the actual expenses of the direct assignment carriers for Other Acquisition, Field Supervision, and General Expenses for calendar years 2006 through 2008 divided by the three year sum of net earned premium on a standard premium basis for the same carriers during the same period.

Q. In your opinion, is the provision for Other Acquisition, Field Supervision, 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% increased by the regulatory surcharge factor of 1.060 plus a provision of 0.3% for miscellaneous

taxes, producing a total of 2.95%. 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 Underwriting Profit provision was selected by the Rate Bureau based on a cost of capital
    analysis provided by Dr. James Vander Weide and a rate of return model provided by Dr. David
    Appel of Milliman. I have not reviewed nor have I been asked to provide an opinion concerning the
    Underwriting Profit provision. I am relying on these other experts and the Rate Bureau as to the
    reasonableness of this value.

Q. Is a Contingency provision permitted by North Carolina law?

A. Yes, North Carolina rating law states that Assigned Risk rates shall "provide a reasonable margin for
    underwriting profit and contingencies."

Q. How do actuaries define a contingency provision?

A. The Casualty Actuarial Society through its Statement of Principles Regarding Property and Casualty
    Insurance Ratemaking states that "The rate should also include a charge for any systematic variation
    of the estimated costs from the expected costs. This charge should be reflected in the
    determination of the contingency provision."

Q. How was the Contingency provision determined?

A. Exhibit RB-6 provides this analysis.   The exhibit compares the average target loss provision for each
    policy year as originally filed with the ultimate values that are currently projected. On average, the
    current loss projection is approximately 1.1% higher. This provides evidence of the systematic
    variation of the estimated costs from the expected costs.

Q. In your opinion, is the contingency provision of 1.0% reasonable?

A. Yes it is.

Q. How is the impact of Expense Constants and Minimum Premiums determined?

A.   Expense constants and minimum premium rules 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 expense constant premium in Exhibit II-D, Sheet 1. It is based on the Assigned Risk premiums for policy years 2005 through 2007 developed to ultimate and adjusted to the proposed rate level, along with the number of policies which had an expense constant charged. There is also an adjustment to reflect the difference in average policy size between policy years 2005 through 2007 and the current estimate of average policy size. The impact of the expense constants is +9.8% of assigned risk premium.

The effect of minimum premiums is calculated in Exhibit II-D, Sheet 2. The impact of the proposed minimum premium rules is +2.7% of assigned risk premium.

These two items are combined multiplicatively (1.098 x 1.027 = 1.128) to provide the factor that is used as a divisor in the loss cost multiplier formula to reduce the rates on account of these alternate premium sources.

Q.   Has the Rate Bureau changed its Expense Constant and Minimum Premium formula from the 2008 Assigned Risk rate filing?

A.   The Expense Constant has not changed. The minimum premium multiplier has increased from 185 to 200, and the maximum premium that can be charged as a result of the minimum premium rules has increased from $850 to $1,000 (the maximum minimum premium).

Q.   Do these changes in the minimum premium rules affect the Assigned Risk Rates?

A.   Yes, because the changes to the Minimum Premium rules provide additional premium, the filed rates are lower than they otherwise would be without these changes.

Q.   In your opinion, are the changes to the Minimum Premium rules reasonable?

A.   Yes.

Q.   In your opinion, is the impact of the Expense Constants and Minimum Premiums that the Rate Bureau has calculated reasonable?

A.   Yes it is.

Q. In your opinion, is the formula provided by the Insurance Department 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 2.032 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. 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 each and every class code, this will hold for each class code and each industry group in addition to the average overall change.

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 is 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 of 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 reflect the expected level of all costs for workers compensation Assigned Risk insurance in North Carolina, 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 neither excessive, nor inadequate, nor 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 neither excessive, nor inadequate nor unfairly discriminatory.

Q. Does this conclude your testimony?

A. Yes it does.

Comparison of Target Loss Provision as Filed to Current Ultimate Projection
Policy Years 1988 through 2007

	(1)	(2)	(3)	(4)
	Policy Year	Target Loss Provision	Current Ultimate Projection*	Indicated Shortfall (3)-(2)
	1988	64.1%	89.9%	25.8%
	1989	64.1%	103.8%	39.7%
	1990	63.5%	99.9%	36.4%
	1991	64.0%	88.0%	24.0%
	1992	64.7%	73.5%	8.8%
	1993	67.3%	54.3%	-13.0%
	1994	68.8%	45.9%	-22.9%
	1995	68.8%	45.9%	-22.9%
	1996	86.2%	49.2%	-37.0%
	1997	85.0%	72.6%	-12.4%
	1998	83.9%	86.1%	2.2%
	1999	83.9%	85.7%	1.8%
	2000	86.6%	90.7%	4.1%
	2001	86.6%	91.1%	4.5%
	2002	86.6%	88.4%	1.8%
	2003	87.0%	86.6%	-0.4%
	2004	88.1%	91.1%	3.0%
	2005	88.1%	86.5%	-1.6%
	2006	87.3%	79.1%	-8.2%
	2007	88.1%	75.2%	-12.9%
	Average	78.1%	79.2%	1.1%

*Current Ultimate Projection is based on the average of paid
  and paid plus case loss development.

PREFILED TESTIMONY
OF
JAMES H. VANDER WEIDE

2009 WORKERS COMPENSATION INSURANCE
ASSIGNED RISK RATE FILING
BY THE NORTH CAROLINA RATE BUREAU

Q.   WHAT IS YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS?

A.   My name is James H. Vander Weide. I am Research Professor of

Finance and Economics at Duke University, the Fuqua School

of Business. I am also President of Financial Strategy

Associates, a firm that provides strategic and financial

consulting services to corporate clients. My business

address is 3606 Stoneybrook Drive, Durham, North Carolina.

Q.   PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PRIOR

ACADEMIC EXPERIENCE.

A.   I graduated from Cornell University with a Bachelor's Degree

in Economics and then attended Northwestern University where

I earned a Ph.D. in Finance. I joined the faculty of the

School of Business at Duke University where I was

subsequently named Assistant Professor, Associate Professor,

and then Professor.

Since joining the faculty I have taught courses in corporate

finance, investment management, and management of financial

institutions. I have also taught a graduate seminar on the

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theory of public utility pricing and lectured in executive development seminars on the cost of capital, financial analysis, capital budgeting, mergers and acquisitions, cash management, short-run financial planning, and competitive strategy.

I have served as Program Director and taught in numerous executive education programs at Duke, including the Duke Advanced Management Program, the Duke Management Challenge, the Duke Executive Program in Telecommunications, Competitive Strategies in Telecommunications, and the Duke Program for Manager Development for managers from the former Soviet Union. I also teach in tailored programs developed for corporations such as ABB, Accenture, Allstate, AT&T, Progress Energy, GlaxoSmithKline, Lafarge, MidAmerican Energy, Norfolk Southern, The Rank Group, Siemens, TRW, and Wolseley PLC.

In addition to my teaching and executive education activities, I have written research papers on such topics as portfolio management, the cost of capital, capital budgeting, the effect of regulation on the performance of public utilities, and cash management. My articles have been published in *American Economic Review, Financial Management, International Journal of Industrial Organization, Journal of*

Finance, Journal of Financial and Quantitative Analysis,

Journal of Bank Research, Journal of Accounting Research,

Journal of Cash Management, Management Science, The Journal

of Portfolio Management, Atlantic Economic Journal, Journal

of Economics and Business, and *Computers and Operations*

Research. I have written a book titled *Managing Corporate*

Liquidity: an Introduction to Working Capital Management, a

chapter for *The Handbook of Modern Finance*, "Financial

Management in the Short Run," and a chapter for the

forthcoming book, *The Handbook of Portfolio Construction:*

Contemporary Applications of Markowitz Techniques,

"Principles for Lifetime Portfolio Selection: Lessons from

Portfolio Theory."

Q.   HAVE YOU PREVIOUSLY PRESENTED EVIDENCE ON THE COST OF

CAPITAL AND OTHER REGULATORY ISSUES?

A.   Yes. As an expert on financial and economic theory, I have

testified on the cost of capital, competition, risk,

incentive regulation, forward-looking economic cost,

economic pricing guidelines, depreciation, accounting,

valuation, and other financial and economic issues in

approximately 400 cases before the U.S. Congress, the

Federal Communications Commission, the National

Telecommunications and Information Administration, the

Federal Energy Regulatory Commission, the Canadian Radio-

Television and Telecommunications Commission, The National

Energy Board (Canada),the public service commissions of 42

states and the District of Columbia, the insurance

commissions of five states, the Iowa State Board of Tax

Review, and the National Association of Securities

Dealers. In addition, I have testified as an expert witness

in proceedings before the U.S. District Court for the

Northern District of California; U.S. District Court for the

District of Nebraska; United States District Court for the

District of New Hampshire; U.S. District Court for the

Eastern District of North Carolina; Superior Court, North

Carolina; the U.S. Bankruptcy Court for the Southern

District of West Virginia; and the U.S. District Court for

the Eastern District of Michigan.

Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A.   I have been asked by the North Carolina Rate Bureau to make

an independent appraisal of the aggregate cost of equity

capital for the companies writing workers compensation

insurance in North Carolina and to recommend a rate of

return on equity that is fair, that allows those companies

in the aggregate to attract and retain capital on reasonable

terms, that is commensurate with returns on investments of

comparable risk, and that maintains the financial integrity

of those companies in the aggregate.

Q. WHAT DO YOU MEAN BY THE PHRASE "COST OF EQUITY CAPITAL?"

A. A firm's cost of equity capital is the rate of return expectation that is required in the marketplace on equity investments of comparable risk. If an investor does not expect to earn a return on an equity investment in a firm that is at least as large as the return the investor could expect to earn on other investments of comparable risk, then the investor will not invest in that firm's shares. Thus, a firm's cost of equity capital is also the rate of return expectation that is required in the marketplace in order to induce equity investors to purchase shares in that firm.

Q. IS THE COST OF EQUITY CAPITAL THE SAME AS THE RETURN ON EQUITY?

A. No. The cost of equity capital is a market-based concept that reflects investors' future expectations, while the return on equity is an accounting concept that measures results of past performance. The return on equity is equal to income available for common equity divided by the book value of common equity.

Q. HAVE YOU FORMED AN OPINION REGARDING THE COST OF EQUITY CAPITAL FOR THE AVERAGE COMPANY WRITING WORKERS COMPENSATION INSURANCE IN NORTH CAROLINA?

A.   Yes.

Q.   WHAT IS YOUR OPINION IN THAT REGARD?

A.   The cost of equity capital for such a company is in the

      range 11.0 percent to 12.8 percent.

Q.   WHAT ECONOMIC PRINCIPLES DID YOU CONSIDER IN ARRIVING AT

      THAT OPINION?

A.   There are two primary economic principles relevant to my

      appraisal of the cost of equity capital. The first, relating

      to the demand for capital, states that a firm should

      continue to invest in its business only so long as the

      return on its investment is greater than or equal to its

      cost of capital. In the context of a regulated firm, this

      principle suggests that the regulatory agency should

      establish revenue levels which will offer the firm an

      opportunity to earn a return on its investment that is at

      least equal to its cost of capital.

      The second principle, relating to the supply of capital,

      states that rational investors are maximizing their total

      return on capital only if the returns they expect to receive

      on investments of comparable risk are equal. If these

      returns are not equal, rational investors will reduce or

      completely eliminate investments in those activities

yielding lower expected returns for a given level of risk

and will increase investments in those activities yielding

higher expected returns. The second principle implies that

regulated firms will be unable to obtain the capital

required to expand service on reasonable terms unless they

are able to provide investors returns equal to those

expected on investments of comparable risk.

Q.   DO THESE ECONOMIC PRINCIPLES APPLY TO THE SETTING OF

     INSURANCE RATES?

A.   Yes. These are general economic principles that apply to

     investing in any business activity, including insurance.

Q.   HOW DID YOU GO ABOUT DETERMINING THE COST OF EQUITY CAPITAL

     FOR THE AVERAGE COMPANY WRITING WORKERS COMPENSATION

     INSURANCE IN NORTH CAROLINA?

A.   I used two generally accepted methods to estimate the cost

     of equity: (i) the Discounted Cash Flow (DCF) Model, and

     (ii) the Risk Premium Approach.

Q.   PLEASE DESCRIBE THE DCF MODEL.

A.   The DCF Model suggests that investors value an asset on the

     basis of the future cash flows they expect to receive from

     owning the asset. Thus, investors value an investment in a

     bond because they expect to receive a sequence of

semi-annual coupon payments over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF approach is that investors value a dollar received in the future less than a dollar received today. This is because, if they had the dollar today, they could invest it in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles noted above to an investment in a bond suggests that investors should value their investment in the bond on the basis of the present value of the bond's future cash flows. Thus, the price of the bond should be equal to:

Equation 1

$$P_B = \frac{C}{(1 + i)} + \frac{C}{(1 + i)^2} + K + \frac{C + F}{(1 + i)^n}$$

where:

P_B = Bond price;

```
C     =    Cash value of the coupon payment (assumed for
           notational convenience to occur annually rather
           than semi-annually);
F     =    Face value of the bond;
i     =    The rate of interest the investor could earn by
           investing his money in an alternative bond of
           equal risk; and
n     =    The number of periods before the bond matures.
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Applying these same principles to an investment in a firm's

stock suggests that the price of the stock should be equal

to:

Equation 2

$$P_S \;=\; \frac{D_1}{(1+k)} \;+\; \frac{D_2}{(1+k)^2} \;+\; K \;+\; \frac{D_n + P_n}{(1+k)^n}$$

where:

```
P_S                 =    Current price of the firm's stock;
D_1,D_2...D_n       =    Expected annual dividend per share on
                         the firm's stock;
P_n                 =    Price per share of stock at the time the
                         investor expects to sell the stock; and
k                   =    Return the investor expects to earn on
                         alternative investments of the same
                         risk, i.e., the investor's required rate
                         of return.
```

Equation (2) is frequently called the Annual Discounted Cash

Flow (DCF) Model of stock valuation.

Q.   HOW DO YOU USE THE DCF MODEL TO DETERMINE THE COST OF EQUITY

     CAPITAL?

A.   The "k" in the equation is the cost of equity capital. We

     make certain simplifying assumptions regarding the other

factors in the equation and then mathematically solve for "k."

Q.   WHAT ARE THE ASSUMPTIONS YOU MAKE?

A.   Most analysts make three simplifying assumptions. First,
     they assume that dividends are expected to grow at the
     constant rate ("g") into the indefinite future. Second, they
     assume that the stock price at time "n" is simply the
     present value of all dividends expected in periods
     subsequent to "n." Third, they assume that the investors'
     required rate of return, "k," exceeds the expected dividend
     growth rate, "g."

Q.   DOES THE ANNUAL DCF MODEL OF STOCK VALUATION PRODUCE
     APPROPRIATE ESTIMATES OF A FIRM'S COST OF EQUITY CAPITAL?

A.   No. The Annual DCF Model of stock valuation produces
     appropriate estimates of a firm's cost of equity capital
     only if the firm pays dividends just once a year. Since most
     firms pay dividends quarterly, the Annual DCF Model produces
     downwardly biased estimates of the cost of equity. Investors
     can expect to earn a higher annual effective return on an
     investment in a firm that pays quarterly dividends than in
     one which pays the same amount of dollar dividends once at
     the end of each year. A complete analysis of the
     implications of the quarterly payment of dividends on the

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DCF Model is provided in Exhibit RB-10. For the reasons

cited there, I employed the Quarterly DCF Model throughout

my calculations.

Q. PLEASE DESCRIBE THE QUARTERLY DCF MODEL YOU USED.

A. The Quarterly DCF Model I used is described by Equation 10

on page 11 in Exhibit RB-10. This equation shows that the

cost of equity is: the sum of the dividend yield and the

growth rate, where the dividend in the dividend yield is the

equivalent dividend at the end of the year, and the growth

rate is the expected growth in dividends or earnings per

share.

Q. HOW DO YOU APPLY THE DCF APPROACH TO OBTAIN THE COST OF

EQUITY CAPITAL FOR THE COMPANIES WRITING WORKERS

COMPENSATION INSURANCE IN NORTH CAROLINA?

A. I apply the DCF approach to two groups of companies: Value

Line's group of property/casualty insurance companies and

the S&P 500.

Q. WHY DO YOU APPLY THE DCF APPROACH TO THE S&P 500 AS WELL AS

TO VALUE LINE'S PROPERTY/CASUALTY INSURANCE COMPANIES?

A. As I noted previously, the cost of equity is defined as the

rate of return investors expect to earn on investments in

other companies of comparable risk. I apply the DCF

approach to the S&P 500 because they are a large group of

companies that, on average, are typically viewed as being

comparable in risk to the property/casualty insurance

industry. The use of a larger set of comparable risk

companies should provide an accurate estimate of the cost of

equity for the companies writing workers compensation

insurance in North Carolina.

Q.   DO YOU INCLUDE ALL THE VALUE LINE PROPERTY/CASUALTY

      INSURANCE COMPANIES?

A.   No. Among the Value Line property/casualty insurance

      companies, I delete any firm which has recently lowered its

      dividend and which has fewer than three five-year earnings

      forecasts available from I/B/E/S (formerly known as the

      Institutional Brokers Estimate System, now part of Thomson

      Reuters). The Value Line property/casualty companies I use

      are shown in Exhibit RB-8.[1]

Q.   WHAT CRITERIA DO YOU USE TO SELECT COMPANIES IN THE S&P 500?

A.   I include those firms which pay dividends and which have at

      least three five-year earnings forecasts available from

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[1]   At this time, my selection criteria produces a group of only four Value
       Line property/casualty insurance companies. Two of the Value Line
       insurance companies that have previously been available for inclusion in
       my comparable group are no longer available, including Safeco, which has
       been acquired by Liberty Mutual, and Progressive, which now pays a
       variable dividend declared once a year in December. Therefore, I also
       report DCF results for three additional companies, including W. R.
       Berkley, Hanover, and Selective, which had two I/B/E/S analysts' five-
       year earnings growth forecasts.

I/B/E/S.   I exclude the insurance companies in the S&P 500,
as identified by I/B/E/S Thomson Reuters, because I have
already calculated DCF results for the Value Line
property/casualty insurance companies. The S&P 500 companies
I use are shown in Exhibit RB-9.

Q.   WHY DO YOU ELIMINATE ANY COMPANY WHICH HAD RECENTLY LOWERED
     ITS DIVIDEND OR WHICH FAILS TO PAY DIVIDENDS?
A.   I eliminate those companies because it is difficult to make
     a reliable estimate of the future dividend growth rate for
     companies that have recently lowered their dividends or do
     not pay dividends. If a company has recently lowered its
     dividend, investors do not know whether the company will
     again lower its dividend in the future, or whether the
     company will attempt to increase its dividend back toward
     its previous level. If a company does not pay a dividend,
     one cannot mathematically apply the DCF approach.

Q.   HOW DO YOU ESTIMATE THE GROWTH COMPONENT OF THE QUARTERLY
     DCF MODEL?
A.   I use the average of analysts' estimates of future earnings
     per share (EPS) growth reported by I/B/E/S. As part of their
     research, financial analysts working at Wall Street firms
     periodically estimate EPS growth for each firm they follow.
     The EPS forecasts for each firm are then published. The

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forecasts are used by investors who are contemplating

purchasing or selling shares in individual companies.

Q.   WHAT IS I/B/E/S?

A.   I/B/E/S is a collection of analysts' forecasts for a broad

group of companies expressed in terms of a mean forecast and

a standard deviation of forecast for each firm. The mean

forecast is used by investors as an estimate of future firm

performance.

Q.   WHY DO YOU USE THE I/B/E/S GROWTH ESTIMATES?

A.   The I/B/E/S growth rates (1) are widely circulated in the

financial community, (2) include the projections of a large

number of reputable financial analysts who develop estimates

of future growth, (3) are reported on a timely basis to

investors, and (4) are widely used by institutional and

other investors. For these reasons, I believe these

estimates represent unbiased estimates of investors'

expectations of each firm's long-term growth prospects and,

accordingly, are incorporated by investors into their return

requirements. Consequently, in my opinion, they provide the

best available estimate of investors' long-term growth

expectations.

Q.   WHY DO YOU RELY EXCLUSIVELY ON ANALYSTS' PROJECTIONS OF

     FUTURE EPS GROWTH IN ESTIMATING THE INVESTORS' EXPECTED

     GROWTH RATE RATHER THAN LOOKING AT PAST HISTORICAL GROWTH

     RATES?

A.   There is considerable empirical evidence that analysts'

     forecasts are more highly correlated with stock prices than

     are firms' historical growth rates, and, thus, that

     investors actually use these forecasts.

Q.   HAVE YOU PERFORMED ANY STUDIES CONCERNING THE USE OF

     ANALYSTS' FORECASTS AS THE BEST ESTIMATE OF INVESTORS'

     EXPECTED GROWTH RATE, G?

A.   Yes, I prepared a study in conjunction with

     Willard T. Carleton, Professor of Finance Emeritus at the

     University of Arizona, on why analysts' forecasts provide

     the best estimate of investors' expectations of future long-

     term growth. This study is described in a paper entitled

     "Investor Growth Expectations: Analysts vs. History,"

     published in the Spring 1988 edition of *The Journal of

     Portfolio Management*.

Q.   PLEASE SUMMARIZE THE RESULTS OF YOUR STUDY.

A.   First, we performed a correlation analysis to identify the

     historically-oriented growth rates which best described a

     firm's stock price. Then we did a regression study comparing

the historical growth rates with the consensus analysts'
forecasts. In every case, the regression equations
containing the average of analysts' forecasts statistically
outperformed the regression equations containing the
historical growth estimates. These results are consistent
with those found by Cragg and Malkiel, the early major
research in this area. These results are also consistent
with the hypothesis that investors use analysts' forecasts,
rather than historically-oriented growth calculations, in
making buy and sell decisions. They provide overwhelming
evidence that the analysts' forecasts of future growth are
superior to historically-oriented growth measures in
predicting a firm's stock price.

Q.   WHAT PRICE DO YOU USE IN YOUR DCF MODEL?

A.   I use a simple average of the monthly high and low stock
     prices for each firm for the three-month period, March,
     April, and May 2009. These high and low stock prices were
     obtained from Thomson Reuters.

Q.   WHY DO YOU USE THE THREE-MONTH AVERAGE STOCK PRICE, P_0, IN
     APPLYING THE DCF METHOD?

A.   I use a three-month average stock price in applying the DCF
     method because stock prices fluctuate daily, while financial
     analysts' forecasts for a given company are generally

changed less frequently, often on a quarterly basis. Thus,
to match the stock price with an earnings forecast, it is
appropriate to average stock prices over a three-month
period.

Q. PLEASE EXPLAIN YOUR INCLUSION OF FLOTATION COSTS.

A. All firms that have sold securities in the capital markets
have incurred some level of flotation costs, including
underwriters' commissions, legal fees, printing expense,
etc. These costs are paid from the proceeds of the stock
sale and must be recovered over the life of the equity
issue. Costs vary depending upon the size of the issue, the
type of registration method used and other factors, but in
general these costs range between four percent and five
percent of the proceeds from the issue. In addition to these
costs, for large equity issues there is likely to be a
decline in price associated with the sale of shares to the
public. On average, the decline due to market pressure has
been estimated at two percent to three percent.

These cost ranges have been developed and confirmed in a
number of generally accepted studies. I believe a combined
five percent allowance for flotation costs and market
pressure is a conservative estimate that can be used in
applying the DCF Model in this proceeding.

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR APPLICATION OF THE DCF
METHOD TO THE PROPERTY/CASUALTY INSURANCE COMPANIES AND THE
S&P 500.

A. As shown in Exhibits RB-8 and RB-9, the average DCF cost of
equity capital for my group of Value Line property/casualty
companies is 11.0 percent; and for the S&P 500 companies,
12.8 percent.

Q. WHAT CONCLUSION DO YOU REACH FROM YOUR DCF ANALYSIS ABOUT
THE COST OF EQUITY CAPITAL FOR COMPANIES WRITING WORKERS
COMPENSATION INSURANCE IN NORTH CAROLINA?

A. On the basis of my DCF analysis, I would conclude that for
companies writing workers compensation insurance in North
Carolina the cost of equity is in the range 11.0 percent to
12.8 percent.

Q. YOU SAID THE SECOND METHOD YOU USE TO ESTIMATE THE COST OF
EQUITY CAPITAL FOR COMPANIES WRITING WORKERS COMPENSATION
INSURANCE IN NORTH CAROLINA IS A RISK PREMIUM APPROACH.
PLEASE DESCRIBE THAT APPROACH.

A. I perform a study of the comparable returns received by bond
and stock investors over the last 83 years. I estimate the
returns on stock and bond portfolios, using stock price and
dividend yield data on the S&P 500 stock portfolio and bond
yield data on Moody's A-rated utility bonds.

My study consists of analyzing the historically achieved

returns on broadly based stock and bond portfolios going

back to 1926. For stocks, I used the S&P 500 stock portfolio

and for bonds I used Moody's A-rated utility bonds. The

resulting annual returns on the stock and bond portfolios

purchased in each year from 1926 through 2008 are shown on

Exhibit RB-11. The difference between the stock return and

the bond return over that period of time on an arithmetic

average basis is 4.53 percentage points.

Q.   WHAT CONCLUSIONS DO YOU DRAW FROM YOUR RISK PREMIUM

ANALYSES?

A.   My own studies, combined with my analysis of other studies,

provide strong evidence for the belief that investors today

require an equity return of approximately 4.53 percentage

points above the expected yield on A-rated long-term debt

issues.

Interest rates on Moody's seasoned A-rated utility bonds

during the three months March through May 2009 range from

6.39 percent to 6.48 percent. On the basis of this

information and my knowledge of bond market conditions, I

conclude that the long-term yield on A-rated utility bonds

is approximately 6.43 percent. Adding a 4.53 percentage

point risk premium to the 6.43 percent expected yield on A-

rated utility bonds, I obtain an expected return on equity
of 11.0 percent.

Q.   BASED ON YOUR ANALYSES, WHAT IS YOUR OPINION AS TO THE COST
      OF CAPITAL FOR THE AVERAGE INSURANCE COMPANY WRITING WORKERS
      COMPENSATION INSURANCE IN NORTH CAROLINA?

A.   Based on my review and studies, I believe that a
      conservative estimate of the cost of common equity capital
      for the average insurance company writing workers
      compensation insurance in North Carolina is in the range
      11.0 percent to 12.8 percent.

Q.   IS THE COST OF EQUITY A FAIR RETURN ON EQUITY?

A.   No. The cost of equity is a market-based concept that
      reflects the return investors expect on the market value of
      their investment. The fair return on equity is an accounting
      concept that expresses the accounting rate of return the
      company earns on the book value of its investment. The cost
      of equity and the fair return on equity will be equal only
      when the market value of equity is equal to the book value
      of equity. Generally, the market value of equity is greater
      than the book value of equity for both the average firm and
      the average property/casualty insurer. When the market value
      of equity is greater than the book value of equity, the fair
      rate of return on equity must exceed the cost of equity

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capital for equity investors to have a reasonable

expectation of earning their required return on investment.

Q.   DO YOU CONVERT YOUR COST OF EQUITY CAPITAL TO A FAIR RETURN

ON EQUITY?

A.   No. In this proceeding I do not convert my cost of equity

capital to the fair return on equity. The data that I

previously used to convert my cost of equity to a fair

return on equity has not been updated in several years.

However, in the absence of data necessary to perform an

explicit study, to be conservative, I recommend that my cost

of equity estimate also be used as an estimate of the fair

return on equity.

SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS FOR
PROPERTY/CASUALTY INSURANCE COMPANIES

COMPANY	D_4	P_0	G	K
ACE Limited	0.310	41.352	11.00	14.1%
Berkley (W.R.)	0.060	22.477	12.50	13.8%
Chubb Corp.	0.350	39.955	7.75	11.6%
Hanover Insurance	0.113	31.530	11.00	12.7%
HCC Insurance Hldgs.	0.125	24.243	8.33	10.7%
Selective Ins. Group	0.130	12.972	6.20	10.7%
Travelers Cos.	0.300	39.588	3.54	6.8%
Average				11.5%

Notes:

d_0 =   Latest quarterly dividend.

d_1, d_2, d_3, d_4, =   Expected next four quarterly dividends, calculated by multiplying the last four quarterly dividends per Value Line, by the factor $(1 + g)$.

P_0 =   Average of the monthly high and low stock prices during the three months ending May 2009 per Thomson Reuters.

FC   =   Flotation costs.

g   =   I/B/E/S forecast of future earnings growth May 2009.

k   =   Cost of equity using the quarterly version of the DCF Model and a five percent allowance for flotation costs and market pressure (selling costs) as shown by the formula below:

$$k \; = \; \frac{d_1(1 + k)^{.75} \; + \; d_2(1 + k)^{.50} \; + \; d_3(1 + k)^{.25} \; + \; d_4}{P_0(1 - FC)} \; + \; g$$

SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS FOR
S&P 500 COMPANIES

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
3M	48.02	2.04	10.08%	15.1%
ABBOTT LABORATORIES	46.39	1.60	11.43%	15.5%
ABERCROMBIE & FITCH	28.50	0.70	13.00%	16.0%
AETNA	24.97	0.04	11.00%	11.2%
AIR PRDS.& CHEMS.	53.05	1.80	6.72%	10.6%
ALLERGAN	51.05	0.20	13.74%	14.2%
AMER.ELEC.PWR.	26.95	1.64	3.55%	10.3%
AMERISOURCEBERGEN	19.22	0.20	11.67%	12.9%
APPLIED MATS.	17.20	0.24	8.71%	10.3%
AUTOMATIC DATA PROC.	36.46	1.32	11.38%	15.7%
BANK OF NEW YORK MELLON	28.92	0.36	10.75%	12.2%
BAXTER INTL.	49.34	1.04	11.77%	14.3%
BB&T	27.57	0.60	7.67%	10.2%
BECTON DICKINSON	69.99	1.32	12.75%	15.0%
BEMIS	30.63	0.90	7.74%	11.1%
BEST BUY	43.17	0.56	12.90%	14.4%
BOEING	35.76	1.68	8.17%	13.6%
BRISTOL MYERS SQUIBB	29.78	1.24	7.52%	12.3%
BROWN-FORMAN 'B'	41.98	1.15	8.10%	11.3%
BURL.NTHN.SANTA FE C	61.75	1.60	6.77%	9.7%
C R BARD	69.13	0.68	14.14%	15.3%
CA	20.04	0.16	10.75%	11.7%
CARDINAL HEALTH	116.42	0.70	9.00%	9.7%
CATERPILLAR	44.97	1.68	6.75%	11.0%
CHARLES SCHWAB	24.45	0.24	14.67%	15.9%
CHESAPEAKE ENERGY	23.44	0.30	8.33%	9.8%
CIGNA	18.04	0.04	10.25%	10.5%
CINTAS	28.94	0.47	11.00%	12.9%
CLOROX	51.01	2.00	9.67%	14.3%
CME GROUP	219.23	4.60	10.75%	13.2%
CMS ENERGY	14.30	0.50	6.67%	10.6%
COACH	35.69	0.30	13.33%	14.3%
COCA COLA	47.35	1.64	7.68%	11.7%
COCA COLA ENTS.	21.72	0.28	7.88%	9.4%
COLGATE-PALM.	59.99	1.76	9.75%	13.2%
COMCAST 'A'	22.76	0.27	10.98%	12.4%
CONSOLIDATED EDISON	36.64	2.36	2.09%	9.2%
COOPER INDS.	30.12	1.00	10.00%	13.9%
COSTCO WHOLESALE	49.55	0.72	11.30%	13.0%
CSX	26.26	0.88	9.95%	13.9%
CUMMINS	29.51	0.70	10.33%	13.1%
CVS CAREMARK	27.21	0.30	12.69%	14.0%
D R HORTON	18.42	0.15	8.75%	9.7%
DANAHER	56.97	0.12	11.14%	11.4%
DARDEN RESTAURANTS	37.01	0.80	12.44%	15.0%
DEERE	35.07	1.12	7.60%	11.3%
DENTSPLY INTL.	28.97	0.20	12.67%	13.5%

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
DOMINION RES.	28.09	1.75	6.56%	13.7%
E I DU PONT DE NEMOURS	35.76	1.64	4.07%	9.2%
EATON	40.60	2.00	7.25%	12.9%
ECOLAB	38.05	0.56	13.50%	15.3%
ELI LILLY	33.69	1.96	6.37%	13.0%
EMERSON ELECTRIC	29.04	1.32	10.33%	15.7%
ENSCO INTL.	32.36	0.10	12.33%	12.7%
ENTERGY	58.76	3.00	9.02%	15.0%
EQUIFAX	25.30	0.16	9.75%	10.5%
ESTEE LAUDER COS.'A'	29.86	0.55	11.60%	13.8%
EXELON	43.30	2.10	5.42%	10.9%
EXPEDITOR INTL.OF WASH.	78.80	0.38	14.90%	15.5%
FAMILY DOLLAR STORES	30.42	0.54	12.00%	14.1%
FIDELITY NAT.INFO.SVS.	20.78	0.20	13.71%	14.9%
FIRSTENERGY	37.18	2.20	6.67%	13.5%
FLUOR	36.82	0.50	12.50%	14.1%
FORTUNE BRANDS	36.39	0.76	8.42%	10.8%
FPL GROUP	54.77	1.89	9.77%	13.8%
FRANKLIN RESOURCES	58.75	0.84	10.00%	11.7%
FRONTIER COMMUNICATIONS	12.34	1.00	1.62%	10.6%
GAP	18.50	0.34	10.14%	12.3%
GENERAL DYNAMICS	43.13	1.52	8.86%	13.0%
GENERAL ELECTRIC	14.36	0.40	8.17%	11.4%
GENERAL MILLS	46.89	1.72	6.77%	11.0%
GENUINE PARTS	34.46	1.60	7.33%	12.7%
GOLDMAN SACHS GP.	110.82	1.40	10.50%	12.0%
GOODRICH	42.05	1.00	10.88%	13.7%
H&R BLOCK	16.63	0.60	11.00%	15.3%
HARLEY-DAVIDSON	17.03	0.40	9.50%	12.2%
HARRIS	27.73	0.76	11.00%	14.2%
HASBRO	24.03	0.80	9.00%	12.9%
HEWLETT-PACKARD	38.12	0.32	11.06%	12.0%
HOME DEPOT	30.75	0.90	10.13%	13.6%
HONEYWELL INTL.	28.81	1.21	9.75%	14.7%
IMS HEALTH	17.70	0.12	8.83%	9.6%
INGERSOLL-RAND	22.43	0.72	8.25%	12.0%
INTEL	15.39	0.56	10.00%	14.3%
INTERNATIONAL BUS.MCHS.	91.35	2.20	11.57%	14.4%
INTL.GAME TECH.	15.33	0.24	7.70%	9.5%
INVESCO	23.51	0.40	10.75%	12.7%
ITT	34.23	0.85	8.50%	11.4%
JANUS CAPITAL GP.	22.19	0.04	10.67%	10.9%
JOHNSON & JOHNSON	58.02	1.96	7.82%	11.7%
KB HOME	18.14	0.25	10.50%	12.1%
KELLOGG	40.89	1.36	9.25%	13.1%
KRAFT FOODS	25.44	1.16	6.67%	11.9%
KROGER	22.54	0.36	9.00%	10.8%
L3 COMMUNICATIONS	63.82	1.40	9.47%	12.0%
LENNAR 'A'	21.92	0.16	8.67%	9.5%
LOCKHEED MARTIN	67.48	2.28	10.81%	14.8%
LOWE'S COMPANIES	18.94	0.36	11.89%	14.1%

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
MASCO	14.33	0.30	12.00%	14.5%
MATTEL	17.01	0.75	9.00%	14.1%
MCDONALDS	55.52	2.00	9.03%	13.2%
MCKESSON	40.86	0.48	10.79%	12.2%
MEDTRONIC	41.62	0.75	10.54%	12.7%
MICROSOFT	22.49	0.52	11.21%	13.9%
MOLSON COORS BREWING 'B'	40.38	0.96	10.82%	13.6%
MORGAN STANLEY	26.16	0.20	12.00%	12.9%
NATIONAL SEMICON.	16.63	0.32	12.20%	14.5%
NEWELL RUBBERMAID	13.30	0.20	9.80%	11.5%
NIKE 'B'	46.18	1.00	12.38%	15.0%
NORDSTROM	30.03	0.64	10.00%	12.5%
NORTHEAST UTILITIES	19.30	0.95	7.50%	13.2%
NORTHERN TRUST	50.22	1.12	12.25%	14.9%
NORTHROP GRUMMAN	46.20	1.72	11.13%	15.5%
OMNICOM GP.	26.96	0.60	12.13%	14.8%
ORACLE	25.13	0.20	12.50%	13.4%
PACCAR	31.53	0.72	10.80%	13.5%
PALL	32.58	0.58	13.25%	15.4%
PARKER-HANNIFIN	46.24	1.00	10.00%	12.5%
PENNEY JC	31.59	0.80	9.02%	12.0%
PEOPLES UNITED FINANCIAL	17.84	0.61	10.00%	14.0%
PEPCO HOLDINGS	17.85	1.08	3.67%	10.4%
PERKINELMER	22.92	0.28	11.75%	13.2%
PG&E	36.77	1.68	6.95%	12.2%
POLO RALPH LAUREN 'A'	46.76	0.20	13.75%	14.3%
PRAXAIR	61.96	1.60	9.37%	12.4%
PREC.CASTPARTS	77.14	0.12	14.25%	14.4%
PROCTER & GAMBLE	45.48	1.76	9.50%	14.0%
PROGRESS ENERGY	36.72	2.48	5.59%	13.3%
QUEST DIAGNOSTICS	47.16	0.40	12.85%	13.9%
QWEST COMMS.INTL.	3.76	0.32	0.13%	9.4%
RADIOSHACK	17.17	0.25	10.00%	11.7%
RAYTHEON 'B'	39.84	1.24	11.71%	15.4%
ROBERT HALF INTL.	32.43	0.48	12.67%	14.4%
SAFEWAY	20.74	0.40	8.33%	10.5%
SCANA	29.83	1.88	5.42%	12.6%
SEALED AIR	20.57	0.48	8.80%	11.5%
SEMPRA EN.	43.97	1.56	6.48%	10.5%
SHERWIN-WILLIAMS	50.69	1.42	8.07%	11.3%
SIGMA ALDRICH	37.82	0.58	9.21%	11.0%
SOUTHERN	29.78	1.75	5.36%	12.0%
SOUTHWEST AIRLINES	9.85	0.02	12.67%	12.9%
STANLEY WORKS	33.41	1.28	7.33%	11.7%
STATE STREET	44.54	0.04	11.80%	11.9%
STRYKER	33.30	0.40	12.39%	13.8%
SUNTRUST BANKS	20.73	0.40	7.00%	9.2%
T ROWE PRICE GP.	31.67	1.00	10.75%	14.5%
TARGET	32.84	0.68	13.28%	15.8%
TEXTRON	9.17	0.08	8.75%	9.8%
TIFFANY & CO	26.26	0.68	10.75%	13.8%

COMPANY	P_0	D_0	GROWTH	COST OF EQUITY
TIME WARNER	19.84	0.55	8.28%	11.5%
TJX COS.	23.38	0.48	12.20%	14.6%
TOTAL SYSTEM SERVICES	13.52	0.28	9.13%	11.5%
UNION PACIFIC	45.70	1.08	12.30%	15.1%
UNITED PARCEL SER.	48.52	1.80	8.71%	13.0%
UNITED TECHNOLOGIES	43.58	1.54	9.00%	13.1%
UNITEDHEALTH GP.	26.63	0.03	9.38%	9.5%
V F	55.78	2.36	10.60%	15.6%
VERIZON COMMUNICATIONS	28.75	1.84	3.79%	11.0%
WAL MART STORES	53.55	1.09	12.33%	14.8%
WALGREEN	30.92	0.45	12.25%	14.0%
WELLS FARGO & CO	22.76	0.20	10.75%	11.8%
WESTERN UNION	24.30	0.04	12.32%	12.5%
WINDSTREAM	12.08	1.00	0.82%	9.9%
WISCONSIN ENERGY	35.27	1.35	9.04%	13.5%
WW GRAINGER	74.38	1.84	11.22%	14.1%
XCEL ENERGY	21.20	0.98	6.38%	11.7%
XILINX	30.59	0.56	12.67%	14.9%
XTO EN.	39.21	0.50	10.33%	11.8%
YUM! BRANDS	35.40	0.76	11.85%	14.4%
Average				12.8%

Notes: In applying the DCF Model to the S&P 500, I include in the DCF analysis only those companies in the S&P 500 group which pay a dividend, have a positive growth rate, and have at least three analysts' long-term growth estimates. In addition, I exclude all companies in the I/B/E/S group of insurance companies. I also eliminate those companies with DCF results that varied from the mean by one standard deviation or more.

Notes:

D_0	=	Latest dividend per Thomson Reuters.
d_0	=	Latest quarterly dividend.
P_0	=	Average of monthly high and low stock prices March, April, and May 2009 per Thomson Reuters.
FC	=	Selling and flotation costs.
g	=	I/B/E/S forecast of future earnings growth May 2009.
k	=	Cost of equity using the quarterly version of the DCF Model and a five percent allowance for flotation costs and market pressure (selling costs) as shown by the formula below:

$$k = \left[\frac{d_0(1+g)^{\frac{1}{4}}}{P_0(1-FC)} + (1+g)^{\frac{1}{4}} \right]^4 - 1$$

THE QUARTERLY DCF MODEL

The simple DCF Model assumes that a firm pays dividends only at the end of each year. Since firms in fact pay dividends quarterly and investors appreciate the time value of money, the annual version of the DCF Model generally underestimates the value investors are willing to place on the firm's expected future dividend stream. In this appendix, we review two alternative formulations of the DCF Model that allow for the quarterly payment of dividends.

When dividends are assumed to be paid annually, the DCF Model suggests that the current price of the firm's stock is given by the expression:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_n + P_n}{(1+k)^n} \quad (1)$$

where

P_0	=	current price per share of the firm's stock,
$D_1, D_2, \ldots, D_n$	=	expected annual dividends per share on the firm's stock,
P_n	=	price per share of stock at the time investors expect to sell the stock, and
k	=	return investors expect to earn on alternative investments of the same risk, i.e., the investors' required rate of return.

Unfortunately, expression (1) is rather difficult to analyze, especially for the purpose of estimating k. Thus, most analysts make a number of simplifying assumptions. First, they assume that dividends are expected to grow at the constant rate g into the indefinite future. Second, they assume that the stock price at time n is simply the present value of all dividends expected in periods subsequent to n. Third, they assume that the investors' required rate of return, k, exceeds the expected dividend growth rate g. Under the above simplifying assumptions, a firm's stock price may be written as the following sum:

$$P_0 = \frac{D_0(1+g)}{(1+k)} + \frac{D_0(1+g)^2}{(1+k)^2} + \frac{D_0(1+g)^3}{(1+k)^3} + \dots , \qquad (2)$$

where the three dots indicate that the sum continues indefinitely.

As we shall demonstrate shortly, this sum may be simplified to:

$$P_0 = \frac{D_0(1+g)}{(k-g)}$$

First, however, we need to review the very useful concept of a geometric progression.

Geometric Progression

Consider the sequence of numbers 3, 6, 12, 24,..., where each number after the first is obtained by multiplying the preceding number by the factor 2. Obviously, this sequence of numbers may also be expressed as the sequence 3, 3 x 2, 3×2^2, 3×2^3, ... This sequence is an example of a geometric progression.

Definition: A geometric progression is a sequence in which each term after the first is obtained by multiplying some fixed number, called the common ratio, by the preceding term.

A general notation for geometric progressions is: a, the first term, r, the common ratio, and n, the number of terms. Using this notation, any geometric progression may be represented by the sequence:

$$a, \ ar, \ ar^2, \ ar^3, ..., \ ar^{n-1}.$$

In studying the DCF Model, we will find it useful to have an expression for the sum of n terms of a geometric progression. Call this sum S_n. Then

$$S_n = a + ar + ... + ar^{n-1}. \qquad (3)$$

However, this expression can be simplified by multiplying both sides of equation (3) by r and then subtracting the new equation from the old. Thus,

$$rS_n = ar + ar^2 + ar^3 + \ldots + ar^n$$

and

$$S_n - rS_n = a - ar^n \quad ,$$

or

$$(1 - r)\, S_n = a\,(1 - r^n) \quad .$$

Solving for S_n, we obtain:

$$S_n = \frac{a(1 - r^n)}{(1 - r)} \tag{4}$$

as a simple expression for the sum of n terms of a geometric progression. Furthermore, if $|r| < 1$, then S_n is finite, and as n approaches infinity, S_n approaches $a \div (1 - r)$. Thus, for a geometric progression with an infinite number of terms and $|r| < 1$, equation (4) becomes:

$$S = \frac{a}{1 - r} \tag{5}$$

Application to DCF Model

Comparing equation (2) with equation (3), we see that the firm's stock price (under the DCF assumption) is the sum of an infinite geometric progression with the first term

$$a = \frac{D_0(1 + g)}{(1 + k)}$$

and common factor

$$r = \frac{(1+g)}{(1+k)}$$

Applying equation (5) for the sum of such a geometric progression, we obtain

$$S = a \bullet \frac{1}{(1-r)} = \frac{D_0(1+g)}{(1+k)} \bullet \frac{1}{1-\frac{1+g}{1+k}} = \frac{D_0(1+g)}{(1+k)} \bullet \frac{1+k}{k-g} = \frac{D_0(1+g)}{k-g}$$

as we suggested earlier.

Quarterly DCF Model

The Annual DCF Model assumes that dividends grow at an annual rate of g% per year (see Figure 1).

Figure 1

Annual DCF Model

D_0 D_1

0   1

Year

$D_0 = 4d_0$ $D_1 = D_0(1 + g)$

Figure 2

Quarterly DCF Model (Constant Growth Version)

d_0 d_1 d_2 d_3 D_4

0   1
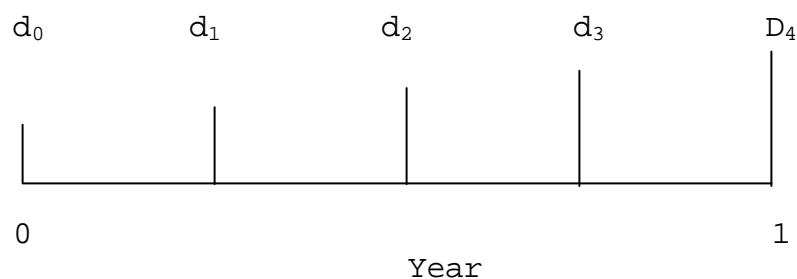
Year

$d_1 = d_0(1+g)^{.25}$ $d_2 = d_0(1+g)^{.50}$

$d_3 = d_0(1+g)^{.75}$ $d_4 = d_0(1+g)$

In the Quarterly DCF Model, it is natural to assume that quarterly dividend payments differ from the preceding quarterly dividend by the factor $(1 + g)^{.25}$, where g is expressed in terms of percent per year and the decimal .25 indicates that the growth has only occurred for one quarter of the year. (See Figure 2.) Using this assumption, along with the assumption of constant growth and **k** > **g**, we obtain a new expression for the firm's stock price, which takes account of the quarterly payment of dividends. This expression is:

$$P_0 = \frac{d_0(1+g)^{\frac{1}{4}}}{(1+k)^{\frac{1}{4}}} + \frac{d_0(1+g)^{\frac{2}{4}}}{(1+k)^{\frac{2}{4}}} + \frac{d_0(1+g)^{\frac{3}{4}}}{(1+k)^{\frac{3}{4}}} + \dots \qquad (6)$$

where d_0 is the last quarterly dividend payment, rather than the last annual dividend payment. (We use a lower case d to remind the reader that this is not the annual dividend.)

Although equation (6) looks formidable at first glance, it too can be greatly simplified using the formula [equation (4)] for the sum of an infinite geometric progression. As the reader can easily verify, equation (6) can be simplified to:

$$P_0 = \frac{d_0(1+g)^{\frac{1}{4}}}{(1+k)^{\frac{1}{4}} - (1+g)^{\frac{1}{4}}} \qquad (7)$$

Solving equation (7) for **k**, we obtain a DCF formula for estimating the cost of equity under the quarterly dividend

assumption:

$$k = \left[\frac{d_0(1+g)^{\frac{1}{4}}}{P_0} + (1+g)^{\frac{1}{4}} \right]^4 - 1 \qquad (8)$$

An Alternative Quarterly DCF Model

Although the constant growth Quarterly DCF Model [equation (8)] allows for the quarterly timing of dividend payments, it does require the assumption that the firm increases its dividend payments each quarter. Since this assumption is difficult for some analysts to accept, we now discuss a second Quarterly DCF Model that allows for constant quarterly dividend payments within each dividend year.

Assume then that the firm pays dividends quarterly and that each dividend payment is constant for four consecutive quarters. There are four cases to consider, with each case distinguished by varying assumptions about where we are evaluating the firm in relation to the time of its next dividend increase. (See Figure 3.)

Figure 3

Quarterly DCF Model (Constant Dividend Version)

Case 1

d_0 d_1 d_2 d_3 d_4

0   1

Year
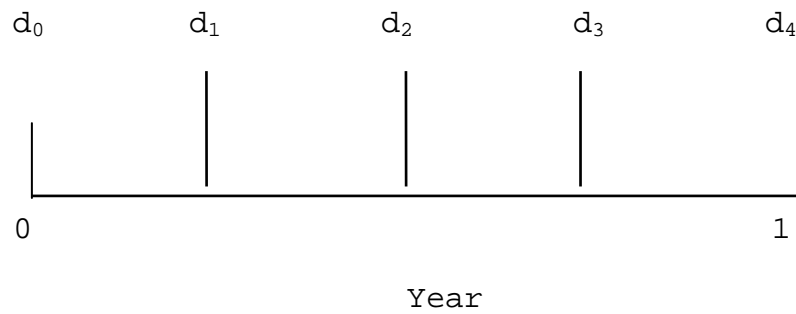
$$d_1 = d_2 = d_3 = d_4 = d_0(1+g)$$

Case 2

d_0 d_1 d_2 d_3 d_4

0   1
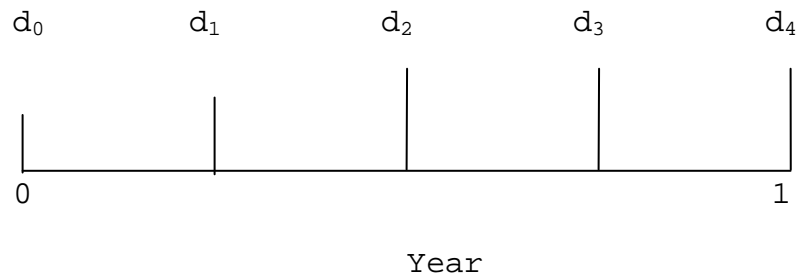
Year

$$d_1 = d_0$$

$$d_2 = d_3 = d_4 = d_0(1+g)$$

Figure 3 (continued)

Case 3

d_0 d_1 d_2 d_3 d_4

0   1
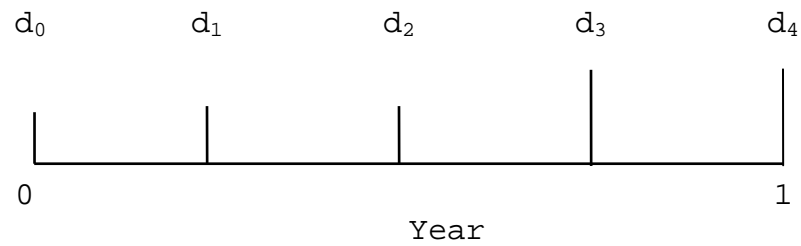
Year

$$d_1 = d_2 = d_0$$

$$d_3 = d_4 = d_0(1+g)$$

Case 4

d_0 d_1 d_2 d_3 d_4

0   1
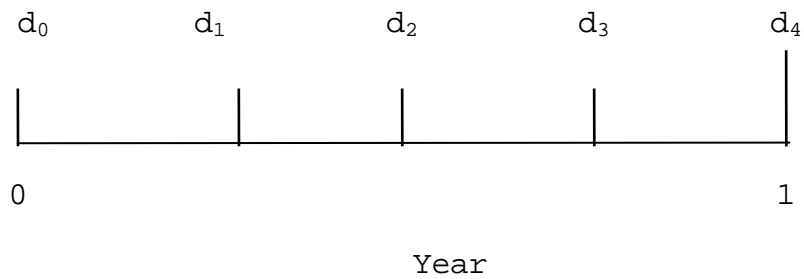
Year

$$d_1 = d_2 = d_3 = d_0$$

$$d_4 = d_0(1+g)$$

If we assume that the investor invests the quarterly dividend in an alternative investment of the same risk, then the amount accumulated by the end of the year will in all cases be given by

$$D_1{}^* = d_1 (1+k)^{3/4} + d_2 (1+k)^{1/2} + d_3 (1+k)^{1/4} + d_4$$

where d_1, d_2, d_3 and d_4 are the four quarterly dividends. Under these new assumptions, the firm's stock price may be expressed by an Annual DCF Model of the form (2), with the exception that

$$D_1{}^* = d_1 (1 + k)^{3/4} + d_2 (1 + k)^{1/2} + d_3 (1 + k)^{1/4} + d_4 \qquad \textbf{(9)}$$

is used in place of $D_0(1+g)$. But, we already know that the Annual DCF Model may be reduced to

$$P_0 = \frac{D_0(1+g)}{k - g}$$

Thus, under the assumptions of the second Quarterly DCF Model, the firm's cost of equity is given by

$$k = \frac{D_1{}^*}{P_0} + g \qquad \textbf{(10)}$$

with $D_1{}^*$ given by (9).

Although equation (10) looks like the Annual DCF Model, there are at least two very important practical differences. First, since $D_1{}^*$ is always greater than $D_0(1+g)$, the estimates of the cost

of equity are always larger (and more accurate) in the Quarterly Model (10) than in the Annual Model. Second, since D_1^* depends on k through equation (9), the unknown "k" appears on both sides of (10), and an iterative procedure is required to solve for k.

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2009

Year	S&P 500 Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Price	Bond Return
2009	865.58	0.0310		68.43	
2008	1,380.33	0.0211	-35.19%	72.25	0.24%
2007	1,424.16	0.0181	-1.27%	72.91	4.59%
2006	1,278.72	0.0183	13.20%	75.25	2.20%
2005	1,181.41	0.0177	10.01%	74.91	5.80%
2004	1,132.52	0.0162	5.94%	70.87	11.34%
2003	895.84	0.0180	28.22%	62.26	20.27%
2002	1140.21	0.0138	-20.05%	57.44	15.35%
2001	1335.63	0.0116	-13.47%	56.40	8.93%
2000	1425.58	0.0118	-5.13%	52.60	14.82%
1999	1248.77	0.0130	15.46%	63.03	-10.20%
1998	963.35	0.0116	31.25%	62.43	7.38%
1997	766.22	0.0195	27.68%	56.62	17.32%
1996	614.42	0.0231	27.02%	60.91	-0.48%
1995	465.25	0.0287	34.93%	50.22	29.26%
1994	472.99	0.0269	1.05%	60.01	-9.65%
1993	435.23	0.0288	11.56%	53.13	20.48%
1992	416.08	0.0290	7.50%	49.56	15.27%
1991	325.49	0.0382	31.65%	44.84	19.44%
1990	339.97	0.0341	-0.85%	45.60	7.11%
1989	285.41	0.0364	22.76%	43.06	15.18%
1988	250.48	0.0366	17.61%	40.10	17.36%
1987	264.51	0.0317	-2.13%	48.92	-9.84%
1986	208.19	0.0390	30.95%	39.98	32.36%
1985	171.61	0.0451	25.83%	32.57	35.05%
1984	166.39	0.0427	7.41%	31.49	16.12%
1983	144.27	0.0479	20.12%	29.41	20.65%
1982	117.28	0.0595	28.96%	24.48	36.48%
1981	132.97	0.0480	-7.00%	29.37	-3.01%
1980	110.87	0.0541	25.34%	34.69	-3.81%
1979	99.71	0.0533	16.52%	43.91	-11.89%
1978	90.25	0.0532	15.80%	49.09	-2.40%
1977	103.80	0.0399	-9.06%	50.95	4.20%
1976	96.86	0.0380	10.96%	43.91	25.13%
1975	72.56	0.0507	38.56%	41.76	14.75%
1974	96.11	0.0364	-20.86%	52.54	-12.91%
1973	118.40	0.0269	-16.14%	58.51	-3.37%
1972	103.30	0.0296	17.58%	56.47	10.69%
1971	93.49	0.0332	13.81%	53.93	12.13%
1970	90.31	0.0356	7.08%	50.46	14.81%
1969	102.00	0.0306	-8.40%	62.43	-12.76%
1968	95.04	0.0313	10.45%	66.97	-0.81%
1967	84.45	0.0351	16.05%	78.69	-9.81%
1966	93.32	0.0302	-6.48%	86.57	-4.48%
1965	86.12	0.0299	11.35%	91.40	-0.91%
1964	76.45	0.0305	15.70%	92.01	3.68%
1963	65.06	0.0331	20.82%	93.56	2.61%
1962	69.07	0.0297	-2.84%	89.60	8.89%
1961	59.72	0.0328	18.94%	89.74	4.29%

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2009

Year	S&P 500 Stock Price	Stock Dividend Yield	Stock Return	A-rated Bond Price	Bond Return
1960	58.03	0.0327	6.18%	84.36	11.13%
1959	55.62	0.0324	7.57%	91.55	-3.49%
1958	41.12	0.0448	39.74%	101.22	-5.60%
1957	45.43	0.0431	-5.18%	100.70	4.49%
1956	44.15	0.0424	7.14%	113.00	-7.35%
1955	35.60	0.0438	28.40%	116.77	0.20%
1954	25.46	0.0569	45.52%	112.79	7.07%
1953	26.18	0.0545	2.70%	114.24	2.24%
1952	24.19	0.0582	14.05%	113.41	4.26%
1951	21.21	0.0634	20.39%	123.44	-4.89%
1950	16.88	0.0665	32.30%	125.08	1.89%
1949	15.36	0.0620	16.10%	119.82	7.72%
1948	14.83	0.0571	9.28%	118.50	4.49%
1947	15.21	0.0449	1.99%	126.02	-2.79%
1946	18.02	0.0356	-12.03%	126.74	2.59%
1945	13.49	0.0460	38.18%	119.82	9.11%
1944	11.85	0.0495	18.79%	119.82	3.34%
1943	10.09	0.0554	22.98%	118.50	4.49%
1942	8.93	0.0788	20.87%	117.63	4.14%
1941	10.55	0.0638	-8.98%	116.34	4.55%
1940	12.30	0.0458	-9.65%	112.39	7.08%
1939	12.50	0.0349	1.89%	105.75	10.05%
1938	11.31	0.0784	18.36%	99.83	9.94%
1937	17.59	0.0434	-31.36%	103.18	0.63%
1936	13.76	0.0327	31.10%	96.46	11.12%
1935	9.26	0.0424	52.84%	82.23	22.17%
1934	10.54	0.0336	-8.78%	66.78	29.13%
1933	7.09	0.0542	54.08%	79.55	-11.03%
1932	8.30	0.0822	-6.36%	70.67	18.23%
1931	15.98	0.0550	-42.56%	84.49	-11.63%
1930	21.71	0.0438	-22.01%	81.19	8.99%
1929	24.86	0.0336	-9.31%	83.95	1.48%
1928	17.53	0.0431	46.12%	86.71	1.43%
1927	13.40	0.0502	35.84%	83.28	8.92%
1926	12.65	0.0446	10.39%	80.81	8.01%

Average Return	
Common Stocks	11.03%
A-rated Utility Bonds	6.51%
RISK PREMIUM	4.53[2]%

Note: See Page 3 for an explanation of how stock and bond
returns are derived and the source of the data presented.

_____

[2]   Apparent discrepancy due to rounding.

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2009

Risk Premium Approach

Source of Data

Stock price and yield information is obtained from Standard & Poor's *Security Index Price Record*. Standard & Poor's derives the stock dividend yield by dividing the aggregate cash dividends (based on the latest known annual rate) by the aggregate market value of the stocks in the group. The bond price information is obtained by calculating the present value of a bond due in 30 years with a $4.00 coupon and a yield to maturity of a particular year's indicated Moody's A-rated Utility bond yield. The values shown on pages 1 and 2 are the January values of the respective indices.

Calculation of Stock and Bond Returns

Sample calculation of "Stock Return" column:

$$\text{Stock Return (2006)} = \left[\frac{\text{Stock Price (2007) - Stock Price (2006) + Dividend (2006)}}{\text{Stock Price (2006)}} \right]$$

where Dividend (2006) = Stock Price (2006) x Stock Div. Yield (2006).

Sample calculation of "Bond Return" column:

$$\text{Bond Return (2006)} = \left[\frac{\text{Bond Price (2007) - Bond Price (2006) + Interest (2006)}}{\text{Bond Price (2006)}} \right]$$

where Interest = $4.00.

Exhibit RB-12

PREFILED TESTIMONY
OF
DAVID APPEL

2009 WORKERS COMPENSATION
ASSIGNED RISK INSURANCE RATE FILING
BY THE NORTH CAROLINA RATE BUREAU

AUGUST, 2009

I. QUALIFICATIONS AND SUMMARY

Q.   Please state your name and present business address.

A.   My name is David Appel, and my business address is 1 Pennsylvania Plaza, New York, NY.

Q.   What is your occupation?

A.   I am Director of Economics Consulting and a Principal with the firm of Milliman, Inc.

Q.   What is Milliman, Inc.?

A.   Milliman, Inc. (formerly Milliman & Robertson) is one of the nation's largest independently owned firms of actuaries and consultants. The company has more than 2000 employees, and operates offices in over 40 cities in the U.S., Europe, Asia and Latin America. Our clients number in the thousands: they include insurers, self-insured entities, Federal and State Governments, private corporations, non-profit organizations, unions, and many others. I am a Principal with the firm, and I am in charge of its Economics Consulting practice.

Q.   Please describe your educational and employment history.

A.   A complete statement of my educational, employment and academic credentials is included as Exhibit RB-13 filed with this testimony.

       To summarize, I have a B.A. in economics from Brooklyn College, City University of New York, and M.A. and Ph.D. degrees in economics from Rutgers University. Prior to joining Milliman, I was employed for nine years by the National Council on Compensation Insurance (NCCI), the nation's largest workers compensation insurance statistical, research and ratemaking organization. I joined NCCI as Research Economist in 1980, and held progressively responsible positions as Senior Research Economist, Director of Research,

Assistant Vice President and finally Vice President, beginning in July 1985. Prior to 1980, I was an instructor in economics at Rutgers University.

Q.   Would you please describe some of your other professional activities?

A.   Yes. Throughout my professional career, I have participated in a variety of academic and business activities related to insurance. I am a member of the Board of Directors of the American Risk and Insurance Association, the leading learned society of insurance academics. I am also a member of the editorial board of the *Journal of Insurance Regulation* (the official research publication of the National Association of Insurance Commissioners), as well as the journal *Benefits Quarterly*. I act as a peer referee for a number of scholarly journals in economics and insurance, and I maintain an active program of research and publication on issues of current interest in insurance economics. In addition, I was, for twelve years, an Adjunct Professor of Economics at Rutgers University.

Q.   Have you ever published any papers or books?

A.   Yes. During my career, I have authored many papers on various aspects of insurance that have been published in refereed books or scholarly journals. In addition, I have published a large number of papers in non-refereed journals as well. I have also co-edited three volumes of research papers dealing with various aspects of workers compensation and property-casualty insurance. My refereed publications are listed in Exhibit RB-13 filed with this testimony.

Q.   Are you a member of any professional associations?

A.   Yes, I am a member of the American Risk and Insurance Association, and an elected fellow of the National Academy of Social Insurance.

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

A.   Yes. I have testified on many occasions in such proceedings, including several occasions in North Carolina in the past several years. A complete list is contained in Exhibit RB-13 filed with this testimony.

Q.   What was the general nature of your testimony in these cases?

A.   I have addressed a wide variety of insurance issues during public testimony, including such diverse topics as the impact of economic and demographic factors on insurance costs; the effects of regulation on insurance availability; the use of econometric and statistical models in insurance forecasting; and the use of modern financial theory in developing insurance prices. In North Carolina, my testimony in recent years has focused primarily on the last of

these issues, specifically on matters relating to the cost of capital and the expected returns attributable to insurance operations.

Q.   Have you been retained by the North Carolina Rate Bureau as a consultant with respect to the subject of profitability in this rate case?

A.   Yes. I have reviewed or considered the following specific matters in connection with this case:

     1.   Dr. Vander Weide's estimation of the cost of capital;

     2.   Whether other insurer characteristics suggest additional risk factors that should be considered in estimating the cost of capital in this case;

     3.   Whether there are any characteristics of workers compensation assigned risk insurance which render it more or less risky than the average line of business; and

     4.   The return insurers would expect to earn from underwriting workers compensation assigned risk insurance in North Carolina, assuming that the selected underwriting profit provision of 12.5% is realized.

I have performed various studies and analyses on these matters.

Q.   Have you reached any conclusions in regard to these matters?

A.   Yes. I will summarize them in bullet form here, and then discuss them each more fully later in the testimony.

     1.   I have reviewed Dr. Vander Weide's cost of capital estimates and find them to be reasonable. Dr. Vander Weide's estimates are based on the implicit assumption that insurers present investors with roughly average risk, relative to all possible investment activities. However, based on my analyses, I believe that investors in the property-casualty insurance industry are subject to an above average degree of risk. Thus, I think it would be prudent to view Dr. Vander Weide's estimates as a conservative estimate of the return to which insurers are entitled.

     2.   I have considered two additional characteristics that affect the degree of risk to which investors in property/casualty insurance stocks are exposed: One is the fact that insurers are subject to an unusual degree of interest rate risk, and the other is that insurers writing workers compensation in North Carolina tend to be smaller than those used in Dr. Vander Weide's cost of capital analysis. Since there is strong evidence that interest rate risk requires compensation in the form of higher returns, and that small firms are also expected to yield higher returns, I believe Dr. Vander Weide's estimates are conservative, in that investors must be compensated for these risks in the form of an additional risk premium above that required for the average security.

3. I have also considered the specific characteristics of the workers compensation assigned risk business and have concluded that it is above average risk when compared with the average activity in which property casualty insurers are engaged. Thus, the cost of capital for this specific business activity will be higher than the average cost of capital for the industry as a whole.

4. I have tested the underwriting profit provision selected and filed by the Rate Bureau, to determine if it produces a fair and reasonable return for insurers. To do so, I estimated the returns insurers would expect to earn from North Carolina workers' compensation assigned risk insurance assuming the filed underwriting profit provision is fully earned. I am aware that North Carolina law provides that insurers are entitled to expect to earn a return equal to the returns of industries of comparable risk, and that in calculating that expected return, investment income from capital and surplus funds is not to be considered. I refer to that operating return as the statutory return. However, as is evident from the attached exhibits, I have estimated insurer pro forma returns both including and excluding expected investment income from capital and surplus. I have done this to demonstrate that if the filed underwriting profit is actually realized, and even if investment income on surplus is considered, insurer returns will not be excessive. Obviously, if returns are not excessive including investment income from capital and surplus, they will be non-excessive excluding such income.

Based on my calculations, the selected underwriting profit provision generates a statutory return on net worth of 8.1%. (In my testimony, I will use "net worth" to mean net worth according to Generally Accepted Accounting Principles.) In addition, the total return on net worth (i.e., including investment income on surplus) is approximately 11.3% of net worth. Since this return is near the low end of Dr. Vander Weide's range for the fair rate of return, I conclude that the selected underwriting profit provision complies with North Carolina law and is clearly not excessive.

II. COST OF CAPITAL REVIEW

Q. You indicated you had reviewed Dr. Vander Weide's estimate of the cost of capital. Are you familiar with Dr. Vander Weide's approach to estimating the cost of capital in insurance rate cases?

A. Yes. I am aware of the methodology which Dr. Vander Weide relies upon to estimate the cost of capital and have reviewed it on a number of occasions in the course of previous rate cases in North Carolina. Dr. Vander Weide has used what have traditionally been the most widely recognized and accepted models for this purpose, namely the Discounted Cash Flow (DCF) model and the risk premium method. These models, when taken together and properly applied to a reasonably selected data set, provide acceptable estimates of the cost of capital for regulated insurers.

Q.   What has Dr. Vander Weide concluded with respect to the cost of capital in this case?

A.   Dr. Vander Weide has concluded that the fair rate of return for insurers is now in the range of 11.0% to 12.8% on net worth as determined under generally accepted accounting principles (GAAP).

Q.   In your opinion, is this an appropriate estimate of the required rate of return?

A.   Yes, however as I indicated a moment ago, I believe that Dr. Vander Weide may have been conservative in his calculation of the required rate of return. Dr. Vander Weide has assumed that the property-casualty industry presents investors with average risk. However, based on my studies, I conclude the following:

1.   There is evidence that additional factors affecting the risk and required return for property casualty insurance stocks are not accounted for in Dr. Vander Weide's analysis. These factors – interest rate risk and the small size of the typical workers compensation insurer – suggest that the insurance industry is above average risk, and hence requires above average returns. I would note that these additional risks may be captured in alternative cost of capital models, in particular the variant of the risk premium model known as the Fama French Three Factor model (FF3F). My recent studies suggest that the FF3F model produces insurance cost of capital estimates that are several percentage points greater than those produced by the standard risk premium model used by Dr. Vander Weide.

2.   To the extent that workers compensation assigned risk insurance is viewed as above average in risk when compared with other activities in which property casualty insurers are engaged, the cost of capital will be higher than average as well.

III. ADDITIONAL FACTORS AFFECTING RISK

Q.   Your comments about additional risk factors suggest that Dr. Vander Weide's cost of capital may be conservative, or understated, for insurers writing workers compensation in North Carolina. Can you please elaborate on this?

A.   Certainly. As mentioned earlier, I have considered whether other factors not addressed in the standard cost of capital analysis conducted by Dr. Vander Weide might indeed affect the risk and therefore the required return in this case. In fact, there were two such factors – interest rate risk and the small size of firms writing workers compensation in the state - that I have been studying for a number of years and which clearly increase the cost of capital, or required return, in this case. Based on analyses I have conducted for previous rate hearings in North Carolina, I have concluded that both these factors create additional risks that require additional compensation above that demanded for the average security. I will discuss these issues briefly below, beginning with interest rate risk.

Q.   Please turn to the impact of interest rate sensitivity on insurers' risk and required return and describe your analysis.

A.   I considered whether there was any reason to believe that the interest rate sensitivity of insurers' asset portfolios contributed to insurer risk. To address this question, I considered both the theoretical and empirical dimensions of the issue. Based on these analyses, I have concluded that the high degree of financial leverage and large share of intermediate and long term bonds in insurer asset portfolios combine to create a significant exposure to interest rate changes. This high degree of interest rate risk causes property-casualty stock returns to have a high degree of volatility, which requires additional compensation above that demanded for the average security.

Q.   You have made reference to the term interest rate risk. Can you please define this term?

A.   Yes. Interest rate risk refers to the risk that the value of fixed income investments (such as bonds) will fluctuate with changes in interest rates. This means that there is a risk associated with holding bonds, particularly those with a relatively long term to maturity. While investments in equities are still considerably riskier than investments in long term bonds, as evidenced by the fact that returns to large company stocks have had a much higher mean and standard deviation than returns on long term government bonds over the past 80 years, bonds investments impose risk as well.

Q.   Does interest rate risk affect investments in property-casualty insurance stocks?

A.   Yes. Property-casualty insurance companies invest large amounts of funds in bonds issued by both corporations and governmental bodies. The risk that investors face is that when interest rates change, the values of the bonds also change, and hence their investments in property-casualty stocks are subject to interest rate risk. This fact is widely recognized by the financial community. Since investors cannot diversify away interest rate risk, only the prospect of higher returns will induce them to purchase interest-sensitive stocks. That is, investors must be compensated for purchasing interest-sensitive stocks because they are increasing their exposure to interest rate risk.

Q.   Why is interest rate risk different from market risk?

A.   Interest rate risk is a separate source of volatility for insurance stocks. Interest rates often change as a result of changes in expectations of future inflation. These changes primarily affect firms that hold what are called nominal assets and liabilities. Nominal assets and liabilities have cash flows that are fixed in nominal terms (for example, accounts receivable, most contracts, and bonds) and are thus subject to erosion in value due to inflation. On the other hand, the cash flows associated with manufacturing and service operations tend to fluctuate with the price level. Since most non-financial firms hold relatively few nominal assets and liabilities, their stocks are not particularly sensitive to changes in interest rates that are due to changes in expected inflation. Therefore interest rate risk adds additional risk to insurance stocks, above and beyond market risk, that is not diversifiable.

Changes in interest rates that are not associated with changes in expected inflation will affect all stocks. This accounts for the moderate degree of correlation between changes in long

term interest rates and returns to common stocks. However, the fact that most stocks are not very sensitive to changes in interest rates that are due to changes in expected inflation means that interest rate risk is not fully captured in measures of market risk.

Q.   Is it possible to measure interest rate risk?

A.   Yes, and I have conducted a number of studies designed specifically to address this issue in the past several years. A more detailed discussion of these studies is available in the testimony I submitted with the 2003 automobile insurance rate filing.

Q.   Can you please briefly summarize the principal conclusions of your work in this area?

A.   Yes. Since insurer assets on average have a substantially longer financial duration than insurance liabilities, when interest rates change, the value of insurer equity is subject to potentially wide fluctuation. While the market risk for insurers as measured by beta is roughly average, the degree of interest rate risk to which the industry is exposed is considerably higher than average. Since this risk cannot be entirely diversified away, the overall risk associated with an investment in property/casualty insurance is greater than average. As a consequence, insurers are entitled to a rate of return above that allowed for the average risk investment in the U.S. economy.

Q.   Have you also conducted an empirical study of the risks of investing in the property-casualty insurance industry?

A.   Yes. As part of the work I performed in connection with the 2000 automobile insurance rate filing, I calculated the mean and standard deviation of the returns to investing in the property-casualty insurance industry, and compared them to the same statistics for investments in a portfolio of average risk common stocks (i.e., the S&P 500). In order to do this, I gathered data on prices, dividends, and number of shares outstanding from the December 31, 1998 edition of Compustat Research Insight. This data source contains up to 20 years of historical information on 141 property-casualty insurance stocks; to my knowledge, this is one of the largest collections of data on property-casualty insurance companies that has ever been assembled for this purpose. My studies show that the standard deviation of returns to investors in property-casualty insurance stocks was greater than the standard deviation of returns on the S&P 500 while the mean return was higher over the entire period from 1980 to 1998.

These data indicate that insurance stocks are more volatile, and hence riskier, than the average security in the economy. In addition, the higher than average returns for these securities indicate that investors have been compensated for this additional risk.

Q.   Why are returns to investing in property-casualty insurance stocks more volatile than investing in the stocks that make up the Standard & Poor's 500?

A.   I believe that there are three main reasons for this.

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First, the high degree of financial leverage and mismatched durations of assets and liabilities contributes to the volatility of returns to investors in insurance stocks.

Second, the insurance industry is in the business of bearing risk. Individuals and corporations transfer to property-casualty insurers potential liability for a wide range of possible adverse events, ranging from property damage to professional liability. In light of the unforeseen events that can occur, and, in the recent past, actually have occurred, investors in property-casualty insurance stocks are subject to considerable risk.

Finally, insurance is in the unique position of being a highly competitive industry that is also subject to a high degree of regulation. This combination of regulation and competition creates an environment in which insurers are subject not only to the demands of the market but also to the pressures of the political process. There is substantial evidence that regulation can increase risk for a regulated enterprise, and when that is combined with an aggressively competitive industrial structure, risk is increased.

Q. You said that the combination of regulation and competition increased risk for insurers. Can you describe what you mean?

A. Yes. Traditionally, direct price and rate of return regulation has been imposed on industries known as "public utilities," such as generation and transmission of electric power, distribution of natural gas, provision of local water and sewer service and the like. Because of the nature of the production process, these industries are characterized as "natural monopolies," meaning that it is most efficient for a single producer to provide the service in question. In such circumstances, the state normally grants a monopoly to a single provider and then regulates that firm directly to prevent abuse of monopoly power.

Property-casualty insurance differs dramatically from this model. Rather than a single firm providing service, there are in most states literally hundreds of firms competing in the market, none of which typically have significant market power. These firms compete aggressively to increase market share and attract the best insureds by offering a variety of price and quality combinations that are best tailored to their business objectives. This vigorous competition provides discipline in the marketplace, and, when combined with direct rate of return regulation, the risk for insurers is increased.

I should note that in the past a number of competitively structured industries (such as airlines, trucking, and telecommunications) were subject to regulation, but in the past several decades there has been a movement to deregulate these activities. This is due in part to the widespread agreement that competition itself is an adequate regulator.

Q. You also said that you considered whether the size distribution of North Carolina insurers should impact the cost of capital in this case. Can you please describe this issue briefly and discuss its implications for this case?

A. Yes. It is a well established fact of empirical finance that small stocks tend to outperform large stocks. Ibbotson Associates, for instance, reports that firms in the ninth and tenth decile

of stocks listed on the principal U.S. stock exchanges have outperformed the market as a whole by approximately 3.7 percentage points over the period 1926 to 2008, even after accounting for the fact that these firms have above average betas. Therefore an adjustment should be made to the cost of capital to the extent that the property-casualty insurance industry is composed of small stocks.

Q. Have you conducted any studies with respect to the significance of the small stock effect?

A. Yes. As with interest rate risk, I have conducted a number of studies of this issue in previous years, and in each instance I found that (1) investors have earned higher returns from small stocks than from large stocks, and (2) the insurers in Dr. Vander Weide's cost of capital analysis are among the largest companies in the U.S. economy. The insurers in Dr. Vander Weide's analysis are larger, on average, than the companies in the property-casualty insurance industry, and they are larger, on average, than the companies writing workers compensation insurance in North Carolina.

These facts suggest that the cost of capital for insurers writing workers compensation insurance in North Carolina should be higher than for those firms contained in Dr. Vander Weide's cost of capital analysis. This reaffirms my conclusion that the cost of capital that Dr. Vander Weide has presented is conservative.

Q. Without describing in detail the studies you have undertaken in the past, what are your conclusions from the evidence you have reviewed on firm size and investors' required returns?

A. There are two principal findings from my analysis of firm size, rates of return, and cost of capital:

1. There is conclusive evidence that, over the long run, smaller firms have earned higher returns, and this finding must be considered evidence that investors expect higher returns from small firms.

2. The firms in Dr. Vander Weide's cost of capital analysis are among the larger firms in the U.S. economy, and they are significantly larger than the average property-casualty insurer, both nationally and in the North Carolina workers compensation insurance market.

In summary, the estimates from Dr. Vander Weide's cost of capital analysis should be viewed as a lower-bound estimate for property-casualty insurers writing North Carolina workers compensation insurance. Based on these studies, other similar studies, and my own knowledge and experience, I am confident that a comparable study, conducted today, would show similar results.

Q. Can you please summarize your testimony on the cost of capital of the property-casualty insurance industry?

A.   Yes. Dr. Vander Weide has assumed that the property-casualty insurance industry presents investors with risks comparable to the average investment in equities. My analysis has shown that property-casualty insurance stocks are subject to additional volatility due to interest rate sensitivity, and are relatively small when compared with the broad cross section of publicly traded firms in the U.S. economy. Since these additional risks require compensation in the form of a higher return, I conclude that Dr. Vander Weide has been conservative in his calculation of the required rate of return on property-casualty insurance investments.

IV. RELATIVE RISK OF WORKERS COMPENSATION ASSIGNED RISK BUSINESS

Q.   Will you please now turn to the issue of the relative risk of North Carolina workers compensation assigned risk insurance?

A.   Yes. As I mentioned before, the cost of capital Dr. Vander Weide estimated is the return investors require for placing their capital at risk in a large, publicly traded property-casualty insurance company that writes at least some workers compensation insurance. This is best interpreted as the return required for the average risk activity of this set of companies. If the specific activity in question in this filing, North Carolina workers compensation assigned risk insurance, is perceived as riskier than the average activity of the firms in this sample, then the fair rate of return, or cost of capital, will be higher than the value Dr. Vander Weide has estimated.

Q.   Do you have any reason to believe that North Carolina workers compensation assigned risk insurance is riskier than the average investment undertaken by these companies?

A.   Yes. There are a number of characteristics peculiar to the workers compensation line of insurance which render it of higher than average risk among all lines of property-casualty insurance. In addition, there are aspects of workers compensation assigned risk insurance which render it more risky than the average workers compensation coverage.

Among the many relevant considerations relating to workers compensation in general are the following:

1.   Workers compensation is subject to unlimited liability; there are neither per claim, per occurrence or aggregate loss limits under the policy terms. This is in contrast to the typical property-casualty insurance contract, in which all these limits may apply.

2.   Workers compensation is a "long-tailed" line of business, meaning that the payment of losses may extend for many years beyond the sale date of the policy. It is a well known principle of statistics that the longer the time horizon of a forecast, the greater the expected error in the estimate. Thus the forecast of ultimate losses in this line is subject to greater risk than in many other lines of business.

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3.   Workers compensation has a substantial exposure to medical inflation, which has been more rapid and less predictable than general inflation.

4.   Workers compensation is subject to the risk of occupational disease, which can lead to substantial and inherently unpredictable losses in the future.

5.   Workers compensation is subject to the phenomenon of "benefit utilization." This term refers to the observation that, as benefits become more generous, workers increase their utilization of the system.

        While the term has traditionally been applied to indemnity benefits (as benefits increase both claim frequency and duration increase), it is equally applicable to medical benefits as well. Since medical costs are covered with no deductibles or co-payments, workers compensation has become an increasingly attractive alternative to health insurance for coverage of any illness or injury.

All these characteristics suggest that workers compensation is of above average risk when compared with the other activities in which property-casualty insurers are engaged.

Q.   In addition to these factors, which relate to the workers compensation line in general, are there any other considerations specific to North Carolina assigned risk business which render it riskier than average?

A.   Yes. In the workers compensation line, assigned risk business is universally regarded as less favorable than voluntary market business. Participation in the assigned risk market, otherwise known as the involuntary or residual market, is not elective. Insurers have no opportunity to select insureds or underwrite the risks; as a consequence, they cannot apply business judgment to their underwriting activities.

        In addition, compared with the voluntary market, assigned risk loss experience has been consistently worse than the average (i.e. combined voluntary and assigned risk pool).

Q.   How do these considerations affect your evaluation of the cost of capital applicable in this proceeding?

A.   Based on the characteristics discussed earlier, I have concluded that: (1) workers compensation in general is riskier than the average line of property-casualty insurance business, and (2) assigned risk business is riskier than average workers compensation business. Because the risk of this activity is greater than average, the cost of capital is higher than average as well. Although it is difficult to quantify the incremental change in the fair rate of return, all the considerations noted earlier suggest that an upward adjustment would be necessary. Therefore, in my opinion Dr. Vander Weide's cost of capital must be considered to be the lower bound for the fair and reasonable rate of return in this case.

V. PROJECTED RETURN ATTRIBUTABLE TO INSURANCE OPERATIONS

Q.   Earlier you said that you had calculated the statutory return insurers would expect from underwriting workers compensation assigned risk insurance in North Carolina. Would you describe your analysis?

A.   Yes. I developed a model using traditional insurance profitability analyses and have calculated the pro forma statutory returns on equity that would be expected to arise assuming that actual underwriting and investment results materialize exactly as projected in this filing. The results are contained in Exhibit RB-14 filed with this testimony.

Q.   What do you mean when you use the term pro forma in connection with rate of return?

A.   I use this term to indicate that the rate of return presented in this exhibit is based on a series of assumptions regarding such inputs as underwriting profit, investment gain, leverage, and the like. If these assumptions actually materialize, then the "pro forma" rates of return calculated in the exhibit will prevail. However, to the extent that these assumptions are not realized, the rate of return will differ from that calculated in the exhibit.

Q.   Are you aware of the provisions of G.S. 58-36-10, providing that in making rates the Rate Bureau is to consider investment income earned and realized on unearned premium and loss reserves?

A.   Yes, and I understand that investment income on capital and surplus is not to be considered. As I have already indicated, I have estimated and presented the returns that can be expected if the filed underwriting profit provision is fully earned and realized, both excluding and including investment income on capital and surplus, and all of those returns are either below or within the low end of Dr. Vander Weide's range for the industry's fair rate of return. Since the Rate Bureau's filed underwriting profit provision generates expected returns that are not excessive even if the investment income on capital and surplus is included, the expected returns which exclude that investment income cannot be excessive.

Q.   Can you please now describe the components of the model you developed?

A.   Yes. The model really consists of a single page which calculates the rate of return on equity attributable to undertaking the insurance activity. It includes estimates of revenues derived from underwriting and investment activities, and estimates of costs, comprised of losses, expenses, and taxes. This exhibit is supported by several other exhibits which provide calculations of investment yield rates, tax rates, premium to surplus and net worth to surplus ratios, and uncollectible premium. I will describe the principal elements of these exhibits below.

     1.   Underwriting profit is the difference between earned premiums (net of uncollectible premium) and incurred losses and expenses, expressed as a percent of premium.

2.   Uncollectible premium is projected based on historical data from the North Carolina assigned risk pool.

3.   Taxes are calculated assuming that the regular corporate tax rate applies to underwriting income and that an additional tax liability applies due to the reserve discounting and revenue offset provisions of the 1986 Tax Reform Act. Taxes on investment income are calculated assuming that the current statutory tax rates apply to the various classes of investment income earned.

4.   Investment gain on the insurance transaction is estimated as the product of an investment yield rate and the investible funds available from loss, loss adjustment expense and unearned premium reserves (i.e., policyholder supplied funds). Investible funds are estimated using the well known ISO State-X calculation, modified as described below. The investment yield rate itself is derived as the average of the "embedded yield" and the "current yield," based on the actual portfolios of securities held by insurers. This estimated yield rate includes income from interest, dividends, real estate, and other assets, as well as realized capital gains.

5.   In my estimates of the expected total return, investment gain on surplus is estimated as the product of the aforementioned investment yield rate and the amount of surplus attributable to the insurance transaction. The amount of surplus attributable to the transaction includes an adjustment to reflect the additional surplus required to support the prepayment of expenses. (In statutory accounting, the prepayment of expenses acts to reduce statutory surplus. Since prepaid expenses are already deducted from investible reserves in the investment income calculation, they are added back here to avoid deducting them from the investible balance twice.)

These components are each expressed as a percent of premium. To calculate the rate of return on equity, the components must be summed (before or after tax), and then multiplied by the ratio of premium to net worth.

Q.   Can you describe how you have reflected agents' balances in the rate of return calculations?

A.   Agents' balances, that is, delays in the collection and remission of premium to the companies, result in funds that are not available for investment. To estimate the level of agents' balances, I calculated the average date of premium collection using the distribution of North Carolina workers compensation assigned risk premium by size and the provisions of the assigned risk pool installment pay plan. The estimated average premium collection date is approximately 6.9 months. Given that the average policy sale date is 6 months, the average delay in remission is 0.9 months, which is 0.078 years.

Q.   Could you please clarify how the underwriting profit provision contained in the rate filing was determined?

A.   Yes. The issue of how that Rate Bureau determines the underwriting profit and contingency factor has routinely arisen in rate hearings in North Carolina over the past several years. Although it is evident from my exhibits that the Rate Bureau selects an underwriting profit

and contingency provision to be included in the rates, there has been lengthy cross examination on this issue in every rate hearing in recent memory. Therefore, to clarify this matter, I will briefly discuss the procedure used by the Rate Bureau to determine the underwriting profit and contingency factor that is included in the proposed rates.

Each year, prior to making its rate filing, the Workers Compensation Committee of the Rate Bureau meets to review data and determine values for a number of the important components of the proposed rates. One of these components is the underwriting profit factor. To determine this value, a procedure is followed in which I provide the committee with the estimated returns on equity (both statutory returns as well as returns adjusted to include investment income on surplus) associated with alternative underwriting profit provisions, and the committee then selects a provision that is consistent with the cost of capital that has been developed by Dr. Vander Weide. Thus, the process is best described as one in which I test alternative underwriting profit provisions, and the committee selects a value based on these tests.

Q.   How do you know what values of the underwriting profit provision to test?

A.   I have been performing this type of analysis on behalf of the Rate Bureau for many years, and I am quite familiar with the dynamics of these models. Therefore, it is relatively easy to know the general range of values around which the underwriting profit is likely to fall. Normally, for any particular line of business, I will select approximately five or six values of the underwriting profit provision to test, that comprise a range of perhaps two to three percentage points, and the committee typically selects a value within that range. (For example, for this filing, I believe I tested underwriting profit provisions ranging from 9.5% to 15.0%, and the committee selected a value of 12.5%.) Of course, if the committee is not satisfied with the range of values I propose, it is relatively straightforward to calculate returns associated with alternative values proposed by the committee.

Q.   From what you've said, it appears that the Rate Bureau *selects* an underwriting profit provision, rather than *deriving* such a provision from the cost of capital. Is that correct, and if so, isn't it true that actuarial standards of practice require that the underwriting profit provision be *derived* from an underlying cost of capital?

A.   It is correct that the Rate Bureau committee selects an underwriting profit provision and then tests whether that provision results in an expected rate of return on net worth that is consistent with the cost of capital. However, it is *not true* that actuarial standards of practice require that an underwriting profit be derived from the cost of capital. In fact, that issue is addressed explicitly in ASOP #30, entitled "Treatment of Underwriting Profit and Contingency Factors and the Cost of Capital in Property/Casualty Insurance Ratemaking." Section 3.1 of that ASOP states the following:

Estimating the Cost of Capital and the Underwriting Profit Provision –
        Property/casualty insurance rates should provide for all expected
        costs, including an appropriate cost of capital associated with the
        specific risk transfer. This cost of capital can be provided for by
        estimating that cost and translating it into an underwriting profit
        provision, after taking leverage and investment income into account.

Alternatively, the actuary may develop an underwriting profit provision and test that profit provision for consistency with the cost of capital. The actuary may use any appropriate method, as long as such method is consistent with the considerations in this standard.

The procedure utilized by the Rate Bureau is exactly the approach articulated in this section (i.e., "the actuary may develop an underwriting profit provision and test that profit provision for consistency with the cost of capital").

Q.   Although most of these calculations are self-explanatory, could you please clarify how you selected your investment yield rate and premium to surplus ratio?

A.   Yes. To select the investment yield rate, I took the average of what are known as the "embedded" and "current" yields, where each was based on the actual asset portfolios insurers currently hold. The Commissioner adopted this approach in his 1994 automobile insurance rate case, and, in his decision in the 1996 automobile insurance rate case, he selected a yield which approximated the yield obtained from this approach. Since then, the Rate Bureau has consistently followed this approach.

To estimate the embedded yield, I calculated the ratio of the most recent available industrywide investment income to average invested assets and added to that an estimate of the ten year average ratio of realized capital gains to invested assets. The sum of these two is the estimated embedded yield.

To estimate the current yield, I determined the yields available in today's capital markets for the portfolio of securities currently held by the property-casualty insurance industry. I then calculated a weighted average of these yield rates, based on the proportion of assets held by the industry in each of the various securities such as stocks, bonds, real estate and the like.

As far as the premium to surplus ratio is concerned, I relied on information which reflects the actual degree of leverage for insurers writing workers compensation insurance in North Carolina over the past ten years. My selected premium to surplus ratio is based on the ten year average premium to surplus ratio for the top 30 insurers which wrote workers compensation in North Carolina over that time period.

Q.   Can you please provide the results of your calculations regarding the projected rate of return to the insurance transaction?

A.   Yes. Assuming that the inputs to the pro forma model materialize exactly as expected, I estimate that insurers would expect to earn a statutory return on net worth of 8.1%. If one includes consideration of investment income on surplus, the total return on GAAP equity equals 11.3%.

The total return on GAAP equity is at the low end of Dr. Vander Weide's range for the industry's fair return on equity. The statutory return on net worth falls well below the lower bound of Dr. Vander Weide's range for the industry's fair return on equity.

VII. CONCLUSION

Q.   Based on the studies you have conducted, have you come to any conclusions regarding the selected underwriting profit provision of 12.5% that has been filed by the Rate Bureau in this case?

A.   Yes. Based on my evaluation of Dr. Vander Weide's cost of capital estimates, my consideration of insurer specific risk characteristics, and my estimation of the projected pro forma return associated with underwriting workers compensation assigned risk insurance in North Carolina, I believe that the selected underwriting profit provision, and the return expected to be realized by insurers, comply with North Carolina law.

Q.   Does this conclude your testimony?

A.   Yes, it does.

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1989 to present	**MILLIMAN, INC.** Principal & Director - Economics Consulting Responsible for the formation, development and management of a national consulting practice in insurance economics.
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1982	Director of Economic and Social Research
1981	Senior Research Economist
1980	Associate Research Economist
1976 to 1997	**RUTGERS UNIVERSITY**
1981-97	Associate of the Graduate Faculty, Department of Economics, Newark, New Jersey
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1978-80	Instructor, Department of Economics, New Brunswick, New Jersey
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PAPERS AND PUBLICATIONS

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"The Impact of Managed Care on Workers Compensation Claim Costs," in a volume of conference proceedings published by the <u>Workers' Compensation Research Institute</u>, September 1994, (with Philip Borba).

"Health Care Costs in Workers' Compensation", <u>Benefits Quarterly</u>, Vol. 9, No. 4, Fourth Quarter, 1993

"The Transition From Temporary to Permanent Disability: A Longitudinal Analysis" in <u>Workers' Compensation Insurance: Claims Costs, Prices and Regulation</u>, David Durbin and Philip Borba, Editors, Kluwer Academic Publishers, Boston, 1992, (with Richard Butler, David Durbin and John Worrall)

"Leverage, Interest Rates and Workers' Compensation Survival" in <u>Workers' Compensation Insurance: Claims Costs, Prices and Regulation</u>, David Durbin and Philip Borba, Editors, Kluwer Academic Publishers, Boston, 1992, (with Richard Butler, David Durbin and John Worrall)

<u>Benefits, Costs and Cycles in Workers' Compensation,</u> Kluwer Academic Publishers, Boston, 1990, (co-editor with Philip Borba)

"Benefit Increases in Workers' Compensation", <u>Southern Economics Journal</u>, January 1990, (with Richard J. Butler)

"Internal Rate of Return Criteria in Ratemaking", <u>NCCI Digest</u>, Vol. IV, Issue III, September 1990, (with Richard J. Butler).

"Social Inflation in Workers' Compensation: The Phenomenon of Benefit Utilization", <u>Proceedings of the Casualty Loss Reserve Seminar</u>, 1988. Also in <u>Contingencies</u>, Nov./Dec., 1989.

<u>Workers' Compensation Insurance Pricing: Current Programs and Proposed Reforms</u>, Kluwer Academic Publishers, Boston, 1988,(co-editor with Philip Borba)

"Prices and Costs of Workers' Compensation" in <u>Workers' Compensation Insurance Pricing: Current Programs and Proposed Reforms</u>, Kluwer Academic Publishers, Boston, 1988, (with Philip Borba)

"1986 Tax Reform Act: Effects on Workers' Compensation Profitability", <u>NCCI Digest</u>, Vol. II, Issue II, July 1987 (with James Gerofsky)

"The Propensity for Permanently Disabled Workers' to Hire Legal Services" , <u>Industrial and Labor Relations Review</u>, April 1987, (with Philip Borba)

"Sex, Marital Status, and Medical Utilization by Injured Workers'", <u>Journal of Risk and Insurance</u>, Vol. LIV, No. 1, March 1987, (with John Worrall and Richard Butler)

"The Impact of Workers' Compensation Benefits on Low Back Claims" in <u>Clinical Concepts in Regional Musculoskeletal Illness</u>, Nortin M. Hadler, ed. (Boston: 1986, Grune and Stratton), (with John Worrall)

"Workers' Compensation and Employment: An Industry Analysis" in <u>Disability and the Labor Market: Economic Problems, Policies and Programs</u>, M. Anne Hill and Monroe Berkowitz, eds., (Ithaca:1986 ILR Press), (with James Lambrinos)

"Some Benefit Issues in Workers' Compensation", in Workers' Compensation Benefits: Adequacy, Equity, Efficiency. (Ithaca:1985 ILR Press), (with John Worrall)

Workers' Compensation Benefits: Adequacy, Equity,   Efficiency. (co-editor   with John Worrall), (Ithaca:1985 ILR Press)

"Survivorship and the Size Distribution of the Property-Liability Insurance Industry", Journal of Risk and Insurance, October 1985, (with John Worrall and Richard Butler).

"Regulating Competition-The Case of Workers' Compensation   Insurance", Journal of Insurance Regulation, (with James Gerofsky), June 1985.

"The Wage Replacement Rate and Benefit Utilization in Workers" Compensation Insurance", Journal of Risk and Insurance, September 1982 (with John Worrall)

"Property Damages", in Joseph Seneca and Peter Asch, The Benefits of Air Pollution Control in New Jersey, Center for Coastal and Environmental Studies, Rutgers University, 1979

WORKING PAPERS

"Workers' Compensation Pricing: The Role of Policyholder Dividends" (with David Durbin)

"The Impact of Lifetime Work on Mortality: Do Unisex Pensions Matter?" (with Richard J. Butler)

"Regulatory Survival: Rate Changes in Workers' Compensation" (with Richard J. Butler and John D. Worrall)

"Framing, Firm Size and Financial Incentives in Workers' Compensation Insurance" (with Richard J. Butler and John D. Worrall)

"Application of NAIC Profitability Models to Long Tailed Lines of Insurance" (with James Gerofsky)

INVITED PRESENTATIONS

Las Vegas, NV, March 10, 2009
CAS Ratemaking Seminar
"Using Catastrophe Bonds to Infer Risk Loads/Profit Margins/Reinsurance Costs"

Boston, MA, March 17, 2008
CAS Ratemaking Seminar
"Using Catastrophe Bonds to Infer Risk Loads/Profit Margins/Reinsurance Costs"

Pinehurst, North Carolina, May 21, 2007
Workers Compensation Insurance Organizations Annual Meeting
"Enterprise Risk Management: What Is It and Why Is It Important?"

Salt Lake City, Utah, March 13, 2006
CAS Ratemaking Seminar
"Including Reinsurance Costs in Primary Insurance Rates"

New Orleans, Louisiana, March 11, 2005
CAS Ratemaking Seminar
"Including Reinsurance Costs in Primary Insurance Rates"

Philadelphia, Pennsylvania, March 11, 2004
CAS Ratemaking Seminar
"The Consideration of Risk Loads and Reinsurance Costs in Primary Insurance Ratemaking"

New York, New York, December 12, 2003
Goldman Sachs Insurance Conference
"Interest Rate Changes and Insurance Underwriting"

San Antonio, Texas, March 28, 2003
CAS Ratemaking Seminar
"The Consideration of Risk Loads and Reinsurance Costs in Primary Insurance Ratemaking"

San Antonio, Texas, March 27, 2003
CAS Ratemaking Seminar
"Rate of Return Models in Insurance Ratemaking"

San Diego, California, May 20, 2002
CAS Annual Meeting
"The Actuary as an Expert Witness"

Tampa, Florida, March 7, 2002
CAS Ratemaking Seminar
"Parameterizing Rate of Return Models in Insurance Ratemaking"

Chicago, Illinois, December 10, 2001
NAIC Meeting
"The Impact of Proposition 103 in California"

Kansas City, Missouri, April 30, 2001
NAIC Meeting
"Personal Lines Regulation"

Las Vegas, Nevada, March 12, 2001
CAS Ratemaking Seminar
"Parameterizing Rate of Return Models in Insurance Ratemaking"

Washington DC, January 18, 2001
Brookings Institution Conference on Insurance Regulation
"Auto Insurance Experience in California"

Bermuda, September 14, 2000
Ace Insurance Worldwide Actuarial Conference
"Rate of Return Models In Property Casualty Insurance Ratemaking"

Orlando, Florida, June 9, 1998
Florida Managed Care Institute Annual Conferennce
"Issues in Integrated Health Care"

Seattle, Washington, July 21, 1997
CAS Dynamic Financial Analysis Seminar
"Dynamic Financial Analysis of a Workers Compensation Insurer"

Boston, Massachusetts, March 14, 1997
CAS Ratemaking Seminar
"Discounted Cash Flow Models in Insurance Ratemaking"

East Lansing, Michigan, July 15, 1996
National Symposium on Workers Compensation
"Managed Care in Workers Compensation"

New Orleans, Louisiana, March 20, 1996
Global Business Research Seminar: Partnerships Between Insurers and Providers
"Integrating the Data Systems"

Orlando, Florida, November 15, 1995
Global Business Research Seminar: Documenting Savings From Managed Care
"Evaluating Savings From Managed Care"

Orlando, Florida, October 27, 1995
Self Insurance Association of America Annual Meeting
"Managed Care in Workers Compensation: A Magic Act or Humbug?"

San Diego, California, October 16, 1995
Global Business Research Seminar: Documenting Savings From Managed Care
"Technical Issues in Measuring Savings From Managed Care"

Durham, North Carolina, September 6, 1995
North Carolina HMO Association Annual Meeting
"Workers Compensation in North Carolina: Risks and Opportunities for HMO's"

Washington, DC, May 22, 1995
Global Business Research Seminar: Outcomes for Workers' Compensation Managed Care
"Measuring and Reporting the Savings"

Orlando, Florida, April 13, 1995
NCCI Annual Meeting
"Managed Care in Workers Compensation"

Phoenix, Arizona, April 3, 1995
Casualty Actuarial Society Seminar on Profitability
"Rate of Return Models - Selecting the Parameters"

New Orleans, Louisiana, March 16, 1995
Casualty Actuarial Society Ratemaking Seminar
"Discounted Cash Flow Models for Insurance Ratemaking"

Orlando, Florida, March 14, 1995
Standard & Poor's Rating Conference
"Consolidation in the Property/Casualty Insurance Industry"

Minneapolis, Minnesota, October 11, 1994
Casualty Actuarial Society Seminar on Medical Cost Containment
"Managed Care and Workers' Compensation"

Toronto, Ontario, August 22, 1994
American Risk and Insurance Association Annual Meeting
"Current Issues in Workers' Compensation"

Boston, Massachusetts, May 17, 1994
Casualty Actuarial Society Annual Meeting
"Standard Of Practice on Profit and Contingency"

Hartford, Connecticut, April 20, 1994
University of Connecticut Blue Cross/Blue Shield Symposium
"24 Hour Coverage - What Will It Involve"

Atlanta, Georgia, March 10, 1994
Casualty Actuarial Society Ratemaking Seminar
"Cash Flow Models for Insurance Ratemaking"

Cambridge, Massachusetts, March 2, 1994
Workers' Compensation Research Institute Health Care Reform Conference
"Early Results of the Florida Pilot Project"

Phoenix, Arizona, November 15, 1993
Casualty Actuarial Society Annual Meeting
"The Use Of Managed Care in Workers' Compensation"

New York, New York, October 20, 1993
Insurance Information Institute/Reinsurance Association of America Research Conference
The Impact of Health Care Reform on Casualty Insurance"

Somerset, New Jersey, July 13, 1993
National Symposium on Workers' Compensation
"Economic Analysis of Workers' Compensation Issues"

Boston, Massachusetts, June 30, 1993
Institute of Actuaries of Japan Special Meeting
"Health Care Costs in Workers' Compensation"

Dallas, Texas, June 15, 1993
Stirling-Cooke Workers' Compensation Seminar
"Workers' Compensation Medical Costs: Trends, Causes and Solutions"

New York, New York, June 3, 1993
New York Business Group On Health
"The Crisis in Workers' Compensation Health Care"

Mauna Lani Bay, Hawaii, May 3, 1993
Western Association of Insurance Brokers Annual Meeting
"Trends in Insurance Insolvency"

Kingston, Ontario, April 28, 1993
Queen's University Workers' Compensation Conference
"Exposure Bases for Workers' Compensation: Equity vs. Practicality"

Sanibel Island, Florida, March 29, 1993
Workers' Compensation Reinsurance Bureau Annual Meeting
"The Use of Managed Care in Workers' Compensation"

Baltimore, Maryland, March 23, 1993
CAMAR Annual Meeting
"Estimating the Cost of Capital in Insurance Ratemaking"

Philadelphia, Pennsylvania, December 1, 1992
Economic Issues in Workers' Compensation Seminar,
"Rate of Return Regulation in Workers' Compensation"

Seattle, Washington, October 16, 1992
Casualty Actuarial Society Seminar on Profitability
"Risk Based Capital Standards for Property Casualty Insurers"

Washington, DC, August 18, 1992
American Risk and Insurance Association Annual Meeting
"The Crisis in Workers' Compensation"

New York, New York, May 19, 1992
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Palm Beach, Florida, April 23, 1992
NCCI Annual Meeting
"Is the Workers' Compensation Industry Competitive?"

Philadelphia, Pennsylvania, March 20, 1992
University of Pennsylvania/Duncanson & Holt Special Seminar
"Current Issues in Workers' Compensation"

Dallas, Texas, March 12, 1992
Casualty Actuarial Society Ratemaking Seminar
"Profitability Models in Insurance Ratemaking: Estimating the Parameters"

Houston, Texas, December 11, 1991
NCCI/NAIC Commissioners Symposium
"Rate Adequacy: Solvency and Safety Implications"

New York, New York, November 17, 1991
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Philadelphia, Pennsylvania, November 12, 1991
Casualty Actuarial Society Annual Meeting
"The Impact of Medical Costs on Casualty Coverages"

New York, New York, May 17, 1991
Executive Enterprises Institute Seminar: Winning Approval of Rate and Form Filings
"Determining a Fair Rate of Return for Property/Casualty Insurers"

Kiawah Island, South Carolina, April 15 & 16, 1991
Casualty Actuarial Society Seminar on Profitability
"Cost of Capital Estimation: Lessons From Public Utilities"

Chicago, Illinois, March 14, 1991
Casualty Actuarial Society Ratemaking Seminar
"The Use of Profitability Models in Insurance Ratemaking"

Orlando, Florida, October 24, 1990,
Financial Management Association Annual Meeting,
"Current Issues in Insurance Rate Regulation: California Prop. 103 and Pennsylvania Act 6"

New Brunswick, New Jersey, May 18, 1990,
Joint Conference on Workers' Compensation,
"Current State Issues and Benefit Reforms"

Orlando, Florida, May 8, 1990,
National Association of Insurance Commissioners Southeast Zone Raters Conference,
"Loss Cost Rating for Workers' Compensation"

Orlando, Florida, April 3, 1990,
Workers' Compensation Reinsurance Bureau Annual Meeting,
"Medical Costs in Workers' Compensation: Recent Trends in Cost Containment"

Philadelphia, Pennsylvania, March 15, 1990,
CAS Ratemaking Seminar,
"Rate of Return Models in Insurance Regulation: Return on Sales vs. Return on Equity"

Chicago, Illinois, November 10, 1989,
Alliance of American Insurers Research Committee,
"Recent Developments in Rate Regulation: California Proposition 103"

New York, New York, October 5, 1989,
NCCI Legal Trends Seminar,
"Medical Cost Containment in Workers' Compensation"

Philadelphia, Pennsylvania, September 7, 1989,
Workers' Compensation Congress,
"Medical Cost Containment in Workers' Compensation"

Denver, Colorado, August 21, 1989,
American Risk and Insurance Association Annual Meeting,
"Regulatory Survival: Rate Changes in Workers' Compensation" (with Richard J. Butler)

Hilton Head, South Carolina, April 4,1989,
Workers' Compensation Reinsurance Bureau Annual Meeting,
"Prospects for Workers' Compensation in the 1990's"

Mountain Lakes, New Jersey, March 29, 1989,
St. Clares-Riverside Medical Center,
"Stress in the Workplace"

Dallas, Texas, March 16, 1989,
Casualty Actuarial Society Ratemaking Seminar,
"The Impact of Tax Reform on Insurance Profitability"

New Orleans, Louisiana, December 15, 1988,
NAIC-NCCI Commissioners School,
"A Forecast for Workers' Compensation"

Philadelphia, Pennsylvania, November 17,1988,
Economic Issues in Workers' Compensation Seminar,
"The Impact of Regulation on the Probability of Insolvency" (with John D. Worrall and David Durbin)

Boston, Massachusetts, November 14, 1988,
American Public Health Association Annual Meeting,
"Stress in the Workplace"

Atlanta, Georgia, September 14, 1988,
Casualty Loss Reserve Seminar,
"Estimating the Cost of Social Inflation in Workers' Compensation"

Reno, Nevada, August 15, 1988,
American Risk and Insurance Association Annual Meeting,
"Benefit Increases in Workers' Compensation"

New York, New York, June 13, 1988,
National Association Of Insurance Commissioners Annual Meeting,
"Alternative Rate of Return Models for Insurance Regulation"

Syracuse, New York, May 5, 1988,
Current Issues in Workers' Compensation Symposium,
"Workers' Compensation Stress Claims"

Hilton Head, South Carolina, April 22, 1988,
Workers' Compensation Reinsurance Bureau Annual Meeting,
"A Forecast for Workers' Compensation Insurers"

Absecon, New Jersey, April 19, 1988,
Pennsylvania Coal Mine Rating Bureau Annual Meeting,
"The Use of Rate of Return Models in Insurance Rate Regulation"

Philadelphia, Pennsylvania, November 17, 1987,
Economic Issues in Workers' Compensation Seminar,
"The Transition to Permanent Disability Status" (with John D. Worrall and David Durbin)

Charlotte, North Carolina, October 20, 1987,
American Insurance Association Government Affairs Conference,
"Prospects for Workers' Compensation in 1988"

Minneapolis, Minnesota, September 29, 1987,
Minnesota Workers' Compensation Reinsurance Association Annual Meeting,
"Economic and Demographic Characteristics of Workers' Compensation Claims"

Airlie, Virginia, July 7, 1987,
National Symposium on Workers' Compensation,
"Forecasting Workers' Compensation Experience"

Santa Clara, California, June 30, 1987,
Symposium on Recent Advances in Ratemaking,
"Econometric Models of Workers' Compensation Losses"

Storrs, Connecticut, May 1, 1987,
University of Connecticut Symposium on Current Issues in Workers' Compensation,
"Current Research in Workers' Compensation"

Philadelphia, Pennsylvania, April 16, 1987,
Wharton School Graduate Seminar Series,
"Impact of Tax Reform on Workers' Compensation Profitability"

Boca Raton, Florida, December 4, 1986,
National Association of Insurance Commissioners/NCCI Commissioners School,
Panel Discussion on Current Issues in Workers' Compensation

Philadelphia, Pennsylvania, November 7, 1985,
Wharton School, University of Pennsylvania, Graduate Seminar Series,
"Litigation in Workers' Compensation"

Vancouver, British Columbia, August 19, 1985,
American Risk and Insurance Association Annual Meeting,
"Earnings Loss and Permanent Disability"

Washington, D.C., April 23, 1985,
Washington Conference on the Economics of Disability,
"Employment Effects of Workers' Compensation Insurance"

Schenectady, New York, January 18, 1985,
Union University Graduate Business Seminar Series,
"The Use of Modern Portfolio Theory in Insurance Regulation"

EXPERT TESTIMONY

Austin, Texas, April 1, 2009
State Farm Lloyds Homeowners Rate Hearing

Santa Fe, New Mexico, November 19, 2008
Annual Title Insurance Rate Hearing

New York, New York, November 13, 2008
<u>Georgia Hensley, *et. al*., vs. Computer Sciences Corp. *et. al*.</u>, Deposition

Tallahassee, Florida, October 29, 2008
State Farm Florida Homeowners Insurance Hearing

Raleigh, North Carolina, July 1, 2008
Auto Insurance Rate Hearing

San Francisco, California, May 5, 2008
GeoVera Insurance Company Earthquake Rate Hearing

Tallahassee, Florida, January 23, 2008
Hartford Insurance Group Homeowners Insurance Rate Hearing

Boston, Massachusetts, January 9, 2008
Commerce Insurance Group Auto Insurance Rate Hearing

San Francisco, California, November 29, 2007
Explorer Insurance Company Automobile Rate Hearing

Santa Fe, New Mexico, November 19, 2007
Annual Title Insurance Rate Hearing

Reno, Nevada, June 14, 2007
Public Hearing Regarding Merger Between UnitedHealth Group and Sierra Health Systems

Austin, Texas, May 31, 2007
State Farm Lloyds Homeowners Rate Hearing

Reno, Nevada, October 26, 2006
Public Hearing Regarding Demutualization of Employers Insurance Group

San Francisco, California, August 30, 2006
Hearing on Proposed Title Insurance Rate Regulations

Austin, Texas, August 14, 2006
Biennial Title Insurance Rate Hearing

Raleigh, North Carolina, September 28, 2005
Auto Insurance Rate Hearing

Providence, Rhode Island, September 27, 2005
Norcal Medical Malpractice Insurance Rate Hearing

San Francisco, California, August 23, 2005
Safeco Insurance Company Earthquake Rate Hearing

Boston, Massachusetts, April 15, 2005
Massachusetts Workers Compensation Rate Hearing

Lawrence, Massachusetts, February 14, 2005
Highground, Inc. v. Mazonson

New York, NY, January 21, 2005
NFHA v. Prudential Deposition

Austin, Texas, July 13, 2004
Medical Protective Insurance Company Medical Malpractice Insurance Rate Hearing

Austin, Texas, December 16, 2003
Biennial Title Insurance Rate Hearing

Providence, Rhode Island, November 17, 2003
Norcal Medical Malpractice Insurance Rate Hearing

San Francisco, California, September 16, 2003
Century National Proposition 103 Rollback Hearing

Austin, Texas, September 11, 2003
Farmers Insurance Exchange Homeowner Rate Rollback Hearing

Austin, Texas, September 2, 2003
State Farm Lloyds Homeowners Rate Rollback Hearing

Austin, Texas, May 21, 2003
Farmers Insurance Group Settlement Hearing

Boston, Massachusetts, April 29, 2003
Massachusetts Workers Compensation Rate Hearing

Los Angeles, California, March 12, 2003
SCPIE Medical Malpractice Rate Hearing

Raleigh, North Carolina, July 17, 2002
Auto Insurance Rate Hearing

Tallahassee, Florida, February 25, 2002
NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, February 5, 2002
Biennial Title Insurance Rate Hearing

Raleigh, North Carolina, September 24, 2001
Auto Insurance Rate Hearing

Boston, Massachusetts, August 14, 2001
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, March 6, 2001
Texas Auto Benchmark Rate Hearing

Boston, Massachusetts, August 23, 2000
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, December 7, 1999
Texas Auto Insurance Plan Association Rate Hearing

Raleigh, North Carolina, December 3, 1999
Auto Insurance Rate Hearing

Austin, Texas, November 3, 1999
Biennial Title Insurance Rate Hearing

Austin, Texas, September 8, 1999
Texas Auto Benchmark Rate Hearing

Boston, Massachusetts, August 13, 1999
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, June 22, 1999
Texas Property Benchmark Rate Hearing

Honolulu, Hawaii, December 16, 1998
NCCI Workers Compensation Insurance Rate Hearing

Richmond, Virginia, November 15, 1998
NCCI Workers Compensation Insurance Rate Hearing

Boston, Massachusetts, October 9, 1998
Massachusetts Auto Insurance Bureau Rate Hearing

Austin, Texas, May 19, 1998
Texas Auto Insurance Plan Association Rate Hearing

Austin, Texas, April 7, 1998
Auto Insurance Benchmark Rate Hearing

Austin, Texas, February 17, 1998
Property Insurance Benchmark Rate Hearing

Austin, Texas, November 18, 1997
Biennial Title Insurance Rate Hearing

Tallahassee, Florida, September 8, 1997
NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, April 8, 1997
Texas Auto Insurance Plan Association Rate Hearing

Austin, Texas, March 10, 1997
Auto Insurance Benchmark Rate Hearing

San Francisco, California, March 4, 1997
Insurance Department Hearing on Rating Factors

Raleigh, North Carolina, July 16, 1996
Auto Insurance Rate Hearing

San Francisco, California, March 11, 1996
Century National Proposition 103 Rollback Hearing

Sacramento, California, January 30, 1996
Hartford Steam Boiler Proposition 103 Rollback Hearing

San Francisco, California, January 8, 1996
SAFECO Insurance Company Earthquake Rate Hearing

Austin, Texas, December 21, 1995
Residential Property Insurance Benchmark Rate Hearing

Clearwater, Florida, December 8, 1995
Florida Windstorm Underwriting Association Rate Hearing

Austin, Texas, November 28, 1995
Private Passenger Auto Insurance Benchmark Rate Hearing

Austin, Texas, October 31, 1995
Texas Automobile Insurance Plan Association Rate Hearing

Sacramento, California, April 18, 1995
California Insurance Department Hearing on Auto Insurance Rating Factors

Portland, Maine, April 13, 1995
Workers Compensation Assigned Risk Pool Fresh Start Hearing

San Francisco, California, February 6, 1995
Farmers Insurance Group Earthquake Insurance Rate Hearing

Austin, Texas, January 6, 1995
Special Hearing on Classification Rules for Automobile Insurance

Austin, Texas, December 15, 1994
Residential Property Insurance Benchmark Rate Hearing

Austin, Texas, October 4, 1994
Texas Automobile Insurance Plan Association Rate Hearing

Austin, Texas, September 27, 1994
Private Passenger Auto Insurance Benchmark Rate Hearing

Raleigh, North Carolina, July 19, 1994
Private Passenger Auto Insurance Rate Hearing

San Francisco, California, December 22, 1993
Century National Homeowner's Insurance Rate Hearing

Raleigh, North Carolina, October 13, 1993
Homeowners/Farmowners Insurance Rate Hearing

Tallahassee, Florida, October 4, 1993
Workers' Compensation Insurance Rate Hearing

Boston, Massachusetts, September 9, 1993
Automobile Insurance Rate Hearing

Austin, Texas, March 4, 1993
Residential Property Insurance Benchmark Rate Hearing

Austin, Texas, February 10, 1993
Automobile Insurance Benchmark Rate Hearing

Honolulu, Hawaii, November 18, 1992
Liberty Mutual Insurance Automobile Rate Hearing

Raleigh, North Carolina, November 13, 1992
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, October 29, 1992
Workers' Compensation Insurance Rate Hearing

San Francisco, California, October 14, 1992
Workers' Compensation Insurance Rate Hearing

Atlanta, Georgia, September 24, 1992
Workers' Compensation Insurance Rate Hearing

Nashville, Tennessee, May 27, 1992
Workers' Compensation Insurance Rate Hearing

San Francisco, California, May 13, 1992
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, April 10, 1992
Mercury General Proposition 103 Rollback Proceedings

Austin, Texas, January 27, 1992
Texas Automobile Insurance Plan Rate Hearing

Austin, Texas, December 17, 1991
Automobile Insurance Rate Hearing

Raleigh, North Carolina, December 16, 1991
Workers' Compensation Insurance Rate Hearing

San Francisco, California, October 22, 1991
Workers' Compensation Rate Hearing

Los Angeles, California, May 23, 1991,
Proposition 103 RCD-2 Proceedings

San Francisco, California, April 9, 1991
California Workers' Compensation Rate Study Commission

Nashville, Tennessee, March 20, 1991
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, March 12, 1991,
California Workers' Compensation Rate Study Commission

Olympia, Washington, February 26, 1991,
House Financial Institutions/Insurance Committee Hearing on Rules for Insurance Regulatory Legislation

Olympia, Washington, November 27, 1990,
Insurance Department Public Hearing on Proposed Rules for Ratemaking

Harrisburg, Pennsylvania, November 12, 1990,
Allstate Insurance Company Automobile Insurance Rate Hearing

Tallahassee, Florida, November 1, 1990,
Scanlan v. Martinez, et.al., Superior Court of Leon County

San Bruno, California, October 1, 1990,
SAFECO Insurance Group Proposition 103 Rate Rollback Hearing

Austin, Texas, July 23, 1990,
Texas State Board of Insurance Special Hearing on Investment Income in Ratemaking

Harrisburg, Pennsylvania, July 18, 1990,
Pennsylvania National Mutual Insurance Company Automobile Insurance Rate Hearing

Harrisburg, Pennsylvania, June 28, 1990,
Harleysville Mutual Insurance Company Automobile Insurance Rate Hearing

Columbia, South Carolina, March 30, 1990,
Workers' Compensation Insurance Rate Hearing

San Bruno, California, March 19, 1990,
California Proposition 103 Generic Hearing

Denver, Colorado, December 12, 1989,
Workers' Compensation Insurance Rate Hearing

Tampa, Florida, October 23, 1989,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, October 17, 1989,
Workers' Compensation Insurance Rate Hearing

Los Angeles, California, September 25, 1989,
SAFECO Insurance Company of America Proposition 103 Rate Hearing

Austin, Texas, August 29, 1989,
Texas Insurance Advisory Association Property Insurance Rate Hearing

Providence, Rhode Island, April 13, 1989,
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, January 24, 1989,
Workers' Compensation Insurance Rate Hearing

Hartford, Connecticut, November 14, 1988,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 3, 1988,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, November 2, 1988,
Workers' Compensation Insurance Rate Hearing

Montgomery, Alabama, June 30, 1988,
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, March 24, 1988,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, October 27, 1987,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, October 9, 1987,
Workers' Compensation Insurance Rate Hearing

Atlanta, Georgia, August 6, 1987,
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, February 24, 1987,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 14, 1986,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, November 18, 1986,
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, May 28, 1986,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, December 6, 1985,
Workers' Compensation Insurance Rate Hearing

Oklahoma City, Oklahoma, October 10, 1985,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, July 23, 1985,
Workers' Compensation Insurance Rate Hearing

Austin Texas, June 14, 1985,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, November 18, 1984,
Workers' Compensation Insurance Rate Hearing

Austin, Texas, August 29, 1984,
Workers' Compensation Insurance Rate Hearing

Portland, Oregon, March 6, 1984,
NA IC Public Hearing on Investment Income and Insurance Profitability

Tallahassee, Florida, February 25, 1984,
Workers' Compensation Insurance Rate Hearing

Tallahassee, Florida, August 18, 1983,
Workers' Compensation Insurance Rate Hearing

Austin Texas, July 13, 1983,
Workers' Compensation Insurance Rate Hearing

Oklahoma City, Oklahoma, March 6, 1983,
Workers' Compensation Insurance Rate Hearing

Baton Rouge, Louisiana, March 16, 1982,
Louisiana Insurance Commission Public Hearing on Investment Income

Providence, Rhode Island, February 3, 1982,
Workers' Compensation Insurance Rate Hearing

Augusta, Maine, October 1, 1981,
Workers' Compensation Insurance Rate Hearing

NCRB - PRO FORMA STATUTORY RETURN

WORKERS COMPENSATION

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	57.93%		
Commissions & Brokerage	5.00%		
Taxes, Licenses and Fees	2.95%		
General & Other Acquisition Expenses	2.41%		
Servicing Carrier Allowance plus Other Expenses	19.21%		
2. Pro-Forma Underwriting Profit	12.50%		
3. Uncollectible Premium Income	-7.34%		
4. Regular tax		1.81%	
5. Additional tax due to TRA		0.63%	
6. Total Return from Underwriting (post-tax)			2.73%
7. Investment Gain on Insurance Transaction	6.87%	1.71%	5.16%
8. Total Return as a % of Premium (post-tax)			7.88%
9. Premium-to-Net Worth Ratio			1.031
10. Total Return as a % of Net Worth (post-tax)			8.13%

Note: Lines (1) to (8) are all expressed as a % of premium.

Assumptions

(a)	UW Tax Rate =	35.00%
(b)	Inv. Income Tax Rate =	24.92%
(c)	Inv. Yield =	4.44%
(d)	P/S Ratio =	1.21
(e)	NW/S Ratio =	1.17
(f)	Uncollectible Premium Income	-7.34%
(g)	Additional TRA tax=	0.63%
(h)	Prepaid Expense Ratio	26.93%
(i)	Unearned Premium Reserve to Premium Ratio	31.00%

NOTES TO EXHIBIT RB-14, Page 1

1. Selected expense provisions, reflecting the average of servicing carrier and direct assignment carrier market shares and expense provisions. Servicing carrier share =70.46 %; direct assignment carrier share =29.54%. Therefore, General & OAE for direct assignment carriers = 7.92%*30.41%=2.41%, of total market premium, while the servicing carrier allowance plus other expenses = (26.25%+0.80%+0.55%)*69.59%=19.21% of total market premium Commission and brokerage expenses are the same for all carriers.

2. Selected underwriting profit provision

3. See RB-14, p. 13

4. [(2) + (3)] x (a)

5. See RB-14, p. 3

6. [(2) + (3)] - [(4) + (5)]

7. See RB-14, pp.4-7

8. (6) + (7)

9. (d)/(e)

10. (8) x (9)

ASSUMPTIONS

(a) Internal Revenue Code

(b) See RB-14, pp. 8-10; 1-avg post-tax yield/avg pre-tax yield

(c) See RB-14, pp. 8-10; average of current and embedded yields

(d) See RB-14, p. 11

(e) See RB-14, p. 12

(f) See RB-14, p. 13

(g) See RB-14, p. 3

(h) See RB-14, p. 4

(i) See RB-14, p. 5

NCRB - PRO FORMA STATUTORY RETURN
ADJUSTED TO INCLUDE INVESTMENT INCOME ON SURPLUS
WORKERS COMPENSATION

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	57.93%		
Commissions & Brokerage	5.00%		
Taxes, Licenses and Fees	2.95%		
General & Other Acquisition Expenses	2.41%		
Servicing Carrier Allowance plus Other Expenses	19.21%		
2. Pro-Forma Underwriting Profit	12.50%		
3. Uncollectible Premium Income	-7.34%		
4. Regular tax		1.81%	
5. Additional tax due to TRA		0.63%	
6. Total Return from Underwriting (post-tax)			2.73%
7. Investment Gain on Insurance Transaction	6.87%		
Net Investment Gain on Insurance Transaction	6.87%	1.71%	5.16%
8. Investment Gain on Surplus (Including Prepaid Expense Adjustment)	4.05%	1.01%	3.04%
9. Total Return as a % of Premium (post-tax)			10.93%
10. Premium-to-Net Worth Ratio			1.031
11. Total Return as a % of Net Worth (post-tax)			11.26%

Note: Lines (1) to (9) are all expressed as a % of premium.

Assumptions

(a)	UW Tax Rate =	35.00%
(b)	Inv. Income Tax Rate =	24.92%
(c)	Inv. Yield =	4.44%
(d)	P/S Ratio =	1.21
(e)	NW/S Ratio =	1.17
(f)	Uncollectible Premium Income	-7.34%
(g)	Additional TRA tax=	0.63%
(h)	Prepaid Expense Ratio	26.93%
(i)	Unearned Premium Reserve to Premium Ratio	31.00%

NOTES TO EXHIBIT RB-14, Page 1A

1. Selected expense provisions, reflecting the average of servicing carrier and direct assignment carrier
   market shares and expense provisions. Servicing carrier share =69.59 %; direct assignment carrier share =30.41%.
   Therefore, General & OAE for direct assignment carriers = 7.92%*30.41%=2.41%, of total market premium, while
   the servicing carrier allowance plus other expenses = (26.25%+0.80%+0.55%)*69.59%=19.21% of total market premium
   Commission and brokerage expenses are the same for all carriers.

2. Selected underwriting profit provision

3. See RB-14, p. 13

4. [(2) + (3)] x (a)

5. See RB-14, p. 3

6. [(2) + (3)] - [(4) + (5)]

7. See RB-14, pp.4-7

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

9. (6) + (7) + (8)

10. (d)/(e)

11. (9) x (10)

ASSUMPTIONS

(a) Internal Revenue Code

(b) See RB-14, pp. 8-10; 1-avg post-tax yield/avg pre-tax yield

(c) See RB-14, pp. 8-10; average of current and embedded yields

(d) See RB-14, p. 11

(e) See RB-14, p. 12

(f) See RB-14, p. 13

(g) See RB-14, p. 3

(h) See RB-14, p. 4

(i) See RB-14, p. 5

NORTH CAROLINA
WORKERS COMPENSATION

CALCULATION OF TAXABLE INCOME

The Tax Reform Act of 1986 increased taxable income for property casualty insurers, by including in the tax base several items that were previously not considered taxable income. These items include:

1. Inclusion of 20% of the annual increase in unearned premium reserve as income.
2. The use of discounted loss reserves in the calculation of underwriting income.
3. Inclusion of 15% of tax exempt income and the deductible portion of dividends received from investments made after August 7, 1986.

Of these three items, the first two (revenue offset and loss reserve discounting) must be accounted for directly in the calculation of the underwriting profit tax. The third item must be accounted for in the calculation of the investment income tax rate. The calculations below assume annual premium growth of 5%.

(a)	Earned Premium (current year)	100.00%
(b)	UEPR (previous year)	30.25%
(c)	UEPR (current year)	31.76%
(d)	Increase = (c)-(b)	1.51%
(e)	20% of Increase = Taxable Income	0.30%
(f)	Tax Liability = (e)x.35	0.11%

The additional taxable income derived from treating unpaid losses on a discounted basis is given by the difference between unpaid losses and undiscounted unpaid losses in year N, minus the difference between unpaid losses and undiscounted unpaid losses in year N-1. Discounting is on the basis of payment patterns provided by NCCI.

(g)	Unpaid Losses (current year)	187.75%
(h)	Discounted unpaid losses (current year)	156.58%
(i)	Unpaid Losses (previous year)	178.81%
(j)	Discounted unpaid losses (previous year)	149.12%
(k)	Additional Income	1.48%
(l)	Tax Liability	0.52%

The sum of these two calculations results in the following:

Other Tax Liabilities

(m)	UEP	0.11%
(n)	Discounting of Loss Reserves	0.52%
(o)	Total	**0.63%**

NORTH CAROLINA
WORKERS COMPENSATION

CALCULATION OF TAXABLE INCOME

(1) AY Avg Acc Date	(2) AY Pay Pattern	(3) Percent Unpaid	(4) Volume as % of Premium	(5) Combined Weight	(6) AY at 12/31 of Current Yr.	(7) Discount Factor	(8) Discounted Weight	(9) AY at 12/31 of Previous Yr.	(10) Weight	(11) Discount Factor	(12) Discounted Weight
0.5	24.7%	75.3%	57.935	43.6	2007	86.0207%	37.5				
1.5	43.8%	56.2%	55.176	31.0	2006	85.0789%	26.4	2006	41.6	86.0207%	35.8
2.5	55.2%	44.8%	52.548	23.6	2005	83.2162%	19.6	2005	29.5	85.0789%	25.1
3.5	63.1%	36.9%	50.046	18.5	2004	81.4579%	15.0	2004	22.4	83.2162%	18.7
4.5	69.1%	31.0%	47.663	14.8	2003	79.3507%	11.7	2003	17.6	81.4579%	14.3
5.5	73.7%	26.3%	45.393	11.9	2002	78.0994%	9.3	2002	14.0	79.3507%	11.1
6.5	77.4%	22.6%	43.232	9.8	2001	78.8640%	7.7	2001	11.4	78.0994%	8.9
7.5	80.4%	19.6%	41.173	8.1	2000	79.2248%	6.4	2000	9.3	78.8640%	7.3
8.5	83.0%	17.0%	39.212	6.7	1999	80.9346%	5.4	1999	7.7	79.2248%	6.1
9.5	85.1%	14.9%	37.345	5.6	1998	83.2269%	4.6	1998	6.4	80.9346%	5.2
10.5	87.2%	12.8%	35.567	4.6	1997	85.6945%	3.9	1997	5.3	83.2269%	4.4
11.5	89.3%	10.7%	33.873	3.6	1996	88.3666%	3.2	1996	4.3	85.6945%	3.7
12.5	91.4%	8.6%	32.260	2.8	1995	91.2795%	2.5	1995	3.5	88.3666%	3.1
13.5	93.5%	6.5%	30.724	2.0	1994	94.4802%	1.9	1994	2.7	91.2795%	2.4
14.5	95.6%	4.4%	29.261	1.3	1993	98.0298%	1.3	1993	1.9	94.4802%	1.8
15.5	100.0%	0.0%	27.868	0.0	1992	98.0298%	0.0	1992	1.2	98.0298%	1.2
16.5	100.0%	0.0%	26.541	0.0	1991	98.0298%	0.0	1991	0	98.0298%	0.0
17.5	100.0%	0.0%	25.277	0.0	1990	98.0298%	0.0	1990	0	98.0298%	0.0
18.5	100.0%	0.0%	24.073	0.0	1989	98.0298%	0.0	1989	0	98.0298%	0.0
19.5	100.0%	0.0%	22.927	0.0	1988	98.0298%	0.0	1988	0	98.0298%	0.0
20.5	100.0%	0.0%	21.835	0.0	1987	98.0298%	0.0	1987	0	98.0298%	0.0
21.5	100.0%	0.0%	20.795	0.0	1986	98.0298%	0.0	1986	0	98.0298%	0.0
22.5	100.0%	0.0%	19.805	0.0	1985	98.0298%	0.0	1985	0	98.0298%	0.0
23.5	100.0%	0.0%	18.862	0.0	1984	98.0298%	0.0	1984	0	98.0298%	0.0
24.5	100.0%	0.0%	17.964	0.0	1983	98.0298%	0.0	1983	0	98.0298%	0.0
25.5	100.0%	0.0%	17.108	0.0	1982	98.0298%	0.0	1982	0	98.0298%	0.0
26.5	100.0%	0.0%	16.294	0.0	1981	98.0298%	0.0	1981	0	98.0298%	0.0
27.5	100.0%	0.0%	15.518	0.0	1980	98.0298%	0.0	1980	0	98.0298%	0.0
28.5	100.0%	0.0%	14.779	0.0	1979	98.0298%	0.0	1979	0	98.0298%	0.0
29.5	100.0%	0.0%	14.075	0.0	1978	98.0298%	0.0	1978	0	98.0298%	0.0
30.5	100.0%	0.0%	13.405	0.0	1977	98.0298%	0.0	1977	0	98.0298%	0.0
31.5	100.0%	0.0%	12.766	0.0	1976	98.0298%	0.0	1976	0	98.0298%	0.0
32.5	100.0%	0.0%	12.159	0.0	1975	98.0298%	0.0	1975	0	98.0298%	0.0
33.5	100.0%	0.0%	11.580	0.0	1974	98.0298%	0.0	1974	0	98.0298%	0.0
34.5	100.0%	0.0%	11.028	0.0	1973	98.0298%	0.0	1973	0	98.0298%	0.0
35.5	100.0%	0.0%	10.503	0.0	1972	98.0298%	0.0	1972	0	98.0298%	0.0
36.5	100.0%	0.0%	10.003	0.0	1971	98.0298%	0.0	1971	0	98.0298%	0.0
37.5	100.0%	0.0%	9.527	0.0	1970	98.0298%	0.0	1970	0	98.0298%	0.0
38.5	100.0%	0.0%	9.073	0.0	1969	98.0298%	0.0	1969	0	98.0298%	0.0
39.5	100.0%	0.0%	8.641	0.0	1968	98.0298%	0.0	1968	0	98.0298%	0.0
40.5	100.0%	0.0%	8.229	0.0	1967	98.0298%	0.0	1967	0	98.0298%	0.0
41.5	100.0%	0.0%	7.837	0.0	1966	98.0298%	0.0	1966	0	98.0298%	0.0
42.5	100.0%	0.0%	7.464	0.0	1965	98.0298%	0.0	1965	0	98.0298%	0.0
43.5	100.0%	0.0%	7.109	0.0	1964	98.0298%	0.0	1964	0	98.0298%	0.0
44.5	100.0%	0.0%	6.770	0.0	1963	98.0298%	0.0	1963	0	98.0298%	0.0
45.5	100.0%	0.0%	6.448	0.0	1962	98.0298%	0.0	1962	0	98.0298%	0.0
46.5	100.0%	0.0%	6.141	0.0	1961	98.0298%	0.0	1961	0	98.0298%	0.0
47.5	100.0%	0.0%	5.848	0.0	1960	98.0298%	0.0	1960	0	98.0298%	0.0
48.5	100.0%	0.0%	5.570	0.0	1959	98.0298%	0.0	1959	0	98.0298%	0.0
49.5	100.0%	0.0%	5.305	0.0	1958	98.0298%	0.0	1958	0	98.0298%	0.0
50.5	100.0%	0.0%	5.052	0.0	1957	98.0298%	0.0	1957	0	98.0298%	0.0
51.5	100.0%	0.0%	4.812	0.0	1956	98.0298%	0.0	1956	0	98.0298%	0.0
52.5	100.0%	0.0%	4.582	0.0	1955	98.0298%	0.0	1955	0	98.0298%	0.0
53.5	100.0%	0.0%	4.364	0.0	1954	98.0298%	0.0	1954	0	98.0298%	0.0
54.5	100.0%	0.0%	4.156	0.0	1953	98.0298%	0.0	1953	0	98.0298%	0.0
55.5	100.0%	0.0%	3.958	0.0	1952	98.0298%	0.0	1952	0	98.0298%	0.0
56.5	100.0%	0.0%	3.770	0.0	1951	98.0298%	0.0	1951	0	98.0298%	0.0
57.5	100.0%	0.0%	3.590	0.0	1950	98.0298%	0.0	1950	0	98.0298%	0.0
58.5	100.0%	0.0%	3.419	0.0	1949	98.0298%	0.0	1949	0	98.0298%	0.0
59.5	100.0%	0.0%	3.257	0.0	1948	98.0298%	0.0	1948	0	98.0298%	0.0
60.5	100.0%	0.0%	3.102	0.0	1947	98.0298%	0.0	1947	0	98.0298%	0.0
61.5	100.0%	0.0%	2.954	0.0	1946	98.0298%	0.0	1946	0	98.0298%	0.0
62.5	100.0%	0.0%	2.813	0.0	1945	98.0298%	0.0	1945	0	98.0298%	0.0
63.5	100.0%	0.0%	2.679	0.0	1944	98.0298%	0.0	1944	0	98.0298%	0.0
64.5	100.0%	0.0%	2.552	0.0	1943	98.0298%	0.0	1943	0	98.0298%	0.0
65.5	100.0%	0.0%	2.430	0.0	1942	98.0298%	0.0	1942	0	98.0298%	0.0
66.5	100.0%		2.314	0.0	1941	98.0298%	0.0	1941	0	98.0298%	0.0

Sum	Total Res @ 12/31 current year			187.75	Sum		156.58	Sum			149.12
	Total Res @ 12/31 previous year			178.81							

NOTES TO PAGES 3 AND 3A

Page 3

(a) - (c) Annual Statement, page 15, for all companies writing workers compensation insurance in North Carolina, and assumed growth rate.

(d) Line (c) - line (b)

(e) Line (d) x .20.

(f) Line (e) x .35.

(g) Unpaid current-year losses at year-end as a percent of premium. Sum of Page 3A, Column (5).

(h) Discounted unpaid current-year losses at year-end as a percent of premium. Sum of Page 3A, Column (8).

(i) Unpaid prior-year losses at year-end as a percent of premium. Sum of Page 3A, Column (5) divided by 5% growth rate.

(j) Discounted unpaid prior-year losses at year-end as a percent of premium. Sum of Page 3A, Column (12).

(k) Line (g) - Line (h) - [Line (i) - Line (j)]

(l) Line (k) x .35

(m) Line (f)

(n) Line (l)

(o) Line (m) + Line (n)

Page 3A

1   Midpoint of number of years since end of accident period.

2   Accident year payout pattern developed from policy year developed losses.

3   1 - Column (2)

4   Losses, given a 5% historical growth rate.

5   Column (3) x Column (4)

6   Accident Year at December 31, current year.

7   Discount factor per IRS Regulations.

8   Column (5) x Column (7)

9   Accident Year at December 31, previous year.

10 Column (3), previous period x Column (4), current period.

11 Discount factor per IRS Regulations.

12 Column (10) x Column (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 UEPR	31.00%	310,042
3. Deductions for prepaid expenses: % of Total Market Premium		

Total Market

Commissions & Brokerage	5.00%	
Taxes, Licenses and Fees	2.46%	

Direct Assignment Carriers (=30.41% of the market)

General & Other Acquisition Expenses	1.20%	

Servicing Carriers (=69.59% of the market)

Servicing Carrier Allowance	18.27%	
Total	26.93%	

4. Deduction for Prepaid Expenses: (2) x (3)		83,494
5. Net UEPR		310,042
6. Net UEPR Subject to Inv (5) - (4)		226,548

B. Delayed Remission of Prems (Ag Bals)

1. Direct Earned Premium		1,000,000
2. Average Agents Balances		0.078
3. Delayed Remissions (1)x(2)		78,000

C. Loss and Loss Expense Reserves

1. Direct Earned Premium		1,000,000
2. Expected Inc L & LAE to Premium Ratio	57.93%	579,347
3. Expected Mean L&LAE Reserve to Inc. L & LAE Ratio	2.414	1,398,420

D. Net PH Funds Subj to Inv

(A6 - B3 + C3)		1,546,968

E. Average Rate of Return

	4.44%

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

	68,685

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

	6.87%

NORTH CAROLINA
WORKERS' COMPENSATION INSURANCE
ASSIGNED RISK

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1

All calculations are displayed per $1,000,000 of earned premium

Line A-2

The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the unearned premium reserve to the collected earned premium for the current calendar year and assuming 5% annual growth in premiums for all companies.

(1) Earned Premium (current year)	1,427,733,000
(2) UEPR (previous year)	431,860,000
(3) UEPR (current year)	453,453,000
(4) Mean Unearned Premium Reserve (1/2)*[(2) + (3)]	442,656,500
(5) Ratio (4) / (1)	**31.00%**

Line A-3

Deduction for prepaid expenses:

Servicing Carriers Market Share	69.59%
Direct Assignment Writers Market Share	30.41%

Commission and brokerage expenses are the same for all carriers.
General and other acquisition expenses for direct assignment writers are 7.92%, one half of which are prepaid. Since direct assignment carriers are 30.41% of the market, these account for .5*30.41%*7.92%=1.20% of the market as a whole.

For servicing carriers, the entire servicing carrier allowance is a prepaid expense. Since the servicing carrier allowance is 26.25% of premium, these account for 0.2625*0.6959 = 18.27% for the market as a whole.

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 date of premium collection is calculated.The difference between that date and 6 months is divided by 12 months to calculate the effect of delayed remission of premium.

Line C-2

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

Line C-3

The mean loss & LAE reserve to incurred loss and LAE ratio is the weighted average of the ratios for direct assignment and servicing carriers:
(2.6185*0.3041 + 2.6962/1.1600*0.6959) = 2.414.

Line E

The average rate of return is calculated as the arithmetic mean of the embedded and current yields. The embedded yield is the sum of two ratios: the most recent ratio of investment income to invested assets from Best's Aggregates & Averages, 2008 edition, plus the 10-year average ratio of capital gains to invested assets (see Exhibit RB-14, page 9).
The current yield is the estimated, currently available rate of return (including income and expected capital gains) on the property/casualty industry investment portfolio (see Exhibit RB-14, page 8).

Embedded yield =	5.45%
Current Yield =	3.43%
Average	**4.44%**

	Reserve to Incurred Loss Ratio*				
	(1)	(2)	(3)	(4)	(5)
					(L+LAER)/
Year	Loss Reserve	LAE Reserve	Incurred Loss	Incurred LAE	(IL+ILAE)
1999	2.786	0.346	1.000	0.162	2.695
2000	2.921	0.369	1.000	0.161	2.835
2001	2.705	0.330	1.000	0.149	2.642
2002	2.429	0.282	1.000	0.129	2.401
2003	2.438	0.278	1.000	0.140	2.384
2004	2.433	0.282	1.000	0.150	2.361
2005	2.364	0.280	1.000	0.134	2.331
2006	2.684	0.321	1.000	0.166	2.578
2007	3.061	0.369	1.000	0.172	2.926
2008	3.141	0.387	1.000	0.163	3.032
10 - yr avg	**2.696**				**2.618**

* Columns (1) - (4) shown as ratio to incurred loss

PORTFOLIO YIELD AND TAX RATE - CURRENT YIELD

(1) Investable Asset	(2) Percent of Assets	(3) Estimated Prospective Pre-Tax Return	(4) Tax Rate	(5) Estimated Prospective Post-Tax Return
Bonds				
U.S. Govt	9.62%	1.79%	35.00%	1.16%
States & territories	14.41%	2.59%	5.25%	2.45%
Special revenue	24.08%	2.67%	5.25%	2.53%
Public Utilities	1.34%	3.55%	35.00%	2.31%
Industrial	21.48%	3.28%	35.00%	2.13%
Preferred stock	1.58%	6.34%	14.18%	5.44%
Common stock	18.24%	9.48%	30.26%	6.61%
Mortgage Loans	0.39%	4.98%	35.00%	3.24%
Real estate	0.85%	4.16%	35.00%	2.70%
Cash & short-term invs.	8.01%	0.22%	35.00%	0.14%
Rate of Return Pre-Inv Exp	100.00%	3.84%	24.45%	2.90%
Investment Expenses		0.41%	35.00%	0.27%
Portfolio Rate of Return		**3.43%**	23.19%	**2.64%**

Sources:
   Various issues of Federal Reserve Statistical Release, H.15(519).
   Mergent Bond Record.
   Standard & Poor's CreditWeek.
   Value Line Investment Survey, Part II.
   Ibbotson Associates, SBBI Valuation Edition 2009 Yearbook.
   Ibbotson and Siegel, AREUEA Journal, 1984.
   A.M. Best's Aggregates & Averages, 2008 edition.

PORTFOLIO YIELD AND TAX RATE EMBEDDED YIELD		
	Income	Tax Rate
Bonds		
Taxable	26,829,002	35.00%
Non-Taxable	15,945,544	5.25%
Stocks		
Taxable	5,217,764	14.18%
Non-Taxable	1,787,257	5.25%
Mortgage Loans	277,884	35.00%
Real Estate	1,765,348	35.00%
Contract Loans	458	35.00%
Cash / Short Term Inv.	5,343,544	35.00%
All Other	5,818,516	35.00%
Total	62,985,317	24.90%
Inv. Expenses	5,452,582	35.00%
Net Inv. Income	57,532,735	23.94%
Mean Invested Assets	1,297,478,130	
Inv. Inc. Yield Rate	4.43%	23.94%
Capital Gains (10 yr. avg) (% Of Inv. Assets)	1.02%	35.00%
Invest. Yield Rate (pre-tax)	**5.45%**	**26.00%**
Invest. Yield Rate (post-tax)	**4.03%**	

Source: Best's Aggregates and Averages, 2008 Edition, p. 12 (Exhibit of Net Investment Income, Col. 2 (Earned During Year)).

CAPITAL GAINS OR LOSSES
AS A PERCENT OF MEAN ASSETS
(All amounts in thousands of dollars)

Calendar Year	Mean Total Invested Assets	Realized Capital Gains	
		Amount	Percent
1998	781,421,247	18,019,189	2.31%
1999	797,920,622	13,016,157	1.63%
2000	794,195,460	16,204,649	2.04%
2001	785,530,275	6,630,679	0.84%
2002	815,037,267	2,770,997	0.34%
2003	908,024,056	6,280,196	0.69%
2004	1,018,810,319	9,113,199	0.89%
2005	1,120,112,663	12,194,908	1.09%
2006	1,217,432,187	3,587,228	0.29%
2007	1,297,478,130	9,031,778	0.70%
Total	9,535,962,223	96,848,980	1.02%

*Mean total invested assets is the average of the current year and
 prior year values of total invested assets (annual statement page 2,
 Line 9).

Source: "Best's Aggregates & Averages--Property-Casualty,"
              various editions

NORTH CAROLINA
WORKERS COMPENSATION

PREMIUM-TO-SURPLUS RATIOS

Year	Premium to Surplus Ratio
1998	1.00
1999	1.02
2000	1.10
2001	1.33
2002	1.67
2003	1.43
2004	1.34
2005	1.18
2006	1.06
2007	0.93
Ten-Year Average	1.21
Selected	**1.21**

Notes:

Ratios based on net premium written and average surplus
Top 30 Groups in each year
From Best's DataBase Service and
   Best's Aggregates & Averages.

NORTH CAROLINA WORKERS COMPENSATION
CALCULATION OF GAAP NET WORTH TO SURPLUS RATIO

	2003	2004	2005	2006	2007
Policyholder Surplus	347,020,052,576	391,294,425,276	425,759,944,800	486,231,429,443	517,875,621,253
+ Deferred Acquisition Costs	23,633,976,782	25,336,389,277	26,322,460,773	27,351,959,298	27,556,696,928
+ Non-Admitted DTA Provision	18,945,643,538	19,919,892,745	20,389,557,802	19,710,944,304	20,970,760,003
+ Non-admitted Assets (non-tax part)	16,495,566,662	22,629,830,486	23,050,311,315	25,215,840,687	28,591,349,752
+ Provision for Reinsurance	5,802,642,707	5,971,612,606	5,757,810,700	5,407,923,691	4,619,150,713
+ Provision for FASB 115(after-tax)	11,598,154,936	13,697,026,260	4,664,626,701	4,267,041,184	6,555,479,760
- Surplus Notes	(9,589,168,207)	(10,569,400,392)	(11,102,999,699)	(10,633,190,656)	(10,147,724,269)
GAAP-adjusted Net Worth	413,906,868,994	468,279,776,257	494,841,712,392	557,551,947,951	596,021,334,139
Ratio of GAAP Net Worth to Statutory Surplus	1.19	1.20	1.16	1.15	1.15
Five Year Average	1.17				

Source: ISO

NORTH CAROLINA WORKERS COMPENSATION
UNCOLLECTIBLE PREMIUM BY POLICY YEAR

A. REPORTED (UNDEVELOPED) EXPERIENCE

Policy Year	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1991	1.82	2.50	2.42	2.30	2.28	2.11	2.08	2.05	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
1992	1.90	2.76	3.37	3.47	3.55	3.62	3.60	3.59	3.58	3.52	3.58	3.58	3.58	3.58	3.58	3.58	
1993	2.03	3.41	3.32	2.93	3.05	2.84	2.90	2.89	2.88	2.87	2.87	2.87	2.87	2.87	2.87		
1994	2.16	5.98	5.85	5.36	5.02	5.04	5.02	5.01	4.98	4.98	4.98	4.98	4.99	4.99			
1995	3.63	5.38	4.59	4.33	4.26	4.24	4.23	4.15	4.15	4.15	4.15	4.14	4.14				
1996	4.63	6.09	7.34	7.30	7.01	6.88	6.85	6.84	6.64	6.65	6.65	6.65					
1997	2.48	4.63	4.72	5.03	4.82	4.76	4.76	4.76	4.76	4.76	4.76						
1998	2.94	5.83	7.02	6.69	6.62	6.61	6.58	6.59	6.59	6.59							
1999	3.05	6.96	6.52	6.53	6.46	6.41	6.40	6.39	6.39								
2000	2.70	10.77	11.03	10.72	10.46	10.43	7.93	7.67									
2001	3.27	4.74	4.33	4.26	4.44	4.45	4.38										
2002	3.16	5.37	5.80	5.42	5.34	5.25											
2003	3.21	6.74	5.83	5.63	5.56												
2004	5.42	7.00	6.65	7.50													
2005	5.25	7.10	7.84														
2006	5.99	9.86															
2007	8.34																

B. DEVELOPMENT FACTORS

Policy Year	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10 - 11	11 - 12	12 - 13	13 - 14	14-15	15-16	16-17	17-18
1991	1.37	0.97	0.95	0.99	0.93	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1992	1.45	1.22	1.02	1.02	0.99	0.99	1.00	1.00	0.98	1.02	1.00	1.00	1.00	1.00	1.00	
1993	1.68	0.97	0.88	1.04	0.93	1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
1994	2.77	0.98	0.92	0.94	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00			
1995	1.48	0.85	0.94	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00				
1996	1.32	1.21	0.99	0.96	0.98	1.00	1.00	0.97	1.00	1.00	1.00					
1997	1.87	1.02	1.07	0.96	0.99	1.00	1.00	1.00	1.00	1.00						
1998	1.98	1.20	0.95	0.99	1.00	1.00	1.00	1.00	1.00							
1999	2.28	0.94	1.00	0.99	0.99	1.00	1.00	1.00								
2000	3.99	1.02	0.97	0.98	1.00	0.76	0.97									
2001	1.45	0.91	0.98	1.04	1.00	0.98										
2002	1.70	1.08	0.93	0.99	0.98											
2003	2.10	0.86	0.97	0.99												
2004	1.29	0.95	1.13													
2005	1.35	1.10														
2006	1.65															
Average	1.86	1.02	0.98	0.99	0.99	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cumulative	1.75	0.94	0.92	0.94	0.95	0.97	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

C. REPORTED OR DEVELOPED EXPERIENCE
THROUGH 18TH REPORT

Policy Year	Developed or Reported Experience
1998	6.61
1999	6.39
2000	7.63
2001	4.33
2002	5.07
2003	5.29
2004	7.06
2005	7.23
2006	9.26
2007	14.55
10 year avg	7.34
Selected	7.34

Source:
National Council on Compensation Insurance.