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RATE BUREAU
REINSURANCE FACILITY
INSURANCE GUARANTY ASSOCIATION

North Carolina Rate Bureau

February 7, 2018

Honorable Mike Causey
Commissioner of Insurance
North Carolina Department of Insurance
P. O. Box 26387
Raleigh, North Carolina 27611

Re: Revision of Dwelling Insurance Rates
and Dwelling Insurance Territory Definitions

Dear Sir:

Enclosed herewith for filing on behalf of all member companies of the North Carolina Rate Bureau are revised premium rates and revised territory definitions for dwelling insurance subject to the jurisdiction of the North Carolina Rate Bureau.

The enclosed memoranda and exhibits set forth and explain the calculations for needed rate level changes that have been capped by territory to produce an overall filed statewide average rate level change of +18.9% for dwelling insurance. The filing shows the revised territory definitions, which are the same as the territory definitions for homeowners insurance. The filing also shows revised rate levels varying by territory within the state based on those revised territory definitions, revised windstorm and hail exclusion credits and revised wind mitigation credits.

The foregoing changes were calculated based on rates currently in force and reflect consideration, duly given, to data for the experience period set forth herein. In preparing this filing, due consideration has been given to the factors specified in G.S. 58-36-10(2). In addition, this filing considers recent changes to the tax law which decrease corporate tax rates from 35% to 21%.

Information and statistical data required pursuant to G.S. 58-36-15 and 11 NCAC 10.1105 are shown and referenced in Section E. Additionally, the prefiled testimony of (a) Robert J. Curry, Vice President - Insurance Services Office; (b) Brian Donlan, Chairman, Property Rating Subcommittee; (c) Elizabeth Henderson, Aon Benfield; (d) Robert C. Fox, Aon Benfield; (e) Dr. James Vander Weide – Financial Strategy Associates; (f) Dr. David Appel, Milliman USA; and (g) Paul Anderson, Milliman USA are submitted herewith.

We propose that the revised rates and territory definitions become effective according to the following rule of application:

> These changes are applicable to all new and renewal policies becoming effective on or after October 1, 2018.

Your approval of these changes is respectfully requested.

Very truly yours,

Raymond F. Evans, Jr. CPCU
General Manager

Enclosures

Section A – Summary of Revision

Statewide Rate Level Changes……. A-1
Filed Territory Rate Level Changes by Class……... A-2

Rate Level Summary

Coverage	Premium Weight	Indicated Change	Filed Change
Fire	$ 102,088,428	-20.8%	-20.8%
Extended Coverage	$ 187,663,877	71.3%	40.5% (a)
Total	$ 289,752,305	38.9%	18.9%

(a) Selection of filed rate level change for Extended Coverage is a result of capping as shown on pages C-13 and C-14.

Filed Territory Rate Level Changes by Class

New Territory	Current Territory	FIRE Buildings	FIRE Contents	EXTENDED COVERAGE (a) Buildings	EXTENDED COVERAGE (a) Contents
110	7	-0.1%	-17.5%	38.5%	39.5%
120	8	-12.5%	-27.8%	39.6%	41.0%
130	48	-25.7%	-38.6%	58.3%	28.0%
140	52	-21.3%	-35.1%	48.3%	48.9%
150	49	-20.4%	-34.3%	20.8%	-15.3%
160	52	-7.6%	-23.8%	26.8%	-11.1%
170	45	-20.7%	-34.6%	29.9%	-8.9%
180	45	-18.2%	-32.5%	77.6%	25.5%
190	45	-16.5%	-31.0%	79.5%	64.5%
200	41	-22.1%	-35.7%	114.6%	100.8%
210	47	-15.6%	-30.4%	77.0%	24.1%
220	34	-17.6%	-31.6%	73.6%	51.3%
220	45	-25.1%	-38.5%	26.6%	-39.5%
230	41	-19.8%	-33.8%	102.8%	55.2%
240	47	-13.4%	-28.5%	59.0%	11.5%
250	47	-20.3%	-34.2%	33.6%	-6.3%
260	46	-23.3%	-36.7%	55.0%	8.7%
270	32	-31.4%	-44.0%	30.6%	-7.0%
270	53	-13.7%	-26.7%	35.1%	-7.0%
280	53	-19.4%	-33.5%	27.4%	-10.7%
290	47	-26.9%	-39.7%	14.2%	-19.9%
300	44	-7.1%	-23.4%	82.3%	27.8%
310	36	-25.8%	-36.6%	67.2%	33.6%
310	46	-42.8%	-48.6%	4.5%	-33.2%
310	57	-20.7%	-36.6%	28.6%	33.6%
310	60	-10.6%	-28.1%	28.6%	-33.2%
320	57	-22.3%	-36.3%	31.5%	44.5%
320	60	-12.3%	-27.8%	31.5%	-27.7%
330	57	-17.5%	-31.9%	41.5%	-0.8%
340	38	-30.4%	-38.3%	66.6%	33.1%
340	39	-25.3%	-42.2%	42.8%	33.1%
340	60	-21.5%	-38.3%	15.3%	-33.4%
350	39	-14.8%	-30.5%	45.3%	45.4%
350	60	-10.5%	-25.9%	17.3%	-27.3%
360	60	-25.8%	-38.7%	10.6%	-22.5%
370	60	-18.0%	-32.3%	17.4%	-17.7%
380	60	-25.8%	-38.7%	5.4%	-26.1%
390	60	-22.9%	-36.4%	3.6%	-27.3%

(a) Selection of filed rate level changes for Extended Coverage is a result of capping as shown on pages C-13 and C-14.

Section B – Material to Be Implemented

Current and Revised Territory Base Rates…… B-1-2
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Current and Revised Territory Base Rates

FIRE (A)

New Territory	Current Territory	CURRENT Buildings	CURRENT Contents	REVISED Buildings	REVISED Contents
110	7	17	5	17	4
120	8	19	6	17	4
130	48	42	15	31	9
140	52	35	14	28	9
150	49	37	14	29	9
160	52	35	14	32	11
170	45	55	20	44	13
180	45	55	20	45	14
190	45	55	20	46	14
200	41	80	25	62	16
210	47	48	18	41	13
220	34	50	18	41	12
220	45	55	20	41	12
230	41	80	25	64	17
240	47	48	18	42	13
250	47	48	18	38	12
260	46	61	21	47	13
270	32	44	17	30	10
270	53	35	13	30	10
280	53	35	13	28	9
290	47	48	18	35	11
300	44	51	19	47	15
310	36	47	17	35	11
310	46	61	21	35	11
310	57	44	17	35	11
310	60	39	15	35	11
320	57	44	17	34	11
320	60	39	15	34	11
330	57	44	17	36	12
340	38	44	15	31	9
340	39	41	16	31	9
340	60	39	15	31	9
350	39	41	16	35	11
350	60	39	15	35	11
360	60	39	15	29	9
370	60	39	15	32	10
380	60	39	15	29	9
390	60	39	15	30	10

(A) Base Class is Protection Class 5, Frame Construction; $15,000 Coverage A, $6,000 Coverage C.

Current and Revised Territory Base Rates

EXTENDED COVERAGE (B)

New Territory	Current Territory	CURRENT Buildings	CURRENT Contents	REVISED Buildings	REVISED Contents
110	7	143	20	198	28
120	8	157	23	219	32
130	48	105	15	166	19
140	52	116	16	172	24
150	49	107	14	129	12
160	52	116	16	147	14
170	45	48	5	62	5
180	45	48	5	85	6
190	45	48	5	86	8
200	41	51	6	109	12
210	47	40	3	71	4
220	34	35	2	61	3
220	45	48	5	61	3
230	41	51	6	103	9
240	47	40	3	64	3
250	47	40	3	53	3
260	46	32	2	50	2
270	32	30	2	39	2
270	53	29	2	39	2
280	53	29	2	37	2
290	47	40	3	46	2
300	44	30	3	55	4
310	36	20	1	33	1
310	46	32	2	33	1
310	57	26	1	33	1
310	60	26	2	33	1
320	57	26	1	34	1
320	60	26	2	34	1
330	57	26	1	37	1
340	38	18	1	30	1
340	39	21	1	30	1
340	60	26	2	30	1
350	39	21	1	31	1
350	60	26	2	31	1
360	60	26	2	29	2
370	60	26	2	31	2
380	60	26	2	27	1
390	60	26	2	27	1

(B) Base Class is Form DP-001; $15,000 Coverage A, $6,000 Coverage C.

Determination Of Rates To Be Charged Individual Insureds

The filed base rates by territory are shown on pages B-1 and B-2. These are the filed manual rates for the classification carrying a unity differential. The revised rates for the remaining classifications are determined by applying the established classification rate differentials to the base rates by territory.

RULE A3.
WINDSTORM OR HAIL EXCLUSION – TERRITORIES 110, 120, 130, 140, 150 AND 160 ONLY

Territory	Const.*	Building Credit	Contents Credit
110	M	$ 172	$ 24
	F	181	25
	MH	226	31
120	M	189	28
	F	199	29
	MH	249	36
130	M	137	16
	F	144	17
	MH	180	21
140	M	143	20
	F	150	21
	MH	188	26
150	M	105	10
	F	110	10
	MH	138	13
160	M	122	10
	F	128	11
	MH	160	14

* M = Masonry, F = Frame. MH = Mobile Homes. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table A3.B.2.(R) Windstorm Or Hail Exclusion – Territories 110, 120, 130, 140, 150 AND 160 ONLY

RULE A9.
WINDSTORM MITIGATION PROGRAM

Mitigation Feature	Const.	Territory 110	Territory 120	Territory 130	Territory 140	Territory 150	Territory 160
Total Hip Roof	M	$ 10	$ 10	$ 7	$ 6	$ 6	$ 5
	F	10	10	7	6	6	5
Opening Protection	M	10	10	7	6	6	5
	F	10	10	7	6	6	5
Total Hip Roof and Opening Protection	M	18	18	14	13	10	11
	F	19	19	15	14	11	12
IBHS Designation:							
Hurricane Fortified for Safer Living®	M	30	33	15	24	14	21
	F	32	35	16	25	15	22
Hurricane Fortified for Existing Homes® Bronze Option 1	M	7	7	5	5	5	4
	F	7	7	5	5	5	4
Hurricane Fortified for Existing Homes® Bronze Option 2	M	11	12	7	9	6	8
	F	12	13	7	9	6	8
Hurricane Fortified for Existing Homes® Silver Option 1	M	18	21	10	15	7	12
	F	19	22	10	16	7	13
Hurricane Fortified for Existing Homes® Silver Option 2	M	22	25	10	18	8	15
	F	23	26	11	19	8	16
Hurricane Fortified for Existing Homes® Gold Option 1	M	24	25	14	18	10	15
	F	25	26	15	19	11	16
Hurricane Fortified for Existing Homes® Gold Option 2	M	27	30	15	23	11	19
	F	28	32	16	24	12	20

Table A9.E.#1(R) – Windstorm Loss Mitigation Credit – Coverage A – Dwelling

Mitigation Feature	Const.	Territory 110	Territory 120	Territory 130	Territory 140	Territory 150	Territory 160
Total Hip Roof	M	$ 1	$ 1	$ 1	$ 2	$ 1	$ 1
	F	1	1	1	2	1	1
Opening Protection	M	1	1	1	2	1	1
	F	1	1	1	2	1	1
Total Hip Roof and Opening Protection	M	1	3	1	2	1	1
	F	1	3	1	2	1	1
IBHS Designation:							
Hurricane Fortified for Safer Living®	M	6	6	3	5	2	3
	F	6	6	3	5	2	3
Hurricane Fortified for Existing Homes® Bronze Option 1	M	1	1	1	2	1	1
	F	1	1	1	2	1	1
Hurricane Fortified for Existing Homes® Bronze Option 2	M	1	3	1	2	1	1
	F	1	3	1	2	1	1
Hurricane Fortified for Existing Homes® Silver Option 1	M	3	3	1	4	1	2
	F	3	3	1	4	1	2
Hurricane Fortified for Existing Homes® Silver Option 2	M	3	4	1	4	1	2
	F	3	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 1	M	4	4	1	4	1	2
	F	4	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 2	M	4	4	3	4	2	2
	F	4	4	3	4	2	2

Table A9.E.#2(R) – Contents Windstorm Loss Mitigation Credit – Coverage C – Personal Property

Section C – Supporting Material

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Calculation Of Indicated Statewide Rate Level Indication
Fire

Accident Year Ended	(1) Adjusted Incurred Losses (a)	(2) Adjusted Incurred Losses Including LAE (b)	(3) Current Cost/Amount Factor (c)	(4) Earned House Years
2011	41,081,335	44,942,980	0.941	613,784
2012	42,024,592	45,974,904	0.954	628,193
2013	43,205,165	47,266,451	0.947	658,562
2014	44,495,608	48,678,195	0.946	682,060
2015	42,282,511	46,257,067	0.952	706,650

	(5) Trended Loss Cost (d) (2) *(3)*CPF/(4)	(6) Average Rating Factor (e)	(7) Trended Base Class Loss Cost (5) /(6)	(8) Weights
2011	66.90	3.980	16.81	0.10
2012	67.79	4.143	16.36	0.15
2013	66.00	4.189	15.76	0.20
2014	65.56	4.259	15.39	0.25
2015	60.51	4.320	14.01	0.30

(9)	Weighted Trended Base Class Loss Cost (f)	15.34
(10)	Credibility (3,289,249 House Years) (g)	1.00
(11)	Fixed Expense per Policy (h)	3.88
(12)	Base Class Loss Cost with Fixed Expense, (9) + (11)	19.22
(13)	Expected Loss and Fixed Expense Ratio (i)	0.760
(14)	Net Base Rate per Policy, (12) / (13)	25.29
(15)	Compensation for Assessment Risk Per Policy (j)	1.50
(16)	Base Rate Excluding Deviations, (14) + (15)	26.79
(17)	Selected Deviation (k)	0.0000
(18)	Deviation Amount per Policy, (16) / (1.0 - (17)) - (16)	0.00
(19)	Required Base Rate per Policy, (16) + (18)	26.79
(20)	Current Average Base Rate	33.81
(21)	Indicated Rate Level Change, (19) / (20) - 1	-20.8%
(22)	Filed Rate Level Change (l)	-20.8%

Statewide Rate Review Fire

(a) Incurred losses have been adjusted by the following loss development factors:

Year Ended	Loss Development Factor
12/31/11	1.000
12/31/12	1.000
12/31/13	0.999
12/31/14	0.995
12/31/15	0.966

(b) The trended loss adjustment expenses have been calculated to be 9.4% of the incurred losses for Fire. This factor is developed on page D-26 and D-29.

(c) The development of Current Cost/Amount Factors is shown on page D-18.

(d) The development of the Composite Projection Factor is shown on pages D-19.

(e) The Average Rating Factor is the ratio of average rate at current manual level and average current base rate.

(f) The weighted trended loss cost is the sum of the products, by year, of the trended loss costs and the accident year weights.

(g) The standard for full credibility is 500,000 house years for Fire. This review is fully credible. The statewide credibility procedure is based on the "frequency with severity modification" model discussed in "Credibility of the Pure Premium" by Mayerson, Bowers and Jones. The full credibility standard is based on a normal distribution with a 90% probability of meeting the test and a 10% maximum departure from the expected value, translated to house year standards. Partial credibility (Z_p) is calculated as follows:

$Z_p = \sqrt{\frac{Five\text{–}Year\ House\ Years}{Full\ Credibilty\ Standard}}$ (truncated to the nearest tenth)

(h) The development of fixed expense per policy is shown on page D-29.

(i) The development of the expected loss and fixed expense ratio is shown on page D-25.

(j) The Compensation for Assessment Risk loading is 3.8% of premium and is based on an analysis done by D. Appel. The provision is calculated as (0.038 × Current Base Rate)/(1- Provisions for Commission & Taxes). The commission and tax provisions are those shown on page D-25 for Fire.

(k) A 0% deviation loading was selected by the North Carolina Rate Bureau. (See page D-34 and testimony of P. Anderson, R. Curry, and B. Donlan.)

(l) The filed rate level change is the weighted average of the filed territory rate level changes weighted by latest-year earned premium at present rates. For each territory, the Fire filed change is equal to the indicated change.

Calculation Of Indicated Statewide Rate Level Indication
Extended Coverage

	(1) Non-Modeled Adjusted Incurred Losses (a) *	(2) Non-Modeled Adjusted Excess Losses (b)	(3) Losses Including LAE Adjusted for Excess [(1)-(2)] * LAE * Excess Factor (c) (d)	(4) Current Cost/Amount Factor (e)	(5) Earned House Years
2011	109,273,191	52,232,585	66,977,935	0.950	590,877
2012	44,759,988	0	52,557,849	0.962	596,667
2013	37,091,448	0	43,553,335	0.950	617,026
2014	47,364,762	0	55,616,414	0.950	636,579
2015	49,126,197	0	57,684,717	0.955	658,846

	(6) Trended Loss Cost (3) *(4)*CPF/(5) (f)	(7) Average Rating Factor (g)	(8) Trended Base Class Loss Cost (6) / (7)	(9) Weights
2011	105.21	6.914	15.22	0.20
2012	82.79	7.169	11.55	0.20
2013	65.51	7.236	9.05	0.20
2014	81.09	7.375	11.00	0.20
2015	81.69	7.516	10.87	0.20

(10)	Weighted Trended Non-Hurricane Base Class Loss Cost (h)	11.54
(11)	Credibility (3,099,995 House Years) (i)	1.00
(12)	Trended Modeled Hurricane Base Class Loss Cost (j)	15.86
(13)	Total Base Class Loss Cost (10) + (12)	27.40
(14)	Fixed Expense per Policy (k)	4.02
(15)	Base Class Loss Cost with Fixed Expense, (13) + (14)	31.42
(16)	Expected Loss and Fixed Expense Ratio (l)	0.776
(17)	Base Rate Excluding Comp. for Assess. Risk, Net Reins. & Dev., (15) / (16)	40.49
(18)	Compensation for Assessment Risk Per Policy (m)	1.65
(19)	Net Cost of Reinsurance per Policy (n)	22.87
(20)	Base Rate Excluding Deviations, (17) + (18) + (19)	65.01
(21)	Selected Deviation (o)	0.000
(22)	Deviation Amount per Policy, (20) / (1.0 - (21)) - (20)	0.00
(23)	Required Base Rate per Policy, (20) + (22)	65.01
(24)	Current Average Base Rate	37.94
(25)	Indicated Rate Level Change, (23) / (24) - 1	71.3%
(26)	Filed Rate Level Change (p)	40.5%

* Actual Hurricane losses of $82,069,834 were removed from 2011, $1,981,107 were removed from 2012, $3,250,768 were removed from 2014, and 3,906,320 were removed from 2015.

Statewide Rate Review Extended Coverage

(a) Incurred losses excluding hurricane have been adjusted by the following loss development factors:

Year Ended	Loss Development Factor
12/31/11	1.000
12/31/12	1.001
12/31/13	1.002
12/31/14	1.002
12/31/15	1.021

(b) Excess losses are calculated on page D-33.

(c) The trended loss adjustment expenses have been calculated to be 11.3% of the non-hurricane incurred losses for Extended Coverage. This factor is developed on pages D-28 and D-29.

(d) The excess factor is calculated on page D-32.

(e) The development of Current Cost/Amount Factors is shown on page D-21.

(f) The development of the Composite Projection Factor is shown on page D-22.

(g) The Average Rating Factor is the ratio of average rate at current manual level and average current base rate.

(h) The weighted trended loss cost is the sum of the products, by year, of the trended loss costs and the accident year weights.

(i) The standard for full credibility is 330,000 house years for Extended Coverage. This review is fully credible. The statewide credibility procedure is based on the "frequency with severity modification" model discussed in "Credibility of the Pure Premium" by Mayerson, Bowers and Jones. The full credibility standard is based on a normal distribution with a 90% probability of meeting the test and a 10% maximum departure from the expected value, translated to house year standards. Partial credibility (Z_p) is calculated as follows:

$Z_p = \sqrt{\frac{Five\text{–}Year\ House\ Years}{Full\ Credibilty\ Standard}}$ (truncated to the nearest tenth)

(j) The modeled hurricane base class loss cost is calculated by dividing modeled losses of $85,049,233 by the product of latest year earned house years, average rating factor, current amount factor and premium projection factor. Using the latest year exposures, Aon Benfield developed modeled losses by blending the results of the AIR and RMS hurricane models. The resulting losses are adjusted by Aon Benfield for trend and hurricane specific LAE. They are shown on page D-35.

(k) The development of fixed expense per policy is shown on page D-29.

(l) The development of the expected loss and fixed expense ratio is shown on page D-27.

(m) The Compensation for Assessment Risk loading is 3.8% of premium and is based on an analysis done by D. Appel. The provision is calculated as (0.038 × Current Base Rate)/(1- Provisions for Commission &

Taxes). The commission and tax provisions are those shown on page D-27 for Extended Coverage.

(n) The derivations of the statewide net cost of reinsurance provisions are provided on pages D-38. These loadings are based on analysis done by Aon Benfield. (See testimony of D. Appel and R. Fox.)

(o) A 0% deviation loading was selected by the North Carolina Rate Bureau. (See page D-34 and testimony of P. Anderson, R. Curry, and B. Donlan.)

(p) The filed rate level change is the weighted average of the filed territory rate level changes weighted by latest-year earned premium at present rates. The filed territory rate level changes have been capped at 35% for Fire and Extended Coverage Combined. In territories where the combined Fire/Extended Coverage was less than 35%, the Extended Coverage selected change was equal to the indicated change. Otherwise, the Extended Coverage change was selected such that the combined Fire and Extended Coverage change would equal 35%.

Calculation of Indicated Buildings/Contents Class Changes
Fire

Class	(1) Trended Adjusted Incurred Losses	(2) Five Year House Years	(3) Trended Average Rating Factor	(4) Base Class Loss Cost (1) / [(2) * (3)]	(5) Credibility	(6) Credibility Weighted Loss Cost
Buildings	210,996,228	2,211,573	5.190	18.38	1.00	18.38
Contents	11,810,697	1,077,676	2.185	5.02	1.00	5.02
Total	222,806,925	3,289,249	4.745	14.28		14.28

Class	(7) Indicated Base Loss Cost (a)	(8) Current Base Rate	(9) Expected Loss And Fixed Expense Ratio	(10) Indicated Base Rate (b)	(11) Compensation for Assessment Risk per Policy	(12) Base Rate Excluding Deviations (10) + (11)
Buildings	19.74	42.84	0.760	32.51	1.90	34.41
Contents	5.39	15.27	0.760	9.44	0.68	10.12
Total	15.34	33.81	0.760	25.29	1.50	26.79

Class	(13) Deviation	(14) Deviation Amount (12)/[1.0 - (13)] / (12)	(15) Required Base Rate (12) + (14)	(16) Indicated Base Rate Change (15) / (8) - 1	(17) Indicated Rate Change Balanced To Statewide Level (c)
Buildings	0.000	0.00	34.41	-19.7%	-19.8%
Contents	0.000	0.00	10.12	-33.7%	-33.8%
Total	0.000	0.00		-20.7%	-20.8%

Note: (a). Column (7) = (6) row / (6) total * Statewide Indication page row (9).
(b). Column (10) = [(7) + (8) * Trended fixed expense ratio] / (9). Trended fixed expense ratio is shown in on page D-29
(c). Column (17) = [1 + (16)] / [1 + (16) total] * (1 + Statewide indicated rate level change) - 1

Calculation of Indicated Buildings/Contents Class Changes
Extended Coverage

Class	(1) Trended Adjusted Incurred Non-Modeled Losses	(2) Five Year House Years	(3) Trended Average Rating Factor	(4) Base Loss Cost = (1) / [(2) * (3)]	(5) Credibility
Buildings	298,583,500	2,103,035	8.432	16.84	1.00
Contents	5,141,723	996,960	4.162	1.24	1.00
Total	303,725,223	3,099,995	8.162	12.00	

Class	(6) Credibility Weighted Loss Cost	(7) Modeled Base Loss Cost	(8) Total Loss Cost	(9) Indicated Base Loss Cost (a)	(10) Current Base Rate
Buildings	16.84	22.42	39.26	38.61	52.40
Contents	1.24	2.32	3.56	3.50	7.45
Total	12.00	15.86	27.86	27.40	37.94

Class	(11) Expected Loss and Fixed Expense Ratio	(12) Indicated Net Base Rate (b)	(13) Compensation for Assessment Risk Per Policy	(14) Net Cost of Reinsurance Per Policy	(15) Base Rate Excluding Deviations (12)+(13)+(14)
Buildings	0.776	57.01	2.28	32.33	91.62
Contents	0.776	5.52	0.32	3.30	9.14
Total	0.776	40.49	1.65	22.87	65.01

Class	(16) Deviation	(17) Deviation Amount (15) / (1.0 - (16)) - (15)	(18) Required Base Rate (15) + (17)	(19) Indicated Base Rate Change (18) / (10) - 1	(20) (c) Indicated Rate Change Balanced to Statewide Level
Buildings	0.000	0.00	91.62	74.8%	73.0%
Contents	0.000	0.00	9.14	22.6%	21.3%
Total	0.000	0.00		73.1%	71.3%

Note: (a) Column (9) = (8) row / (8) total * Statewide Indication page row (13).
(b). Column (12) = [(9) + (10) * Trended fixed expense ratio] / (11). Trended fixed expense ratio is shown on page D-29.
(c). Column (20) = [1 + (19)] / [1 + (19) total] * (1 + Statewide indicated rate level change) - 1

Calculation of Indicated Territory Rate Level Changes
Fire

Territory	(1) Latest Year Earned Premium at Current Level	(2) Current Average Base Rate	(3) Five Year Experience Base Class Loss Cost	(4) Five Year House Years	(5) Credibility	(6) Credibility Weighted Base Class Loss Cost (a)	(7) Indicated Relativity (6) / SW (6)	(8) Indicated Base Class Loss Cost (7) * 15.34(b)	(9) Trended Fixed Expense Per Policy (c)	(10) Trended Loss and Fixed Expense (8) + (9)
110	2,590,012	11.26	8.31	117,829	0.40	6.42	0.417	6.40	1.67	8.07
120	3,050,655	12.71	5.69	151,724	0.50	5.76	0.375	5.75	2.18	7.93
130	1,199,277	31.86	7.89	35,564	0.20	13.26	0.862	13.22	3.51	16.73
140	5,572,566	27.07	10.21	221,331	0.60	11.09	0.721	11.06	4.04	15.10
150	3,466,343	29.02	11.45	130,510	0.50	12.37	0.804	12.33	4.06	16.39
160	3,307,624	27.71	16.98	124,573	0.40	14.41	0.937	14.37	3.92	18.29
170	513,680	42.99	18.41	15,169	0.10	19.57	1.272	19.51	4.67	24.18
180	4,259,313	43.08	20.71	132,611	0.50	20.22	1.315	20.17	4.87	25.04
190	1,575,986	43.46	21.62	55,517	0.30	20.42	1.328	20.37	5.45	25.82
200	1,381,830	57.68	26.90	38,459	0.20	26.52	1.724	26.45	5.39	31.84
210	1,141,613	38.68	18.50	44,007	0.20	17.88	1.163	17.84	5.38	23.22
220	6,734,844	40.62	20.68	166,410	0.50	19.64	1.277	19.59	3.76	23.35
230	2,987,656	59.50	27.23	98,098	0.40	27.25	1.772	27.18	6.68	33.86
240	3,840,056	38.76	20.47	136,264	0.50	19.11	1.243	19.07	4.84	23.91
250	3,022,193	38.64	19.17	78,088	0.30	18.14	1.179	18.09	3.74	21.83
260	2,153,821	49.64	20.92	59,665	0.30	22.20	1.443	22.14	4.78	26.92
270	7,051,649	32.27	13.81	183,368	0.60	14.20	0.923	14.16	3.05	17.21
280	1,263,943	27.83	13.13	40,209	0.20	12.83	0.834	12.79	3.14	15.93
290	1,802,859	38.50	11.28	44,315	0.20	16.37	1.064	16.32	3.54	19.86
300	1,241,465	40.63	27.07	51,230	0.30	21.15	1.375	21.09	5.88	26.97
310	10,883,614	36.31	16.62	335,220	0.80	16.62	1.081	16.58	3.93	20.51
320	4,786,465	34.99	17.26	149,524	0.50	16.65	1.083	16.61	3.93	20.54
330	397,942	35.80	15.32	15,033	0.10	16.29	1.059	16.25	4.74	20.99
340	11,417,126	33.91	13.93	317,866	0.70	14.41	0.937	14.37	3.26	17.63
350	4,272,813	33.88	18.68	141,863	0.50	17.10	1.112	17.06	4.10	21.16
360	8,376,259	31.42	12.15	287,634	0.70	12.82	0.834	12.79	3.68	16.47
370	551,552	30.36	16.13	19,131	0.10	14.13	0.919	14.10	3.60	17.70
380	1,612,843	31.20	10.13	50,605	0.30	13.04	0.848	13.01	3.34	16.35
390	1,632,429	30.84	12.70	47,432	0.30	13.70	0.891	13.67	3.15	16.82
Statewide:	102,088,428	33.81	15.49	3,289,249		15.38			3.88	

Note: (a). Column (6) = (5) * (3) + [1.00 - (5)] * (3) statewide * (2) / (2) statewide
(b). Column (8) = (7) * Indicated Statewide Base Class Loss Cost
(c) The derivation of territory trended fixed expense per policy is on page D-30

Calculation of Indicated Territory Rate Level Changes
Fire

Territory	(11) Expected Loss and Fixed Expense Ratio	(12) Indicated Net Base Rate (10) / (11)	(13) Compensation for Assessment Risk Cost per Policy	(14) Base Rate Excluding Deviations (12) + (13)	(15) Deviation	(16) Dollar Deviation Per Exposure (14) / (1.0 - (15)) - (14)	(17) Indicated Required Base Class Rate (14) + (16)	(18) Indicated Rate Level Change (17) / (2) - 1	(19) Indicated Rate Level Change Balanced to Statewide Indicated Level (d)	(20) Indicated Buildings Rate Level Change (e)	(21) Indicated Contents Rate Level Change (f)
110	0.760	10.62	0.50	11.12	0.000	0.00	11.12	-1.2%	-1.3%	-0.1%	-17.5%
120	0.760	10.43	0.56	10.99	0.000	0.00	10.99	-13.5%	-13.6%	-12.5%	-27.8%
130	0.760	22.01	1.41	23.42	0.000	0.00	23.42	-26.5%	-26.6%	-25.7%	-38.6%
140	0.760	19.87	1.20	21.07	0.000	0.00	21.07	-22.2%	-22.3%	-21.3%	-35.1%
150	0.760	21.57	1.28	22.85	0.000	0.00	22.85	-21.3%	-21.4%	-20.4%	-34.3%
160	0.760	24.07	1.23	25.30	0.000	0.00	25.30	-8.7%	-8.8%	-7.6%	-23.8%
170	0.760	31.82	1.90	33.72	0.000	0.00	33.72	-21.6%	-21.7%	-20.7%	-34.6%
180	0.760	32.95	1.91	34.86	0.000	0.00	34.86	-19.1%	-19.2%	-18.2%	-32.5%
190	0.760	33.97	1.92	35.89	0.000	0.00	35.89	-17.4%	-17.5%	-16.5%	-31.0%
200	0.760	41.89	2.55	44.44	0.000	0.00	44.44	-23.0%	-23.1%	-22.1%	-35.7%
210	0.760	30.55	1.71	32.26	0.000	0.00	32.26	-16.6%	-16.7%	-15.6%	-30.4%
220	0.760	30.72	1.80	32.52	0.000	0.00	32.52	-19.9%	-20.0%	-19.0%	-33.1%
230	0.760	44.55	2.63	47.18	0.000	0.00	47.18	-20.7%	-20.8%	-19.8%	-33.8%
240	0.760	31.46	1.71	33.17	0.000	0.00	33.17	-14.4%	-14.5%	-13.4%	-28.5%
250	0.760	28.72	1.71	30.43	0.000	0.00	30.43	-21.2%	-21.3%	-20.3%	-34.2%
260	0.760	35.42	2.20	37.62	0.000	0.00	37.62	-24.2%	-24.3%	-23.3%	-36.7%
270	0.760	22.64	1.43	24.07	0.000	0.00	24.07	-25.4%	-25.5%	-24.6%	-37.7%
280	0.760	20.96	1.23	22.19	0.000	0.00	22.19	-20.3%	-20.4%	-19.4%	-33.5%
290	0.760	26.13	1.70	27.83	0.000	0.00	27.83	-27.7%	-27.8%	-26.9%	-39.7%
300	0.760	35.49	1.80	37.29	0.000	0.00	37.29	-8.2%	-8.3%	-7.1%	-23.4%
310	0.760	26.99	1.61	28.60	0.000	0.00	28.60	-21.2%	-21.3%	-20.3%	-34.2%
320	0.760	27.03	1.55	28.58	0.000	0.00	28.58	-18.3%	-18.4%	-17.4%	-31.8%
330	0.760	27.62	1.58	29.20	0.000	0.00	29.20	-18.4%	-18.5%	-17.5%	-31.9%
340	0.760	23.20	1.50	24.70	0.000	0.00	24.70	-27.2%	-27.3%	-26.4%	-39.2%
350	0.760	27.84	1.50	29.34	0.000	0.00	29.34	-13.4%	-13.5%	-12.4%	-27.7%
360	0.760	21.67	1.39	23.06	0.000	0.00	23.06	-26.6%	-26.7%	-25.8%	-38.7%
370	0.760	23.29	1.34	24.63	0.000	0.00	24.63	-18.9%	-19.0%	-18.0%	-32.3%
380	0.760	21.51	1.38	22.89	0.000	0.00	22.89	-26.6%	-26.7%	-25.8%	-38.7%
390	0.760	22.13	1.36	23.49	0.000	0.00	23.49	-23.8%	-23.9%	-22.9%	-36.4%
Statewide:	0.760							-20.7%	-20.8%	-19.8%	-33.8%

Note: (d). Column (19) = [1 + (18)] / [1 + (18) statewide] * (1 + Statewide indicated rate level change) - 1
(e). Column (20) = [1 + (19)] * [1 + Class page (17) Buildings] / [1 + Class page (17) total] - 1
(f). Column (21) = [1 + (19)] * [1 + Class page (17) Contents] / [1 + Class page (17) total] - 1

Calculation of Indicated Territory Rate Level Changes
Extended Coverage

Territory	(1) Latest Year Earned Premium at Current Level	(2) Current Average Base Rate	(3) Five Year Non-Modeled Experience Base Class Loss Cost	(4) Five Year House Years	(5) Credibility	(6) Credibility Weighted Base Class Loss Cost (a)	(7) Modeled Hurricane Base Loss Cost	(8) Total Base Class Loss Cost (6) + (7)	(9) Indicated Relativity (8) / SW (8)	(10) Indicated Base Class Loss Cost (9) * 27.40 (b)	(11) Trended Fixed Expense Per Policy (c)	(12) Trended Loss and Fixed Expense (10) + (11)
110	26,143,124	84.96	4.75	118,154	0.50	6.67	57.49	64.16	2.662	72.95	2.30	75.25
120	31,724,479	95.24	5.19	158,747	0.60	6.55	63.73	70.28	2.916	79.91	2.95	82.86
130	3,121,578	71.28	6.93	35,235	0.30	8.09	38.80	46.89	1.946	53.33	5.43	58.76
140	23,580,674	79.01	6.08	225,994	0.80	6.58	48.37	54.95	2.280	62.48	5.17	67.65
150	11,058,658	74.52	12.12	127,362	0.60	10.70	21.63	32.33	1.341	36.75	5.74	42.49
160	13,341,517	81.60	8.49	125,680	0.60	8.53	24.96	33.49	1.390	38.09	5.18	43.27
170	539,363	33.27	7.93	14,828	0.20	8.45	7.42	15.87	0.659	18.06	6.01	24.07
180	5,324,994	33.35	10.31	129,731	0.60	9.62	12.01	21.63	0.898	24.61	5.34	29.95
190	1,824,717	33.85	8.94	54,368	0.40	8.72	17.86	26.58	1.103	30.23	6.47	36.70
200	991,016	32.62	9.51	37,705	0.30	8.86	22.00	30.86	1.280	35.08	7.60	42.68
210	1,299,847	28.67	9.90	41,959	0.30	8.98	9.18	18.16	0.754	20.66	5.93	26.59
220	7,920,435	26.81	12.62	150,767	0.60	11.00	6.76	17.76	0.737	20.20	3.35	23.55
230	2,414,493	34.22	9.17	97,172	0.50	8.88	16.17	25.05	1.039	28.47	8.59	37.06
240	4,353,002	28.80	10.93	130,462	0.60	9.99	7.33	17.32	0.719	19.70	5.43	25.13
250	3,826,709	28.68	10.71	75,139	0.40	9.43	5.76	15.19	0.630	17.26	3.77	21.03
260	1,223,714	23.66	9.20	54,849	0.40	8.83	4.66	13.49	0.560	15.35	6.48	21.83
270	8,450,239	21.14	9.44	164,572	0.70	9.18	3.15	12.33	0.512	14.03	2.66	16.69
280	1,447,083	20.37	7.03	36,845	0.30	8.12	2.87	10.99	0.456	12.50	3.10	15.60
290	2,339,108	28.38	11.52	41,757	0.30	9.46	4.05	13.51	0.561	15.37	3.37	18.74
300	921,983	21.25	9.27	49,814	0.30	8.79	5.12	13.91	0.577	15.81	7.38	23.19
310	8,506,589	18.24	8.87	298,623	0.90	8.84	1.95	10.79	0.448	12.28	3.99	16.27
320	4,313,227	20.20	9.61	134,999	0.60	9.20	2.31	11.51	0.478	13.10	3.90	17.00
330	262,065	18.70	7.76	13,825	0.20	8.42	1.95	10.37	0.430	11.78	5.78	17.56
340	8,934,165	15.94	8.07	281,961	0.90	8.12	1.86	9.98	0.414	11.35	3.11	14.46
350	3,386,467	18.82	8.95	129,876	0.60	8.80	1.65	10.45	0.434	11.89	4.50	16.39
360	7,379,928	18.66	8.18	263,161	0.80	8.26	0.94	9.20	0.382	10.47	3.92	14.39
370	420,243	17.52	7.12	17,737	0.20	8.29	0.69	8.98	0.373	10.22	4.39	14.61
380	1,302,946	18.40	7.85	45,684	0.30	8.36	0.56	8.92	0.370	10.14	3.81	13.95
390	1,311,514	18.01	7.35	42,989	0.30	8.21	0.47	8.68	0.360	9.87	3.63	13.50
Statewide:	187,663,877	37.94	8.58	3,099,995		8.58		24.10			4.02	

Note: (a). Column (6) = (5) * (3) + [1.00 - (5)] * (3) statewide
(b). Column (10) = (9) * Indicated Statewide Base Loss Cost
(c) The derivation of territory trended fixed expense per policy is on page D-31

Calculation of Indicated Territory Rate Level Changes
Extended Coverage

Territory	(13) Expected Loss and Fixed Expense Ratio	(14) Indicated Net Base Rate (12) / (13)	(15) Compensation for Assessment Risk Cost per Policy	(16) Net Cost of Reinsurance per Policy	(17) Base Rate Excluding Deviations (14) + (15) + (16)	(18) Deviation	(19) Dollar Deviation Per Exposure (17) / (1.0 - (18)) - (17)	(20) Indicated Required Base Class Rate (17) + (19)	(21) Indicated Rate Level Change (20) / (2) - 1	(22) Indicated Rate Level Change Balanced to Statewide Indicated Level (d)	(23) Indicated Buildings Rate Level Change (e)	(24) Indicated Contents Rate Level Change (f)
110	0.776	96.97	3.69	66.00	166.66	0.000	0.00	166.66	96.2%	97.0%	99.0%	39.5%
120	0.776	106.78	4.14	100.22	211.14	0.000	0.00	211.14	121.7%	122.6%	124.8%	57.6%
130	0.776	75.72	3.10	49.48	128.30	0.000	0.00	128.30	80.0%	80.7%	82.5%	28.0%
140	0.776	87.18	3.43	74.88	165.49	0.000	0.00	165.49	109.5%	110.3%	112.4%	48.9%
150	0.776	54.76	3.24	30.80	88.80	0.000	0.00	88.80	19.2%	19.6%	20.8%	-15.3%
160	0.776	55.76	3.54	42.79	102.09	0.000	0.00	102.09	25.1%	25.6%	26.8%	-11.1%
170	0.776	31.02	1.44	10.15	42.61	0.000	0.00	42.61	28.1%	28.6%	29.9%	-8.9%
180	0.776	38.60	1.45	18.84	58.89	0.000	0.00	58.89	76.6%	77.3%	79.1%	25.5%
190	0.776	47.29	1.47	29.56	78.32	0.000	0.00	78.32	131.4%	132.3%	134.6%	64.5%
200	0.776	55.00	1.42	35.67	92.09	0.000	0.00	92.09	182.3%	183.5%	186.3%	100.8%
210	0.776	34.27	1.25	14.55	50.07	0.000	0.00	50.07	74.6%	75.3%	77.0%	24.1%
220	0.776	30.35	1.16	11.58	43.09	0.000	0.00	43.09	60.7%	61.4%	63.0%	14.3%
230	0.776	47.76	1.49	25.47	74.72	0.000	0.00	74.72	118.3%	119.2%	121.4%	55.2%
240	0.776	32.38	1.25	11.51	45.14	0.000	0.00	45.14	56.7%	57.4%	59.0%	11.5%
250	0.776	27.10	1.25	9.44	37.79	0.000	0.00	37.79	31.8%	32.3%	33.6%	-6.3%
260	0.776	28.13	1.03	7.00	36.16	0.000	0.00	36.16	52.8%	53.5%	55.0%	8.7%
270	0.776	21.51	0.92	5.22	27.65	0.000	0.00	27.65	30.8%	31.3%	32.6%	-7.0%
280	0.776	20.10	0.88	4.61	25.59	0.000	0.00	25.59	25.6%	26.1%	27.4%	-10.7%
290	0.776	24.15	1.23	6.59	31.97	0.000	0.00	31.97	12.7%	13.1%	14.2%	-19.9%
300	0.776	29.88	0.92	7.41	38.21	0.000	0.00	38.21	79.8%	80.5%	82.3%	27.8%
310	0.776	20.97	0.79	3.11	24.87	0.000	0.00	24.87	36.3%	36.9%	38.3%	-3.1%
320	0.776	21.91	0.88	3.41	26.20	0.000	0.00	26.20	29.7%	30.2%	31.5%	-7.8%
330	0.776	22.63	0.81	2.65	26.09	0.000	0.00	26.09	39.5%	40.1%	41.5%	-0.8%
340	0.776	18.63	0.69	2.50	21.82	0.000	0.00	21.82	36.9%	37.5%	38.9%	-2.6%
350	0.776	21.12	0.82	1.81	23.75	0.000	0.00	23.75	26.2%	26.7%	28.0%	-10.3%
360	0.776	18.54	0.81	1.00	20.35	0.000	0.00	20.35	9.1%	9.5%	10.6%	-22.5%
370	0.776	18.83	0.76	0.68	20.27	0.000	0.00	20.27	15.7%	16.2%	17.4%	-17.7%
380	0.776	17.98	0.80	0.35	19.13	0.000	0.00	19.13	4.0%	4.4%	5.4%	-26.1%
390	0.776	17.40	0.78	0.23	18.41	0.000	0.00	18.41	2.2%	2.6%	3.6%	-27.3%
Statewide:									70.6%	71.2%	73.0%	21.3%

Note: (d). Column (22) = [1 + (21)] / [1 + (21) statewide] * (1 + Statewide indicated rate level change) - 1
(e). Column (23) = [1 + (22)] * [1 + Class page (20) Buildings] / [1 + Class page (20) total] - 1
(f). Column (24) = [1 + (22)] * [1 + Class page (20) Contents] / [1 + Class page (20) total] - 1

Selection of Rate Level Changes

In order to mitigate the effects of large rate changes on policyholders, the Governing Committee selected a maximum combined Fire/Extended Coverage rate change of 35% for each class in each territory as follows:

- For each territory, the Fire change was selected equal to the indicated change.
- In territories where the combined Fire/Extended Coverage indicated change was less than 35%, the Extended Coverage change was also selected equal to the indicated change.
- In territories where the combined Fire/Extended Coverage indicated change was greater than 35%, the Extended Coverage change was selected such that the combined Fire/Extended Coverage change equaled 35%.

Calculation Of Combined Territory Rate Level Changes For Buildings

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
					Fire							Extended Coverage				Combined	
New Terr.	Current Terr.	Latest Year Earned Premium at Current Level	Indicated Buildings Rate Change, New Terr.	Current Rate Current Terr.	Current Average Rate New Terr.	Indicated Buildings Rate Change, Current Terr =[1+(2)]x[(4)/(3)]-1	Filed Rate Change	Filed Base Rate =[1+(6)]x(3)	Latest Year Earned Premium at Current Level	Indicated Buildings Rate Change, New Terr.	Current Rate Current Terr.	Current Average Rate New Terr.	Indicated Buildings Rate Change, Current Terr =[1+(9)]x[(11)/(10)]-1	Filed Rate Change	Filed Base Rate =[1+(13)]x(10)	Indicated Rate Level Change Curr Terr.	**Capped at: 35%** Selected Rate Level Change Curr Terr.
110	7	2,590,012	-0.1%	17	17.00	-0.1%	-0.1%	17	26,143,124	99.0%	143	143.00	99.0%	38.5%	198	90.1%	35.0%
120	8	3,050,655	-12.5%	19	19.00	-12.5%	-12.5%	17	31,724,479	124.8%	157	157.00	124.8%	39.6%	219	112.8%	35.0%
130	48	1,199,277	-25.7%	42	42.00	-25.7%	-25.7%	31	3,121,578	82.5%	105	105.00	82.5%	58.3%	166	52.5%	35.0%
140	52	5,572,566	-21.3%	35	35.00	-21.3%	-21.3%	28	23,580,674	112.4%	116	116.00	112.4%	48.3%	172	86.8%	35.0%
150	49	3,466,343	-20.4%	37	37.00	-20.4%	-20.4%	29	11,058,658	20.8%	107	107.00	20.8%	20.8%	129	11.0%	11.0%
160	52	3,307,624	-7.6%	35	35.00	-7.6%	-7.6%	32	13,341,517	26.8%	116	116.00	26.8%	26.8%	147	20.0%	20.0%
170	45	513,680	-20.7%	55	55.00	-20.7%	-20.7%	44	539,363	29.9%	48	48.00	29.9%	29.9%	62	5.2%	5.2%
180	45	4,259,313	-18.2%	55	55.00	-18.2%	-18.2%	45	5,324,994	79.1%	48	48.00	79.1%	77.6%	85	35.9%	35.0%
190	45	1,575,986	-16.5%	55	55.00	-16.5%	-16.5%	46	1,824,717	134.6%	48	48.00	134.6%	79.5%	86	64.6%	35.0%
200	41	1,381,830	-22.1%	80	80.00	-22.1%	-22.1%	62	991,016	186.3%	51	51.00	186.3%	114.6%	109	64.9%	35.0%
210	47	1,141,613	-15.6%	48	48.00	-15.6%	-15.6%	41	1,299,847	77.0%	40	40.00	77.0%	77.0%	71	33.7%	33.7%
220	34	5,915,253	-19.0%	50	50.83	-17.6%	-17.6%	41	7,062,594	63.0%	35	37.27	73.6%	73.6%	61	32.0%	32.0%
220	45	819,592	-19.0%	55	50.83	-25.1%	-25.1%	41	857,840	63.0%	48	37.27	26.6%	26.6%	61	1.3%	1.3%
230	41	2,987,656	-19.8%	80	80.00	-19.8%	-19.8%	64	2,414,493	121.4%	51	51.00	121.4%	102.8%	103	43.3%	35.0%
240	47	3,840,056	-13.4%	48	48.00	-13.4%	-13.4%	42	4,353,002	59.0%	40	40.00	59.0%	59.0%	64	25.1%	25.1%
250	47	3,022,193	-20.3%	48	48.00	-20.3%	-20.3%	38	3,826,709	33.6%	40	40.00	33.6%	33.6%	53	9.8%	9.8%
260	46	2,153,821	-23.3%	61	61.00	-23.3%	-23.3%	47	1,223,714	55.0%	32	32.00	55.0%	55.0%	50	5.1%	5.1%
270	32	3,864,255	-24.6%	44	40.06	-31.4%	-31.4%	30	4,457,956	32.6%	30	29.55	30.6%	30.6%	39	1.8%	1.8%
270	53	3,187,394	-24.6%	35	40.06	-13.7%	-13.7%	30	3,992,283	32.6%	29	29.55	35.1%	35.1%	39	13.4%	13.4%
280	53	1,263,943	-19.4%	35	35.00	-19.4%	-19.4%	28	1,447,083	27.4%	29	29.00	27.4%	27.4%	37	5.6%	5.6%
290	47	1,802,859	-26.9%	48	48.00	-26.9%	-26.9%	35	2,339,108	14.2%	40	40.00	14.2%	14.2%	46	-3.7%	-3.7%
300	44	1,241,465	-7.1%	51	51.00	-7.1%	-7.1%	47	921,983	82.3%	30	30.00	82.3%	82.3%	55	31.0%	31.0%
310	36	3,976,393	-20.3%	47	43.76	-25.8%	-25.8%	35	2,881,631	38.3%	20	24.17	67.2%	67.2%	33	13.3%	13.3%
310	46	244,617	-20.3%	61	43.76	-42.8%	-42.8%	35	123,650	38.3%	32	24.17	4.5%	4.5%	33	-26.9%	-26.9%
310	57	3,871,032	-20.3%	44	43.76	-20.7%	-20.7%	35	3,344,034	38.3%	26	24.17	28.6%	28.6%	33	2.1%	2.1%
310	60	2,791,572	-20.3%	39	43.76	-10.6%	-10.6%	35	2,157,274	38.3%	26	24.17	28.6%	28.6%	33	6.5%	6.5%
320	57	2,247,875	-17.4%	44	41.39	-22.3%	-22.3%	34	1,830,918	31.5%	26	26.00	31.5%	31.5%	34	1.8%	1.8%
320	60	2,538,591	-17.4%	39	41.39	-12.3%	-12.3%	34	2,482,310	31.5%	26	26.00	31.5%	31.5%	34	9.3%	9.3%
330	57	397,941	-17.5%	44	44.00	-17.5%	-17.5%	36	262,065	41.5%	26	26.00	41.5%	41.5%	37	5.9%	5.9%
340	38	5,000,451	-26.4%	44	41.62	-30.4%	-30.4%	31	3,711,056	38.9%	18	21.59	66.6%	66.6%	30	10.9%	10.9%
340	39	3,327,537	-26.4%	41	41.62	-25.3%	-25.3%	31	2,506,931	38.9%	21	21.59	42.8%	42.8%	30	4.0%	4.0%
340	60	3,089,136	-26.4%	39	41.62	-21.5%	-21.5%	31	2,716,179	38.9%	26	21.59	15.3%	15.3%	30	-4.3%	-4.3%
350	39	1,988,136	-12.4%	41	39.86	-14.8%	-14.8%	35	1,419,509	28.0%	21	23.83	45.3%	45.3%	31	10.2%	10.2%
350	60	2,284,676	-12.4%	39	39.86	-10.5%	-10.5%	35	1,966,958	28.0%	26	23.83	17.3%	17.3%	31	2.4%	2.4%
360	60	8,376,259	-25.8%	39	39.00	-25.8%	-25.8%	29	7,379,928	10.6%	26	26.00	10.6%	10.6%	29	-8.8%	-8.8%
370	60	551,552	-18.0%	39	39.00	-18.0%	-18.0%	32	420,243	17.4%	26	26.00	17.4%	17.4%	31	-2.7%	-2.7%
380	60	1,612,843	-25.8%	39	39.00	-25.8%	-25.8%	29	1,302,946	5.4%	26	26.00	5.4%	5.4%	27	-11.9%	-11.9%
390	60	1,632,429	-22.9%	39	39.00	-22.9%	-22.9%	30	1,311,514	3.6%	26	26.00	3.6%	3.6%	27	-11.1%	-11.1%
	Statewide:	102,088,426	-19.8%				-19.7%		187,663,878	73.0%				41.1%		40.7%	19.7%

Calculation Of Combined Territory Rate Level Changes For Contents

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
					Fire							Extended Coverage				Combined	
New Terr.	Current Terr.	Latest Year Earned Premium at Current Level	Indicated Contents Rate Change, New Terr.	Current Rate Current Terr.	Current Average Rate New Terr.	Indicated Contents Rate Change, Current Terr =[1+(2)]x[(4)/(3)]-1	Filed Rate Change	Filed Base Rate =[1+(6)]x(3)	Latest Year Earned Premium at Current Level	Indicated Contents Rate Change, New Terr.	Current Rate Current Terr.	Current Average Rate New Terr.	Indicated Contents Rate Change, Current Terr =[1+(9)]x[(11)/(10)]-1	Filed Rate Change	Filed Base Rate =[1+(13)]x(10)	Indicated Rate Level Change Curr Terr.	**Capped at: 35% Selected Rate Level Change** Curr Terr.
110	7	2,590,012	-17.5%	5	5.00	-17.5%	-17.5%	4	26,143,124	39.5%	20	20.00	39.5%	39.5%	28	34.4%	34.4%
120	8	3,050,655	-27.8%	6	6.00	-27.8%	-27.8%	4	31,724,479	57.6%	23	23.00	57.6%	41.0%	32	50.1%	35.0%
130	48	1,199,277	-38.6%	15	15.00	-38.6%	-38.6%	9	3,121,578	28.0%	15	15.00	28.0%	28.0%	19	9.5%	9.5%
140	52	5,572,566	-35.1%	14	14.00	-35.1%	-35.1%	9	23,580,674	48.9%	16	16.00	48.9%	48.9%	24	32.8%	32.8%
150	49	3,466,343	-34.3%	14	14.00	-34.3%	-34.3%	9	11,058,658	-15.3%	14	14.00	-15.3%	-15.3%	12	-19.8%	-19.8%
160	52	3,307,624	-23.8%	14	14.00	-23.8%	-23.8%	11	13,341,517	-11.1%	16	16.00	-11.1%	-11.1%	14	-13.6%	-13.6%
170	45	513,680	-34.6%	20	20.00	-34.6%	-34.6%	13	539,363	-8.9%	5	5.00	-8.9%	-8.9%	5	-21.4%	-21.4%
180	45	4,259,313	-32.5%	20	20.00	-32.5%	-32.5%	14	5,324,994	25.5%	5	5.00	25.5%	25.5%	6	-0.3%	-0.3%
190	45	1,575,986	-31.0%	20	20.00	-31.0%	-31.0%	14	1,824,717	64.5%	5	5.00	64.5%	64.5%	8	20.2%	20.2%
200	41	1,381,830	-35.7%	25	25.00	-35.7%	-35.7%	16	991,016	100.8%	6	6.00	100.8%	100.8%	12	21.3%	21.3%
210	47	1,141,613	-30.4%	18	18.00	-30.4%	-30.4%	13	1,299,847	24.1%	3	3.00	24.1%	24.1%	4	-1.4%	-1.4%
220	34	5,915,253	-33.1%	18	18.39	-31.6%	-31.6%	12	7,062,594	14.3%	2	2.65	51.3%	51.3%	3	13.5%	13.5%
220	45	819,592	-33.1%	20	18.39	-38.5%	-38.5%	12	857,840	14.3%	5	2.65	-39.5%	-39.5%	3	-39.0%	-39.0%
230	41	2,987,656	-33.8%	25	25.00	-33.8%	-33.8%	17	2,414,493	55.2%	6	6.00	55.2%	55.2%	9	6.0%	6.0%
240	47	3,840,056	-28.5%	18	18.00	-28.5%	-28.5%	13	4,353,002	11.5%	3	3.00	11.5%	11.5%	3	-7.2%	-7.2%
250	47	3,022,193	-34.2%	18	18.00	-34.2%	-34.2%	12	3,826,709	-6.3%	3	3.00	-6.3%	-6.3%	3	-18.6%	-18.6%
260	46	2,153,821	-36.7%	21	21.00	-36.7%	-36.7%	13	1,223,714	8.7%	2	2.00	8.7%	8.7%	2	-20.3%	-20.3%
270	32	3,864,255	-37.7%	17	15.29	-44.0%	-44.0%	10	4,457,956	-7.0%	2	2.00	-7.0%	-7.0%	2	-24.2%	-24.2%
270	53	3,187,394	-37.7%	13	15.29	-26.7%	-26.7%	10	3,992,283	-7.0%	2	2.00	-7.0%	-7.0%	2	-15.7%	-15.7%
280	53	1,263,943	-33.5%	13	13.00	-33.5%	-33.5%	9	1,447,083	-10.7%	2	2.00	-10.7%	-10.7%	2	-21.3%	-21.3%
290	47	1,802,859	-39.7%	18	18.00	-39.7%	-39.7%	11	2,339,108	-19.9%	3	3.00	-19.9%	-19.9%	2	-28.5%	-28.5%
300	44	1,241,465	-23.4%	19	19.00	-23.4%	-23.4%	15	921,983	27.8%	3	3.00	27.8%	27.8%	4	-1.6%	-1.6%
310	36	3,976,393	-34.2%	17	16.39	-36.6%	-36.6%	11	2,881,631	-3.1%	1	1.38	33.6%	33.6%	1	-7.1%	-7.1%
310	46	244,617	-34.2%	21	16.39	-48.6%	-48.6%	11	123,650	-3.1%	2	1.38	-33.2%	-33.2%	1	-43.4%	-43.4%
310	57	3,871,032	-34.2%	17	16.39	-36.6%	-36.6%	11	3,344,034	-3.1%	1	1.38	33.6%	33.6%	1	-4.0%	-4.0%
310	60	2,791,572	-34.2%	15	16.39	-28.1%	-28.1%	11	2,157,274	-3.1%	2	1.38	-33.2%	-33.2%	1	-30.3%	-30.3%
320	57	2,247,875	-31.8%	17	15.87	-36.3%	-36.3%	11	1,830,918	-7.8%	1	1.57	44.5%	44.5%	1	0.0%	0.0%
320	60	2,538,591	-31.8%	15	15.87	-27.8%	-27.8%	11	2,482,310	-7.8%	2	1.57	-27.7%	-27.7%	1	-27.8%	-27.8%
330	57	397,941	-31.9%	17	17.00	-31.9%	-31.9%	12	262,065	-0.8%	1	1.00	-0.8%	-0.8%	1	-19.6%	-19.6%
340	38	5,000,451	-39.2%	15	15.21	-38.3%	-38.3%	9	3,711,056	-2.6%	1	1.37	33.1%	33.1%	1	-7.9%	-7.9%
340	39	3,327,537	-39.2%	16	15.21	-42.2%	-42.2%	9	2,506,931	-2.6%	1	1.37	33.1%	33.1%	1	-9.8%	-9.8%
340	60	3,089,136	-39.2%	15	15.21	-38.3%	-38.3%	9	2,716,179	-2.6%	2	1.37	-33.4%	-33.4%	1	-36.0%	-36.0%
350	39	1,988,136	-27.7%	16	15.38	-30.5%	-30.5%	11	1,419,509	-10.3%	1	1.62	45.4%	45.4%	1	1.1%	1.1%
350	60	2,284,676	-27.7%	15	15.38	-25.9%	-25.9%	11	1,966,958	-10.3%	2	1.62	-27.3%	-27.3%	1	-26.5%	-26.5%
360	60	8,376,259	-38.7%	15	15.00	-38.7%	-38.7%	9	7,379,928	-22.5%	2	2.00	-22.5%	-22.5%	2	-31.1%	-31.1%
370	60	551,552	-32.3%	15	15.00	-32.3%	-32.3%	10	420,243	-17.7%	2	2.00	-17.7%	-17.7%	2	-26.0%	-26.0%
380	60	1,612,843	-38.7%	15	15.00	-38.7%	-38.7%	9	1,302,946	-26.1%	2	2.00	-26.1%	-26.1%	1	-33.1%	-33.1%
390	60	1,632,429	-36.4%	15	15.00	-36.4%	-36.4%	10	1,311,514	-27.3%	2	2.00	-27.3%	-27.3%	1	-32.3%	-32.3%
	Statewide:	102,088,426	-33.8%				-33.7%		187,663,878	21.3%				21.7%		4.0%	2.2%

Derivation of Wind Exclusion Credits

The filed wind exclusion credits, Page B-2, are based on the following formula:

$$C_X = \left[I - \frac{\frac{Ldi' + Fi}{(1-V)} + d'R + dB}{(1-D)} \right] * r_x$$

C_X = Indicated credit for construction type x (Frame, Masonry or Mobile Home)

I = Indicated rate

F = Provision in filed rates for fixed expenses (territory trended fixed expense ratio divided by the filed territory buildings or contents rate level change)

V = Provision in filed rates for variable expenses

L = Provision in filed rates for losses and loss adjustment expenses = 1.0-V-F

d = Percentage of losses remaining after wind losses are excluded

i = Indicated rate excluding compensation for assessment risk and deviations

i' = Indicated rate excluding compensation for assessment risk, deviations and the net cost of reinsurance

B Compensation for assessment risk

D = Deviation loading

d' = The portion of the reinsurance cost attributable to non-wind related perils

R = Reinsurance provision

r_x = The construction relativity (Frame = 1.00, Masonry = 0.95, Mobile Homes = 1.25)

The *d* value is calculated as

$$\frac{N}{N + X + Y}$$

Where N = 5-year average annual non-wind losses; X = 2015 modeled hurricane losses and Y = 5-year average annual non-hurricane wind losses.

The *d'* value is calculated as

$$\frac{W}{W + O + H}$$

Where each variable represents the reinsurance cost attributable to a particular peril (*W* = Winter Storm, *O* = Other Wind, and *H* = Hurricane Wind).

Derivation of Wind Exclusion Credits for Extended Coverage

The following displays the variables described above and the indicated credit, C:

	Territory 110		Territory 120		Territory 130		Territory 140		Territory 150		Territory 160	
	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents
C	$267.76	$25.18	$332.89	$33.10	$170.47	$17.11	$223.55	$21.16	$110.19	$9.54	$128.31	$10.90
I	$285	$28	$353	$36	$192	$19	$246	$24	$129	$12	$147	$14
F	0.019	0.019	0.022	0.022	0.049	0.060	0.045	0.044	0.065	0.092	0.050	0.072
V	0.224	0.224	0.224	0.224	0.224	0.224	0.224	0.224	0.224	0.224	0.224	0.224
R	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
L	0.757	0.757	0.754	0.754	0.727	0.716	0.731	0.732	0.711	0.684	0.726	0.704
d	0.062	0.131	0.057	0.103	0.088	0.039	0.066	0.128	0.107	0.170	0.118	0.226
i	$278.00	$27.00	$346.00	$35.00	$187.00	$19.00	$242.00	$23.00	$125.00	$11.00	$142.00	$14.00
i'	$166.00	$16.00	$179.00	$18.00	$113.00	$11.00	$130.00	$12.00	$80.00	$7.00	$81.00	$8.00
B	$6.21	$0.87	$6.82	$1.00	$4.56	$0.65	$5.04	$0.69	$4.65	$0.61	$5.04	$0.69
D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
d'	0.000031	0.000032	0.000012	0.000012	0.000029	0.000023	0.000018	0.000018	0.000037	0.000032	0.000029	0.000028
R	$112.00	$11.00	$167.00	$17.00	$74.00	$8.00	$112.00	$11.00	$45.00	$4.00	$61.00	$6.00
N	1,159,076	68,048	1,259,959	82,110	169,284	1,763	1,032,843	52,440	498,620	19,079	605,332	21,549
X	17,216,328	443,223	20,559,561	703,804	1,676,414	41,000	14,203,333	355,885	3,193,496	59,154	4,056,931	57,818
Y	176,798	9,680	212,751	11,404	71,994	2,018	384,697	1,561	980,852	33,759	483,415	15,993
W	509	13	324	8	52	1	333	8	139	3	167	4
O	124,525	3,062	61,402	1,510	5,274	130	58,758	1,445	37,964	934	79,930	1,965
H	16,512,625	406,048	27,378,247	673,236	1,792,224	44,071	18,437,497	453,381	3,761,926	92,506	5,707,712	140,354

In order to derive the filed dollar credit, the indicated percentage credit is applied to the filed base rate.

	Territory 110		Territory 120		Territory 130		Territory 140		Territory 150		Territory 160	
	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents	Buildings	Contents
(1) Indicated Frame Credit	$268	$25	$333	$33	$170	$17	$224	$21	$110	$10	$128	$11
(2) Indicated Frame Base Rate	$285	$28	$353	$36	$192	$19	$246	$24	$129	$12	$147	$14
(3) Indicated Non-Wind Base Frame Rate (2) - (1)	$17	$3	$20	$3	$22	$2	$22	$3	$19	$2	$19	$3
(4) Filed Frame Base Rate	$198	$28	$219	$32	$166	$19	$172	$24	$129	$12	$147	$14
(5) Filed Frame Credit (4) - (3)	$181	$25	$199	$29	$144	$17	$150	$21	$110	$10	$128	$11
(6) Masonry Credit (5) * 0.95	$172	$24	$189	$28	$137	$16	$143	$20	$105	$10	$122	$10
(7) Filed Mobile Home Credit (5) * 1.25	$226	$31	$249	$36	$180	$21	$188	$26	$138	$13	$160	$14

Derivation Of Buildings Wind Mitigation Credits

	Territory					
	110	120	130	140	150	160
(1) Current Wind Exclusion Credit	131	143	88	95	91	95
(2) Filed Wind Exclusion Credit	181	199	144	150	110	128
(3) Ratio of Filed and Current Wind Credits = (2)/(1)	1.382	1.392	1.636	1.579	1.209	1.347
(4) **Current Wind Mitigation Credits Frame**						
Total Hip Roof	7	7	4	4	5	4
Opening Protection	7	7	4	4	5	4
Total Hip Roof and Opening Protection	14	14	9	9	9	9
IBHS Designation:						
Hurricane Fortified for Safer Living®	23	25	10	16	12	16
Hurricane Fortified for Existing Homes® Bronze Option 1	5	5	3	3	4	3
Hurricane Fortified for Existing Homes® Bronze Option 2	9	9	4	6	5	6
Hurricane Fortified for Existing Homes® Silver Option 1	14	16	6	10	6	10
Hurricane Fortified for Existing Homes® Silver Option 2	17	19	7	12	7	12
Hurricane Fortified for Existing Homes® Gold Option 1	18	19	9	12	9	12
Hurricane Fortified for Existing Homes® Gold Option 2	20	23	10	15	10	15
(5) **Revised Wind Mitigation Credits Frame = (4)×(3)**						
Total Hip Roof	10	10	7	6	6	5
Opening Protection	10	10	7	6	6	5
Total Hip Roof and Opening Protection	19	19	15	14	11	12
IBHS Designation:						
Hurricane Fortified for Safer Living®	32	35	16	25	15	22
Hurricane Fortified for Existing Homes® Bronze Option 1	7	7	5	5	5	4
Hurricane Fortified for Existing Homes® Bronze Option 2	12	13	7	9	6	8
Hurricane Fortified for Existing Homes® Silver Option 1	19	22	10	16	7	13
Hurricane Fortified for Existing Homes® Silver Option 2	23	26	11	19	8	16
Hurricane Fortified for Existing Homes® Gold Option 1	25	26	15	19	11	16
Hurricane Fortified for Existing Homes® Gold Option 2	28	32	16	24	12	20
(6) **New Wind Mitigation Credits Masonry = (5)×0.95**						
Total Hip Roof	10	10	7	6	6	5
Opening Protection	10	10	7	6	6	5
Total Hip Roof and Opening Protection	18	18	14	13	10	11
IBHS Designation:						
Hurricane Fortified for Safer Living®	30	33	15	24	14	21
Hurricane Fortified for Existing Homes® Bronze Option 1	7	7	5	5	5	4
Hurricane Fortified for Existing Homes® Bronze Option 2	11	12	7	9	6	8
Hurricane Fortified for Existing Homes® Silver Option 1	18	21	10	15	7	12
Hurricane Fortified for Existing Homes® Silver Option 2	22	25	10	18	8	15
Hurricane Fortified for Existing Homes® Gold Option 1	24	25	14	18	10	15
Hurricane Fortified for Existing Homes® Gold Option 2	27	30	15	23	11	19

Derivation Of Contents Wind Mitigation Credits

	Territory					
	110	120	130	140	150	160
(1) Current Wind Exclusion Credit	17	20	12	12	11	12
(2) Filed Wind Exclusion Credit	25	29	17	21	10	11
(3) Ratio of Filed and Current Wind Credits = (2)/(1)	1.471	1.450	1.417	1.750	0.909	0.917
(4) **Current Wind Mitigation Credits**						
Total Hip Roof	1	1	1	1	1	1
Opening Protection	1	1	1	1	1	1
Total Hip Roof and Opening Protection	1	2	1	1	1	1
IBHS Designation:						
Hurricane Fortified for Safer Living®	4	4	2	3	2	3
Hurricane Fortified for Existing Homes® Bronze Option 1	1	1	1	1	1	1
Hurricane Fortified for Existing Homes® Bronze Option 2	1	2	1	1	1	1
Hurricane Fortified for Existing Homes® Silver Option 1	2	2	1	2	1	2
Hurricane Fortified for Existing Homes® Silver Option 2	2	3	1	2	1	2
Hurricane Fortified for Existing Homes® Gold Option 1	3	3	1	2	1	2
Hurricane Fortified for Existing Homes® Gold Option 2	3	3	2	2	2	2
(5) **Revised Wind Mitigation Credits = (4)×(3)**						
Total Hip Roof	1	1	1	2	1	1
Opening Protection	1	1	1	2	1	1
Total Hip Roof and Opening Protection	1	3	1	2	1	1
IBHS Designation:						
Hurricane Fortified for Safer Living®	6	6	3	5	2	3
Hurricane Fortified for Existing Homes® Bronze Option 1	1	1	1	2	1	1
Hurricane Fortified for Existing Homes® Bronze Option 2	1	3	1	2	1	1
Hurricane Fortified for Existing Homes® Silver Option 1	3	3	1	4	1	2
Hurricane Fortified for Existing Homes® Silver Option 2	3	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 1	4	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 2	4	4	3	4	2	2
(6) **New Wind Mitigation Credits Masonry = (5) x 0.95**						
Total Hip Roof	1	1	1	2	1	1
Opening Protection	1	1	1	2	1	1
Total Hip Roof and Opening Protection	1	3	1	2	1	1
IBHS Designation:						
Hurricane Fortified for Safer Living®	6	6	3	5	2	3
Hurricane Fortified for Existing Homes® Bronze Option 1	1	1	1	2	1	1
Hurricane Fortified for Existing Homes® Bronze Option 2	1	3	1	2	1	1
Hurricane Fortified for Existing Homes® Silver Option 1	3	3	1	4	1	2
Hurricane Fortified for Existing Homes® Silver Option 2	3	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 1	4	4	1	4	1	2
Hurricane Fortified for Existing Homes® Gold Option 2	4	4	3	4	2	2

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Explanatory Memorandum

This memorandum supplements the filing letter and supporting exhibits setting forth a revision of Dwelling insurance rates in the State of North Carolina. It is the purpose of this memorandum to describe the source data used and to set forth in detail the insurance ratemaking procedures reflected in the filing. Certain pages in the filing and accompanying material contain a notation "all carriers" or other similar wording. This indicates that the data are combined ISO, ISS and NISS data. Data for certain companies are not included, as noted in Section E.

Premium and Loss Experience

This revision is based upon the combined premium and loss experience of all licensed companies writing Dwelling insurance in this State, except as noted in Section E. In order to have this experience available in all detail necessary for rate review and ratemaking in accordance with accepted standards, all such companies are required to file each year their total Dwelling insurance experience with the official statistical agents. Experience is recorded pursuant to the officially approved statistical plans and reported by the companies in accordance with instructions issued by the statistical agents under the Official Calls for Experience.

The Commissioner appointed the following statistical agents for the collection of Dwelling insurance experience in North Carolina: Insurance Services Office (ISO), Independent Statistical Service (ISS), American Association of Insurance Services (AAIS), and National Independent Statistical Service (NISS).

Experience utilized in the filing was collected under the Personal Lines Statistical Plan (Other Than Automobile), Personal Lines Statistical Agent Plan (Other Than Automobile) and the 2016 Official Statistical Programs of ISO, the Statistical Plan for Dwelling Fire and Extended Coverage Policies, Mobilehome Policies, and Dwelling Policies and the 2016 Statistical Programs of ISS, the Dwelling Statistical Plan developed by the NISS and the 2016 Statistical Programs of the NISS. In substance, the statistical plans of all statistical agents are similar in North Carolina, and provide for the recording and reporting of the experience in the detail required for ratemaking and in such form that the experience of all companies can be combined. The experience collected by AAIS and in the ISO Statistical Agent Plan is collected in lesser detail and has not been used in this review.

The licensing of an organization and its appointment as a statistical agent in the various states is predicated upon demonstration by the organization of its ability to perform this function. Moreover, the performance of the statistical agents is reviewed periodically through examination by personnel of state insurance departments under the convention examinations of the National Association of Insurance Commissioners. From time to time such organizations are called upon by Insurance Department examiners to verify, and do verify the data consolidated by them as statistical agents.

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The insurance companies likewise are subject to a variety of checks and controls. Effective controls are maintained within the company over the activities of company employees connected with the company's statistics. Companies are required by statute to submit directly to the Insurance Department statistical and accounting information to be found in the Annual Statement and the Insurance Expense Exhibit. These documents are scrutinized by experienced Insurance Department personnel throughout the country. The insurance companies are also subject to examination by the Insurance Department, which examinations extend into the statistical records of the companies.

Tabulations of experience reported to the ISS and NISS are provided to ISO. ISO combines the experience and develops the analysis included in this filing. This work is performed at the direction of the North Carolina Rate Bureau.

Statewide Rate Level Exhibits

1. Experience

   Dwelling insurance experience was compiled on a calendar accident year basis for the years ended December 31, 2015, 2014, 2013, 2012, and 2011. For any twelve-month period, the accident year experience brings together the losses resulting from accidents occurring during that period with the premiums and number of dwellings "earned" during the same period. Since this filing utilizes catastrophe models to measure losses attributable to hurricanes, actual hurricane losses have been removed from the ratemaking experience.

2. Average Rating Factors

   Earned premiums at present rates are used to determine average rating factors. The average rating factor is the ratio of the average rate (earned premium at manual level divided by corresponding house-years) and the average current manual base rate. The average rating factor is used to convert the pure-premiums incurred during the experience period to the base level.

   For data which was available in sufficient detail, the earned premiums at present manual rates for the Dwelling insurance coverages are calculated by multiplying the number of insured dwellings earned during the experience period by the rates in effect at the time of review.

3. Losses

   Losses compiled for any accident year include paid losses as well as loss reserves. The amounts that will ultimately be required as payments of claims on open cases are carefully determined by the claim departments of the companies, and experience has shown that these determinations are highly accurate in the aggregate. Since, however, there are differences between the total incurred losses so determined and the amounts ultimately paid, the ratemaking procedure provides for a "development" of the incurred losses to a basis which, for all practical purposes, can be considered as the ultimate basis. This development is accomplished as follows:

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Each year the experience is compiled for the latest five years, all valued as of three months after the close of the latest accident year period. Thus, the experience is reported for the latest year as of 15 months, the preceding year as of 27 months, the next preceding year as of 39 months, the third preceding year as of 51 months and the fourth preceding year as of 63 months all measured from the beginning of each accident year respectively.

From reports of prior years, similarly aged experience was obtained so that there are available 5 successive reports for the earliest year, 4 successive reports for the next earliest year, 3 successive reports for the middle year and 2 successive reports for the second most recent year.

Dwelling claims generally are settled at and are sufficiently matured as of 87 months, by which time nearly all incurred losses have been paid. From a comparison of the incurred losses for each year at successive valuation dates, it is determined what the rate of development has been in the past in order to calculate the development of less mature losses. This development is reflected in the incurred losses for the less mature years by the application of loss development factors. In this filing, loss development factors have been calculated based on the statewide experience of companies reporting to ISO, and are as follows:

	Factor to Develop to 87 Months	
Accident Year Ended	Fire	Extended Coverage
December 31, 2011	1.000	1.000
December 31, 2012	1.000	1.001
December 31, 2013	0.999	1.002
December 31, 2014	0.995	1.002
December 31, 2015	0.966	1.021

The derivation of the factors shown above is shown on pages D-12 and D-13. By applying these factors, the reported incurred losses have been adjusted to the amounts at which it is believed they will ultimately be settled.

In order to insure stability in rate levels while maintaining adequacy in the event of wide swings in hurricane and other losses, an excess procedure and hurricane loss models have been utilized for Extended Coverage. Hence, extreme shifts in rate level (both upward and downward), which might result from reflecting large hurricane and other losses only in the year in which they occur will be avoided. The incurred non-modeled excess losses are those losses which result from unusually severe loss activity (other than hurricane). They are removed from the experience used in developing rates. In order to reflect the impact of excess losses (that are not related to hurricanes and not accounted for in the hurricane models) on a long-term basis, the non-modeled losses are multiplied by an excess factor of 1.055. The derivation of the excess factor is shown on Page D-32. The derivation of the excess non-modeled losses is shown on page D-33. The modeled losses used in this filing are based on analysis performed by Aon Benfield on behalf of the North Carolina Rate Bureau. See page D-36 for details.

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4. Loss Adjustment Expense

   The Dwelling loss adjustment expenses, prior to trend considerations, are determined as an average percentage of the North Carolina incurred losses for calendar accident years 2011-2015 for Fire and Extended Coverage, based on a North Carolina expense call. The average is calculated using the five year period, removing the high and low values, and averaging the remaining three years. See pages D-26 and D-28.

   A separate Loss Adjustment Expense factor was used for modeled hurricane losses. (See testimony of R. Fox.)

5. Fixed Expense
   The fixed expense (general expenses and other acquisition expenses) is determined as an average percentage of North Carolina earned premiums for calendar accident years 2013-2015, based on a North Carolina expense call. See pages D-25 and D-27. The development of fixed expense per policy is shown on page D-29.

6. Loss Trend

   Loss Trend is based on two indices; the CoreLogic Residential Index and the Modified Consumer Price Index. These indices are averaged (weighted 95% and 5%, respectively) and comprise the Current Cost Index.

   The loss trending procedure is accomplished in two steps. In the first step Current Cost Factors are applied to each year's losses. The Current Cost Factors are derived from the external indices and, when applied to a given year's losses, translate these losses to a cost level which represents May 15, 2017. In order to trend losses from May 15, 2017 to one year beyond the assumed trend effective date of June 1, 2018, a Loss Projection Factor is applied. This projection factor is based on the annual change inherent in the latest twelve quarterly points of the Current Cost Index.

   Since the external indices necessarily ignore the effect of policy deductibles, a First Dollar procedure to trend from the first dollar of loss is incorporated into the calculation of the Loss Projection Factor.

   The procedures described above are displayed on pages D-14, D-15, D-16, D-19 and D-22.

7. Expense Trend

   The average annual change in expenses is based on an average of the All Items Consumer Price Index, the All Items Less Energy Consumer Price Index and the Compensation Cost Index. The expected average annual change in expenses has been selected to be 2.0% by the Property Rating Subcommittee based on analysis and review of these data, which are displayed on pages D-23 to D-24.

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8. Premium Trend

The historical average relativities are used to calculate an average annual change. This change is not based on a consistent set of insureds, since some of the growth is due to the addition of new homes. This rate of change is used to estimate the average relativity at the point in time corresponding to the midpoint of the latest quarter of the Current Cost Index (May 15, 2017). The Current Amount Factor for a given year is calculated as the ratio of the May 15, 2017 average relativity and the given year's average relativity. In order to calculate the Premium Projection Factor, the adjusted annual rate of change is compounded over the time period between May 15, 2017 and December 1, 2018 (six months beyond the assumed trend effective date). The calculation is shown on pages D-17-18 and D-20-21.

9. Trend Period

The effective date assumed in this filing for trend purposes is June 1, 2017[1]. Given this trend effective date, the trend periods for premiums, losses and expenses are as follows:

- premiums are trended from January 1 of the given year to December 1, 2018.
- losses are trended from July 1 of the given year to June1, 2019.
- general expense and other acquisition expense percentages, since they are based on 2013-2015 data, are trended from July 1, 2015 to December 1, 2018.
- loss adjustment expense percentages, since they are based on 2011-2015 data, are trended from July 1, 2013 to June 1, 2019.

10. Expected Loss and Fixed Expense Ratio

These quantities represent the portion of the premium income available for losses, loss adjustment expenses, general expenses and other acquisition expenses. They are determined from special calls for North Carolina expense experience and reflect the 2013, 2014, and 2015 results as reported by all companies licensed in North Carolina during those years. The breakdown of the expected loss and fixed expense ratios is set forth on page D-25 for Fire and page D-27 for Extended Coverage.

11. Net Cost of Reinsurance per Policy

This quantity represents the expense and profit component of the reinsurance premium paid by the primary insurers. (See testimony of D. Appel and R. Fox.)

[1] The effective date of implementation of these rates may differ from the trend effective date.

Explanatory Memorandum

Class Rate Level Exhibits - Fire and Extended Coverage (pages C-6 and C-7)

1. Trended Adjusted Incurred Losses (column 1)

   Incurred losses for the latest five years, trended by year using Current Cost Factors and a Loss Projection Factor. For Extended Coverage, the excess loss procedure is incorporated into the indication through column (20).

2. Trended Average Rating Factor (column 3)

   The Average Rating Factor trended by Current Amount Factors and a Premium Projection Factor.

3. Credibility (column 5)

   The five year loss cost by class is assigned a credibility value based on the number of house years underlying this loss cost. The standard for full credibility is 500,000 house years for Fire and 330,000 house years for Extended Coverage, with partial credibility equal to

   $$\sqrt{\text{five year house years} / \text{full credibility standard}}$$

   truncated to the nearest tenth. The complement of credibility is assigned to the statewide five year base loss cost adjusted by the ratio of the class' current base rate and the statewide average current base rate.

4. Modeled Base Loss Cost (column 7 - Extended Coverage)

   The modeled hurricane base-class loss cost is derived by dividing trended modeled class hurricane losses by the product of the average rating factor, house-years for the latest year, 2015 Current Amount Factors and Premium Projection Factors by class.

5. Indicated Base Loss Cost (column 7 - Fire, column 9 - Extended Coverage)

   The indicated base loss cost by class is the statewide base loss cost (computed on the statewide indications pages) adjusted by the class relativity indicated by the credibility weighted loss cost (ratio of class to statewide of column 6 for Fire or column 8 for Extended Coverage).

6. Indicated Net Base Rate (column 10 - Fire, column 12 - Extended Coverage)

   The indicated net base rate is the sum of the loss cost and fixed expense divided by the expected loss and fixed expense ratio derived on page D-25. The fixed expense is calculated as the average current base rate multiplied by the fixed expense ratio developed on page D-29.

7. Compensation for Assessment Risk per Policy (column 11 - Fire, column 13 - Extended Coverage)

   The compensation for assessment risk is reflected as a percentage of the base rate by class and is loaded for the effects of taxes and commission.

8. Net Cost of Reinsurance per Policy (column 14 - Extended Coverage)

   The net cost of reinsurance was allocated to class in proportion to modeled losses.

9. Indicated Base Rate Change (column 16 - Fire, column 19 - Extended Coverage)

   The indicated base rate level change is the ratio of required base rate and current base rate, minus 1.

10. Indicated Rate Change Balanced to Statewide (column 17 - Fire, column 20 - Extended Coverage)

    These are indicated base rate level changes adjusted to weigh down to the statewide indicated change.

Explanatory Memorandum

Territory Rate Level Exhibits - Fire (pages C-8-9)

1. Latest Year Earned Premium at Current Level (column 1)

   Earned premium for the latest year (2015), adjusted to the manual rate level currently in effect.

2. Five Year Experience Base Loss Cost (column 3)

   A five year experience base loss cost by territory is derived by dividing five year territory losses by the product of the five year average rating factor and five year house-years.

3. Credibility (column 5)

   The five year loss cost is assigned a credibility value based upon the number of house years underlying this loss cost. The standard for full credibility is 500,000 house years, with partial credibility equal to

   $$\sqrt{\text{five year house years} / \text{full credibility standard}}$$

   truncated to the nearest tenth. The complement of credibility is assigned to the statewide five year experience base loss cost adjusted by the ratio of the territory's current base rate and the statewide average current base rate.

4. Indicated Statewide Base Class Loss Cost (column 8)

   The indicated statewide base class loss cost is row 9 from the statewide indication.

5. Trended Fixed Expense per Policy (column 9)

   The trended fixed expense per policy by territory is calculated by first distributing the trended statewide fixed expense ratio to territory. The territory trended fixed expense ratio is calculated as the trended statewide fixed expense ratio multiplied by the ratio of the statewide average rate to the territory average rate. The trended fixed expense per policy by territory is then calculated as the product of the territory trended fixed expense ratio and the average territory base rate. This calculation can be found on page D-30.

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6. Expected Loss and Fixed Expense Ratio (column 11)

   These quantities represent the portion of the premium income available for losses, loss adjustment expenses, general expenses and other acquisition expenses.

7. Compensation for Assessment Risk per Policy (column 13)

   The compensation for assessment risk is reflected as a percentage of the base rate by class and is loaded for the effects of taxes and commission.

8. Indicated Rate Level Change (column 18)

   The indicated rate level change is the ratio of required base rate and current base rate, minus 1.

9. Indicated Rate Level Change Balanced to Statewide (column 19)

   These are indicated base rate level changes adjusted to weigh down to the statewide indicated change.

10. Indicated Buildings Rate Level Change (column 20)

    The indicated buildings rate level change is the product of the indicated rate level change balanced to statewide and the class relativity embedded in the indicated buildings base rate change balanced to statewide (column 17) on the class indications page.

11. Indicated Contents Rate Level Change (column 21)

    The indicated contents rate level change is the product of the indicated rate level change balanced to statewide and the class relativity embedded in the indicated contents base rate change balanced to statewide (column 17) on the class indications page.

Explanatory Memorandum

Territory Rate Level Exhibits - Extended Coverage (pages C-10-11)

1. Latest Year Earned Premium at Current Level (column 1)

   Earned premium for the latest year (2015), adjusted to the manual rate level currently in effect.

2. Five Year Non-Modeled Experience Base Loss Cost (column 3)

   A five year experience base loss cost by territory is derived by dividing five year territory losses by the product of the five year average rating factor and five year house-years. The territory losses exclude hurricane losses and include an excess loss provision.

3. Credibility (column 5)

   The five year loss cost is assigned a credibility value based upon the number of house years underlying this loss cost. The standard for full credibility is 330,000 house years, with partial credibility equal to

   $$\sqrt{\text{five year house years} / \text{full credibility standard}}$$

   truncated to the nearest tenth. The complement of credibility is assigned to the statewide five year non-modeled experience base loss cost.

4. Modeled Hurricane Base Loss Cost (column 7)

   The modeled hurricane base loss cost is derived by dividing modeled hurricane territory losses by the product of the average rating factor and house-years for the latest year. The development of these costs is presented on page D-37.

5. Indicated Base Class Loss Cost (column 10)

   The Indicated Base Class loss cost for each territory is the indicated statewide base class loss cost (row 13 from the statewide indication) multiplied by each territory's indicated relativity (column 9).

6. Trended Fixed Expense per Policy (column 11)

   The trended fixed expense per policy by territory is calculated by first distributing the trended statewide fixed expense ratio to territory. The territory trended fixed expense ratio is calculated as the trended statewide fixed expense ratio multiplied by the ratio of the statewide average rate to the territory average rate. The trended fixed expense per policy by territory is then calculated as the product of the territory trended fixed expense ratio and the average territory base rate. This calculation can be found on page D-31.

Explanatory Memorandum

7. Expected Loss and Fixed Expense Ratio (column 13)

   These quantities represent the portion of the premium income available for losses, loss adjustment expenses, general expenses and other acquisition expenses.

8. Compensation for Assessment Risk per Policy (column 15)

   The compensation for assessment risk is reflected as a percentage of the base rate by class and is loaded for the effects of taxes and commission.

9. Net Cost of Reinsurance per Policy (column 16)

   This quantity represents the expense and profit component of the reinsurance premium paid by the primary insurers. The development of this quantity is presented on page D-38. (See testimony of D. Appel and R. Fox.)

10. Indicated Rate Level Change (column 21)

    The indicated rate level change is the ratio of required base rate and current base rate, minus 1.

11. Indicated Rate Level Change Balanced to Statewide (column 22)

    These are indicated base rate level changes adjusted to weigh down to the statewide indicated change.

12. Indicated Buildings Rate Level Change (column 23)

    The indicated buildings rate level change is the product of the indicated rate level change balanced to statewide and the class relativity embedded in the indicated buildings base rate change balanced to statewide (column 20) on the class indications page.

13. Indicated Contents Rate Level Change (column 24)

    The indicated contents rate level change is the product of the indicated rate level change balanced to statewide and the class relativity embedded in the indicated contents base rate change balanced to statewide (column 20) on the class indications page.

Explanatory Memorandum

Credibility Factor Determination

Credibility considerations enter into the Dwelling insurance ratemaking formulas.

The credibility procedure is based on the 'frequency with severity modification' model discussed in "Credibility of the Pure Premium" by Mayerson, Bowers and Jones. The full credibility standard is based on a normal distribution with a 90% probability of meeting the test and a 10% maximum departure from the expected value, translated to house year standards. Partial credibility (Zp) is calculated as follows:

$Z_p = \sqrt{\text{five year house years} / \text{full credibility standard}}$ (truncated to the nearest tenth)

The full credibility standards are 500,000 house years for Fire and 330,000 house years for Extended Coverage.

On a statewide and class basis, both Fire and Extended Coverage are fully credible.

On a territory basis, partial credibility may be employed. In that case, the calculation of the rate level indication incorporates credibility as follows: credibility is applied to the five year (non-hurricane for Extended Coverage) territory loss costs and (1 - credibility) to the complement of credibility.

Fire Loss Development

North Carolina Incurred Losses as of

Accident Year	15 Months	27 Months	39 Months	51 Months	63 Months	75 Months	87 Months
2004	9,364,523	8,882,505	8,861,007	8,841,681	8,839,901	8,840,221	8,839,621
2005	11,363,505	10,968,489	10,937,009	10,931,041	10,947,476	10,932,107	10,932,107
2006	9,688,897	9,395,075	9,308,597	9,304,787	9,304,654	9,304,654	9,304,654
2007	9,603,370	9,405,033	9,376,609	9,325,026	9,325,026	9,324,962	9,324,882
2008	11,186,111	11,143,883	11,087,871	11,054,090	11,051,547	11,051,822	11,051,613
2009	9,419,535	9,061,401	9,016,364	8,991,440	8,991,440	8,991,440	8,991,440
2010	10,420,030	10,153,918	10,237,813	10,241,149	10,239,999	10,239,999	
2011	9,620,090	9,375,148	9,370,232	9,404,063	9,404,063		
2012	10,243,577	9,858,584	9,630,358	9,629,068			
2013	9,609,120	9,287,968	9,335,943				
2014	8,089,647	7,908,076					
2015	8,601,845						

North Carolina Link Ratios

Accident Year	27:15	39:27	51:39	63:51	75:63	87:75
2004	0.949	0.998	0.998	1.000	1.000	1.000
2005	0.965	0.997	0.999	1.002	0.999	1.000
2006	0.970	0.991	1.000	1.000	1.000	1.000
2007	0.979	0.997	0.994	1.000	1.000	1.000
2008	0.996	0.995	0.997	1.000	1.000	1.000
2009	0.962	0.995	0.997	1.000	1.000	1.000
2010	0.974	1.008	1.000	1.000	1.000	
2011	0.975	0.999	1.004	1.000		
2012	0.962	0.977	1.000			
2013	0.967	1.005				
2014	0.978					
	27:15	39:27	51:39	63:51	75:63	87:75
Average	0.971	0.996	0.999	1.000	1.000	1.000
Selected Link Ratio	0.971	0.996	0.999	1.000	1.000	1.000

Selected Loss Development Factors

Fire	2011	2012	2013	2014	2015
	1.000	1.000	0.999	0.995	0.966

Extended Coverage Loss Development

North Carolina Incurred Losses as of

Accident Year	15 Months	27 Months	39 Months	51 Months	63 Months	75 Months	87 Months
2004	6,391,030	6,435,919	6,439,239	6,450,174	6,448,497	6,447,913	6,447,688
2005	4,942,773	4,942,734	4,879,261	4,903,540	4,903,779	4,903,779	4,903,779
2006	5,086,581	5,287,207	5,235,629	5,237,195	5,237,260	5,241,203	5,241,204
2007	5,542,190	5,578,997	5,580,859	5,584,553	5,584,553	5,580,798	5,581,417
2008	9,936,797	10,247,436	10,311,726	10,314,285	10,351,484	10,350,401	10,350,401
2009	9,860,426	10,053,769	9,992,757	9,969,052	9,973,115	9,973,305	9,973,305
2010	12,239,859	12,291,029	12,384,093	12,386,590	12,381,180	12,378,680	
2011	43,536,177	43,636,842	43,637,532	43,676,294	43,676,341		
2012	15,664,787	16,580,559	16,733,747	16,770,885			
2013	13,993,956	14,220,315	14,244,167				
2014	17,775,294	18,171,326					
2015	17,998,005						

North Carolina Link Ratios

Accident Year	27:15	39:27	51:39	63:51	75:63	87:75
2004	1.007	1.001	1.002	1.000	1.000	1.000
2005	1.000	0.987	1.005	1.000	1.000	1.000
2006	1.039	0.990	1.000	1.000	1.001	1.000
2007	1.007	1.000	1.001	1.000	0.999	1.000
2008	1.031	1.006	1.000	1.004	1.000	1.000
2009	1.020	0.994	0.998	1.000	1.000	1.000
2010	1.004	1.008	1.000	1.000	1.000	
2011	1.002	1.000	1.001	1.000		
2012	1.058	1.009	1.002			
2013	1.016	1.002				
2014	1.022					
	27:15	39:27	51:39	63:51	75:63	87:75
Average	1.019	1.000	1.001	1.001	1.000	1.000
Selected Link Ratio	1.019	1.000	1.001	1.001	1.000	1.000

Selected Loss Development Factors

EC	2011	2012	2013	2014	2015
	1.000	1.001	1.002	1.002	1.021

Development of Current Cost Factors (CCF)

Quarter Ending June 30, 2017

Part A: Establishment Of Monthly Current Cost Index (CCI) With:
5% Weight To Modified Comsumer Price Index (MCPI)
95% Weight to Corelogic Residential Index (CLRI) For N.C. #
(MCPI Base: 2012 = 100 BRI Base: 2012 = 100)

Month	CLRI	MCPI	CCI	QCCI	MO	CLRI	MCPI	CCI	QCCI	Month	CLRI	MCPI	CCI	QCCI
7/14	105.0	93.6	104.4		7/15	106.8	90.6	106.0		7/16	106.2	87.4	105.3	
8/14	105.1	93.2	104.5		8/15	106.9	90.2	106.1		8/16	106.2	87.1	105.2	
9/14	104.9	93.8	104.3	104.4	9/15	106.7	91.2	105.9	106.0	9/16	106.3	87.5	105.4	105.3
10/14	105.5	94.1	104.9		10/15	106.7	91.3	105.9		10/16	106.2	87.9	105.3	
11/14	105.3	93.0	104.7		11/15	106.6	90.2	105.8		11/16	106.2	86.6	105.2	
12/14	105.6	91.7	104.9	104.8	12/15	106.5	89.2	105.6	105.8	12/16	106.1	85.4	105.1	105.2
1/15	106.2	91.6	105.5		1/16	106.0	89.4	105.2		1/17	106.2	86.3	105.2	
2/15	106.5	92.0	105.8		2/16	106.1	89.7	105.3		2/17	106.2	86.9	105.2	
3/15	106.6	92.5	105.9	105.7	3/16	106.3	89.7	105.5	105.3	3/17	106.4	87.1	105.4	105.3
4/15	106.8	92.8	106.1		4/16	106.1	89.6	105.3		4/17	107.1	86.7	106.1	
5/15	106.9	92.2	106.2		5/16	106.3	89.3	105.5		5/17	107.2	86.2	106.2	
6/15	107.1	91.6	106.3	106.2	6/16	106.2	88.2	105.3	105.4	6/17	107.4	85.6	106.3	106.2

Part B: Use Of Average Annual CCI To Calculate Current Cost Factors (CCF)

Year	Calendar Year Average CCI CLRI	MCPI	CCI	Current Cost Factors Based On Average CCI Value For Quarter Ending 06/30/2017 = 106.2
2011	97.3	101.2	97.5	1.089
2012	100.0	100.0	100.0	1.062
2013	102.4	97.6	102.2	1.039
2014	104.9	94.3	104.4	1.017
2015	106.7	91.3	105.9	1.003

The figures shown were calculated using the Corelogic Insurance Solutions Index, modifiedby by application of certain actuarial formulas and combined with data available through various governmental sources. Further use of the figures derived from the Corelogic Index requires written consent from NCRB.

Development Of Loss Projection Factor

Quarter Ending June 30, 2017

Part C: Computation Of Loss Projection Factor

Calendar Year	Quarter Ending	Average CCI
2014	Sep. 30	104.4
2014	Dec. 31	104.8
2015	Mar. 31	105.7
2015	Jun. 30	106.2
2015	Sep. 30	106.0
2015	Dec. 31	105.8
2016	Mar. 31	105.3
2016	Jun. 30	105.4
2016	Sep. 30	105.3
2016	Dec. 31	105.2
2017	Mar. 31	105.3
2017	Jun. 30	106.2

Fitted Quarterly Rate of Change 0.0005

Annual Rate of Change = $(1 + 0.0005)^{4}$ 1.002 OR 0.2%

Loss Trend Adjustment Factor = 1.000

Adjusted Annual Rate of Change = 1.002 * 1 = 1.002

Loss Projection Factor* = $1.002^{24.5 / 12}$ 1.004

* To project losses from 5/15/2017 TO 6/1/2019 24.5 months
(Assuming 6/1/2018 effective date)

Footnotes to Determination of Trend

Modified Consumer Price Index - source: Bureau of Labor Statistics. Weights are applied to individual Consumer Price Index components as follows:

70 % House Furnishings
20% Apparel Commodities
10% Entertainment Commodities

Calculation of Premium Projection Factors
Fire

Year	(1) Average Policy Size Relativity
Buildings	
2011	4.745
2012	4.949
2013	5.018
2014	5.111
2015	5.202
Contents	
2011	1.842
2012	1.852
2013	1.899
2014	1.993
2015	2.061

	Buildings	Contents
(2) Average Annual Rate of Change = (e ^ (7)) -1	0.022	0.030
(3) Selected Annual Rate of Change	0.022	0.030
(4) Premium Projection Factor to trend from 5/15/2017 to 12/1/2018 (18.5 months)	1.034	1.047

Calculation Of Current Cost/Amount Factors
Fire

	Average Policy Size Relativity	Current Amount Factor (b)	Latest Year Premium Distribution
Buildings			
2011	4.745	1.154	0.9288
2012	4.949	1.107	0.9288
2013	5.018	1.092	0.9288
2014	5.111	1.072	0.9288
2015	5.202	1.053	0.9288
5/15/2017 (a)	5.478		
Contents			
2011	1.842	1.200	0.0712
2012	1.852	1.194	0.0712
2013	1.899	1.164	0.0712
2014	1.993	1.109	0.0712
2015	2.061	1.073	0.0712
5/15/2017 (a)	2.211		

Buildings & Contents	Current Amount Factor (c)	Current Cost Factor	Current Cost/Amount Factor
2011	1.157	1.089	0.941
2012	1.113	1.062	0.954
2013	1.097	1.039	0.947
2014	1.075	1.017	0.946
2015	1.054	1.003	0.952

(a) A * [(1+C)^(28.5/12)], where C is the average annual rate of change (e^B - 1), 28.5 is the number of months between 1/1/2015 and 5/15/2017, and A is the average relativity at 1/1/2015.

(b) The Current Amount Factor equals the average relativity at 5/15/2017 divided by the yearly relativity.

(c) Weighted average of buildings and contents factors based on the latest year (2015) premium distribution.

Calculation Of Composite Projection Factors
Fire

(1)	Buildings Premium Projection Factor	1.034
(2)	2015 Buildings Premium Distribution	0.9288
(3)	Contents Premium Projection Factor	1.047
(4)	2015 Contents Premium Distribution	0.0712
(5)	Total Premium Projection Factor [(1) x (2)] + [(3) x (4)]	1.035
(6)	Loss Projection Factor	1.004
(7)	Trend From First Dollar (a)	1.001
(8)	Composite Projection Factor [(6) x (7)] / (5)	0.971

(a) First dollar factor calculated as [A * (B + C) - B] / (A * C)
where A = average yearly loss trend factor
B = loss eliminated by deductible
C = five year losses after application of deductible

Calculation of Premium Projection Factors
Extended Coverage

Year	(1) Average Policy Size Relativity
Buildings	
2011	5.609
2012	5.829
2013	5.880
2014	5.996
2015	6.107
Contents	
2011	2.146
2012	2.190
2013	2.289
2014	2.444
2015	2.555

	Buildings	Contents
(2) Fitted Annual Rate of Change	0.020	0.047
(3) Selected Annual Rate of Change	0.020	0.047
(4) Premium Projection Factor to trend from 5/15/2017 to 12/1/2018 (18.5 months)	1.031	1.073

Calculation Of Current Cost/Amount Factors
Extended Coverage

YEAR	Average Policy Size Relativity	Current Amount Factor (b)	Latest Year Premium Distribution
Buildings			
2011	5.609	1.141	0.9707
2012	5.829	1.098	0.9707
2013	5.880	1.089	0.9707
2014	5.996	1.068	0.9707
2015	6.107	1.048	0.9707
2016		1.027	0.9707
5/15/2017 (a)	6.401		
Contents			
2011	2.146	1.328	0.0293
2012	2.190	1.301	0.0293
2013	2.289	1.245	0.0293
2014	2.444	1.166	0.0293
2015	2.555	1.115	0.0293
2016		1.065	0.0293
5/15/2017 (a)	2.849		

Buildings & Contents	Current Amount Factor (c)	Current Cost Factor	Current Cost/Amount Factor
2011	1.146	1.089	0.950
2012	1.104	1.062	0.962
2013	1.094	1.039	0.950
2014	1.071	1.017	0.950
2015	1.050	1.003	0.955
2016	1.028		

(a) A * [(1+C)^(28.5/12)], where C is the average annual rate of change (e^B - 1), 28.5 is the number of months between 1/1/2015 and 5/15/2017, and A is the average relativity at 1/1/2015.

(b) The Current Amount Factor equals the average relativity at 5/15/2017 divided by the yearly relativity.

(c) Weighted average of buildings and contents factors based on the latest year (2015) premium distribution.

Calculation Of Composite Projection Factors
Extended Coverage

(1)	Buildings Premium Projection Factor	1.031
(2)	2015 Buildings Premium Distribution	0.9707
(3)	Contents Premium Projection Factor	1.073
(4)	2015 Contents Premium Distribution	0.0293
(5)	Total Premium Projection Factor [(1) x (2)] + [(3) x (4)]	1.032
(6)	Loss Projection Factor	1.004
(7)	Trend From First Dollar (a)	1.004
(8)	Composite Projection Factor [(6) x (7)] / (5)	0.977

(a) First dollar factor calculated as [A * (B + C) - B] / (A * C)
where A = average yearly loss trend factor
B = loss eliminated by deductible
C = five year losses after application of deductible

Determination of Trend for Expenses

Month	All Items CPI Index	All Items (Less Energy) CPI Index	Compensation Cost Index
Jul-13	233.6	233.6	
Aug-13	233.9	234.1	120.5
Sep-13	234.1	234.5	
Oct-13	233.5	234.9	
Nov-13	233.1	234.9	120.9
Dec-13	233.0	234.8	
Jan-14	233.9	235.2	
Feb-14	234.8	235.9	121.5
Mar-14	236.3	236.8	
Apr-14	237.1	237.4	
May-14	237.9	238.0	122.6
Jun-14	238.3	238.1	
Jul-14	238.3	238.2	
Aug-14	237.9	238.5	122.2
Sep-14	238.0	239.0	
Oct-14	237.4	239.6	
Nov-14	236.2	239.5	122.6
Dec-14	234.8	239.2	
Jan-15	233.7	239.7	
Feb-15	234.7	240.4	123.7
Mar-15	236.1	241.1	
Apr-15	236.6	241.8	
May-15	237.8	242.0	124.7
Jun-15	238.6	242.3	
Jul-15	238.7	242.4	
Aug-15	238.3	242.7	125.0
Sep-15	237.9	243.5	
Oct-15	237.8	244.1	
Nov-15	237.3	244.0	126.1
Dec-15	236.5	243.7	
Jan-16	236.9	244.5	
Feb-16	237.1	245.5	126.9
Mar-16	238.1	245.9	
Apr-16	239.3	246.5	
May-16	240.2	246.9	128.2
Jun-16	241.0	247.1	
Jul-16	240.6	247.0	
Aug-16	240.8	247.5	129.5
Sep-16	241.4	247.9	
Oct-16	241.7	248.4	
Nov-16	241.4	248.3	129.5
Dec-16	241.4	248.2	
Jan-17	242.8	249.1	
Feb-17	243.6	250.1	130.8
Mar-17	243.8	250.3	
Apr-17	244.5	250.7	
May-17	244.7	250.9	132.8
Jun-17	245.0	251.0	

Determination Of Trend For Expenses

	All Items (A)	All Items - Less Energy (B)	CCI (C)	Combined (D)
(1) Annual Change in indices based on exponential curve of best fit for the latest 48 points (or 16 quarters)	1.05%	1.88%	2.53%	2.00%
(2) Annual Change in indices based on exponential curve of best fit for the latest 36 points (or 12 quarters)	1.22%	1.87%	2.97%	2.25%
(3) Annual Change in indices based on exponential curve of best fit for the latest 24 points (or 8 quarters)	1.76%	1.84%	3.28%	2.54%
(4) Annual Change in indices based on exponential curve of best fit for the latest 12 points (or 4 quarters)	2.14%	1.85%	3.48%	2.74%

(5) Average Annual Index (E)

Year Ended	All Items	All Items- Less Energy	CCI
Dec-14	236.74	237.95	122.23
Jun-15	236.68	240.11	123.30
Dec-15	237.02	242.31	124.88
Jun-16	238.27	244.73	126.55
Dec-16	240.01	246.96	128.53
Jun-17	242.66	249.10	130.65

(6) Current Cost Factor (Index Value Divided by Average Annual Index)

		All Items	All Items - Less Energy	CCI	Combined
Year Ended	Dec-14	1.035	1.055	1.087	1.066
Year Ended	Jun-15	1.035	1.045	1.077	1.059
Year Ended	Dec-15	1.033	1.036	1.063	1.049
Year Ended	Jun-16	1.028	1.025	1.049	1.038
Year Ended	Dec-16	1.021	1.016	1.033	1.026
Year Ended	Jun-17	1.009	1.007	1.016	1.012

Selected Annual Change = 2% (based on Comp. Cost Index and CPI with and without energy)

Notes:

(A) All items CPI index (urban). Source: Bureau of Labor Statistics.

(B) All items (excl. energy) CPI index (urban). Source: Bureau of Labor Statistics.

(C) Total Compensation Cost Index - Insurance Carriers, Agent Brokers, and Service. Source: Bureau of Labor Statistics.

(D) Weighted Average determined as .25 (All Items) +.25(All Items Less Energy) + .50(CCI)

(E) Average year ended index for period shown.

Expense, Dividends, Profit and Contingencies
Fire

	2013	2014	2015	Average	Selected
Comissions and Brokerage	5,798,151	5,770,577	5,604,994		
Written Premium Including Deviations	51,943,798	52,002,246	49,249,492		
Ratio	0.112	0.111	0.114	0.112	0.112
Other Acquisition	3,916,547	3,584,872	3,288,017		
Earned Premium at Current Manual Level	54,143,857	54,757,677	50,168,919		
Ratio	0.072	0.065	0.066	0.068	0.068
General Expense	3,043,359	2,583,222	2,288,922		
Earned Premium at Current Manual Level	54,143,857	54,757,677	50,168,919		
Ratio	0.056	0.047	0.046	0.050	0.050
Taxes, Licenses and Fees	1,482,072	1,574,582	1,448,544		
Written Premium Including Deviations	51,943,798	52,002,246	49,249,492		
Ratio	0.029	0.030	0.029	0.029	0.029

Fire and Allied Lines (AS Line 1, 2) Data	2011	2012	2013	2014	2015	Average	Selected
Direct Written Premium (Statutory Page 14)	424,820,014	437,012,905	453,840,273	464,128,450	468,348,318		
Total Dividends	1,555,934	2,087,274	2,802,120	2,931,790	3,026,116		
Ratio of Dividends to Direct Written Premium	0.4%	0.5%	0.6%	0.6%	0.6%	0.5%	0.4%

Expected Loss and Fixed Expense Ratio

Commission and Brokerage	11.2%
Taxes, Licenses and Fees	2.9%
Dividends	0.4%
Contingencies	1.0%
Profit	8.5%
Total	24.0%
1 - variable expense	76.0%

Loss Adjustment Expense
Fire

	2011	2012	2013	2014	2015	Average*
Allocated LAE	383,597	256,615	255,044	148,504	-18,056	
Unallocated LAE	2,236,912	1,929,051	1,495,187	1,973,729	1,441,438	
Total LAE	2,620,509	2,185,666	1,750,231	2,122,233	1,423,382	
Incurred Losses	28,146,241	26,420,759	20,972,133	19,863,918	16,344,009	
Ratio	0.093	0.083	0.083	0.107	0.087	0.088

* Average excludes high and low values.

Expense, Dividends, Profit and Contingencies
Extended Coverage

	2013	2014	2015	Average	Selected
Comissions and Brokerage	5,805,689	6,171,871	6,344,348		
Written Premium Including Deviations	57,812,576	63,630,797	66,181,393		
Ratio	0.100	0.097	0.096	0.098	0.098
Other Acquisition	4,753,994	4,675,601	4,724,555		
Earned Premium at Current Manual Level	71,280,502	69,379,499	69,256,033		
Ratio	0.067	0.067	0.068	0.067	0.067
General Expense	2,842,590	2,830,271	2,920,093		
Earned Premium at Current Manual Level	71,280,502	69,379,499	69,256,033		
Ratio	0.040	0.041	0.042	0.041	0.041
Taxes, Licenses and Fees	1,568,949	1,765,330	1,817,583		
Written Premium Including Deviations	57,812,576	63,630,797	66,181,393		
Ratio	0.027	0.028	0.027	0.027	0.027

Fire and Allied Lines (AS Line 1, 2) Data	2011	2012	2013	2014	2015	Average	Selected
Direct Written Premium (Statutory Page 14)	424,820,014	437,012,905	453,840,273	464,128,450	468,348,318		
Total Dividends	1,555,934	2,087,274	2,802,120	2,931,790	3,026,116		
Ratio of Dividends to Direct Written Premium	0.4%	0.5%	0.6%	0.6%	0.6%	0.5%	0.4%

Expected Loss and Fixed Expense Ratio

Commission and Brokerage	9.8%
Taxes, Licenses and Fees	2.7%
Dividends	0.4%
Contingencies	1.0%
Profit	8.5%
Total	22.4%
1 - variable expense	77.6%

Loss Adjustment Expense
Extended Coverage

	2011	2012	2013	2014	2015	Average*
Allocated LAE	481,659	476,136	192,020	225,185	187,738	
Unallocated LAE	4,659,173	2,806,418	2,981,491	3,196,904	3,639,097	
Total LAE	5,140,832	3,282,554	3,173,511	3,422,089	3,826,835	
Incurred Losses	117,794,824	36,444,487	26,725,329	32,427,998	31,430,172	
Ratio	0.044	0.09	0.119	0.106	0.122	0.105

* Average excludes high and low values.

Calculation of Trended Expense Provisions

(1) Factor to trend losses based on annual rate of change:

Fire:	e	(	0.0005	(	24.5 / 3)	* 1.000	(	24.5 / 12)	* 1.039 =	1.043
EC:	e	(	0.0005	(	24.5 / 3)	* 1.000	(	24.5 / 12)	* 1.039 =	1.043

(2) Factor to trend LAE based on Current Expense Index:

Fire:	1.02	(71 / 12)	=	1.124
EC:	1.02	(71 / 12)	=	1.124

(3) Factor to trend premium based on growth in premium revenue:

Fire:	1.023	(18.5 / 12)	* 1.075 =	1.113
EC:	1.021	(18.5 / 12)	* 1.071 =	1.106

(4) Factor to trend expense based on Current Expense Index:

Fire:	1.02	(53 / 12)	=	1.091
EC:	1.02	(53 / 12)	=	1.091

(5) Trended Expenses

Fire:

Trended LAE Factor:	1 + (	0.088 *	1.124 /	1.043)	=	1.094
Trended GE Ratio:		0.050 *	1.091 /	1.113	=	0.049
Trended OA Ratio:		0.068 *	1.091 /	1.113	=	0.067
Statewide Latest Year Current Base Rate					=	33.44
Fixed Expense Per Policy					=	3.88

EC:

Trended LAE Factor:	1 + (	0.105 *	1.124 /	1.043)	=	1.113
Trended GE Ratio:		0.041 *	1.091 /	1.106	=	0.040
Trended OA Ratio:		0.067 *	1.091 /	1.106	=	0.066
Statewide Latest Year Current Base Rate					=	37.90
Fixed Expense Per Policy					=	4.02

Derivation of Territory Fixed Expense per Policy
Fire

Territory	(1) Latest Year Earned Premium at Current Level	(2) Latest Year Earned House Years	(3) Statewide Average Relativity to Territory =(1)/(2)/{Statewide[(1)/(2)]}	(4) Statewide Trended Fixed Expense Ratio	(5) Territory Trended Fixed Expense Ratio =(4) x (3)	(6) Latest Year Average Base Rate	(7) Trended Fixed Expense Per Policy
110	2,590,012	22,943	1.280	0.116	0.148	11.27	1.67
120	3,050,655	31,306	1.483	0.116	0.172	12.65	2.18
130	1,199,277	7,940	0.957	0.116	0.111	31.60	3.51
140	5,572,566	49,927	1.294	0.116	0.150	26.91	4.04
150	3,466,343	29,247	1.219	0.116	0.141	28.78	4.06
160	3,307,624	27,971	1.222	0.116	0.142	27.60	3.92
170	513,680	3,388	0.953	0.116	0.111	42.05	4.67
180	4,259,313	28,986	0.983	0.116	0.114	42.75	4.87
190	1,575,986	11,988	1.099	0.116	0.127	42.88	5.45
200	1,381,830	7,766	0.812	0.116	0.094	57.36	5.39
210	1,141,613	9,506	1.203	0.116	0.140	38.41	5.38
220	6,734,844	37,644	0.808	0.116	0.094	39.99	3.76
230	2,987,656	20,225	0.978	0.116	0.113	59.11	6.68
240	3,840,056	28,889	1.087	0.116	0.126	38.41	4.84
250	3,022,193	17,732	0.848	0.116	0.098	38.21	3.74
260	2,153,821	12,589	0.844	0.116	0.098	48.78	4.78
270	7,051,649	40,209	0.824	0.116	0.096	31.81	3.05
280	1,263,943	8,684	0.993	0.116	0.115	27.29	3.14
290	1,802,859	9,977	0.800	0.116	0.093	38.11	3.54
300	1,241,465	10,795	1.256	0.116	0.146	40.24	5.88
310	10,883,614	71,443	0.948	0.116	0.110	35.76	3.93
320	4,786,465	32,437	0.979	0.116	0.114	34.45	3.93
330	397,942	3,195	1.160	0.116	0.135	35.13	4.74
340	11,417,126	66,642	0.843	0.116	0.098	33.27	3.26
350	4,272,813	31,317	1.059	0.116	0.123	33.30	4.10
360	8,376,259	59,300	1.023	0.116	0.119	30.95	3.68
370	551,552	3,953	1.035	0.116	0.120	30.01	3.60
380	1,612,843	10,481	0.939	0.116	0.109	30.68	3.34
390	1,632,429	10,170	0.900	0.116	0.104	30.32	3.15
Statewide	102,088,428	706,650			0.116	33.44	3.88

Derivation of Territory Fixed Expense per Policy
Extended Coverage

Territory	(1) Latest Year Earned Premium at Current Level	(2) Latest Year Earned House Years	(3) Statewide Average Relativity to Territory =(1)/(2)/{Statewide[(1)/(2)]}	(4) Statewide Trended Fixed Expense Ratio	(5) Territory Trended Fixed Expense Ratio =(4) x (3)	(6) Latest Year Average Base Rate	(7) Trended Fixed Expense Per Policy
110	26,143,124	23,017	0.251	0.106	0.027	85.11	2.30
120	31,724,479	32,948	0.296	0.106	0.031	95.09	2.95
130	3,121,578	7,911	0.722	0.106	0.077	70.53	5.43
140	23,580,674	51,274	0.619	0.106	0.066	78.35	5.17
150	11,058,658	28,604	0.737	0.106	0.078	73.56	5.74
160	13,341,517	28,321	0.605	0.106	0.064	80.94	5.18
170	539,363	3,334	1.761	0.106	0.187	32.12	6.01
180	5,324,994	28,556	1.527	0.106	0.162	32.94	5.34
190	1,824,717	11,755	1.835	0.106	0.195	33.19	6.47
200	991,016	7,685	2.209	0.106	0.234	32.46	7.60
210	1,299,847	9,004	1.973	0.106	0.209	28.35	5.93
220	7,920,435	33,203	1.194	0.106	0.127	26.37	3.35
230	2,414,493	20,203	2.383	0.106	0.253	33.95	8.59
240	4,353,002	27,515	1.801	0.106	0.191	28.45	5.43
250	3,826,709	16,994	1.265	0.106	0.134	28.17	3.77
260	1,223,714	11,348	2.641	0.106	0.280	23.16	6.48
270	8,450,239	36,098	1.217	0.106	0.129	20.65	2.66
280	1,447,083	7,482	1.473	0.106	0.156	19.90	3.10
290	2,339,108	9,359	1.140	0.106	0.121	27.87	3.37
300	921,983	10,706	3.307	0.106	0.351	21.02	7.38
310	8,506,589	62,811	2.103	0.106	0.223	17.89	3.99
320	4,313,227	28,040	1.852	0.106	0.196	19.89	3.90
330	262,065	2,742	2.980	0.106	0.316	18.28	5.78
340	8,934,165	58,935	1.879	0.106	0.199	15.62	3.11
350	3,386,467	27,106	2.280	0.106	0.242	18.60	4.50
360	7,379,928	52,263	2.017	0.106	0.214	18.32	3.92
370	420,243	3,535	2.396	0.106	0.254	17.27	4.39
380	1,302,946	9,145	1.999	0.106	0.212	17.98	3.81
390	1,311,514	8,952	1.944	0.106	0.206	17.60	3.63
Statewide	187,663,877	658,846			0.106	37.90	4.02

Derivation of Excess Loss Factor
Extended Coverage

Year	(1) REP	(2) DIL	(3) Loss Ratio (2)/(1)	(4) Normal Loss Ratio	(5) Excess Loss Ratio (3)-(4)	(6) Total Excess Losses (1)x(5)	(7) (6)/(2)
1950	1,388,467	312,200	0.225	0.225	0.000	0	0.000
1951	1,422,207	290,780	0.204	0.204	0.000	0	0.000
1952	1,440,159	792,365	0.550	0.500	0.050	72,008	0.091
1956	2,297,877	1,928,925	0.839	0.500	0.339	778,980	0.404
1957	2,117,102	839,255	0.396	0.396	0.000	0	0.000
1961	2,448,500	779,573	0.318	0.318	0.000	0	0.000
1962	2,342,116	672,396	0.287	0.287	0.000	0	0.000
1963	2,304,330	1,094,763	0.475	0.475	0.000	0	0.000
1964	2,333,802	713,168	0.306	0.306	0.000	0	0.000
1965	2,461,063	671,381	0.273	0.273	0.000	0	0.000
1966	2,592,580	646,405	0.249	0.249	0.000	0	0.000
1967	2,765,447	624,920	0.226	0.226	0.000	0	0.000
1968	3,684,951	571,095	0.155	0.155	0.000	0	0.000
1969	3,727,782	595,281	0.160	0.160	0.000	0	0.000
1970	3,809,666	755,021	0.198	0.198	0.000	0	0.000
1971	4,500,088	1,314,056	0.292	0.292	0.000	0	0.000
1972	6,175,223	848,369	0.137	0.137	0.000	0	0.000
1973	6,830,111	1,179,331	0.173	0.173	0.000	0	0.000
1974	5,341,091	2,504,466	0.469	0.469	0.000	0	0.000
1975	5,781,924	1,495,851	0.259	0.259	0.000	0	0.000
1976	6,310,907	1,045,882	0.166	0.166	0.000	0	0.000
1977	6,923,905	1,128,249	0.163	0.163	0.000	0	0.000
1978	7,371,068	2,656,163	0.360	0.360	0.000	0	0.000
1979	8,204,305	1,935,938	0.236	0.236	0.000	0	0.000
1980	9,409,413	1,851,000	0.197	0.197	0.000	0	0.000
1981	11,618,787	2,025,113	0.174	0.174	0.000	0	0.000
1982	12,703,938	2,672,646	0.210	0.210	0.000	0	0.000
1983	12,782,050	2,811,342	0.220	0.220	0.000	0	0.000
1984	13,378,072	5,069,761	0.379	0.379	0.000	0	0.000
1985	15,586,661	5,416,799	0.348	0.348	0.000	0	0.000
1986	18,573,125	3,624,751	0.195	0.195	0.000	0	0.000
1987	20,970,707	3,207,305	0.153	0.153	0.000	0	0.000
1988	22,803,120	6,816,348	0.299	0.299	0.000	0	0.000
1989	24,622,966	13,459,214	0.547	0.500	0.047	1,157,279	0.086
1990	25,923,637	5,278,639	0.204	0.204	0.000	0	0.000
1991	28,100,632	4,332,959	0.154	0.154	0.000	0	0.000
1992	29,900,438	4,742,564	0.159	0.159	0.000	0	0.000
1993	31,889,553	16,886,073	0.530	0.500	0.030	956,687	0.057
1994	34,062,149	8,139,204	0.239	0.239	0.000	0	0.000
1995	36,469,795	7,946,434	0.218	0.218	0.000	0	0.000
1996	40,105,731	10,177,932	0.254	0.254	0.000	0	0.000
1997	45,956,155	8,042,733	0.175	0.175	0.000	0	0.000
1998	50,483,351	19,677,761	0.390	0.390	0.000	0	0.000
1999	57,917,971	26,401,571	0.456	0.456	0.000	0	0.000
2000	64,276,450	14,556,461	0.226	0.226	0.000	0	0.000
2001	58,472,402	9,227,560	0.158	0.158	0.000	0	0.000
2002	62,801,958	15,725,972	0.250	0.250	0.000	0	0.000
2003	70,166,881	19,351,691	0.276	0.276	0.000	0	0.000
2004	77,384,514	15,018,657	0.194	0.194	0.000	0	0.000
2005	86,660,735	15,298,940	0.177	0.177	0.000	0	0.000
2006	93,459,391	16,657,822	0.178	0.178	0.000	0	0.000
2007	107,421,691	18,390,566	0.171	0.171	0.000	0	0.000
2008	88,217,778	13,999,208	0.159	0.159	0.000	0	0.000
2009	111,244,031	29,274,749	0.263	0.263	0.000	0	0.000
2010	112,338,979	36,014,031	0.321	0.321	0.000	0	0.000
2011	111,845,007	106,994,195	0.957	0.500	0.457	51,113,168	0.478
2012	114,730,408	43,404,563	0.378	0.378	0.000	0	0.000
2013	124,346,071	35,860,541	0.288	0.288	0.000	0	0.000
2014	140,244,094	44,701,659	0.319	0.319	0.000	0	0.000
2015	154,328,169	45,907,471	0.297	0.297	0.000	0	0.000
Total	2,215,771,479	664,360,068	17.229	16.306	0.923	54,078,122	
Average			0.287	0.272	0.015		

Average Excess Loss Ratio = Avg of column (5) 0.015

Average Normal Loss Ratio = Avg of column (4) 0.272

Excess Factor = 1.0 + (avg (5)/avg (4)) =

= 1.0 + (0.015 / 0.272) = 1.055

Development of Excess Losses on a $500 Deductible Level
Extended Coverage

Accident Year	Non Modelled Adjusted Inc. Losses	Excess Loss Ratio	Adjusted Excess Losses
2011	109,273,191	0.478	52,232,585
2012	44,759,988	0.000	0
2013	37,091,448	0.000	0
2014	47,364,762	0.000	0
2015	49,126,197	0.000	0

Deviations

Fire

Year	FPBP Written Premium Adjusted to Manual	Written Premium Adjusted to Manual	FPBP Direct Written Premium	Direct Written Premium	Average Deviation
2011	15,277,932	64,285,718	15,277,932	59,572,491	5.92%
2012	21,317,872	59,247,507	21,317,872	57,166,254	2.58%
2013	27,264,273	53,799,744	27,264,273	51,943,798	2.29%
2014	30,869,492	53,947,873	30,869,492	52,002,246	2.29%
2015	33,729,716	49,824,446	33,729,716	49,249,492	0.69%
5 year Average					2.76%
Selection					0.00%

Extended Coverage

Year	FPBP Written Premium Adjusted to Manual	Written Premium Adjusted to Manual	FPBP Direct Written Premium	Direct Written Premium	Average Deviation
2011	57,703,722	63,451,866	58,253,271	61,012,238	1.56%
2012	67,337,579	58,820,747	68,029,696	57,183,592	0.75%
2013	82,415,946	60,138,109	83,241,248	57,812,576	1.05%
2014	96,453,999	66,255,067	97,398,789	63,630,797	1.03%
2015	104,986,993	68,559,234	105,983,795	66,181,393	0.80%
5 year Average					1.04%
Selection					0.00%

**Actual Hurricane Losses (Excluded From Experience) *
for Extended Coverage**

Territory	Year	Losses
110	2011	9,713,358
	2012	578,898
	2014	1,661,270
	2015	57,061
120	2011	3,448,376
	2012	117,175
	2014	317,463
	2015	255,223
130	2011	3,528,942
	2012	71,658
	2014	103,161
	2015	33,311
140	2011	4,839,483
	2012	182,000
	2014	597,047
	2015	487,325
150	2011	17,354,474
	2012	16,288
	2014	76,462
	2015	104,347
160	2011	5,816,244
	2012	36,836
	2014	44,927
	2015	270,192
170	2011	1,137,457
	2012	16,400
	2014	3,832
	2015	4,038
180	2011	15,911,591
	2012	52,966
	2014	60,480
	2015	100,980
190	2011	7,138,498
	2012	28,198
	2014	75,091
	2015	39,152
200	2011	251,593
	2012	3,379
	2014	0
	2015	134,878
210	2011	3,594,317
	2012	18,397
	2014	12,847
	2015	36,673
220	2011	733,879
	2012	154,884
	2014	83,441
	2015	237,499
230	2011	210,355
	2012	11,346
	2014	7,878
	2015	105,855
240	2011	6,015,037
	2012	59,186
	2014	14,979
	2015	115,690
250	2011	274,511
	2012	84,904
	2014	13,725
	2015	117,610
260	2011	162,484
	2012	3,387
	2014	985
	2015	31,194
270	2011	412,352
	2012	110,052
	2014	8,960
	2015	96,010
280	2011	40,063
	2012	16,653
	2014	2,391
	2015	21,909
290	2011	106,796
	2012	6,872
	2014	7,087
	2015	69,309
300	2011	36,910
	2012	8,548
	2014	1,644
	2015	50,466
310	2011	325,592
	2012	113,962
	2014	19,074
	2015	261,438
320	2011	129,851
	2012	56,532
	2014	4,815
	2015	155,930
330	2011	2,173
	2012	6,425
	2014	4,788
	2015	23,888
340	2011	524,301
	2012	67,158
	2014	71,251
	2015	586,798
350	2011	186,350
	2012	27,781
	2014	4,218
	2015	122,883
360	2011	125,345
	2012	121,795
	2014	15,450
	2015	354,732
370	2011	2,010
	2012	8,376
	2014	0
	2015	8,285
380	2011	21,871
	2012	868
	2014	36,918
	2015	16,629
390	2011	25,621
	2012	183
	2014	584
	2015	7,015

* There are no actual hurricane losses for 2013. Loss amounts reflect adjustments to base deductible level and application of loss development factors.

Derivation Of Statewide Modeled Hurricane Base-Class Loss Cost

Extended Coverage

		All Classes
a.	Trended Modeled Hurricane Losses (including LAE)	$85,122,851
b.	Latest-Year House-Years	658,846
c.	Latest-Year Average Rating Factor	7.516
d.	Latest-Year Current Amount Factor	1.050
e.	Premium Projection Factor	1.032
f.	Modeled Base-Class Loss Cost = (a) / [(b) (c) (d) (e)] =	$15.86

Derivation Of Modeled Base Class Loss Cost

Extended Coverage

Terr	(1) Modeled Losses	(2) Latest Year Earned House Years	(3) Latest Year Average Rating Factor	(4) Modeled BCLC * = (1) / [(2)x(3)]
110	17,659,551	23,017	13.345	57.49
120	21,263,364	32,948	10.126	63.73
130	1,717,415	7,911	5.595	38.80
140	14,559,219	51,274	5.870	48.37
150	3,252,649	28,604	5.256	21.63
160	4,114,749	28,321	5.820	24.96
170	124,550	3,334	5.036	7.42
180	1,940,879	28,556	5.660	12.01
190	981,943	11,755	4.677	17.86
200	671,796	7,685	3.973	22.00
210	421,117	9,004	5.092	9.18
220	2,030,843	33,203	9.047	6.76
230	1,150,022	20,203	3.520	16.17
240	1,120,898	27,515	5.561	7.33
250	783,057	16,994	7.993	5.76
260	246,080	11,348	4.657	4.66
270	1,288,007	36,098	11.338	3.15
280	209,081	7,482	9.720	2.87
290	339,783	9,359	8.966	4.05
300	224,364	10,706	4.097	5.12
310	928,704	62,811	7.572	1.95
320	500,901	28,040	7.735	2.31
330	27,948	2,742	5.229	1.95
340	1,063,263	58,935	9.702	1.86
350	299,956	27,106	6.717	1.65
360	377,250	52,263	7.708	0.94
370	16,842	3,535	6.884	0.69
380	40,481	9,145	7.923	0.56
390	35,015	8,952	8.324	0.47
Statewide	77,389,725	658,846		

* Modeled base class loss cost excluding LAE and trend, for use on page C-10, Column (7)

Derivation Of Net Cost Of Reinsurance

Extended Coverage

Terr	(1) Trended Net Cost of Reinsurance	(2) Latest Year Earned House Years	(3) Latest Year Average Rating Factor	(4) Latest Year Current Amount Factor	(5) Premium Projection Factor	(6) Expected Loss and Fixed Expense Ratio	(7) Net Cost of Reinsurance per Policy * = (1) / [(2)x(3)x(4)x(5)x(6)]
110	17,046,782	23,017	13.345	1.050	1.032	77.6%	66.00
120	28,114,726	32,948	10.126	1.050	1.032	77.6%	100.22
130	1,841,752	7,911	5.595	1.050	1.032	77.6%	49.48
140	18,951,423	51,274	5.870	1.050	1.032	77.6%	74.88
150	3,893,473	28,604	5.256	1.050	1.032	77.6%	30.80
160	5,930,132	28,321	5.820	1.050	1.032	77.6%	42.79
170	143,251	3,334	5.036	1.050	1.032	77.6%	10.15
180	2,560,053	28,556	5.660	1.050	1.032	77.6%	18.84
190	1,366,594	11,755	4.677	1.050	1.032	77.6%	29.56
200	915,861	7,685	3.973	1.050	1.032	77.6%	35.67
210	560,785	9,004	5.092	1.050	1.032	77.6%	14.55
220	2,924,701	33,202	9.047	1.050	1.032	77.6%	11.58
230	1,522,918	20,203	3.520	1.050	1.032	77.6%	25.47
240	1,480,526	27,515	5.561	1.050	1.032	77.6%	11.51
250	1,077,820	16,994	7.993	1.050	1.032	77.6%	9.44
260	311,073	11,348	4.657	1.050	1.032	77.6%	7.00
270	1,795,891	36,099	11.338	1.050	1.032	77.6%	5.22
280	282,015	7,482	9.720	1.050	1.032	77.6%	4.61
290	465,168	9,359	8.966	1.050	1.032	77.6%	6.59
300	273,175	10,706	4.097	1.050	1.032	77.6%	7.41
310	1,242,927	62,811	7.572	1.050	1.032	77.6%	3.11
320	622,194	28,041	7.735	1.050	1.032	77.6%	3.41
330	31,956	2,742	5.229	1.050	1.032	77.6%	2.65
340	1,203,598	58,935	9.702	1.050	1.032	77.6%	2.50
350	276,352	27,105	6.717	1.050	1.032	77.6%	1.81
360	338,335	52,263	7.708	1.050	1.032	77.6%	1.00
370	13,945	3,535	6.884	1.050	1.032	77.6%	0.68
380	21,387	9,145	7.923	1.050	1.032	77.6%	0.35
390	14,477	8,952	8.324	1.050	1.032	77.6%	0.23
Statewide	95,223,290	658,846	7.516	1.05	1.032	77.6%	22.87

* For use on page C-11 Column (16)

SECTION E
SUPPLEMENTAL MATERIAL

NORTH CAROLINA
DWELLING INSURANCE

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 12B. 11 NCAC 10.1105 specifies that additional detail be provided under each of these items. These materials are contained on the pages indicated.

Item	Page
1. North Carolina earned premiums at actual and current rate levels; losses and loss adjustment expenses, each on a paid and incurred basis; the loss ratio anticipated at the time rates were promulgated for the experience period.	E-3-46
2. Credibility factor development and application.	E-47
3. Loss development factor derivation and application on both paid and incurred bases and in both dollars and numbers of claims.	E-48
4. Trending factor development and application.	E-49
5. Changes in premium base resulting from rating exposure trends.	E-50
6. Limiting factor development and application.	E-51
7. Overhead expense development and application of commission and brokerage, other acquisition expenses, general expenses, taxes, licenses and fees.	E-52-54
8. Percent rate change.	E-55
9. Final proposed rates.	E-56
10. Investment earnings, consisting of investment income and realized plus unrealized capital gains, from loss, loss expense and unearned premium reserves.	E-57-87
11. Identification of applicable statistical plans and programs and a certification of compliance with them.	E-88-94
12. Investment earnings on capital and surplus.	E-95
13. Level of capital and surplus needed to support premium writings without endangering the solvency of member companies.	E-96
14. Additional supplemental information (as per 11 NCAC 10.1105)	E-97-101

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

1. NORTH CAROLINA EARNED PREMIUMS AT THE ACTUAL AND CURRENT RATE LEVEL, LOSSES AND LOSS ADJUSTMENT EXPENSES, EACH ON PAID AND INCURRED BASES WITHOUT TRENDING OR OTHER MODIFICATION FOR THE EXPERIENCE PERIOD, INCLUDING THE LOSS RATIO ANTICIPATED AT THE TIME THE RATES WERE PROMULGATED FOR THE EXPERIENCE PERIOD

Earned premiums at collected and current levels. E-3

Paid/incurred losses and loss adjustment expense. E-4

Anticipated loss ratios. E-5

(a) Companies excluded - rate level, trend, loss development, relativity, and investment income. E-6

(b) Not applicable to Dwelling Insurance. E-7

(c) Adjustments to premium, losses, loss adjustment expenses, expenses and exposures. E-8

(d) Actual earned premiums and calculation of earned premium at present rates. E-9

(e) Written and earned premiums and market shares for the ten largest writers. E-10-11

(f) Composite loss and premium information from each of the latest two annual statements for the 50 largest writers. E-12

(g) Not applicable to Dwelling Insurance. E-12

(h) Not applicable to Dwelling Insurance. E-12

(i) Losses and loss adjustment expenses. E-13

(j) Not applicable to Dwelling Insurance. E-14

(k) Excess (catastrophe) and nonexcess (noncatastrophe) losses. E-15

(l) Losses by cause. E-16-46

Exhibit (1)

NORTH CAROLINA
DWELLING INSURANCE

EARNED PREMIUMS AT ACTUAL AND CURRENT RATE LEVEL

I. EARNED PREMIUM AT COLLECTED LEVEL

Year	Fire	Extended Coverage
2011	$ 83,163,049	$ 111,845,007
2012	87,955,705	114,730,408
2013	92,780,145	124,346,071
2014	96,426,724	140,244,094
2015	99,505,745	154,328,169

II. EARNED PREMIUM AT CURRENT LEVEL

Year	Fire	Extended Coverage
2011	$ 83,483,415	$ 156,306,245
2012	88,552,652	162,115,363
2013	93,515,945	168,017,608
2014	97,474,219	178,564,328
2015	102,088,428	187,663,877

NORTH CAROLINA
DWELLING INSURANCE

PAID/INCURRED LOSSES AND ALLOCATED LOSS ADJUSTMENT EXPENSE

I. PAID LOSSES

The Rate Bureau is advised by ISO that paid loss and loss adjustment expenses are not available for the experience period of this filing.

II. INCURRED LOSSES (a)

Year	Fire	Extended Coverage
2011	$ 41,081,335	$ 191,343,025
2012	42,024,592	46,741,095
2013	43,205,165	37,091,448
2014	44,495,608	50,615,530
2015	42,282,511	53,032,517

(a) Incurred losses are developed, adjusted to a common deductible of $500, include actual hurricane losses and do not include loss adjustment expense.

NORTH CAROLINA
DWELLING INSURANCE

ANTICIPATED LOSS AND LOSS ADJUSTMENT EXPENSE RATIOS

The anticipated loss and LAE ratios included in the 2011 filing (for rates implemented in 2012) were 0.716 for Fire, and 0.754 for Extended Coverage.

NORTH CAROLINA
DWELLING INSURANCE

EXCLUDED COMPANIES

(The market shares shown are based on 2015 Dwelling Fire and Extended Coverage written premium.)

The historical experience used to develop the statewide rate-level indications, territory rate-level indications and class indications is based on the experience of companies and residual market entities reporting to the Insurance Services Office (full statistical plan), the Independent Statistical Service, and the National Insurance Statistical Service. The historical premium and loss experience utilized in this filing, after accounting for the premium and loss experience of reporting companies whose data were not included (as described below) accounts for 97.9% of the total North Carolina Dwelling insurance market. The experience reported to the American Association of Insurance Services and to Insurance Services Office under the Statistical Agent Plan is excluded because it is not available in sufficient detail. This experience accounts for approximately 0.22% of the total North Carolina Dwelling insurance market.

Premium and loss experience for the following insurers is not included in the filed experience: Bankers Standard Insurance Company, Cincinnati Insurance Company, Federal Insurance Company, Hanover Insurance Company, Lititz Mututal Insurance Company, Massachusets Bay Insurance Compnay, State Auto Property and Casualty Insurance Company, Universal North America Insurance Company, and Vigilant Insurance Company. The experience for these companies was not included pending resolution of data anomalies.

Expense experience for American Security Insurance Company is not included in this filing.

The loss development factors used in the calculation of the statewide rate level indications are based on ISO North Carolina experience. This experience represents 23.2% of the market. See also the prefiled testimony of R. Curry, P. Anderson and B. Donlan.

Not applicable to Dwelling insurance.

Exhibit (1)(c)

NORTH CAROLINA
DWELLING INSURANCE

ADJUSTMENTS TO PREMIUMS, LOSSES, LOSS ADJUSTMENT EXPENSES,
EXPENSES AND EXPOSURES

Adjustments made to premiums, losses, loss adjustment expenses, and expenses are set forth below and in the prefiled testimony of R. Curry, P. Anderson, B. Donlan, R. Fox, and E. Henderson.

Losses are adjusted to the $500 base deductible level by application of loss elimination ratios. These factors are applied on a record-by-record basis and vary by cause of loss.

Losses were developed to an ultimate basis through the application of loss development factors.

Additionally, due to the volatile nature and the catastrophic potential of hurricane losses, they have been removed from the actual data. A separate provision for hurricane losses was included based on modeled hurricane losses developed by Aon Benfield.

Exhibit (1)(d)

NORTH CAROLINA
DWELLING INSURANCE

EARNED PREMIUM AT PRESENT RATES CALCULATION

Earned premium at present rates by coverage is calculated by the following formula for each exposure:

Fire Premium = Territory Base Rate x Amount of Insurance Factor x Optional Coverage Factor

Extended Coverage Premium = Territory Base Rate x Amount of Insurance Factor x Optional Coverage Factor

The results are then summed over all territories to generate aggregate earned premium at present rates.

A sample calculation for a single insured is shown below. This sample insured is in territory 230 (former territory 41), Coverage A, $30,000 amount of insurance, protection class 8, masonry construction, Extended Coverage policy form 1.

Fire:

(1)	Territory 230, Coverage A, protection class 8, masonry construction base rate	76
(2)	Amount of insurance factor for $30,000	1.60
(3)	Optional Coverage Factor	1.00
(4)	Earned premium at present rates (1)x(2)x(3)	121.60

Extended Coverage:

(1)	Territory 230, Coverage A, masonry construction, policy form 1 base rate	48
(2)	Amount of insurance factor for $30,000	1.79
(3)	Optional Coverage Factor	1.00
(4)	Earned premium at present rates (1)x(2)x(3)	85.92

The results of these two calculations are then summed to obtain the one earned premium at present rates required for the statewide, territory and class rate level analyses.

Exhibit (1) (e)

TOP TEN DWELLING FIRE INSURANCE WRITERS

COMPANY NAME		2015 (a) WRITTEN PREMIUM	2015 WRITTEN PREMIUM MARKET SHARE	2015 (a) EARNED PREMIUM	2015 EARNED PREMIUM MARKET SHARE
North Carolina Farm Bureau Mutual Insurance Company		13,158,418	26.72%	13,533,383	27.10%
United Services Automobile Association		7,513,389	15.26%	7,566,964	15.16%
Nationwide Mutual Fire Insurance Company		6,168,730	12.53%	6,306,615	12.63%
American Modern Select Insurance Company		3,838,698	7.79%	3,677,256	7.36%
USAA Casualty Insurance Company		1,976,927	4.01%	2,015,623	4.04%
Erie Insurance Exchange		1,711,222	3.47%	1,830,853	3.67%
SAFECO Insurance Company of America		1,171,862	2.38%	1,235,158	2.47%
Liberty Mutual Fire Insurance Company		1,136,813	2.31%	1,147,722	2.30%
USAA General Indemnity Company		1,123,314	2.28%	1,077,408	2.16%
Pennsylvania National Mutual Casualty Insurance Company		1,075,396	2.18%	1,103,643	2.21%
	Total	38,874,769	78.93%	39,494,625	79.10%
	Grand Total	49,249,492		49,930,252	

(a) NCRB Expense Experience data call, based on 2015 Annual Statement, Statutory Page 14, Line 1.0 (Residential Only).

Notes:
The Beach and Fair Plan are not included in this report

Exhibit (1) (e)

TOP TEN DWELLING EXTENDED COVERAGE INSURANCE WRITERS

COMPANY NAME	2015 (a) WRITTEN PREMIUM	2015 WRITTEN PREMIUM MARKET SHARE	2015 (a) EARNED PREMIUM	2015 EARNED PREMIUM MARKET SHARE
United Services Automobile Association	16,939,863	25.60%	16,464,878	25.31%
North Carolina Farm Bureau Mutual Insurance Company	10,241,277	15.47%	10,280,643	15.80%
Nationwide Mutual Fire Insurance Company	7,982,765	12.06%	8,016,317	12.32%
American Modern Select Insurance Company	5,737,689	8.67%	5,423,154	8.34%
USAA Casualty Insurance Company	3,171,037	4.79%	3,146,794	4.84%
Pennsylvania National Mutual Casualty Insurance Company	2,029,439	3.07%	2,036,413	3.13%
USAA General Indemnity Company	2,025,509	3.06%	1,900,074	2.92%
American Family Home Insurance Company	1,490,126	2.25%	1,369,986	2.11%
Liberty Mutual Fire Insurance Company	1,448,827	2.19%	1,449,206	2.23%
The Automobile Insurance Company of Hartford, Connecticut	1,394,215	2.11%	1,460,248	2.24%
Total	52,460,747	79.27%	51,547,713	79.23%
Grand Total	66,181,393		65,057,929	

(a) NCRB Expense Experience data call, based on 2015 Annual Statement, Statutory Page 14, Line 2.1 (Residential Only).

Notes:
The Beach and Fair Plan are not included in this report

Not applicable to Dwelling insurance.

NORTH CAROLINA
DWELLING INSURANCE
LOSSES AND LOSS ADJUSTMENT EXPENSE

The data requested by 11 NCAC 10.1105(1)(i)(i,ii) were not being collected or reported in the experience period. The response to 11 NCAC 10.1105(1), page E-4, provides incurred loss and loss adjustment expense information. The response to 11 NCAC 10.1105(1)(1) provides incurred data by cause of loss. Additional information concerning loss adjustment expenses is provided in the response to 11 NCAC 10.1105(7). Additional information concerning loss trend is provided in Section D and in the prefiled testimony of P. Anderson, R. Curry and B. Donlan.

(iii)

Year	Fire Applied Loss Development Factor	Extended Coverage Applied Loss Development Factor
2011	1.000	1.000
2012	1.000	1.001
2013	0.999	1.002
2014	0.995	1.002
2015	0.966	1.021

(iv)

Year	Loss Adjustment Expense Percentage	Loss Adjustment Expense Percentage
2011	9.3 %	4.4 %
2012	8.3	9.0
2013	8.3	11.9
2014	10.7	10.6
2015	8.7	12.2

(v)

Year	Applied Loss Trend Factor	Applied Loss Trend Factor
2011	1.094	1.098
2012	1.067	1.071
2013	1.044	1.047
2014	1.022	1.025
2015	1.008	1.011

(vi)

Year	Trended Incurred Losses and LAE	Trended Incurred Losses and LAE
2011	$ 49,122,678	$ 219,338,806
2012	48,561,980	54,565,087
2013	48,850,006	43,456,081
2014	50,340,284	57,380,296
2015	46,328,778	60,157,011

(vii) This information is given in the response to 11 NCAC 10.1105(1), page E-5.

Not applicable to Dwelling insurance.

See prefiled testimony of P. Anderson, R. Curry, B. Donlan, R. Fox and E. Henderson.

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

CAUSE OF LOSS DATA

Loss experience by cause of loss is provided on the attached Exhibit (1)(1).

Territory 110

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	10,290,120	1,144	410.03	4.56	8,995
	2012	660,156	134	27.39	0.56	4,927
	2013	74,409	11	3.25	0.05	6,764
	2014	1,689,742	311	73.41	1.35	5,433
	2015	48,615	12	2.11	0.05	4,051
Total		12,763,042	1,612	108.02	1.36	7,918
WATER DAMAGE AND FREEZING	2011	954,032	105	38.02	0.42	9,086
	2012	997,493	91	41.39	0.38	10,961
	2013	450,377	62	19.65	0.27	7,264
	2014	1,125,309	115	48.89	0.50	9,785
	2015	2,006,965	173	87.19	0.75	11,601
Total		5,534,176	546	46.84	0.46	10,136
ALL OTHER PD	2011	88,800	19	3.54	0.08	4,674
	2012	79,742	13	3.31	0.05	6,134
	2013	183,265	22	8.00	0.10	8,330
	2014	112,425	17	4.88	0.07	6,613
	2015	239,921	26	10.42	0.11	9,228
Total		704,153	97	5.96	0.08	7,259
VANDALISM & MALICIOUS MISCHIEF	2011	12,137	3	0.48	0.01	4,046
	2012	3,893	1	0.16	0.00	3,893
	2013	45,956	6	2.00	0.03	7,659
	2014	5,453	1	0.24	0.00	5,453
	2015	9,786	4	0.43	0.02	2,447
Total		77,225	15	0.65	0.01	5,148
ALL CAUSES	2011	11,345,089	1,271	452.07	5.06	8,926
	2012	1,741,284	239	72.25	0.99	7,286
	2013	754,007	101	32.89	0.44	7,465
	2014	2,932,929	444	127.42	1.93	6,606
	2015	2,305,287	215	100.16	0.93	10,722
Total		19,078,596	2,270	161.47	1.92	8,405

Territory 120

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,489,661	693	115.73	2.30	5,036
	2012	248,531	62	8.05	0.20	4,009
	2013	169,187	36	5.29	0.11	4,700
	2014	427,974	117	13.05	0.36	3,658
	2015	794,635	157	24.12	0.48	5,061
Total		5,129,988	1,065	32.32	0.67	4,817
WATER DAMAGE AND FREEZING	2011	539,855	76	17.90	0.25	7,103
	2012	1,056,112	87	34.23	0.28	12,139
	2013	1,813,367	90	56.67	0.28	20,149
	2014	1,654,487	125	50.45	0.38	13,236
	2015	1,462,235	134	44.38	0.41	10,912
Total		6,526,056	512	41.11	0.32	12,746
ALL OTHER PD	2011	62,182	16	2.06	0.05	3,886
	2012	60,426	13	1.96	0.04	4,648
	2013	21,261	9	0.66	0.03	2,362
	2014	18,259	7	0.56	0.02	2,608
	2015	103,594	10	3.14	0.03	10,359
Total		265,722	55	1.67	0.03	4,831
VANDALISM & MALICIOUS MISCHIEF	2011	13,221	3	0.44	0.01	4,407
	2012	12,187	4	0.39	0.01	3,047
	2013	6,998	5	0.22	0.02	1,400
	2014	5,833	2	0.18	0.01	2,917
	2015	9,354	3	0.28	0.01	3,118
Total		47,593	17	0.30	0.01	2,800
ALL CAUSES	2011	4,104,919	788	136.14	2.61	5,209
	2012	1,377,256	166	44.63	0.54	8,297
	2013	2,010,813	140	62.85	0.44	14,363
	2014	2,106,553	251	64.24	0.77	8,393
	2015	2,369,818	304	71.93	0.92	7,795
Total		11,969,359	1,649	75.40	1.04	7,259

Territory 130

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,670,392	662	568.88	10.26	5,544
	2012	108,590	29	17.02	0.45	3,744
	2013	32,981	13	4.79	0.19	2,537
	2014	178,715	51	23.50	0.67	3,504
	2015	81,805	21	10.34	0.27	3,895
Total		4,072,483	776	115.58	2.20	5,248
WATER DAMAGE AND FREEZING	2011	106,148	9	16.45	0.14	11,794
	2012	39,994	10	6.27	0.16	3,999
	2013	31,652	7	4.60	0.10	4,522
	2014	134,273	12	17.66	0.16	11,189
	2015	454,429	32	57.44	0.40	14,201
Total		766,496	70	21.75	0.20	10,950
ALL OTHER PD	2011	35,903	11	5.56	0.17	3,264
	2012	5,367	2	0.84	0.03	2,684
	2013	32,186	2	4.67	0.03	16,093
	2014	40,912	3	5.38	0.04	13,637
	2015	507	0	0.06	0.00	0
Total		114,875	18	3.26	0.05	6,382
VANDALISM & MALICIOUS MISCHIEF	2011	0	0	0.00	0.00	0
	2012	0	0	0.00	0.00	0
	2013	0	0	0.00	0.00	0
	2014	8,510	1	1.12	0.01	8,510
	2015	0	0	0.00	0.00	0
Total		8,510	1	0.24	0.00	8,510
ALL CAUSES	2011	3,812,443	682	590.89	10.57	5,590
	2012	153,951	41	24.13	0.64	3,755
	2013	96,819	22	14.06	0.32	4,401
	2014	362,410	67	47.65	0.88	5,409
	2015	536,741	53	67.85	0.67	10,127
Total		4,962,364	865	140.84	2.45	5,737

Territory 140

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	4,982,481	1,081	125.00	2.71	4,609
	2012	529,469	112	12.75	0.27	4,727
	2013	413,523	91	9.29	0.20	4,544
	2014	1,010,528	273	20.71	0.56	3,702
	2015	865,884	200	16.89	0.39	4,329
Total		7,801,885	1,757	34.52	0.78	4,440
WATER DAMAGE AND FREEZING	2011	887,252	85	22.26	0.21	10,438
	2012	605,039	82	14.56	0.20	7,379
	2013	510,051	90	11.46	0.20	5,667
	2014	1,077,672	143	22.09	0.29	7,536
	2015	1,169,133	177	22.80	0.35	6,605
Total		4,249,147	577	18.80	0.26	7,364
ALL OTHER PD	2011	173,422	34	4.35	0.09	5,101
	2012	118,566	25	2.85	0.06	4,743
	2013	218,171	40	4.90	0.09	5,454
	2014	514,913	84	10.55	0.17	6,130
	2015	199,617	33	3.89	0.06	6,049
Total		1,224,689	216	5.42	0.10	5,670
VANDALISM & MALICIOUS MISCHIEF	2011	33,017	6	0.83	0.02	5,503
	2012	44,536	9	1.07	0.02	4,948
	2013	32,488	9	0.73	0.02	3,610
	2014	60,686	9	1.24	0.02	6,743
	2015	17,115	11	0.33	0.02	1,556
Total		187,842	44	0.83	0.02	4,269
ALL CAUSES	2011	6,076,172	1,206	152.44	3.03	5,038
	2012	1,297,610	228	31.24	0.55	5,691
	2013	1,174,233	230	26.37	0.52	5,105
	2014	2,663,799	509	54.59	1.04	5,233
	2015	2,251,749	421	43.92	0.82	5,349
Total		13,463,563	2,594	59.57	1.15	5,190

Territory 150

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	17,646,170	2,848	718.08	11.59	6,196
	2012	1,022,650	197	43.70	0.84	5,191
	2013	326,435	110	13.76	0.46	2,968
	2014	3,065,651	466	113.30	1.72	6,579
	2015	368,082	145	12.87	0.51	2,538
Total		22,428,988	3,766	176.10	2.96	5,956
WATER DAMAGE AND FREEZING	2011	249,295	44	10.14	0.18	5,666
	2012	218,820	34	9.35	0.15	6,436
	2013	352,472	49	14.86	0.21	7,193
	2014	402,061	65	14.86	0.24	6,186
	2015	792,053	107	27.69	0.37	7,402
Total		2,014,701	299	15.82	0.23	6,738
ALL OTHER PD	2011	233,657	79	9.51	0.32	2,958
	2012	53,217	17	2.27	0.07	3,130
	2013	130,836	23	5.51	0.10	5,689
	2014	152,224	29	5.63	0.11	5,249
	2015	126,411	28	4.42	0.10	4,515
Total		696,345	176	5.47	0.14	3,957
VANDALISM & MALICIOUS MISCHIEF	2011	5,512	4	0.22	0.02	1,378
	2012	0	0	0.00	0.00	0
	2013	25,346	5	1.07	0.02	5,069
	2014	13,847	5	0.51	0.02	2,769
	2015	28,383	5	0.99	0.02	5,677
Total		73,088	19	0.57	0.01	3,847
ALL CAUSES	2011	18,134,634	2,975	737.96	12.11	6,096
	2012	1,294,687	248	55.33	1.06	5,221
	2013	835,089	187	35.20	0.79	4,466
	2014	3,633,783	565	134.30	2.09	6,431
	2015	1,314,929	285	45.97	1.00	4,614
Total		25,213,122	4,260	197.96	3.34	5,919

Territory 160

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	6,971,808	1,241	302.19	5.38	5,618
	2012	302,710	65	13.10	0.28	4,657
	2013	241,275	75	9.96	0.31	3,217
	2014	362,963	108	13.46	0.40	3,361
	2015	608,654	148	21.49	0.52	4,113
Total		8,487,410	1,637	67.53	1.30	5,185
WATER DAMAGE AND FREEZING	2011	218,158	50	9.46	0.22	4,363
	2012	334,211	58	14.47	0.25	5,762
	2013	338,460	65	13.97	0.27	5,207
	2014	600,773	95	22.28	0.35	6,324
	2015	601,559	128	21.24	0.45	4,700
Total		2,093,161	396	16.65	0.32	5,286
ALL OTHER PD	2011	278,949	45	12.09	0.20	6,199
	2012	98,328	25	4.26	0.11	3,933
	2013	103,350	15	4.27	0.06	6,890
	2014	385,001	53	14.28	0.20	7,264
	2015	234,611	40	8.28	0.14	5,865
Total		1,100,239	178	8.75	0.14	6,181
VANDALISM & MALICIOUS MISCHIEF	2011	9,456	7	0.41	0.03	1,351
	2012	7,875	4	0.34	0.02	1,969
	2013	26,299	10	1.09	0.04	2,630
	2014	34,594	6	1.28	0.02	5,766
	2015	40,610	8	1.43	0.03	5,076
Total		118,834	35	0.95	0.03	3,395
ALL CAUSES	2011	7,478,371	1,343	324.15	5.82	5,568
	2012	743,124	152	32.17	0.66	4,889
	2013	709,384	165	29.28	0.68	4,299
	2014	1,383,331	262	51.30	0.97	5,280
	2015	1,485,434	324	52.45	1.14	4,585
Total		11,799,644	2,246	93.89	1.79	5,254

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	1,326,286	226	484.05	8.25	5,869
	2012	46,881	15	17.57	0.56	3,125
	2013	49,575	19	16.54	0.63	2,609
	2014	29,595	14	9.58	0.45	2,114
	2015	69,156	30	20.74	0.90	2,305
Total		1,521,493	304	102.61	2.05	5,005
WATER DAMAGE AND FREEZING	2011	52,809	6	19.27	0.22	8,802
	2012	20,550	4	7.70	0.15	5,138
	2013	8,875	2	2.96	0.07	4,438
	2014	38,017	7	12.31	0.23	5,431
	2015	80,628	15	24.18	0.45	5,375
Total		200,879	34	13.55	0.23	5,908
ALL OTHER PD	2011	33,300	10	12.15	0.36	3,330
	2012	7,435	4	2.79	0.15	1,859
	2013	9,785	4	3.26	0.13	2,446
	2014	16,630	4	5.39	0.13	4,158
	2015	12,307	5	3.69	0.15	2,461
Total		79,457	27	5.36	0.18	2,943
VANDALISM & MALICIOUS MISCHIEF	2011	2,110	1	0.77	0.04	2,110
	2012	208	0	0.08	0.00	0
	2013	1,026	1	0.34	0.03	1,026
	2014	1,679	1	0.54	0.03	1,679
	2015	667	0	0.20	0.00	0
Total		5,690	3	0.38	0.02	1,897
ALL CAUSES	2011	1,414,505	243	516.24	8.87	5,821
	2012	75,074	23	28.13	0.86	3,264
	2013	69,261	26	23.11	0.87	2,664
	2014	85,921	26	27.82	0.84	3,305
	2015	162,758	50	48.82	1.50	3,255
Total		1,807,519	368	121.90	2.48	4,912

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	18,002,978	2,839	756.05	11.92	6,341
	2012	1,164,306	234	49.19	0.99	4,976
	2013	517,801	158	19.50	0.59	3,277
	2014	734,335	212	27.07	0.78	3,464
	2015	488,893	139	17.12	0.49	3,517
Total		20,908,313	3,582	161.17	2.76	5,837
WATER DAMAGE AND FREEZING	2011	180,090	56	7.56	0.24	3,216
	2012	339,981	63	14.36	0.27	5,397
	2013	251,769	66	9.48	0.25	3,815
	2014	478,677	96	17.64	0.35	4,986
	2015	621,601	124	21.77	0.43	5,013
Total		1,872,118	405	14.43	0.31	4,623
ALL OTHER PD	2011	602,064	140	25.28	0.59	4,300
	2012	276,962	35	11.70	0.15	7,913
	2013	144,453	32	5.44	0.12	4,514
	2014	287,515	46	10.60	0.17	6,250
	2015	138,849	47	4.86	0.16	2,954
Total		1,449,843	300	11.18	0.23	4,833
VANDALISM & MALICIOUS MISCHIEF	2011	36,007	10	1.51	0.04	3,601
	2012	21,834	6	0.92	0.03	3,639
	2013	41,655	11	1.57	0.04	3,787
	2014	44,869	14	1.65	0.05	3,205
	2015	54,466	16	1.91	0.06	3,404
Total		198,831	57	1.53	0.04	3,488
ALL CAUSES	2011	18,821,139	3,045	790.41	12.79	6,181
	2012	1,803,083	338	76.17	1.43	5,335
	2013	955,678	267	35.98	1.01	3,579
	2014	1,545,396	368	56.96	1.36	4,199
	2015	1,303,809	326	45.66	1.14	3,999
Total		24,429,105	4,344	188.31	3.35	5,624

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	7,162,992	1,228	697.06	11.95	5,833
	2012	312,108	85	31.21	0.85	3,672
	2013	175,453	52	15.91	0.47	3,374
	2014	248,461	65	21.97	0.57	3,822
	2015	195,089	57	16.60	0.48	3,423
Total		8,094,103	1,487	148.88	2.74	5,443
WATER DAMAGE AND FREEZING	2011	37,795	15	3.68	0.15	2,520
	2012	135,711	17	13.57	0.17	7,983
	2013	89,004	20	8.07	0.18	4,450
	2014	85,704	23	7.58	0.20	3,726
	2015	156,198	36	13.29	0.31	4,339
Total		504,412	111	9.28	0.20	4,544
ALL OTHER PD	2011	277,843	66	27.04	0.64	4,210
	2012	48,979	15	4.90	0.15	3,265
	2013	33,486	7	3.04	0.06	4,784
	2014	77,993	21	6.90	0.19	3,714
	2015	223,891	23	19.05	0.20	9,734
Total		662,192	132	12.18	0.24	5,017
VANDALISM & MALICIOUS MISCHIEF	2011	25,323	6	2.46	0.06	4,221
	2012	4,009	2	0.40	0.02	2,005
	2013	10,835	1	0.98	0.01	10,835
	2014	3,497	2	0.31	0.02	1,749
	2015	9,816	2	0.84	0.02	4,908
Total		53,480	13	0.98	0.02	4,114
ALL CAUSES	2011	7,503,953	1,315	730.24	12.80	5,706
	2012	500,807	119	50.09	1.19	4,208
	2013	308,778	80	27.99	0.73	3,860
	2014	415,655	111	36.76	0.98	3,745
	2015	584,994	118	49.77	1.00	4,958
Total		9,314,187	1,743	171.32	3.21	5,344

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	493,432	148	64.89	1.95	3,334
	2012	149,444	49	20.64	0.68	3,050
	2013	166,206	58	21.76	0.76	2,866
	2014	179,392	60	23.80	0.80	2,990
	2015	258,422	76	33.63	0.99	3,400
Total		1,246,896	391	33.07	1.04	3,189
WATER DAMAGE AND FREEZING	2011	11,701	5	1.54	0.07	2,340
	2012	6,814	3	0.94	0.04	2,271
	2013	23,493	4	3.08	0.05	5,873
	2014	116,029	23	15.39	0.31	5,045
	2015	98,733	24	12.85	0.31	4,114
Total		256,770	59	6.81	0.16	4,352
ALL OTHER PD	2011	9,019	3	1.19	0.04	3,006
	2012	3,121	3	0.43	0.04	1,040
	2013	4,319	2	0.57	0.03	2,160
	2014	28,898	11	3.83	0.15	2,627
	2015	34,884	7	4.54	0.09	4,983
Total		80,241	26	2.13	0.07	3,086
VANDALISM & MALICIOUS MISCHIEF	2011	0	0	0.00	0.00	0
	2012	5,832	3	0.81	0.04	1,944
	2013	0	0	0.00	0.00	0
	2014	11,490	3	1.52	0.04	3,830
	2015	16,187	6	2.11	0.08	2,698
Total		33,509	12	0.89	0.03	2,792
ALL CAUSES	2011	514,152	156	67.62	2.05	3,296
	2012	165,211	58	22.82	0.80	2,848
	2013	194,018	64	25.40	0.84	3,032
	2014	335,809	97	44.55	1.29	3,462
	2015	408,226	113	53.12	1.47	3,613
Total		1,617,416	488	42.90	1.29	3,314

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,983,894	673	499.55	8.44	5,920
	2012	380,026	97	48.31	1.23	3,918
	2013	316,151	72	37.07	0.84	4,391
	2014	108,596	36	12.65	0.42	3,017
	2015	219,912	59	24.42	0.66	3,727
Total		5,008,579	937	119.37	2.23	5,345
WATER DAMAGE AND FREEZING	2011	67,991	10	8.53	0.13	6,799
	2012	65,030	11	8.27	0.14	5,912
	2013	70,062	15	8.22	0.18	4,671
	2014	74,763	18	8.71	0.21	4,154
	2015	109,959	20	12.21	0.22	5,498
Total		387,805	74	9.24	0.18	5,241
ALL OTHER PD	2011	76,404	19	9.58	0.24	4,021
	2012	26,017	14	3.31	0.18	1,858
	2013	20,082	11	2.35	0.13	1,826
	2014	67,764	13	7.89	0.15	5,213
	2015	29,977	15	3.33	0.17	1,998
Total		220,244	72	5.25	0.17	3,059
VANDALISM & MALICIOUS MISCHIEF	2011	6,990	2	0.88	0.03	3,495
	2012	17,367	3	2.21	0.04	5,789
	2013	10,499	3	1.23	0.04	3,500
	2014	18,660	4	2.17	0.05	4,665
	2015	34,384	4	3.82	0.04	8,596
Total		87,900	16	2.09	0.04	5,494
ALL CAUSES	2011	4,135,279	704	518.53	8.83	5,874
	2012	488,440	125	62.09	1.59	3,908
	2013	416,794	101	48.87	1.18	4,127
	2014	269,783	71	31.42	0.83	3,800
	2015	394,232	98	43.78	1.09	4,023
Total		5,704,528	1,099	135.95	2.62	5,191

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	13,453,598	931	491.92	3.40	14,451
	2012	3,972,731	857	140.39	3.03	4,636
	2013	1,411,693	308	46.25	1.01	4,583
	2014	2,100,195	389	66.89	1.24	5,399
	2015	1,672,178	337	50.36	1.01	4,962
Total		22,610,395	2,822	149.97	1.87	8,012
WATER DAMAGE AND FREEZING	2011	777,029	100	28.41	0.37	7,770
	2012	713,957	123	25.23	0.43	5,805
	2013	1,131,815	172	37.08	0.56	6,580
	2014	2,018,732	280	64.30	0.89	7,210
	2015	2,697,684	340	81.25	1.02	7,934
Total		7,339,217	1,015	48.68	0.67	7,231
ALL OTHER PD	2011	648,915	118	23.73	0.43	5,499
	2012	637,093	170	22.51	0.60	3,748
	2013	425,495	145	13.94	0.48	2,934
	2014	1,044,282	239	33.26	0.76	4,369
	2015	488,755	121	14.72	0.36	4,039
Total		3,244,540	793	21.52	0.53	4,091
VANDALISM & MALICIOUS MISCHIEF	2011	118,337	34	4.33	0.12	3,481
	2012	72,565	36	2.56	0.13	2,016
	2013	47,374	23	1.55	0.08	2,060
	2014	301,273	63	9.60	0.20	4,782
	2015	311,331	76	9.38	0.23	4,096
Total		850,880	232	5.64	0.15	3,668
ALL CAUSES	2011	14,997,879	1,183	548.39	4.33	12,678
	2012	5,396,346	1,186	190.70	4.19	4,550
	2013	3,016,377	648	98.83	2.12	4,655
	2014	5,464,482	971	174.04	3.09	5,628
	2015	5,169,948	874	155.71	2.63	5,915
Total		34,045,032	4,862	225.81	3.22	7,002

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,482,372	805	183.22	4.24	4,326
	2012	244,330	96	13.15	0.52	2,545
	2013	264,256	107	13.38	0.54	2,470
	2014	294,673	135	15.01	0.69	2,183
	2015	503,730	145	24.93	0.72	3,474
Total		4,789,361	1,288	49.29	1.33	3,718
WATER DAMAGE AND FREEZING	2011	58,312	7	3.07	0.04	8,330
	2012	127,504	16	6.86	0.09	7,969
	2013	79,661	22	4.03	0.11	3,621
	2014	145,438	32	7.41	0.16	4,545
	2015	163,313	42	8.08	0.21	3,888
Total		574,228	119	5.91	0.12	4,825
ALL OTHER PD	2011	131,421	37	6.91	0.19	3,552
	2012	45,742	14	2.46	0.08	3,267
	2013	24,387	10	1.23	0.05	2,439
	2014	106,548	23	5.43	0.12	4,633
	2015	54,371	18	2.69	0.09	3,021
Total		362,469	102	3.73	0.10	3,554
VANDALISM & MALICIOUS MISCHIEF	2011	0	0	0.00	0.00	0
	2012	21,736	2	1.17	0.01	10,868
	2013	29,352	4	1.49	0.02	7,338
	2014	8,986	4	0.46	0.02	2,247
	2015	6,893	6	0.34	0.03	1,149
Total		66,967	16	0.69	0.02	4,185
ALL CAUSES	2011	3,672,105	849	193.21	4.47	4,325
	2012	439,312	128	23.65	0.69	3,432
	2013	397,656	143	20.13	0.72	2,781
	2014	555,645	194	28.30	0.99	2,864
	2015	728,307	211	36.05	1.04	3,452
Total		5,793,025	1,525	59.62	1.57	3,799

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	8,505,639	1,472	332.08	5.75	5,778
	2012	782,504	197	31.78	0.80	3,972
	2013	726,891	189	27.50	0.71	3,846
	2014	680,930	152	25.91	0.58	4,480
	2015	3,155,835	533	114.70	1.94	5,921
Total		13,851,799	2,543	106.17	1.95	5,447
WATER DAMAGE AND FREEZING	2011	206,285	39	8.05	0.15	5,289
	2012	221,354	44	8.99	0.18	5,031
	2013	83,754	27	3.17	0.10	3,102
	2014	497,925	63	18.95	0.24	7,904
	2015	375,358	71	13.64	0.26	5,287
Total		1,384,676	244	10.61	0.19	5,675
ALL OTHER PD	2011	327,452	74	12.78	0.29	4,425
	2012	224,985	47	9.14	0.19	4,787
	2013	88,204	30	3.34	0.11	2,940
	2014	137,589	38	5.24	0.14	3,621
	2015	167,641	48	6.09	0.17	3,493
Total		945,871	237	7.25	0.18	3,991
VANDALISM & MALICIOUS MISCHIEF	2011	8,097	3	0.32	0.01	2,699
	2012	15,993	4	0.65	0.02	3,998
	2013	55,842	14	2.11	0.05	3,989
	2014	32,028	10	1.22	0.04	3,203
	2015	95,311	6	3.46	0.02	15,885
Total		207,271	37	1.59	0.03	5,602
ALL CAUSES	2011	9,047,473	1,588	353.24	6.20	5,697
	2012	1,244,836	292	50.56	1.19	4,263
	2013	954,691	260	36.11	0.98	3,672
	2014	1,348,472	263	51.32	1.00	5,127
	2015	3,794,145	658	137.89	2.39	5,766
Total		16,389,617	3,061	125.63	2.35	5,354

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	1,507,585	233	112.79	1.74	6,470
	2012	428,058	91	31.20	0.66	4,704
	2013	342,926	94	22.45	0.62	3,648
	2014	353,425	92	22.39	0.58	3,842
	2015	552,195	120	32.49	0.71	4,602
Total		3,184,189	630	42.38	0.84	5,054
WATER DAMAGE AND FREEZING	2011	140,244	16	10.49	0.12	8,765
	2012	375,538	33	27.37	0.24	11,380
	2013	329,694	51	21.58	0.33	6,465
	2014	550,246	55	34.86	0.35	10,004
	2015	780,179	105	45.91	0.62	7,430
Total		2,175,901	260	28.96	0.35	8,369
ALL OTHER PD	2011	398,236	43	29.79	0.32	9,261
	2012	108,872	32	7.94	0.23	3,402
	2013	138,505	33	9.07	0.22	4,197
	2014	264,189	42	16.74	0.27	6,290
	2015	208,818	30	12.29	0.18	6,961
Total		1,118,620	180	14.89	0.24	6,215
VANDALISM & MALICIOUS MISCHIEF	2011	6,726	3	0.50	0.02	2,242
	2012	19,761	7	1.44	0.05	2,823
	2013	44,973	9	2.94	0.06	4,997
	2014	61,156	14	3.87	0.09	4,368
	2015	136,163	20	8.01	0.12	6,808
Total		268,779	53	3.58	0.07	5,071
ALL CAUSES	2011	2,052,791	295	153.58	2.21	6,959
	2012	932,229	163	67.95	1.19	5,719
	2013	856,098	187	56.05	1.22	4,578
	2014	1,229,016	203	77.86	1.29	6,054
	2015	1,677,355	275	98.70	1.62	6,099
Total		6,747,489	1,123	89.80	1.49	6,008

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CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	340,202	110	31.25	1.01	3,093
	2012	803,366	194	74.57	1.80	4,141
	2013	239,113	72	22.04	0.66	3,321
	2014	175,752	51	15.99	0.46	3,446
	2015	442,105	128	38.96	1.13	3,454
Total		2,000,538	555	36.47	1.01	3,605
WATER DAMAGE AND FREEZING	2011	13,852	5	1.27	0.05	2,770
	2012	17,879	9	1.66	0.08	1,987
	2013	14,779	6	1.36	0.06	2,463
	2014	201,838	14	18.36	0.13	14,417
	2015	118,532	20	10.45	0.18	5,927
Total		366,880	54	6.69	0.10	6,794
ALL OTHER PD	2011	96,928	18	8.90	0.17	5,385
	2012	46,791	17	4.34	0.16	2,752
	2013	30,572	12	2.82	0.11	2,548
	2014	38,277	15	3.48	0.14	2,552
	2015	132,870	27	11.71	0.24	4,921
Total		345,438	89	6.30	0.16	3,881
VANDALISM & MALICIOUS MISCHIEF	2011	26,276	4	2.41	0.04	6,569
	2012	1,432	1	0.13	0.01	1,432
	2013	17,955	2	1.66	0.02	8,978
	2014	5,610	3	0.51	0.03	1,870
	2015	83,497	3	7.36	0.03	27,832
Total		134,770	13	2.46	0.02	10,367
ALL CAUSES	2011	477,258	137	43.84	1.26	3,484
	2012	869,468	221	80.71	2.05	3,934
	2013	302,419	92	27.88	0.85	3,287
	2014	421,477	83	38.34	0.75	5,078
	2015	777,004	178	68.47	1.57	4,365
Total		2,847,626	711	51.92	1.30	4,005

Territory 270

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	5,381,681	555	178.22	1.84	9,697
	2012	1,202,398	186	37.90	0.59	6,465
	2013	1,134,484	158	34.64	0.48	7,180
	2014	1,053,017	198	31.15	0.59	5,318
	2015	1,194,203	195	33.08	0.54	6,124
Total		9,965,783	1,292	60.56	0.79	7,713
WATER DAMAGE AND FREEZING	2011	1,010,993	139	33.48	0.46	7,273
	2012	996,905	123	31.42	0.39	8,105
	2013	877,294	156	26.79	0.48	5,624
	2014	2,014,282	222	59.59	0.66	9,073
	2015	2,150,872	243	59.58	0.67	8,851
Total		7,050,346	883	42.84	0.54	7,985
ALL OTHER PD	2011	1,414,805	239	46.85	0.79	5,920
	2012	1,130,729	118	35.64	0.37	9,582
	2013	695,990	141	21.25	0.43	4,936
	2014	794,328	131	23.50	0.39	6,064
	2015	755,641	124	20.93	0.34	6,094
Total		4,791,493	753	29.11	0.46	6,363
VANDALISM & MALICIOUS MISCHIEF	2011	87,609	18	2.90	0.06	4,867
	2012	61,396	10	1.94	0.03	6,140
	2013	38,751	10	1.18	0.03	3,875
	2014	211,580	22	6.26	0.07	9,617
	2015	142,335	27	3.94	0.07	5,272
Total		541,671	87	3.29	0.05	6,226
ALL CAUSES	2011	7,895,088	951	261.45	3.15	8,302
	2012	3,391,428	437	106.90	1.38	7,761
	2013	2,746,519	465	83.86	1.42	5,906
	2014	4,073,207	573	120.51	1.70	7,109
	2015	4,243,051	589	117.54	1.63	7,204
Total		22,349,293	3,015	135.80	1.83	7,413

Territory 280

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	174,671	39	23.60	0.53	4,479
	2012	213,563	44	29.18	0.60	4,854
	2013	136,057	39	18.67	0.54	3,489
	2014	260,342	47	35.39	0.64	5,539
	2015	252,057	45	33.69	0.60	5,601
Total		1,036,690	214	28.14	0.58	4,844
WATER DAMAGE AND FREEZING	2011	183,246	17	24.76	0.23	10,779
	2012	113,735	20	15.54	0.27	5,687
	2013	154,091	16	21.14	0.22	9,631
	2014	162,817	22	22.13	0.30	7,401
	2015	193,969	34	25.92	0.45	5,705
Total		807,858	109	21.93	0.30	7,412
ALL OTHER PD	2011	105,725	28	14.29	0.38	3,776
	2012	109,330	11	14.94	0.15	9,939
	2013	104,041	17	14.27	0.23	6,120
	2014	109,238	31	14.85	0.42	3,524
	2015	63,659	13	8.51	0.17	4,897
Total		491,993	100	13.35	0.27	4,920
VANDALISM & MALICIOUS MISCHIEF	2011	0	0	0.00	0.00	0
	2012	0	0	0.00	0.00	0
	2013	9,290	2	1.27	0.03	4,645
	2014	3,227	0	0.44	0.00	0
	2015	39,611	5	5.29	0.07	7,922
Total		52,128	7	1.41	0.02	7,447
ALL CAUSES	2011	463,642	84	62.65	1.14	5,520
	2012	436,628	75	59.66	1.02	5,822
	2013	403,479	74	55.35	1.02	5,452
	2014	535,624	100	72.81	1.36	5,356
	2015	549,296	97	73.42	1.30	5,663
Total		2,388,669	430	64.83	1.17	5,555

Territory 290

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	947,822	94	130.81	1.30	10,083
	2012	542,788	76	69.06	0.97	7,142
	2013	280,910	59	33.35	0.70	4,761
	2014	298,704	62	33.68	0.70	4,818
	2015	288,062	50	30.78	0.53	5,761
Total		2,358,286	341	56.48	0.82	6,916
WATER DAMAGE AND FREEZING	2011	134,616	15	18.58	0.21	8,974
	2012	179,891	20	22.89	0.25	8,995
	2013	175,934	19	20.89	0.23	9,260
	2014	468,645	50	52.84	0.56	9,373
	2015	449,826	55	48.06	0.59	8,179
Total		1,408,912	159	33.74	0.38	8,861
ALL OTHER PD	2011	541,759	22	74.77	0.30	24,625
	2012	142,337	22	18.11	0.28	6,470
	2013	69,878	18	8.30	0.21	3,882
	2014	220,997	23	24.92	0.26	9,609
	2015	91,521	15	9.78	0.16	6,101
Total		1,066,492	100	25.54	0.24	10,665
VANDALISM & MALICIOUS MISCHIEF	2011	995	1	0.14	0.01	995
	2012	9,153	2	1.16	0.03	4,577
	2013	16,196	4	1.92	0.05	4,049
	2014	8,763	1	0.99	0.01	8,763
	2015	48,416	8	5.17	0.09	6,052
Total		83,523	16	2.00	0.04	5,220
ALL CAUSES	2011	1,625,192	132	224.29	1.82	12,312
	2012	874,169	120	111.22	1.53	7,285
	2013	542,918	100	64.46	1.19	5,429
	2014	997,109	136	112.43	1.53	7,332
	2015	877,825	128	93.79	1.37	6,858
Total		4,917,213	616	117.76	1.48	7,982

Territory 300

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	522,991	162	55.61	1.72	3,228
	2012	436,287	128	46.21	1.36	3,408
	2013	562,461	131	57.03	1.33	4,294
	2014	186,280	58	17.91	0.56	3,212
	2015	308,940	80	28.86	0.75	3,862
Total		2,016,959	559	40.49	1.12	3,608
WATER DAMAGE AND FREEZING	2011	394	2	0.04	0.02	197
	2012	43,582	8	4.62	0.08	5,448
	2013	42,490	12	4.31	0.12	3,541
	2014	9,177	4	0.88	0.04	2,294
	2015	107,242	31	10.02	0.29	3,459
Total		202,885	57	4.07	0.11	3,559
ALL OTHER PD	2011	66,052	27	7.02	0.29	2,446
	2012	28,078	15	2.97	0.16	1,872
	2013	26,836	10	2.72	0.10	2,684
	2014	31,299	13	3.01	0.13	2,408
	2015	69,796	21	6.52	0.20	3,324
Total		222,061	86	4.46	0.17	2,582
VANDALISM & MALICIOUS MISCHIEF	2011	0	0	0.00	0.00	0
	2012	19,982	4	2.12	0.04	4,996
	2013	2,495	1	0.25	0.01	2,495
	2014	1,419	2	0.14	0.02	710
	2015	1,101	1	0.10	0.01	1,101
Total		24,997	8	0.50	0.02	3,125
ALL CAUSES	2011	589,437	191	62.67	2.03	3,086
	2012	527,929	155	55.92	1.64	3,406
	2013	634,282	154	64.31	1.56	4,119
	2014	228,175	77	21.94	0.74	2,963
	2015	487,079	133	45.50	1.24	3,662
Total		2,466,902	710	49.52	1.43	3,475

Territory 310

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,340,970	808	57.53	1.39	4,135
	2012	2,263,590	561	38.42	0.95	4,035
	2013	2,287,857	533	38.77	0.90	4,292
	2014	1,731,908	450	28.95	0.75	3,849
	2015	1,811,076	420	28.83	0.67	4,312
Total		11,435,401	2,772	38.29	0.93	4,125
WATER DAMAGE AND FREEZING	2011	833,247	139	14.35	0.24	5,995
	2012	849,670	122	14.42	0.21	6,965
	2013	831,194	122	14.09	0.21	6,813
	2014	1,690,430	230	28.26	0.38	7,350
	2015	1,764,016	218	28.08	0.35	8,092
Total		5,968,557	831	19.99	0.28	7,182
ALL OTHER PD	2011	993,551	244	17.11	0.42	4,072
	2012	913,321	190	15.50	0.32	4,807
	2013	931,400	195	15.79	0.33	4,776
	2014	1,157,928	303	19.36	0.51	3,822
	2015	813,413	157	12.95	0.25	5,181
Total		4,809,613	1,089	16.11	0.36	4,417
VANDALISM & MALICIOUS MISCHIEF	2011	84,065	21	1.45	0.04	4,003
	2012	90,584	29	1.54	0.05	3,124
	2013	45,255	16	0.77	0.03	2,828
	2014	94,378	26	1.58	0.04	3,630
	2015	142,666	27	2.27	0.04	5,284
Total		456,948	119	1.53	0.04	3,840
ALL CAUSES	2011	5,251,833	1,212	90.43	2.09	4,333
	2012	4,117,165	902	69.89	1.53	4,564
	2013	4,095,706	866	69.41	1.47	4,729
	2014	4,674,644	1,009	78.14	1.69	4,633
	2015	4,531,171	822	72.14	1.31	5,512
Total		22,670,519	4,811	75.92	1.61	4,712

Territory 320

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	3,835,609	779	148.02	3.01	4,924
	2012	1,449,968	296	54.89	1.12	4,899
	2013	1,606,630	300	59.39	1.11	5,355
	2014	1,047,047	206	37.97	0.75	5,083
	2015	993,274	243	35.42	0.87	4,088
Total		8,932,528	1,824	66.17	1.35	4,897
WATER DAMAGE AND FREEZING	2011	323,823	47	12.50	0.18	6,890
	2012	382,373	53	14.48	0.20	7,215
	2013	309,388	55	11.44	0.20	5,625
	2014	511,388	89	18.54	0.32	5,746
	2015	684,612	87	24.41	0.31	7,869
Total		2,211,584	331	16.38	0.25	6,682
ALL OTHER PD	2011	686,662	138	26.50	0.53	4,976
	2012	482,170	110	18.25	0.42	4,383
	2013	359,240	87	13.28	0.32	4,129
	2014	670,227	162	24.30	0.59	4,137
	2015	615,962	107	21.97	0.38	5,757
Total		2,814,261	604	20.85	0.45	4,659
VANDALISM & MALICIOUS MISCHIEF	2011	70,458	14	2.72	0.05	5,033
	2012	57,659	24	2.18	0.09	2,402
	2013	33,831	8	1.25	0.03	4,229
	2014	13,426	3	0.49	0.01	4,475
	2015	28,029	7	1.00	0.02	4,004
Total		203,403	56	1.51	0.04	3,632
ALL CAUSES	2011	4,916,552	978	189.73	3.77	5,027
	2012	2,372,170	483	89.80	1.83	4,911
	2013	2,309,089	450	85.36	1.66	5,131
	2014	2,242,088	460	81.30	1.67	4,874
	2015	2,321,877	444	82.80	1.58	5,229
Total		14,161,776	2,815	104.90	2.09	5,031

Territory 330

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	143,493	41	51.21	1.46	3,500
	2012	68,599	22	24.45	0.78	3,118
	2013	147,906	35	54.26	1.28	4,226
	2014	96,026	29	34.93	1.05	3,311
	2015	61,248	18	22.34	0.66	3,403
Total		517,272	145	37.42	1.05	3,567
WATER DAMAGE AND FREEZING	2011	6,587	3	2.35	0.11	2,196
	2012	10,154	2	3.62	0.07	5,077
	2013	7,785	1	2.86	0.04	7,785
	2014	20,947	4	7.62	0.15	5,237
	2015	25,146	4	9.17	0.15	6,287
Total		70,619	14	5.11	0.10	5,044
ALL OTHER PD	2011	25,323	7	9.04	0.25	3,618
	2012	17,268	5	6.15	0.18	3,454
	2013	78,239	15	28.70	0.55	5,216
	2014	23,157	5	8.42	0.18	4,631
	2015	20,489	10	7.47	0.36	2,049
Total		164,476	42	11.90	0.30	3,916
VANDALISM & MALICIOUS MISCHIEF	2011	3,735	0	1.33	0.00	0
	2012	36	0	0.01	0.00	0
	2013	879	0	0.32	0.00	0
	2014	0	0	0.00	0.00	0
	2015	0	0	0.00	0.00	0
Total		4,650	0	0.34	0.00	0
ALL CAUSES	2011	179,138	51	63.93	1.82	3,513
	2012	96,057	29	34.23	1.03	3,312
	2013	234,809	51	86.14	1.87	4,604
	2014	140,130	38	50.97	1.38	3,688
	2015	106,883	32	38.98	1.17	3,340
Total		757,017	201	54.76	1.45	3,766

Territory 340

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	14,737,713	2,617	274.32	4.87	5,632
	2012	5,440,602	995	97.29	1.78	5,468
	2013	4,598,154	850	81.88	1.51	5,410
	2014	3,076,614	592	53.77	1.03	5,197
	2015	3,164,802	531	53.70	0.90	5,960
Total		31,017,885	5,585	110.01	1.98	5,554
WATER DAMAGE AND FREEZING	2011	1,217,411	191	22.66	0.36	6,374
	2012	1,216,185	183	21.75	0.33	6,646
	2013	1,247,637	200	22.22	0.36	6,238
	2014	1,786,936	252	31.23	0.44	7,091
	2015	2,425,585	293	41.16	0.50	8,278
Total		7,893,754	1,119	28.00	0.40	7,054
ALL OTHER PD	2011	2,838,354	537	52.83	1.00	5,286
	2012	1,535,153	322	27.45	0.58	4,768
	2013	1,435,928	291	25.57	0.52	4,934
	2014	1,924,708	304	33.64	0.53	6,331
	2015	1,777,183	275	30.15	0.47	6,462
Total		9,511,326	1,729	33.73	0.61	5,501
VANDALISM & MALICIOUS MISCHIEF	2011	183,843	43	3.42	0.08	4,275
	2012	160,470	45	2.87	0.08	3,566
	2013	150,933	39	2.69	0.07	3,870
	2014	281,343	63	4.92	0.11	4,466
	2015	279,867	42	4.75	0.07	6,664
Total		1,056,456	232	3.75	0.08	4,554
ALL CAUSES	2011	18,977,321	3,388	353.23	6.31	5,601
	2012	8,352,410	1,545	149.36	2.76	5,406
	2013	7,432,652	1,380	132.36	2.46	5,386
	2014	7,069,601	1,211	123.54	2.12	5,838
	2015	7,647,437	1,141	129.76	1.94	6,702
Total		49,479,421	8,665	175.48	3.07	5,710

Territory 350

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	24,688,164	4,520	1,002.20	18.35	5,462
	2012	1,126,190	228	44.60	0.90	4,939
	2013	846,004	199	32.38	0.76	4,251
	2014	589,212	145	22.02	0.54	4,064
	2015	851,722	189	31.42	0.70	4,506
Total		28,101,292	5,281	216.37	4.07	5,321
WATER DAMAGE AND FREEZING	2011	421,947	54	17.13	0.22	7,814
	2012	316,999	37	12.55	0.15	8,568
	2013	268,189	50	10.26	0.19	5,364
	2014	462,601	66	17.29	0.25	7,009
	2015	865,793	94	31.94	0.35	9,211
Total		2,335,529	301	17.98	0.23	7,759
ALL OTHER PD	2011	2,716,208	440	110.26	1.79	6,173
	2012	380,142	87	15.05	0.34	4,369
	2013	403,148	67	15.43	0.26	6,017
	2014	322,737	66	12.06	0.25	4,890
	2015	315,971	75	11.66	0.28	4,213
Total		4,138,206	735	31.86	0.57	5,630
VANDALISM & MALICIOUS MISCHIEF	2011	83,259	19	3.38	0.08	4,382
	2012	43,302	10	1.71	0.04	4,330
	2013	26,848	9	1.03	0.03	2,983
	2014	73,343	17	2.74	0.06	4,314
	2015	47,464	7	1.75	0.03	6,781
Total		274,216	62	2.11	0.05	4,423
ALL CAUSES	2011	27,909,578	5,033	1,132.97	20.43	5,545
	2012	1,866,633	362	73.92	1.43	5,156
	2013	1,544,189	325	59.09	1.24	4,751
	2014	1,447,893	294	54.12	1.10	4,925
	2015	2,080,950	365	76.77	1.35	5,701
Total		34,849,243	6,379	268.33	4.91	5,463

Territory 360

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	6,094,993	1,355	115.29	2.56	4,498
	2012	2,936,497	661	55.31	1.24	4,443
	2013	1,821,878	435	34.78	0.83	4,188
	2014	1,306,657	314	24.86	0.60	4,161
	2015	1,154,374	275	22.09	0.53	4,198
Total		13,314,399	3,040	50.59	1.16	4,380
WATER DAMAGE AND FREEZING	2011	944,828	113	17.87	0.21	8,361
	2012	657,733	102	12.39	0.19	6,448
	2013	589,752	85	11.26	0.16	6,938
	2014	1,112,654	137	21.17	0.26	8,122
	2015	1,276,630	156	24.43	0.30	8,184
Total		4,581,597	593	17.41	0.23	7,726
ALL OTHER PD	2011	769,230	165	14.55	0.31	4,662
	2012	536,252	134	10.10	0.25	4,002
	2013	670,161	120	12.79	0.23	5,585
	2014	837,828	137	15.94	0.26	6,116
	2015	835,105	123	15.98	0.24	6,789
Total		3,648,576	679	13.86	0.26	5,373
VANDALISM & MALICIOUS MISCHIEF	2011	55,448	24	1.05	0.05	2,310
	2012	75,492	20	1.42	0.04	3,775
	2013	32,263	12	0.62	0.02	2,689
	2014	76,011	14	1.45	0.03	5,429
	2015	50,766	7	0.97	0.01	7,252
Total		289,980	77	1.10	0.03	3,766
ALL CAUSES	2011	7,864,499	1,657	148.76	3.13	4,746
	2012	4,205,974	917	79.21	1.73	4,587
	2013	3,114,054	652	59.45	1.24	4,776
	2014	3,333,150	602	63.42	1.15	5,537
	2015	3,316,875	561	63.47	1.07	5,912
Total		21,834,552	4,389	82.97	1.67	4,975

Territory 370

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	193,998	35	55.60	1.00	5,543
	2012	297,089	71	83.64	2.00	4,184
	2013	68,784	18	19.11	0.50	3,821
	2014	66,174	17	18.58	0.48	3,893
	2015	44,610	8	12.62	0.23	5,576
Total		670,655	149	37.81	0.84	4,501
WATER DAMAGE AND FREEZING	2011	42,027	6	12.05	0.17	7,005
	2012	70,666	11	19.89	0.31	6,424
	2013	13,618	3	3.78	0.08	4,539
	2014	62,053	7	17.42	0.20	8,865
	2015	185,014	13	52.34	0.37	14,232
Total		373,378	40	21.05	0.23	9,334
ALL OTHER PD	2011	15,250	2	4.37	0.06	7,625
	2012	20,590	5	5.80	0.14	4,118
	2013	11,077	3	3.08	0.08	3,692
	2014	40,464	6	11.36	0.17	6,744
	2015	35,676	6	10.09	0.17	5,946
Total		123,057	22	6.94	0.12	5,594
VANDALISM & MALICIOUS MISCHIEF	2011	2,222	1	0.64	0.03	2,222
	2012	2,145	0	0.60	0.00	0
	2013	1,569	0	0.44	0.00	0
	2014	1,227	0	0.34	0.00	0
	2015	776	0	0.22	0.00	0
Total		7,939	1	0.45	0.01	7,939
ALL CAUSES	2011	253,497	44	72.66	1.26	5,761
	2012	390,490	87	109.94	2.45	4,488
	2013	95,048	24	26.41	0.67	3,960
	2014	169,918	30	47.70	0.84	5,664
	2015	266,076	27	75.27	0.76	9,855
Total		1,175,029	212	66.25	1.20	5,543

Territory 390

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	580,673	132	72.01	1.64	4,399
	2012	500,752	89	60.16	1.07	5,626
	2013	190,398	51	21.68	0.58	3,733
	2014	87,967	22	9.92	0.25	3,999
	2015	210,200	30	23.48	0.34	7,007
Total		1,569,990	324	36.52	0.75	4,846
WATER DAMAGE AND FREEZING	2011	142,633	20	17.69	0.25	7,132
	2012	89,567	11	10.76	0.13	8,142
	2013	145,008	15	16.51	0.17	9,667
	2014	205,336	27	23.16	0.30	7,605
	2015	266,794	32	29.80	0.36	8,337
Total		849,338	105	19.76	0.24	8,089
ALL OTHER PD	2011	49,353	15	6.12	0.19	3,290
	2012	37,714	14	4.53	0.17	2,694
	2013	103,412	18	11.78	0.20	5,745
	2014	69,065	15	7.79	0.17	4,604
	2015	232,882	23	26.01	0.26	10,125
Total		492,426	85	11.45	0.20	5,793
VANDALISM & MALICIOUS MISCHIEF	2011	5,333	2	0.66	0.02	2,667
	2012	6,079	2	0.73	0.02	3,040
	2013	3,765	1	0.43	0.01	3,765
	2014	18,097	4	2.04	0.05	4,524
	2015	15,092	2	1.69	0.02	7,546
Total		48,366	11	1.13	0.03	4,397
ALL CAUSES	2011	777,992	169	96.48	2.10	4,604
	2012	634,112	116	76.18	1.39	5,466
	2013	442,583	85	50.40	0.97	5,207
	2014	380,465	68	42.91	0.77	5,595
	2015	724,968	87	80.98	0.97	8,333
Total		2,960,120	525	68.86	1.22	5,638

Territory 390

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	580,673	132	72.01	1.64	4,399
	2012	500,752	89	60.16	1.07	5,626
	2013	190,398	51	21.68	0.58	3,733
	2014	87,967	22	9.92	0.25	3,999
	2015	210,200	30	23.48	0.34	7,007
Total		1,569,990	324	36.52	0.75	4,846
WATER DAMAGE AND FREEZING	2011	142,633	20	17.69	0.25	7,132
	2012	89,567	11	10.76	0.13	8,142
	2013	145,008	15	16.51	0.17	9,667
	2014	205,336	27	23.16	0.30	7,605
	2015	266,794	32	29.80	0.36	8,337
Total		849,338	105	19.76	0.24	8,089
ALL OTHER PD	2011	49,353	15	6.12	0.19	3,290
	2012	37,714	14	4.53	0.17	2,694
	2013	103,412	18	11.78	0.20	5,745
	2014	69,065	15	7.79	0.17	4,604
	2015	232,882	23	26.01	0.26	10,125
Total		492,426	85	11.45	0.20	5,793
VANDALISM & MALICIOUS MISCHIEF	2011	5,333	2	0.66	0.02	2,667
	2012	6,079	2	0.73	0.02	3,040
	2013	3,765	1	0.43	0.01	3,765
	2014	18,097	4	2.04	0.05	4,524
	2015	15,092	2	1.69	0.02	7,546
Total		48,366	11	1.13	0.03	4,397
ALL CAUSES	2011	777,992	169	96.48	2.10	4,604
	2012	634,112	116	76.18	1.39	5,466
	2013	442,583	85	50.40	0.97	5,207
	2014	380,465	68	42.91	0.77	5,595
	2015	724,968	87	80.98	0.97	8,333
Total		2,960,120	525	68.86	1.22	5,638

STATEWIDE

CAUSE OF LOSS	Year	INCURRED LOSSES	INCURRED CLAIMS	LOSS COST/ HOUSE YEAR	LOSS FREQ/ 100 HOUSE YR	AVG LOSS
WIND AND HAIL	2011	166,701,536	27,649	282.13	4.68	6,029
	2012	28,190,177	5,989	47.25	1.00	4,707
	2013	19,373,181	4,326	31.40	0.70	4,478
	2014	21,556,411	4,704	33.86	0.74	4,583
	2015	20,894,042	4,427	31.71	0.67	4,720
Total		256,715,347	47,095	82.81	1.52	5,451
WATER DAMAGE AND FREEZING	2011	9,951,866	1,396	16.84	0.24	7,129
	2012	10,526,272	1,393	17.64	0.23	7,557
	2013	10,405,993	1,507	16.86	0.24	6,905
	2014	18,034,442	2,309	28.33	0.36	7,810
	2015	22,355,938	2,845	33.93	0.43	7,858
Total		71,274,511	9,450	22.99	0.30	7,542
ALL OTHER PD	2011	13,803,754	2,618	23.36	0.44	5,273
	2012	7,239,394	1,498	12.13	0.25	4,833
	2013	6,540,067	1,391	10.60	0.23	4,702
	2014	9,620,103	1,858	15.11	0.29	5,178
	2015	8,129,188	1,438	12.34	0.22	5,653
Total		45,332,506	8,803	14.62	0.28	5,150
VANDALISM & MALICIOUS MISCHIEF	2011	885,864	231	1.50	0.04	3,835
	2012	785,256	231	1.32	0.04	3,399
	2013	772,210	207	1.25	0.03	3,730
	2014	1,404,567	295	2.21	0.05	4,761
	2015	1,653,353	304	2.51	0.05	5,439
Total		5,501,250	1,268	1.77	0.04	4,339
ALL CAUSES	2011	191,343,020	31,894	323.83	5.40	5,999
	2012	46,741,099	9,111	78.34	1.53	5,130
	2013	37,091,451	7,431	60.11	1.20	4,991
	2014	50,615,523	9,166	79.51	1.44	5,522
	2015	53,032,521	9,014	80.49	1.37	5,883
Total		378,823,614	66,616	122.20	2.15	5,687

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

2. CREDIBILITY FACTOR DEVELOPMENT AND APPLICATION

The volume of North Carolina data is sufficiently large that it is fully credible in both the statewide and class rate level reviews.

To distribute the statewide change by territory, a credibility procedure was used on the five year (non-hurricane for Extended Coverage) loss costs. The credibility standard used was based on the 'frequency with severity modification' model discussed in "Credibility of the Pure Premium" by Mayerson, Bowers and Jones. The full credibility standard is based on a normal distribution with a 90% probability of meeting the test and a 10% maximum departure from the expected value, translated to house years. The full credibility standards are 500,000 house years for Fire and 330,000 house years for Extended Coverage. Partial credibility is calculated using the square root rule:

$$\sqrt{\text{five year house years / full credibility standard}}$$

The Rate Bureau made a Dwelling Insurance rate filing in 2011 that used same credibility procedure.

See Section D and prefiled testimony of R. Curry, P. Anderson and B.Donlan

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

3. LOSS DEVELOPMENT FACTOR DERIVATION AND APPLICATION ON BOTH PAID AND INCURRED BASES AND IN BOTH NUMBERS AND DOLLARS OF CLAIMS

(a)-(g) Not applicable to Dwelling insurance.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

4. TRENDING FACTOR DEVELOPMENT AND APPLICATION

(a) See Section D and prefiled testimony of R. Curry, P. Anderson and B. Donlan. The Rate Bureau made a Dwelling insurance rate level filing in 2011 that used the same loss trend procedure.

(b) See prefiled testimony of R. Curry, P. Anderson, and B. Donlan.

(c) Not applicable for Dwelling insurance.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

5. CHANGES IN PREMIUM BASE RESULTING FROM RATING EXPOSURE TRENDS

(a) See Section D and prefiled testimony of R. Curry, P. Anderson, and B. Donlan. The Rate Bureau made a Dwelling insurance rate level filing in 2011 that used same exposure trend procedure.

(b) Not applicable to Dwelling insurance.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

6. LIMITING FACTOR DEVELOPMENT AND APPLICATION

(a), (b), (d) There were no limitations.

(c) See pages C-12 - C-14.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

7. OVERHEAD EXPENSE DEVELOPMENT AND APPLICATION OF COMMISSION AND BROKERAGE, OTHER ACQUISITION EXPENSES, GENERAL EXPENSES, TAXES, LICENSES, AND FEES

(a) Exhibit (7)(a) provides all information relating to expense provisions contained in the filing. The Rate Bureau made a Dwelling insurance rate level filing in 2011 that used the same procedure for overhead expense development and application of commission and brokerage, other acquisition expense, general expenses, taxes, licenses and fees.

(b) Not applicable to Dwelling insurance.

(c) Not applicable to Dwelling insurance.

The following provides a description of the derivation of Dwelling insurance expense provisions. The underlying expense data are provided by the North Carolina Rate Bureau and are displayed on pages D-25-28.

The filed expense provision methodology makes a distinction between those provisions that require trending and those that do not. For example, since commission and brokerage, and taxes, licenses and fees vary directly with premium, no additional trend is required. In contrast, general expense, other acquisition expense, and loss adjustment expense do not vary directly with premium and are subject to trend.

The provisions for commission and brokerage expenses, 11.2% of written premium for Fire and 9.8% of written premium for Extended Coverage, and the provisions for taxes, licenses, and fees, 2.9% of written premium for Fire and 2.7% of written premium for Extended Coverage, are based on the data shown on pages D-25 and D-27 for the years 2013-2015.

Since general expenses and other acquisition expenses are relative to earned premiums and loss adjustment expenses are relative to losses, separate trend factors are required for premiums, losses, and expenses.

Please note the trend calculations assume an effective date of 6/1/2018. During the filing assembly process, the NCRB determined that the requested effective date will actually be 10/1/2018.

General Expense and Other Acquisition Expense - Based on the 2013-2015 experience on pages D-25 and D-27, general expenses average 5.0% of earned premium for Fire and 4.1% of earned premium for Extended Coverage, and other acquisition expenses average 6.8% of earned premium for Fire and 6.7% of earned premium for Extended Coverage. Since these expenses are incurred throughout the twelve-month effective period, both the numerator and denominator of these factors are trended to 12/01/2018 (six months beyond the 6/1/2018 trend effective date).

The average date of payment of the 2013-2015 expenses used to calculate the provisions is 7/1/2014. Similarly, the average date of earning of the 2013-2015 premiums is 7/1/2014. Assuming policies are written with an effective period of one year, the average date of writing is therefore six months earlier, or 1/1/2014. The average date of writing of policies under the proposed rates, and the average date of payment of the expenses on these policies, is six months after the assumed effective date of 6/1/2018, or 12/1/2018. Therefore, the expenses in the numerator are projected 53 months (from 7/1/2014 to 12/1/2018) and the premiums in the denominator are projected 59 months (from 1/1/2014 to 12/1/2018).

The trend factor for expenses in the numerator is based on the rates of change inherent in the Consumer Price Index and the Compensation Cost Index, displayed on pages D-23-24. Based on an equal weighting of the rates of change in these two indices, an average annual change of 2.0% was selected. This average annual change is projected 53 months (from 7/1/2014 to 12/1/2018).

To trend the premiums in the denominator, two multiplicative factors are applied: the 2014 Current Amount Factor and the Premium Projection Factor. Those factors are shown on pages D-18-19 and D-21-22.

Loss Adjustment Expense

Fire: Based on the 2011-2015 experience shown on page D-26, loss adjustment expense (both allocated and unallocated) average 8.8% of incurred losses. The average date of loss in these data is 7/1/2013. Both the numerator and denominator are trended 71 months, from 7/1/2013 to 6/1/2019 (12 months beyond the trend effective date of 6/1/2018).

Extended Coverage: Based on the 2011-2015 experience shown on page D-28, loss adjustment expenses (both allocated and unallocated) average 10.5% of incurred losses. The average date of loss in these data is 7/1/2013. Both the numerator and denominator are trended 71 months, from 7/1/2013 to 6/1/2019 (12 months beyond the trend effective date of 6/1/2018).

Please note that a separate loss adjustment expense factor is used for modeled losses. (See prefiled testimony of P. Anderson and R. Fox.)

The trend factor used for expenses in the numerator is determined in a similar way as for general and other acquisition expenses. The 2.0% selected average annual change is projected 71 months for Fire and Extended Coverage (from 7/1/2013 to 6/1/2019).

To trend the losses in the denominator, quantities that are calculated in the loss trend procedure are used. Two factors are applied. The first is the 2013 Current Cost Factor shown on page D-14. The second is the adjusted annual rate of change based on the CCI (page D-15). The adjusted annual rate of change is applied over the 24.5 month period from 5/15/2017 to 6/1/2019.

No alternate expense trend methodology has been considered within the last three years.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

8. PERCENT RATE CHANGE

The overall statewide rate change by coverage is shown on page A-1. The statewide rate changes are applied uniformly by coverage amount, protection class, construction and deductible.

The proposed rate changes are dependent on the actual implementation date of the new rates, because any such change will affect all of the trending periods used in the filing. Any change in the trending periods will affect all of the losses, fixed expenses, and premiums used in the calculation of the rate level indication.

If the effective date were to be changed, advance notice of one hundred twenty (120) days is required for an orderly implementation of the change in rates. This is the amount of time required to calculate the new rates based on the new effective date, and distribute the necessary information to member companies.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

9. FINAL PROPOSED RATES

The proposed rates are shown in Section B.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

10. INVESTMENT EARNINGS, CONSISTING OF INVESTMENT INCOME AND REALIZED PLUS UNREALIZED CAPITAL GAINS, FROM LOSS, LOSS EXPENSE AND UNEARNED PREMIUM RESERVES

(a) See attached Exhibit (10)(a) and the prefiled testimony of R. Curry, P. Anderson and D. Appel.

(b) Not applicable to Dwelling insurance.

(c) Not applicable to Dwelling insurance.

NORTH CAROLINA
DWELLING FIRE INSURANCE

Exhibit (10)(a)

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve		
1.	Direct Earned Premium for Accident Year Ended 12/31/15		49,930,252
2.	Mean Unearned Premium Reserve (1) x	0.4902	24,475,810
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		11.38%
	Taxes, Licenses and Fees		2.45%
	1/2 General Expenses		2.29%
	1/2 Other Acquisition		3.29%
	Total		19.41%
4.	(2) x (3)		4,750,755
5.	Net Subject to Investment (2) - (4)		19,725,055
B.	Delayed Remission of Premium (Agents' Balances)		
1.	Direct Earned Premium (A-1)		49,930,252
2.	Average Agents' Balances		0.204
3.	Delayed Remission (1) x (2)		10,185,771
C.	Loss Reserve		
1.	Direct Earned Premium (A-1)		49,930,252
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6334	31,625,822
3.	Expected Mean Loss Reserves (2) x	0.586	18,532,732
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		28,072,016
E.	Average Rate of Return		3.15%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		884,268
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		1.77%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.777	1.38%

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve		
1.	Direct Earned Premium for Accident Year Ended 12/31/15		65,057,929
2.	Mean Unearned Premium Reserve (1) x	0.4976	32,372,825
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		9.59%
	Taxes, Licenses and Fees		2.29%
	1/2 General Expenses		2.24%
	1/2 Other Acquisition		3.63%
	Total		17.75%
4.	(2) x (3)		5,746,176
5.	Net Subject to Investment (2) - (4)		26,626,649
B.	Delayed Remission of Premium (Agents' Balances)		
1.	Direct Earned Premium (A-1)		65,057,929
2.	Average Agents' Balances		0.186
3.	Delayed Remission (1) x (2)		12,100,775
C.	Loss Reserve		
1.	Direct Earned Premium (A-1)		65,057,929
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6422	41,780,202
3.	Expected Mean Loss Reserves (2) x	0.511	21,349,683
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		35,875,557
E.	Average Rate of Return		3.15%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		1,130,080
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		1.74%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.777	1.35%

NORTH CAROLINA
DWELLING FIRE AND EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
Direct earned premiums are the earned premiums for Dwelling insurance in North Carolina from Statutory Page 14 of the Annual Statement.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/15 for all companies writing Dwelling insurance in North Carolina. These data are from Statutory Page 14 of the Annual Statement.

	Fire	EC
1. Collected Earned Premium for Calendar Year ended 12/31/15	$223,334,819	$226,811,458
2. Unearned Premium Reserve as of 12/31/14	$108,709,303	$109,909,322
3. Unearned Premium Reserve as of 12/31/15	$110,269,649	$115,797,891
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	109,489,476	112,853,607
5. Ratio (4) ÷ (1)	0.4902	0.4976

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/15.

Line B-2
Delayed remission of premium:
This deduction is necessary because of delay in remission and collection of premium to the companies, which amounts to approximately 50-75 days after the effective dates of the policies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus.

1. Agents' balances for premiums due less than 90 days as a ratio to net written premium (based on data for all companies writing Dwelling insurance in North Carolina)	0.1995	0.1818
2. Factor to include effect of agents' balances or uncollected premiums overdue for more than 90 days (based on data provided by A. M. Best)	1.021	1.021
3. Factor for agents' balances (1) x (2)	0.204	0.186

Line C-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/15.

Line C-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses in 2015 for Dwelling insurance. This ratio is based on North Carolina companies' Statutory Page 14 annual statement data and has been adjusted to include loss adjustment expense reserves.

	Fire	EC
1. Incurred Losses for Calendar Year 2015	104,490,797	70,202,684
2. Loss Reserves as of 12/31/14	34,562,766	32,119,812
3. Loss Reserves as of 12/31/15	78,177,895	33,833,302
4. Mean Loss Reserve 2015: 1/2 [(2) + (3)]	56,370,331	32,976,557
5. Ratio (4) ÷ (1)	0.539	0.470
6. Ratio of LAE Reserves to Loss Reserves (a)	0.269	0.269
7. Ratio of Incurred LAE to Incurred Losses (a)	0.167	0.167
8. Loss and LAE Reserve [(5)x(1.0+(6))/(1.0+(7))]	0.586	0.511

(a) Based on 2015 All-Industry Insurance Expense Exhibit (source: A.M. Best)

Line E

The rate of return is the ratio of net investment income earned to mean cash and invested assets. Net investment income is computed for all companies writing Dwelling insurance in North Carolina as follows:

Year	Net Investment Income Earned	Mean Cash and Invested Assets	Rate of Return
2015	49,322,817	1,567,611,077	3.15%

Line H

The average rate of Federal income tax was determined by applying the average tax rate for net investment income and the current tax rate applicable to realized capital gains (or losses) to the rates of return as calculated above.

	Rate of Return	Federal Income Tax Rate
Net Investment Income Earned	3.15%	0.223

The average rate of Federal income tax was determined by applying current tax rates to the distribution of investment income earned for all companies. These data are for 2015 from Best's Aggregates and Averages, Underwriting and Investment Exhibit, Part 1, Column 8.

Bonds	Taxable	22,250,748	0.350
	Non-Taxable	11,053,798	-
	Sub-Total	33,304,546	0.234
Stocks	Taxable (a)	7,417,662	0.105
	Non-Taxable	1,533,307	-
	Sub-Total	8,950,969	0.087
Mortgage Loans		559,969	
Real Estate		1,696,990	
Collateral Loans		730	
Cash on Deposit		176,203	
Short Term Investments		80,094	
All Other		9,524,323	
Sub-Total		12,038,309	0.350
Total		54,293,824	0.235
Investment Deductions		4,970,945	0.350
Net Investment Income Earned		49,322,879	0.223

(a) Only 30% of dividend income on stock is subject to the full corporate income tax rate of 35%. The applicable tax rate is thus 10.5% (.35 x .3 = 10.5%)

NORTH CAROLINA
DWELLING FIRE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A. Unearned Premium Reserve

1.	Direct Earned Premium for Accident Year Ended 12/31/14		52,952,754
2.	Mean Unearned Premium Reserve (1) x	0.4827	25,560,294
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		11.10%
	Taxes, Licenses and Fees		2.52%
	1/2 General Expenses		2.44%
	1/2 Other Acquisition		3.38%
	Total		19.44%
4.	(2) x (3)		4,968,921
5.	Net Subject to Investment (2) - (4)		20,591,373

B. Delayed Remission of Premium (Agents' Balances)

1.	Direct Earned Premium (A-1)		52,952,754
2.	Average Agents' Balances		0.199
3.	Delayed Remission (1) x (2)		10,537,598

C. Loss Reserve

1.	Direct Earned Premium (A-1)		52,952,754
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6146	32,544,763
3.	Expected Mean Loss Reserves (2) x	1.759	57,246,238

D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		67,300,013
E.	Average Rate of Return		3.57%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		2,402,610
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		4.54%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.806	3.66%

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve			
	1.	Direct Earned Premium for Accident Year Ended 12/31/14		60,828,799
	2.	Mean Unearned Premium Reserve (1) x	0.4812	29,270,818
	3.	Deduction for Prepaid Expenses		
		Commission and Brokerage		9.70%
		Taxes, Licenses and Fees		2.31%
		1/2 General Expenses		2.33%
		1/2 Other Acquisition		3.84%
		Total		18.18%
	4.	(2) x (3)		5,321,435
	5.	Net Subject to Investment (2) - (4)		23,949,383
B.	Delayed Remission of Premium (Agents' Balances)			
	1.	Direct Earned Premium (A-1)		60,828,799
	2.	Average Agents' Balances		0.188
	3.	Delayed Remission (1) x (2)		11,435,814
C.	Loss Reserve			
	1.	Direct Earned Premium (A-1)		60,828,799
	2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6331	38,510,713
	3.	Expected Mean Loss Reserves (2) x	0.481	18,523,653
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)			31,037,222
E.	Average Rate of Return			3.57%
F.	Investment Earnings on Net Subject to Investment (D) x (E)			1,108,029
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)			1.82%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x		0.806	1.47%

NORTH CAROLINA
DWELLING FIRE AND EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
Direct earned premiums are the earned premiums for Dwelling insurance in North Carolina from Statutory Page 14 of the Annual Statement.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/14 for all companies writing Dwelling insurance in North Carolina. These data are from Statutory Page 14 of the Annual Statement.

	Fire	EC
1. Collected Earned Premium for Calendar Year ended 12/31/14	$224,767,028	$215,645,897
2. Unearned Premium Reserve as of 12/31/13	$108,296,002	$97,612,198
3. Unearned Premium Reserve as of 12/31/14	$108,709,303	$109,909,322
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	108,502,653	103,760,760
5. Ratio (4) ÷ (1)	0.4827	0.4812

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/14.

Line B-2
Delayed remission of premium:
This deduction is necessary because of delay in remission and collection of premium to the companies, which amounts to approximately 50-75 days after the effective dates of the policies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus.

1. Agents' balances for premiums due less than 90 days as a ratio to net written premium (based on data for all companies writing Dwelling insurance in North Carolina)	0.1949	0.1839
2. Factor to include effect of agents' balances or uncollected premiums overdue for more than 90 days (based on data provided by A. M. Best)	1.021	1.021
3. Factor for agents' balances (1) x (2)	0.199	0.188

Line C-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/14.

Line C-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses in 2014 for Dwelling insurance. This ratio is based on North Carolina companies' Statutory Page 14 annual statement data and has been adjusted to include loss adjustment expense reserves.

	Fire	EC
1. Incurred Losses for Calendar Year 2014	43,158,269	70,749,863
2. Loss Reserves as of 12/31/13	104,621,425	30,271,468
3. Loss Reserves as of 12/31/14	34,562,766	32,119,812
4. Mean Loss Reserve 2014: 1/2 [(2) + (3)]	69,592,096	31,195,640
5. Ratio (4) ÷ (1)	1.612	0.441
6. Ratio of LAE Reserves to Loss Reserves (a)	0.272	0.272
7. Ratio of Incurred LAE to Incurred Losses (a)	0.166	0.166
8. Loss and LAE Reserve [(5)x(1.0+(6))/(1.0+(7))]	1.759	0.481

(a) Based on 2014 All-Industry Insurance Expense Exhibit (source: A.M. Best)

Line E

The rate of return is the ratio of net investment income earned to mean cash and invested assets. Net investment income is computed for all companies writing Dwelling insurance in North Carolina as follows:

Year	Net Investment Income Earned	Mean Cash and Invested Assets	Rate of Return
2014	55,171,640	1,543,882,375	3.57%

Line H

The average rate of Federal income tax was determined by applying the average tax rate for net investment income and the current tax rate applicable to realized capital gains (or losses) to the rates of return as calculated above.

	Rate of Return	Federal Income Tax Rate
Net Investment Income Earned	3.57%	0.194

The average rate of Federal income tax was determined by applying current tax rates to the distribution of investment income earned for all companies. These data are for 2014 from Best's Aggregates and Averages, Underwriting and Investment Exhibit, Part 1, Column 8.

Bonds	Taxable	22,509,668	0.350
	Non-Taxable	11,523,719	-
	Sub-Total	34,033,387	0.231
Stocks	Taxable (a)	6,953,090	0.105
	Non-Taxable	8,141,661	-
	Sub-Total	15,094,751	0.048
Mortgage Loans		443,946	
Real Estate		1,665,162	
Contract Loans		546	
Cash/Short Term Investments		127,984	
Derivative Instruments		(94,467)	
All Other		8,802,965	
Sub-Total		10,946,136	0.350
Total		60,074,274	0.207
Investment Deductions		4,902,666	0.350
Net Investment Income Earned		55,171,608	0.194

(a) Only 30% of dividend income on stock is subject to the full corporate income tax rate of 35%. The applicable tax rate is thus 10.5% (.35 x .3 = 10.5%)

NORTH CAROLINA
DWELLING FIRE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A. Unearned Premium Reserve

1.	Direct Earned Premium for Accident Year Ended 12/31/13		52,639,386
2.	Mean Unearned Premium Reserve (1) x	0.4631	24,377,300
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		11.16%
	Taxes, Licenses and Fees		2.38%
	1/2 General Expenses		2.89%
	1/2 Other Acquisition		3.72%
	Total		20.15%
4.	(2) x (3)		4,912,026
5.	Net Subject to Investment (2) - (4)		19,465,274

B. Delayed Remission of Premium (Agents' Balances)

1.	Direct Earned Premium (A-1)		52,639,386
2.	Average Agents' Balances		0.192
3.	Delayed Remission (1) x (2)		10,106,762

C. Loss Reserve

1.	Direct Earned Premium (A-1)		52,639,386
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.5999	31,578,368
3.	Expected Mean Loss Reserves (2) x	0.585	18,473,345

D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		27,831,857
E.	Average Rate of Return		3.36%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		935,150
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		1.78%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.781	1.39%

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve			
	1.	Direct Earned Premium for Accident Year Ended 12/31/13		56,825,981
	2.	Mean Unearned Premium Reserve (1) x	0.4607	26,179,729
	3.	Deduction for Prepaid Expenses		
		Commission and Brokerage		10.04%
		Taxes, Licenses and Fees		2.26%
		1/2 General Expenses		2.50%
		1/2 Other Acquisition		4.18%
		Total		18.98%
	4.	(2) x (3)		4,968,913
	5.	Net Subject to Investment (2) - (4)		21,210,816
B.	Delayed Remission of Premium (Agents' Balances)			
	1.	Direct Earned Premium (A-1)		56,825,981
	2.	Average Agents' Balances		0.168
	3.	Delayed Remission (1) x (2)		9,546,765
C.	Loss Reserve			
	1.	Direct Earned Premium (A-1)		56,825,981
	2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6196	35,209,378
	3.	Expected Mean Loss Reserves (2) x	0.678	23,871,958
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)			35,536,009
E.	Average Rate of Return			3.36%
F.	Investment Earnings on Net Subject to Investment (D) x (E)			1,194,010
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)			2.10%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x		0.781	1.64%

NORTH CAROLINA
DWELLING FIRE AND EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
Direct earned premiums are the earned premiums for Dwelling insurance in North Carolina from Statutory Page 14 of the Annual Statement.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/13 for all companies writing Dwelling insurance in North Carolina. These data are from Statutory Page 14 of the Annual Statement.

	Fire	EC
1. Collected Earned Premium for Calendar Year ended 12/31/13	$236,729,460	$197,244,993
2. Unearned Premium Reserve as of 12/31/12	$110,975,457	$84,110,424
3. Unearned Premium Reserve as of 12/31/13	$108,296,002	$97,612,198
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	109,635,730	90,861,311
5. Ratio (4) ÷ (1)	0.4631	0.4607

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/13.

Line B-2
Delayed remission of premium:
This deduction is necessary because of delay in remission and collection of premium to the companies, which amounts to approximately 50-75 days after the effective dates of the policies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus.

1. Agents' balances for premiums due less than 90 days as a ratio to net written premium (based on data for all companies writing Dwelling insurance in North Carolina)	0.1878	0.1646
2. Factor to include effect of agents' balances or uncollected premiums overdue for more than 90 days (based on data provided by A. M. Best)	1.021	1.021
3. Factor for agents' balances (1) x (2)	0.192	0.168

Line C-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/13.

Line C-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses in 2013 for Dwelling insurance. This ratio is based on North Carolina companies' Statutory Page 14 annual statement data and has been adjusted to include loss adjustment expense reserves.

	Fire	EC
1. Incurred Losses for Calendar Year 2013	136,761,812	54,370,019
2. Loss Reserves as of 12/31/12	44,814,079	38,555,719
3. Loss Reserves as of 12/31/13	104,621,425	30,271,468
4. Mean Loss Reserve 2013: 1/2 [(2) + (3)]	74,717,752	34,413,594
5. Ratio (4) ÷ (1)	0.546	0.633
6. Ratio of LAE Reserves to Loss Reserves (a)	0.262	0.262
7. Ratio of Incurred LAE to Incurred Losses (a)	0.178	0.178
8. Loss and LAE Reserve [(5)x(1.0+(6))/(1.0+(7))]	0.585	0.678

(a) Based on 2013 All-Industry Insurance Expense Exhibit (source: A.M. Best)

Line E

The rate of return is the ratio of net investment income earned to mean cash and invested assets. Net investment income is computed for all companies writing Dwelling insurance in North Carolina as follows:

Year	Net Investment Income Earned	Mean Cash and Invested Assets	Rate of Return
2013	49,482,194	1,473,600,834	3.36%

Line H

The average rate of Federal income tax was determined by applying the average tax rate for net investment income and the current tax rate applicable to realized capital gains (or losses) to the rates of return as calculated above.

	Rate of Return	Federal Income Tax Rate
Net Investment Income Earned	3.36%	0.219

The average rate of Federal income tax was determined by applying current tax rates to the distribution of investment income earned for all companies. These data are for 2013 from Best's Aggregates and Averages, Underwriting and Investment Exhibit, Part 1, Column 8.

Bonds	Taxable	23,168,306	0.350
	Non-Taxable	12,013,235	-
	Sub-Total	35,181,541	0.230
Stocks	Taxable (a)	5,965,219	0.105
	Non-Taxable	2,264,498	-
	Sub-Total	8,229,717	0.076
Mortgage Loans		360,714	
Real Estate		1,745,619	
Contract Loans		1,277	
Cash/Short Term Investments		150,120	
Derivative Instruments		(46,327)	
All Other		8,675,211	
Sub-Total		10,886,614	0.350
Total		54,297,872	0.231
Investment Deductions		4,815,613	0.350
Net Investment Income Earned		49,482,259	0.219

(a) Only 30% of dividend income on stock is subject to the full corporate income tax rate of 35%. The applicable tax rate is thus 10.5% (.35 x .3 = 10.5%)

NORTH CAROLINA
DWELLING FIRE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A. Unearned Premium Reserve

1.	Direct Earned Premium for Accident Year Ended 12/31/12		60,030,328
2.	Mean Unearned Premium Reserve (1) x	0.4687	28,136,215
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		11.98%
	Taxes, Licenses and Fees		2.41%
	1/2 General Expenses		1.92%
	1/2 Other Acquisition		3.10%
	Total		19.41%
4.	(2) x (3)		5,461,239
5.	Net Subject to Investment (2) - (4)		22,674,976

B. Delayed Remission of Premium (Agents' Balances)

1.	Direct Earned Premium (A-1)		60,030,328
2.	Average Agents' Balances		0.182
3.	Delayed Remission (1) x (2)		10,925,520

C. Loss Reserve

1.	Direct Earned Premium (A-1)		60,030,328
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6217	37,320,855
3.	Expected Mean Loss Reserves (2) x	0.817	30,491,139

D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		42,240,595
E.	Average Rate of Return		3.52%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		1,486,869
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		2.48%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.771	1.91%

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve			
	1.	Direct Earned Premium for Accident Year Ended 12/31/12		59,964,299
	2.	Mean Unearned Premium Reserve (1) x	0.4415	26,474,238
	3.	Deduction for Prepaid Expenses		
		Commission and Brokerage		10.80%
		Taxes, Licenses and Fees		1.99%
		1/2 General Expenses		2.23%
		1/2 Other Acquisition		3.69%
		Total		18.71%
	4.	(2) x (3)		4,953,330
	5.	Net Subject to Investment (2) - (4)		21,520,908
B.	Delayed Remission of Premium (Agents' Balances)			
	1.	Direct Earned Premium (A-1)		59,964,299
	2.	Average Agents' Balances		0.162
	3.	Delayed Remission (1) x (2)		9,714,216
C.	Loss Reserve			
	1.	Direct Earned Premium (A-1)		59,964,299
	2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6343	38,035,355
	3.	Expected Mean Loss Reserves (2) x	0.845	32,139,875
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)			43,946,567
E.	Average Rate of Return			3.52%
F.	Investment Earnings on Net Subject to Investment (D) x (E)			1,546,919
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)			2.58%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x		0.771	1.99%

NORTH CAROLINA
DWELLING FIRE AND EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
Direct earned premiums are the earned premiums for Dwelling insurance in North Carolina from Statutory Page 14 of the Annual Statement.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/05 for all companies writing Dwelling insurance in North Carolina. These data are from Statutory Page 14 of the Annual Statement.

	Fire	EC
1. Collected Earned Premium for Calendar Year ended 12/31/12	$237,079,266	$192,880,137
2. Unearned Premium Reserve as of 12/31/11	$111,268,656	$86,216,891
3. Unearned Premium Reserve as of 12/31/12	$110,975,457	$84,110,424
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	111,122,057	85,163,658
5. Ratio (4) ÷ (1)	0.4687	0.4415

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/12.

Line B-2
Delayed remission of premium:
This deduction is necessary because of delay in remission and collection of premium to the companies, which amounts to approximately 50-75 days after the effective dates of the policies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus.

1. Agents' balances for premiums due less than 90 days as a ratio to net written premium (based on data for all companies writing Dwelling insurance in North Carolina)	0.1785	0.1581
2. Factor to include effect of agents' balances or uncollected premiums overdue for more than 90 days (based on data provided by A. M. Best)	1.022	1.022
3. Factor for agents' balances (1) x (2)	0.182	0.162

Line C-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/12.

Line C-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses in 2012 for Dwelling insurance. This ratio is based on North Carolina companies' Statutory Page 14 annual statement data and has been adjusted to include loss adjustment expense reserves.

	Fire	EC
1. Incurred Losses for Calendar Year 2012	66,518,503	73,137,289
2. Loss Reserves as of 12/31/11	56,782,146	76,934,173
3. Loss Reserves as of 12/31/12	44,814,079	38,555,719
4. Mean Loss Reserve 2012: 1/2 [(2) + (3)]	50,798,113	57,744,946
5. Ratio (4) ÷ (1)	0.764	0.790
6. Ratio of LAE Reserves to Loss Reserves (a)	0.238	0.238
7. Ratio of Incurred LAE to Incurred Losses (a)	0.158	0.158
8. Loss and LAE Reserve [(5)x(1.0+(6))/(1.0+(7))]	0.817	0.845

(a) Based on 2012 All-Industry Insurance Expense Exhibit (source: A.M. Best)

Line E

The rate of return is the ratio of net investment income earned to mean cash and invested assets. Net investment income is computed for all companies writing Dwelling insurance in North Carolina as follows:

Year	Net Investment Income Earned	Mean Cash and Invested Assets	Rate of Return
2012	49,236,879	1,400,656,655	3.52%

Line H

The average rate of Federal income tax was determined by applying the average tax rate for net investment income and the current tax rate applicable to realized capital gains (or losses) to the rates of return as calculated above.

	Rate of Return	Federal Income Tax Rate
Net Investment Income Earned	3.52%	0.229

The average rate of Federal income tax was determined by applying current tax rates to the distribution of investment income earned for all companies. These data are for 2012 from Best's Aggregates and Averages, Underwriting and Investment Exhibit, Part 1, Column 8.

Bonds	Taxable	24,976,829	0.350
	Non-Taxable	12,612,176	-
	Sub-Total	37,589,005	0.233
Stocks	Taxable (a)	5,584,133	0.105
	Non-Taxable	562,545	-
	Sub-Total	6,146,678	0.095
Mortgage Loans		307,795	
Real Estate		1,780,449	
Collateral Loans		1,080	
Cash on Deposit		175,985	
Short Term Investments		(18,711)	
All Other		8,213,612	
Sub-Total		10,460,210	0.350
Total		54,195,893	0.240
Investment Deductions		4,958,989	0.350
Net Investment Income Earned		49,236,904	0.229

(a) Only 30% of dividend income on stock is subject to the full corporate income tax rate of 35%. The applicable tax rate is thus 10.5% (.35 x .3 = 10.5%)

NORTH CAROLINA
DWELLING FIRE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve			
	1.	Direct Earned Premium for Accident Year Ended 12/31/11		57,276,896
	2.	Mean Unearned Premium Reserve (1) x	0.4840	27,722,018
	3.	Deduction for Prepaid Expenses		
		Commission and Brokerage		12.58%
		Taxes, Licenses and Fees		2.52%
		1/2 General Expenses		2.08%
		1/2 Other Acquisition		3.22%
		Total		20.40%
	4.	(2) x (3)		5,655,292
	5.	Net Subject to Investment (2) - (4)		22,066,726
B.	Delayed Remission of Premium (Agents' Balances)			
	1.	Direct Earned Premium (A-1)		57,276,896
	2.	Average Agents' Balances		0.167
	3.	Delayed Remission (1) x (2)		9,565,242
C.	Loss Reserve			
	1.	Direct Earned Premium (A-1)		57,276,896
	2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.5764	33,014,403
	3.	Expected Mean Loss Reserves (2) x	0.648	21,393,333
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)			33,894,817
E.	Average Rate of Return			3.76%
F.	Investment Earnings on Net Subject to Investment (D) x (E)			1,274,445
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)			2.23%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x		0.779	1.73%

NORTH CAROLINA
DWELLING EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

A.	Unearned Premium Reserve		
1.	Direct Earned Premium for Accident Year Ended 12/31/11		58,643,721
2.	Mean Unearned Premium Reserve (1) x	0.4678	27,433,533
3.	Deduction for Prepaid Expenses		
	Commission and Brokerage		11.34%
	Taxes, Licenses and Fees		2.16%
	1/2 General Expenses		2.35%
	1/2 Other Acquisition		3.27%
	Total		19.12%
4.	(2) x (3)		5,245,292
5.	Net Subject to Investment (2) - (4)		22,188,241
B.	Delayed Remission of Premium (Agents' Balances)		
1.	Direct Earned Premium (A-1)		58,643,721
2.	Average Agents' Balances		0.088
3.	Delayed Remission (1) x (2)		5,160,647
C.	Loss Reserve		
1.	Direct Earned Premium (A-1)		58,643,721
2.	Expected Incurred Losses and Loss Adjustment Expense (1) x	0.6269	36,763,749
3.	Expected Mean Loss Reserves (2) x	0.207	7,610,096
D.	Net Subject to Investment (A-5)-(B-3)+(C-3)		24,637,690
E.	Average Rate of Return		3.76%
F.	Investment Earnings on Net Subject to Investment (D) x (E)		926,377
G.	Average Rate of Return as a Percent of Direct Earned Premium (F) / (A-1)		1.58%
H.	Average Rate of Return as a Percent of Direct Earned Premium after Federal Income Taxes (G) x	0.779	1.23%

NORTH CAROLINA
DWELLING FIRE AND EXTENDED COVERAGE INSURANCE

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
Direct earned premiums are the earned premiums for Dwelling insurance in North Carolina from Statutory Page 14 of the Annual Statement.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/11 for all companies writing Dwelling insurance in North Carolina. These data are from Statutory Page 14 of the Annual Statement.

	Fire	EC
1. Collected Earned Premium for Calendar Year ended 12/31/11	$223,648,201	$180,035,390
2. Unearned Premium Reserve as of 12/31/10	$105,201,144	$82,206,373
3. Unearned Premium Reserve as of 12/31/11	$111,268,656	$86,216,891
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	108,234,900	84,211,632
5. Ratio (4) ÷ (1)	0.4840	0.4678

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/11.

Line B-2
Delayed remission of premium:
This deduction is necessary because of delay in remission and collection of premium to the companies, which amounts to approximately 50-75 days after the effective dates of the policies. Therefore, funds for the unearned premium reserve required during the initial days of all policies must be taken from the company's surplus.

1. Agents' balances for premiums due less than 90 days as a ratio to net written premium (based on data for all companies writing Dwelling insurance in North Carolina)	0.1634	0.0863
2. Factor to include effect of agents' balances or uncollected premiums overdue for more than 90 days (based on data provided by A. M. Best)	1.024	1.024
3. Factor for agents' balances (1) x (2)	0.167	0.088

Line C-2
The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/11.

Line C-3
The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses in 2011 for Dwelling insurance. This ratio is based on North Carolina companies' Statutory Page 14 annual statement data and has been adjusted to include loss adjustment expense reserves.

	Fire	EC
1. Incurred Losses for Calendar Year 2011	102,073,802	270,408,965
2. Loss Reserves as of 12/31/10	64,594,784	25,925,811
3. Loss Reserves as of 12/31/11	56,782,146	76,934,173
4. Mean Loss Reserve 2011: 1/2 [(2) + (3)]	60,688,465	51,429,992
5. Ratio (4) ÷ (1)	0.595	0.190
6. Ratio of LAE Reserves to Loss Reserves (a)	0.235	0.235
7. Ratio of Incurred LAE to Incurred Losses (a)	0.134	0.134
8. Loss and LAE Reserve [(5)x(1.0+(6))/(1.0+(7))]	0.648	0.207

(a) Based on 2004 All-Industry Insurance Expense Exhibit (source: A.M. Best)

Line E

The rate of return is the ratio of net investment income earned to mean cash and invested assets. Net investment income is computed for all companies writing Dwelling insurance in North Carolina as follows:

Year	Net Investment Income Earned	Mean Cash and Invested Assets	Rate of Return
2011	51,356,356	1,366,568,062	3.76%

Line H

The average rate of Federal income tax was determined by applying the average tax rate for net investment income and the current tax rate applicable to realized capital gains (or losses) to the rates of return as calculated above.

	Rate of Return	Federal Income Tax Rate
Net Investment Income Earned	3.76%	0.221

The average rate of Federal income tax was determined by applying current tax rates to the distribution of investment income earned for all companies. These data are for 2011 from Best's Aggregates and Averages, Underwriting and Investment Exhibit, Part 1, Column 8.

Bonds	Taxable	25,986,958	0.350
	Non-Taxable	13,575,785	-
	Sub-Total	39,562,743	0.230
Stocks	Taxable (a)	4,850,078	0.105
	Non-Taxable	1,971,532	-
	Sub-Total	6,821,610	0.075
Mortgage Loans		279,685	
Real Estate		1,802,464	
Collateral Loans		458	
Cash on Deposit		182,216	
Short Term Investments		(23,419)	
All Other		7,590,952	
Sub-Total		9,832,356	0.350
Total		56,216,709	0.232
Investment Deductions		4,861,352	0.350
Net Investment Income Earned		51,355,357	0.221

(a) Only 30% of dividend income on stock is subject to the full corporate income tax rate of 35%. The applicable tax rate is thus 10.5% (.35 x .3 = 10.5%)

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

11. IDENTIFICATION OF APPLICABLE STATISTICAL PLANS AND PROGRAMS AND A CERTIFICATION OF COMPLIANCE WITH THEM

(a) ISO Personal Lines Statistical Plan (Other Than Automobile)
ISO Personal Lines Statistical Agent Plan (Other Than Automobile)
ISO 2015 Call for Dwelling Fire and Extended Coverage Statistics
ISO 2015 Call for Dwelling Fire and Extended Coverage Statistical Agent Plan Statistics
ISS Personal Lines Statistical Plans - All Coverages
ISS 2015 Dwelling Fire and Extended Coverage Call
AAIS Personal Lines Statistical Plan
AAIS 2015 Call for Dwelling Fire and Extended Coverage Statistics
NISS Statistical Plan - All Coverages - Part IV, North Carolina
NISS 2015 Quarterly Call
NISS 2015 Calendar Year Annual Statement
NISS 2015 Financial Reconciliation Call
Annual Statement for Calendar Year 2015
Insurance Expense Exhibit for Calendar Year 2015
NCRB Calls North Carolina Expense Experience for 2011-2015

(b) The North Carolina Rate Bureau certifies that there is no evidence known to it or, insofar as it is aware following reasonable inquiry, to the statistical agencies involved that the data which were collected under the statistical plans identified in response (11) (a) above and used in the filing are not materially true and accurate representations of the experience of the companies whose data underlie such experience. While the Rate Bureau is aware that the collected data sometimes require corrections or adjustments, the Rate Bureau's review of the data, the data collection process, and the ratemaking process indicates that the aggregate data are reasonable and reliable for ratemaking purposes. See also the prefiled testimony of R. Curry and B. Donlan.

(c) The attached Exhibit (11) (c) contains general descriptions of the editing procedures used to ensure data were collected in accordance with the applicable statistical plans.

North Carolina Dwelling Insurance Statistical Data

ISO Editing Procedures

1. Upon receipt of the data from each reporting company, checks are made to ensure that each record (i.e., the data reported for each exposure) has valid and readable information. This includes a check that the appropriate alpha-numeric codes have been utilized.

2. The records are then checked to ensure that each of the fields has a valid code in it (e.g., company numbers must be entered as four-digit numerals).

3. Relationship edits which evaluate the interrelationship between codes are then performed. For example, if a record indicates North Carolina, Dwelling Fire and Extended Coverage, Form 3, checks are made to ascertain that applicable interrelationships are maintained.

4. Distributional edits are performed to make sure that the reporting company has not erred in miscoding its data into a single class, territory, or other rating criteria due a systems problem or other error.

5. The resulting combined data from all the company records are reconciled with Statutory Page 14 Annual Statement data for that company.

6. After all of the ISO data are aggregated, a consolidated review of the data is conducted to determine overall reasonableness and accuracy. In this procedure the data are compared with previous statewide and territory figures. Areas of concern are identified and results are verified by checking back to the source data.

North Carolina Dwelling Insurance Statistical Data

Independent Statistical Service, Inc. (ISS)
Editing Procedures

The following narrative sets forth a general description of the editing procedures utilized by ISS to review North Carolina statistical data. All North Carolina experience submitted to ISS by affiliated companies undergoes standard procedures to ensure that the data is reported in accordance with the ISS state approved statistical plans.

The ISS review of the data takes place on two levels: analysis of individual company data and analysis of the aggregate data of all ISS reporting companies combined. These two separate functions will be treated in that order.

Analysis of Company Data

Analysis of company data includes: completeness checks, editing for valid statistical coding and checking the distribution of data within the various data elements.

1. Completeness Checks (Balancing and Reconciliation):

   Balancing and reconciliation procedures are used to determine completeness of reporting. Completeness means that ISS has received and processed all of the data due to be filed with ISS. First, totals of each company's processed data are compared to separate statewide transmittal totals supplied by the company. This step ensures that ISS has processed completely the experience included in the company's submission of data and that no errors occur during this processing. As a second check for completeness, the reported statistical data is reconciled to the Exhibit of Premiums and Losses, "Statutory Page 14", from the company's Annual Statement. It is a useful procedure in determining completeness because the annual statement represents an independent source of information.

2. Editing of Codes:

   Format and Readability

   Statistical data reported by affiliated companies must be filed in accordance with ISS approved statistical plans. This includes the requirement that the data must conform to the specific formats and technical specifications in order for ISS to properly read and process these submissions. The initial edit is a test of each company's submission to ensure it has been reported using the proper record format and that it meets certain technical requirements for the line of insurance being reported. Key fields are tested to ensure that only numeric information has been reported in fields defined as numeric, and that the fields have been reported in the proper position in the record.

   Edits

   The data items of information filed with the insurance company's experience are reported by using codes defined under the ISS statistical plans. For example, the various types of Policy Forms written on Dwelling Fire and Extended Coverage policies in North Carolina are defined in the Personal Lines Statistical Plan. Each definition for each data element has a unique code assigned to it which distinguishes it from other definitions. All data items applicable to North Carolina are defined in a similar manner in each of the ISS statistical plans and have codes assigned to properly identify each definition.

   All records reported to ISS are subjected to validation of the reported codes. This validation, called editing, is performed to assure that companies are reporting properly defined ISS Statistical Plan codes for North Carolina experience.

The purpose of the edit is to validate the statistical codes reported in each record. This validation is called a Relation Edit. A relational edit verifies that a reported code is valid in combination with one or more related data items. Relational edit tests are accomplished primarily through the use of specific edit tables applicable to each line of insurance.

In most cases, the experience data in the record is used in conjunction with the related codes and compared to an establishment or discontinued date for the code being validated. This ensures that specific codes are not being utilized beyond the range of time during which they are valid.

An example of a relational edit involves territory coding. Many territory code numbers are available under each statistical plan for various states, with various effective dates. However, only codes defined for North Carolina for the specific line being processed are valid in combination with North Carolina reported experience. Further, if a new code is erected, that code will be considered valid only if the date reported in the statistical record is equal or subsequent to the establishment date of the code.

3. Distributional Analysis:

The validation of the statistical coding is not by itself sufficient to assure the credibility of company data. Having assured the reporting of valid codes, the statistical agent must verify that valid entries are indeed reliable. Therefore, the data is also reviewed for reasonable distributions. The primary focus of this review is to establish that the statistical data reported by the company is a credible reflection of the company's experience.

The distribution of company experience by specific data elements such as state, territory, policy form, and construction, for example, for the current reporting period is compared to company profiles of prior periods. In addition, ratios relevant to the line of insurance such as average premium, average loss, and percent of volume, loss ratio and loss frequency are compared to industry averages. This historical comparison can highlight changes in the pattern of reporting.

The distributional analysis serves as an additional verification that systematic errors are not introduced during the production of data files submitted to ISS by our affiliated companies. Disproportionate amounts of premiums and/or losses in a particular class or territory, for example, can be detected using this technique.

Validation of Aggregate Data

After the individual company data has been reviewed, the data for all reporting companies is compiled to produce aggregate reports. The aggregate data represents the combined experience of the reporting companies. This data is also subjected to similar review procedures. To ensure completeness, run to run control techniques are applied. This involved balancing the totals of the aggregate runs to previously verified control totals. In this manner the aggregate data is monitored to ensure the inclusion of the appropriate company data.

The aggregate data is also reviewed for credibility through distributional analysis similar to that performed on the individual company data. Earned exposures (where applicable) and premiums and incurred losses and claims are used to calculate pure premiums, claim frequencies and claim costs for comparison to past averages. The analysis of the aggregate data centers on determining consistency over time by comparing several years of experience, by policy form and territory, for example. Through the application of these techniques, ISS is able to provide reliable insurance statistical data in North Carolina.

NISS Editing Procedures

a. Every report received is checked for completeness. Every submission must include (1) an affidavit; (2) a letter of transmittal setting forth company control totals for the data being sent; (3) the data being reported on tape, cartridge, diskette or form to be keyed.

b. Individual company submissions are balanced to the company letter of transmittal to ensure that all data have been received and processed. After all four quarters of data have been received, the company reports are reconciled to the Statutory Page 14 Annual Statement amounts. The NISS Financial Reconciliation identifies any amounts needed to reconcile any differences between the company reported data and Annual Statement amounts.

c. Every company record submitted to NISS is verified through NISS edit software for its coding accuracy and conformance with NISS record layouts and instructions. NISS edits verify the accuracy of each code for each data element. Where possible, each data element is subjected to a relational edit whereby it will be checked for accuracy in conjunction with another field.

d. Individual company submissions are also subjected to a series of reasonability tests to determine that the current submission is consistent with previous company submissions, known changes in this line of business and statewide trends. NISS compares current quarter data to the previous quarter. This comparison is performed and analyzed by grouping data.

e. After all of the NISS data are combined, a review of this consolidated data is also performed. The aggregate data is compared on a year to year basis to again verify its reasonableness, similar to those checks employed on an individual company submission.

North Carolina Dwelling Insurance Statistical Data

AAIS Editing Procedures

The American Association of Insurance Services functions as an official statistical agent in the State of North Carolina for a number of lines of insurance, including Dwelling Fire and Extended Coverage. In this capacity, it provides for the administration of statistical programs in accordance with approved statistical plans on behalf of the Commissioner of Insurance. These plans, which were filed according to the requirements of the State of North Carolina, serve to insure a high quality of data reliability.

1. All statistical plans constitute permanent calls for data, which is due at AAIS within 60 days following the close of the period covered by the report.

2. Each data submission is accompanied by a transmittal that summarizes the detail data by state. The transmittal provides control totals to balance to the input and output of each step in our collection procedure. Signature of the company official responsible for data collection is required on the transmittal to certify the accuracy and completeness of the data submission.

3. The AAIS data collection procedure consists of several consecutive steps in order to further verify receipt of accurate and complete data from each company and ultimately aggregate the data into the final experience format.

4. The data collection procedure begins with entering the company number, date, type of media, and transmittal control totals for each line of insurance received into a log file. Company number, record counts, lines of insurance, year, quarter, type and number of media are recorded on a processing log and submitted to the computer room.

5. Operations will load the data into the computer and process all lines through a program which verifies certain key fields. The key fields are company number, line of insurance, transaction code and report period (quarter and year). All invalid key fields must be corrected before proceeding to the next step. Once a valid key field report is generated, Operations will copy all valid key field records to the edit file.

6. Upon receipt of the Moved to Edit report, the statistical department will verify that all records were copied from the stored data file to the edit file. All companies are then released by line and report period for editing.

7. The edit program has several functions and reports. They are:

    a. Data is balanced to transmittal totals and submitting companies are verifying this upon submission of their data using our Statistical Data Management Application (SDMA).

    b. Each statistical field is edited to the valid codes in the statistical plan for the line being processed. Many fields are also cross edited. An example is deductible type and amount. All invalid codes are identified with an asterisk to the right of the code.

    c. Edit reports consist of a listing of invalid records, error summary report, month report, state report and field error detail report.

    d. Data distributions are monitored by the Statistical Reporting staff in conjunction with AAIS Actuaries. Material quality problems are logged by the Data Governance Steering Committee and the offending affiliate is notified of the error.

    e. Along with the edit and distribution reports, there are additional review procedures in place to identify procedural reporting errors that may exist (e.g., cancellations and coverage changes). A great deal of time is spent on this item because of its importance to the validity of the reported data

    f. The Statistical Data Management Application (SDMA) performs analysis of a company's data and provides the company with a customized letter stating that their data was accepted by AAIS. Throughout the submission and editing process, the SDMA provides a status for the submission indicating the type of action required. Depending on the severity of error, companies are requested to make corrections or resubmit data.

8. AAIS provides assistance to all of its affiliated companies to ensure a continued high level of data quality. Statistical coding seminars designed to instruct company coders and respond to questions are scheduled annually. In addition to the seminars, AAIS has developed Statistical Training Manuals for some lines and pre-edit programs for company in-house use. Technical Services staff is available to train company personnel in all aspects of data collection, coding, statistical reporting and data processing.

12. INVESTMENT EARNINGS ON CAPITAL AND SURPLUS

Not applicable to Dwelling insurance.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

13. LEVEL OF CAPITAL AND SURPLUS NEEDED TO SUPPORT PREMIUM WRITINGS WITHOUT ENDANGERING THE SOLVENCY OF MEMBER COMPANIES

(a) The aggregate premium to surplus ratios for the calendar years 2006-2015 for the company groups which have written North Carolina dwelling fire and extended coverage insurance are as follows:

	Dwelling Fire	EC
2006	1.001	1.010
2007	.948	.967
2008	.988	1.015
2009	.950	.938
2010	.974	.878
2011	1.174	1.006
2012	1.032	.933
2013	.854	.860
2014	.808	.819
2015	.790	.800

(b) The experience provides the best estimate of the future. See the prefiled testimony of D. Appel.

(c) The actual premium to surplus ratio for the property and casualty industry on a countrywide basis (based upon the latest A. M. Best data available at this time) is as follows:

	(000's omitted)
STATUTORY CAPITAL AND SURPLUS, 2015	$706,016,009
STATUTORY CAPITAL AND SURPLUS, 2016	$734,973,294
AVERAGE STATUTORY CAPITAL AND SURPLUS (2016)	$720,494,652
NET PREMIUMS EARNED (2016)	$533,512,367
PREMIUM/SURPLUS RATIO	0.740

The actual level of capital and surplus needed to support premium writings without endangering the solvency of a company is dependent upon (among others) the financial structure and investments unique to each company, the relationship of the company with affiliated companies as a group (and the experience of the affiliated companies), the mix of business of each company, and the conditions of the economy as they affect each company's individual circumstances. The Rate Bureau is advised that the National Association of Insurance Commissioners, as one of several criteria, generally considers that a premium to surplus ratio for an individual company of 3 to 1 warrants close regulatory attention and monitoring with respect to the company's solvency position.

(d) The Rate Bureau has not allocated surplus by state and by line in preparing this filing. The Rate Bureau has treated surplus in this manner because each dollar of surplus is available to cover losses in excess of premium for each and every line.

STATISTICAL DATA TO COMPLY WITH NORTH CAROLINA
REQUIREMENTS FOR A DWELLING INSURANCE RATE FILING
AS PER 11 NCAC 10.1105

14. OTHER INFORMATION REQUIRED BY THE COMMISSIONER

See attached Exhibits (14)(a), (b), (c) and (d).

Exhibit (14)(a)

See the pre-filed testimony of D. Appel, J. Vander Weide, R. Curry, P. Anderson and B. Donlan.

Not applicable to Dwelling insurance.

The Dwelling insurance rate filing made on November 30, 2016 was withdrawn. The following changes in methodology or presentation from those used in the January 4, 2011 Dwelling insurance rate filing have been incorporated into this filing:

1. In this filing, the extended coverage modeled hurricane losses were provided by Aon Benfield, and those losses are the blended results of the AIR Worldwide and RMS hurricane models. The blended results of the models were used in all analyses in the filing where modeled hurricane losses are used. In the prior filing, only the AIR model was used,

2. In this filing, the net cost of reinsurance provision was based on analyses and calculations by Aon Benfield based on its actual market experience as the world's largest reinsurance broker. In the prior filing, the net cost of reinsurance provision was based on analyses and calculations by Milliman.

3. In this filing, the net cost of reinsurance provisions were provided by Aon Benfield at the individual territory level. In the prior filing, the net cost of reinsurance provisions provided by Milliman were allocated to four zones of territory groups.

4. In this filing, the provisions for underwriting profit and contingencies were applied uniformly on a statewide basis. In the prior filing, these items were allocated to four zones of territory groups.

5. In this filing, a lower loss adjustment expense (LAE) provision was used for modeled hurricane losses as compared to non-modeled losses. In the prior filing, the same LAE provision was used for all losses.

6. In this filing, the CoreLogic Residential Index (CLRI) and the Modified Consumer Price Index (MCPI) have been rebased from the base year of 1967 to a base year of 2012 (i.e., the index values at 2012 were set to 100). Further, the weights between these two indices were changed from 80% CLRI / 20% MCPI to 95% CLRI / 5% MCPI.

7. This filing adds a separate wind exclusion credit for mobile homes in addition to separate wind exclusion credits for frame and masonry.

8. In this filing, in addition to other variables provided as input to the hurricane models, year of construction data was also provided.

See also the pre-filed testimony of R. Curry, P. Anderson, B. Donlan, D. Appel, E. Henderson and R. Fox.

NORTH CAROLINA

DWELLING INSURANCE

SECTION F – REVISION OF DWELLING INSURANCE TERRITORY DEFINITIONS

REVISION OF DWELLING INSURANCE TERRITORY DEFINITIONS

OVERVIEW

This filing revises the Dwelling insurance territory definitions to be the same as the territory definitions approved for Homeowners insurance that became effective on June 1, 2015.

CONTENTS OF THIS SECTION

- Pages F-2-5 – Revised Territory Definitions
- Pages F-6-9--Maps
- Pages F-10-30 – Miscellaneous Manual Rules

REVISED TERRITORY DEFINITIONS

Pages F-2 through F-5 show the revised manual rule (shown in underline/strikethrough format) for assigning territory and the revised territory definitions.

RULE 512.
WINDSTORM OR HAIL COVERAGE – MISCELLANEOUS PROPERTIES

Rates Per $1,000				
	Territories			
	~~07, 08~~110-120	~~48, 49, 52~~130-160	~~32, 34, 41, 45 – 47, 53~~170-290	~~36, 38, 39, 44, 57, 60~~300-390
1. Signs				
All Metal	$ 33.60	$ 16.80	$ 12.10	$ 11.20
Other Construction	112.00	56.00	44.30	38.70
2. Cloth Awnings	56.00	28.00	14.00	12.10
3. Radio Or Television Equipment	112.00	56.00	44.30	32.70
4. Swimming Pools – Construction Of Pool And Related Structures*				
Masonry, Uncovered	.94	.47	.37	.28
Masonry, With Combustible Superstructures (Including Roof) And/Or Fencing – Pool Only	.94	.47	.37	.28
Masonry, With Combustible Superstructures (Including Roof) And/Or Fencing – Superstructure And/Or Fencing	32.60	16.30	11.20	8.40
Other Construction With Or Without Roof	32.60	16.30	11.20	8.40
Inflated Enclosure Or Covering Of Plastic Material	168.00	84.00	65.30	56.00
5. Screens (Including Supports)	32.60	16.30	11.20	8.40
6. Fences And Walls				
Masonry, Iron Or Reinforced Concrete	2.80	1.40	1.12	1.03
Other Construction	56.00	28.00	14.00	12.10
7. Bathhouses, Cabanas, Pergolas, Slathouses, Trellises; Structures Over Water				
Masonry	4.67	2.33	1.49	1.31
Other Construction – Fully Enclosed	6.53	3.27	1.96	1.68
Other Construction – Not Fully Enclosed	17.72	8.86	7.00	6.53
8. Outdoor Equipment	4.80	2.40	2.12	2.03
9. Greenhouses Or Hothouses				
Structures Including Glass, Flowers And Plants	130.60	65.30	61.10	60.60
If insured separately: Structure	11.56	5.78	4.67	4.48
Glass	66.20	33.10	31.30	30.80
Flowers And Plants	87.80	43.90	40.60	40.10

* If any part of a pool's enclosure or roof is made of plastic film or cloth, supported on wood framing, the entire pool is subject to the rates displayed for Inflated Enclosure or Covering of Plastic Material.

Table 512.D.(R) Premium Windstorm Or Hail Coverage – Miscellaneous Properties

1. TERRITORY ASSIGNMENTS

If a territory shown is defined in terms of United States Postal Service (USPS) ZIP code:

A. Determine the applicable rating territory based on the location of the dwelling.

B. An insured's rates shall not be changed solely because the USPS changed his or her ZIP code and the physical boundaries of a rating territory shall be determined by the ZIP code boundaries in effect at the time of the latest rate filing defining the territory.

Territory boundaries in North Carolina are concurrent with USPS ZIP code boundaries in effect as ofJuly 1, 2013. If the USPS introduces a new ZIP code or realigns a ZIP code boundary after July 1, 2013, the new ZIP code may not yet be listed in Rule **2.C.** If this is the case, assign the rating territory based on the ZIP code boundary that formerly applied to the dwelling before the USPS changed the ZIP code.

1. TERRITORY DEFINITIONS – (For all Coverages and Perils Other than Earthquake).

Assign the applicable territory using the following order of priority.

A. ~~Cities~~

~~City of~~	~~County of~~	~~Code~~
~~Charlotte~~	~~Mecklenburg~~	~~38~~
~~Durham~~	~~Durham~~	~~32~~
~~Greensboro~~	~~Guilford~~	~~36~~
~~Raleigh~~	~~Wake~~	~~32~~
~~Winston-Salem~~	~~Forsyth~~	~~36~~

~~B. Other Than Cities~~Counties

County of	Code
Alamance	~~57~~310
Alexander	~~60~~340
Alleghany	~~60~~360
Anson	~~44~~300
Ashe	~~60~~360
Avery	~~60~~370
Beaufort	~~49~~150
Bertie	~~45~~180
Bladen	~~41~~230
~~Brunswick~~	~~52~~
Buncombe	~~60~~360
Burke	~~60~~360
Cabarrus	~~60~~320
Caldwell	~~60~~360
Camden	~~49~~150
~~Carteret~~	~~52~~
Caswell	~~46~~310
Catawba	~~60~~360
Chatham	~~53~~280
Cherokee	~~60~~390
Chowan	~~49~~150
Clay	~~60~~390
Cleveland	~~60~~350
Columbus	~~41~~200
Craven	~~49~~150
Cumberland	~~34~~220
Currituck (other than Beach Areas)	~~48~~130
Dare (other than Beach Areas)	~~48~~130
Davidson	~~57~~320
Davie	~~60~~310
Duplin	~~45~~190
Durham	~~53~~270
Edgecombe	~~47~~210
Forsyth	~~57~~310
Franklin	~~47~~240
Gaston	~~39~~350
Gates	~~45~~170
Graham	~~60~~390
Granville	~~46~~260
Greene	~~45~~180
Guilford	~~57~~310

Halifax	~~47~~240
Harnett	~~47~~250
Haywood	~~60~~380
Henderson	~~60~~360
Hertford	~~45~~170
Hoke	~~47~~250
Hyde (other than Beach Areas)	~~48~~130
Iredell	~~60~~340
Jackson	~~60~~390
Johnston	~~47~~240
Jones	~~49~~150
Lee	~~47~~290
Lenoir	~~45~~190
Lincoln	~~60~~350
Macon	~~60~~390
Madison	~~60~~380
Martin	~~45~~180
McDowell	~~60~~360
Mecklenburg	~~39~~340
Mitchell	~~60~~370
Montgomery	~~44~~300
Moore	~~47~~290
Nash	~~47~~240
~~New Hanover~~	~~52~~
Northampton	~~47~~240
~~Onslow~~	~~52~~
Orange	~~53~~280
Pamlico	~~48~~130
Pasquotank	~~49~~150
~~Pender~~	~~52~~
Perquimans	~~49~~150
Person	~~46~~260
Pitt	~~45~~180
Polk	~~60~~360
Randolph	~~57~~320
Richmond	~~44~~300
Robeson	~~41~~230
Rockingham	~~60~~310
Rowan	~~60~~320
Rutherford	~~60~~350
Sampson	~~45~~220
Scotland	~~47~~250
Stanly	~~60~~340
Stokes	~~60~~310
Surry	~~60~~310
Swain	~~60~~380
Transylvania	~~60~~380
Tyrrell	~~49~~150
Union	~~39~~340
Vance	~~46~~260
Wake	~~53~~270
Warren	~~46~~260
Washington	~~49~~150
Watauga	~~60~~360
Wayne	~~45~~180
Wilkes	~~60~~340
Wilson	~~47~~210
Yadkin	~~57~~330
Yancey	~~60~~360

~~Beach Area - Localities south and east of the Inland Waterway from the South Carolina Line to Fort Macon (Beaufort Inlet), thence south and east of Core, Pamlico, Roanoke and Currituck Sounds to the Virginia Line, being those portions of land generally known as the "Outer Banks".~~

~~Beach Areas in Currituck, Dare and Hyde counties: 07110~~

~~Beach areas in Brunswick, Carteret, New Hanover, Onslow and Pender counties: 08120~~

B.Beach Areas

Beach Area – Localities south and east of the Inland Waterway from the South Carolina Line to Fort Macon (Beaufort Inlet), thence south and east of Core, Pamlico, Roanoke and Currituck Sounds to the Virginia Line, being those portions of land generally known as the "Outer Banks".

Beach Areas in Currituck, Dare and Hyde Counties: 110

Beach areas in Brunswick, Carteret, New Hanover, Onslow and Pender Counties: 120

C. Other Than Beach Areas Of Brunswick, Carteret, New Hanover, Onslow And Pender Counties

For areas of Brunswick, Carteret, New Hanover, Onslow and Pender Counties, other than the Beach Areas, refer to the following ZIP codes. If portions of these ZIP codes fall in Counties other than Brunswick, Carteret, New Hanover, Onslow and Pender Counties use the territory code for those Counties.

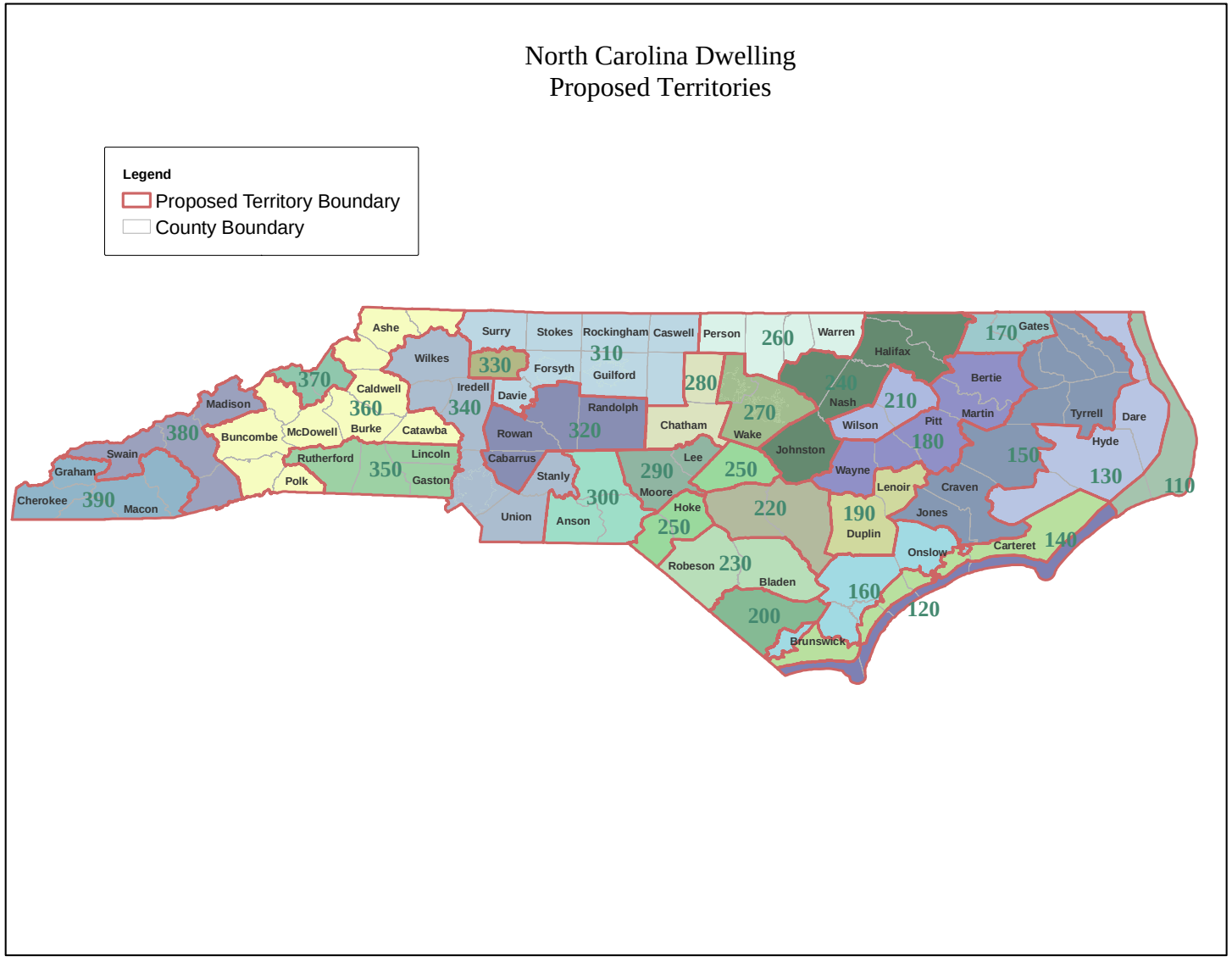
1. Eastern Coastal Territory

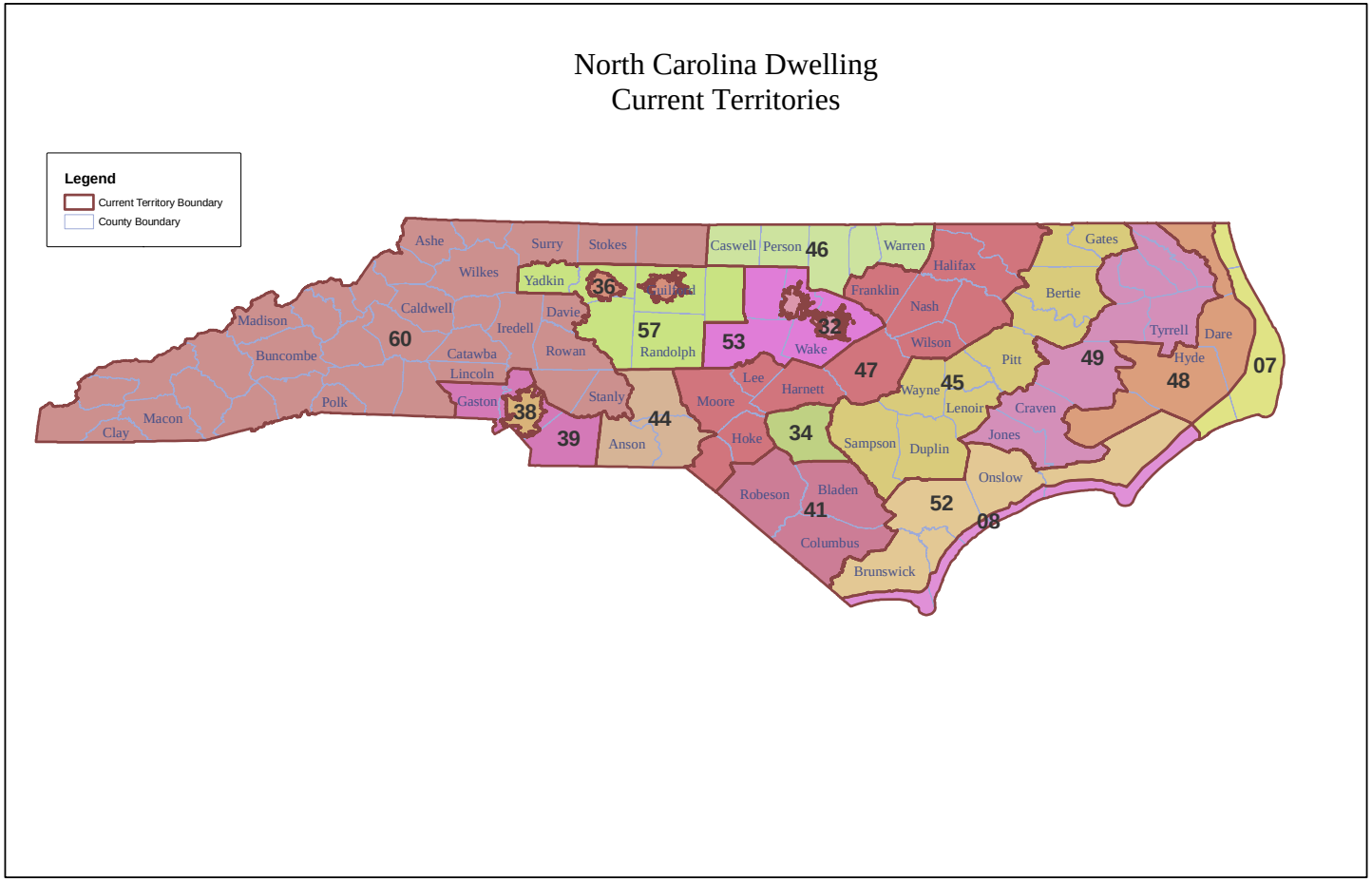
ZIP Code	USPS ZIP Code Name	Code
28403	Wilmington	140
28404	Wilmington	140
28405	Wilmington	140
28406	Wilmington	140
28407	Wilmington	140
28408	Wilmington	140
28409	Wilmington	140
28410	Wilmington	140
28411	Wilmington	140
28412	Wilmington	140
28422	Bolivia	140
28428	Carolina Beach	140
28443	Hampstead	140
28445	Holly Ridge	140
28459	Shallotte	140
28460	Sneads Ferry	140
28461	Southport	140
28462	Supply	140
28467	Calabash	140
28468	Sunset Beach	140
28469	Ocean Isle Beach	140
28470	Shallotte	140
28480	Wrightsville Beach	140
28511	Atlantic	140
28516	Beaufort	140
28520	Cedar Island	140
28524	Davis	140
28528	Gloucester	140
28531	Harkers Island	140
28532	Havelock	140
28533	Cherry Point	140
28539	Hubert	140
28553	Marshallberg	140
28557	Morehead City	140
28570	Newport	140

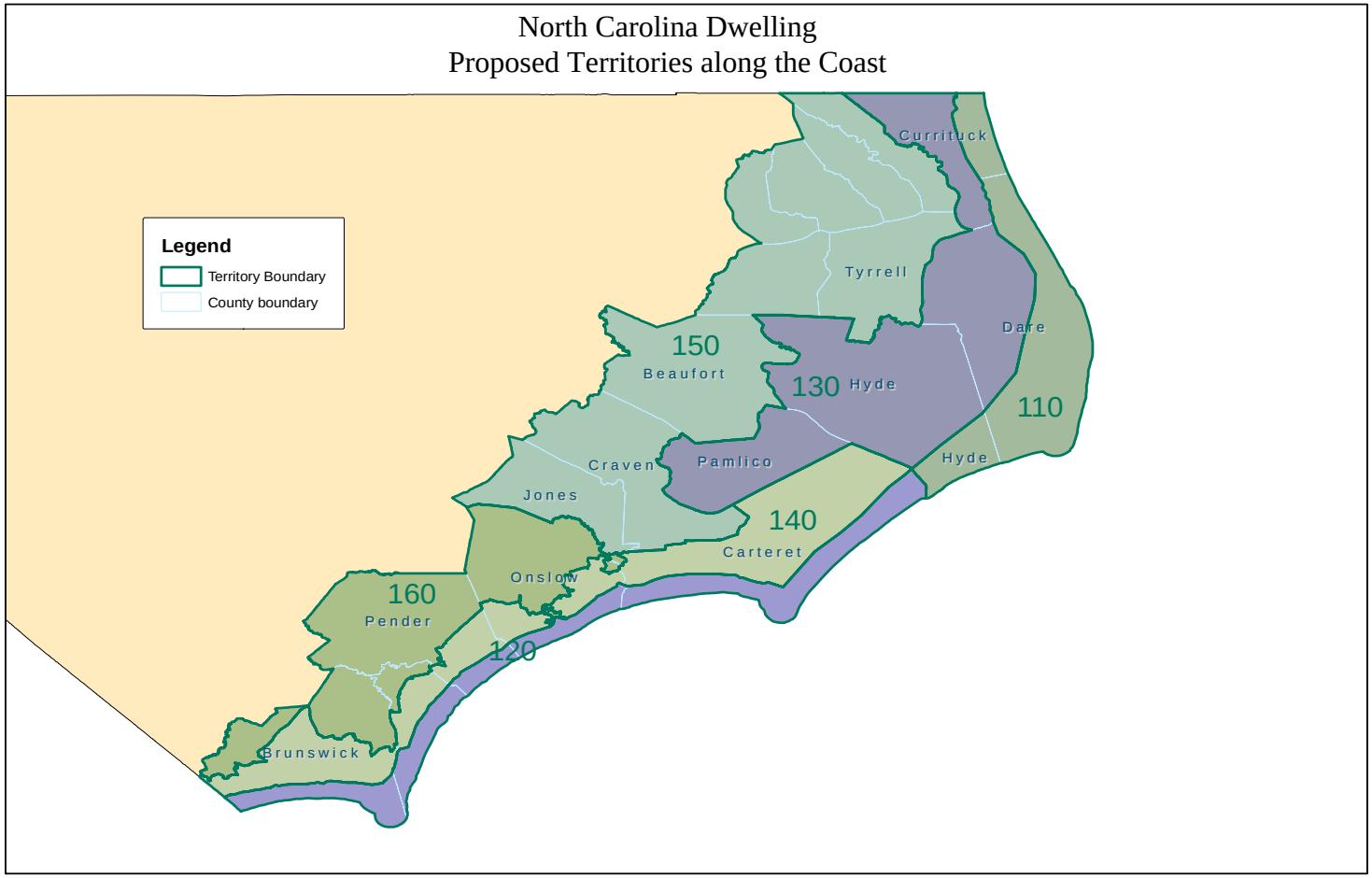
28577	Sealevel	140
28579	Smyrna	140
28581	Stacy	140
28584	Swansboro	140
28589	Williston	140

2. Western Coastal Territory

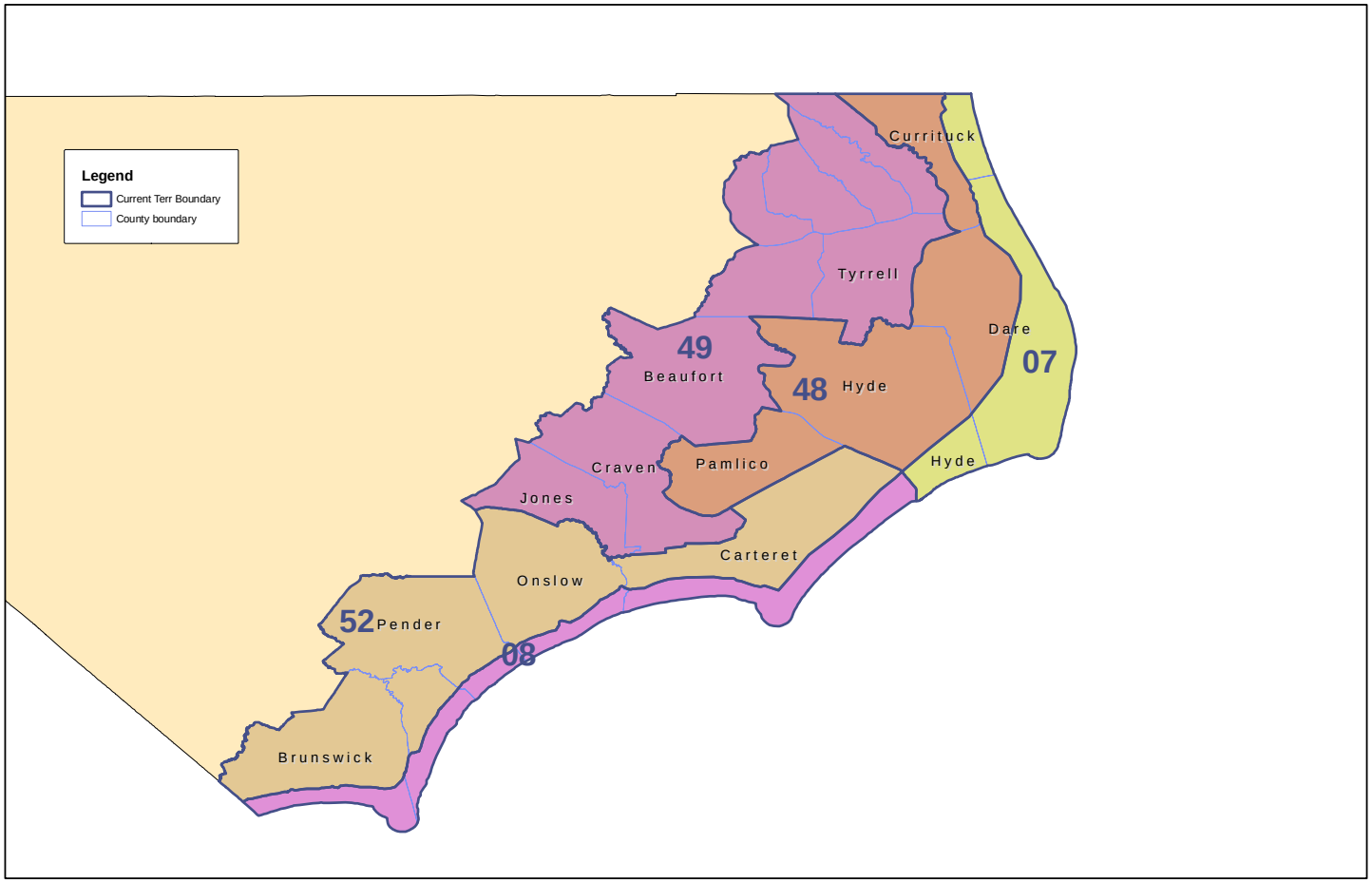
ZIP Code	USPS ZIP Code Name	Code
28401	Wilmington	160
28402	Wilmington	160
28420	Ash	160
28421	Atkinson	160
28425	Burgaw	160
28429	Castle Hayne	160
28435	Currie	160
28436	Delco	160
28447	Ivanhoe	160
28448	Kelly	160
28451	Leland	160
28452	Longwood	160
28454	Maple Hill	160
28456	Riegelwood	160
28457	Rocky Point	160
28466	Wallace	160
28478	Willard	160
28479	Winnabow	160
28518	Beulaville	160
28521	Chinquapin	160
28540	Jacksonville	160
28541	Jacksonville	160
28542	Camp Lejeune	160
28543	Tarawa Terrace	160
28544	Midway Park	160
28545	McCutcheon Field	160
28546	Jacksonville	160
28547	Camp Lejeune	160
28555	Maysville	160
28574	Richlands	160
28582	Stella	160


North Carolina Dwelling
Proposed Territories
Legend
Proposed Territory Boundary
County Boundary
Ashe
Surry
Stokes
Rockingham
Caswell
Person
260
Warren
Halifax
170
Gates
Wilkes
330
Forsyth
310
Guilford
280
Bertie
370
Caldwell
Iredell
Davie
340
Nash
240
210
Madison
360
Burke
Randolph
Chatham
270
Wilson
Pitt
Martin
Tyrrell
Dare
380
Buncombe
McDowell
Catawba
Rowan
320
Wake
180
Hyde
Swain
Rutherford
Lincoln
Cabarrus
Lee
Johnston
150
Graham
350
Gaston
Stanly
290
250
Wayne
130
Polk
Moore
Lenoir
Craven
110
Cherokee
390
Macon
Union
Anson
300
Hoke
220
190
Jones
250
Duplin
Onslow
Carteret
140
Robeson
230
Bladen
160
120
200
Brunswick


North Carolina Dwelling
Current Territories
Legend
Current Territory Boundary
County Boundary
Ashe
Surry
Stokes
Caswell
Person
46
Warren
Gates
Halifax
Wilkes
Yadkin
36
Franklin
Bertie
Nash
Caldwell
Davie
Iredell
57
32
Tyrrell
Dare
Madison
60
Rowan
Randolph
53
Wake
Wilson
Pitt
49
Hyde
07
Buncombe
Catawba
Lincoln
47
Lee
Harnett
Wayne
45
48
Polk
Gaston
38
Stanly
Moore
Lenoir
Craven
Macon
Clay
39
44
Anson
Hoke
34
Sampson
Duplin
Jones
Onslow
Robeson
Bladen
41
52
08
Columbus
Brunswick


North Carolina Dwelling
Proposed Territories along the Coast
Legend
Territory Boundary
County boundary
Currituck
Tyrrell
Dare
150
Beaufort
130
Hyde
110
Hyde
Craven
Pamlico
Jones
140
Carteret
Onslow
160
Pender
120
Brunswick

North Carolina Dwelling
Current Territories along the Coast



MISCELLANEOUS MANUAL RULES

Pages F-12 through F-30 show various manual rules that are revised solely for the purpose of reflecting new territory numbers.

RULE A1.
SPECIAL STATE REQUIREMENTS

A. Special Provisions Endorsement DP 32 32

Use this endorsement with all Dwelling Policies.

B. Windstorm Exterior Paint And Waterproofing Exclusion Endorsement DP 32 61

Use this endorsement with **all** Dwelling Policies covering Extended Coverage in Territories ~~07~~110 and ~~08~~120.

C. Company Rates/State Rates

References in the manual to "state company rates" means "state rates" in North Carolina.

D. Flood, Earthquake, Mudslide, Mudflow, Landslide, Or Windstorm Or Hail Insurance Notice

North Carolina law provides that an insurer selling property insurance that does not provide coverage for the perils of flood, earthquake, mudslide, mudflow, landslide, or windstorm or hail shall provide a specific notice (a "warning" set forth in the related statute) to the policyholder as to which of the listed perils are not covered under the policy.

The required notice must be:

1. Provided upon issuance and renewal of each policy;

2. In Times New Roman 16-point font or another equivalent font; and

3. Must be included in the policy on a separate page immediately before the Declarations page.

The following warning, citing which peril is not covered, must be furnished with each new policy and upon each renewal:

"WARNING: THIS PROPERTY INSURANCE POLICY DOES NOT PROTECT YOU AGAINST LOSSES FROM [FLOODS], [EARTHQUAKES], [MUDSLIDES], [MUDFLOWS], [LANDSLIDES], [WINDSTORM OR HAIL]. YOU SHOULD CONTACT YOUR INSURANCE COMPANY OR AGENT TO DISCUSS YOUR OPTIONS FOR OBTAINING COVERAGE FOR THESE LOSSES. THIS IS NOT A COMPLETE LISTING OF ALL OF THE CAUSES OF LOSSES NOT COVERED UNDER YOUR POLICY. YOU SHOULD READ YOUR ENTIRE POLICY TO UNDERSTAND WHAT IS COVERED AND WHAT IS NOT COVERED."

E. North Carolina Endorsement DP 32 46

Use this endorsement with all Dwelling Policies.

RULE A3.
WINDSTORM OR HAIL EXCLUSION – TERRITORIES ~~07, 08, 48, 49 AND 52~~110, 120, 130, 140, 150, and 160 ONLY

A. Introduction

The peril of Windstorm or Hail may be excluded if:

1. The property is located in an area eligible for such coverage from the North Carolina Insurance Underwriting Association; and

2. A Windstorm or Hail Rejection Form is secured and maintained by the company.

B. Premium Computation

1. To compute the Extended Coverage Non-seasonal or Seasonal Base Premium or the Broad or Special Form Non-seasonal Base Premium:

(a) Determine the Extended Coverage, Broad or Special Form Key Premium as described in Rule **301.**

(b) Subtract the Windstorm Or Hail Exclusion Credit shown on the state rates from the Extended Coverage, Broad or Special Form Key Premium.

(c) Multiply the Extended Coverage, Broad or Special Form Key Premium excluding Windstorm or Hail Coverage developed in Paragraph **(b)** by the Key Factor for the desired limit of liability.

2. To compute the Seasonal Broad or Special Form Base Premium:

(a) Determine the **DP 00 01** Extended Coverage Key Premium as described in Rule **301.**

(b) Multiply the **DP 00 01** Extended Coverage Key Premium by the appropriate Seasonal factor shown in Table **301.A.#26(LC)** or Table **301.A.#29(LC)** to determine the Seasonal Broad or Special Form Key Premium.

(c) Subtract the Windstorm Or Hail Exclusion Base Credit shown on the state rates from the Seasonal Broad or Special Form Key Premium determined in Paragraph **(b).**

(d) Multiply the Seasonal Broad or Special Form Key Premium excluding Windstorm Or Hail Coverage developed in Paragraph **(c)** by the Key Factor for the desired limit of liability.

C. Endorsement

Use Windstorm Or Hail Exclusion – North Carolina Endorsement **DP 32 87.**

When Windstorm Or Hail Exclusion Endorsement **DP 32 87** is attached to the policy, enter the following in Declarations:

"This policy does not provide coverage for the peril of Windstorm or Hail."

RULE A9.
WINDSTORM MITIGATION PROGRAM

A. Introduction

With respect to risks located in Territories ~~07, 08, 48, 49 and 52~~110, 120, 130, 140,150 and 160, premium credits shall be made available for insureds who build, rebuild or retrofit certain residential dwellings, in accordance with specified standards, to better resist hurricanes and other catastrophic windstorm events.

B. Eligibility

1. A dwelling may be eligible for a premium credit if:

a. The dwelling has been designed and constructed in conformity with, and has been certified as meeting, the Hurricane, Tornado and Hail and High Wind requirements of the Hurricane Fortified for Safer Living® (Fortified) program promulgated by the Institute for Business and Home Safety® (IBHS);

b. The dwelling has been certified as meeting, either the Bronze, Silver or Gold hurricane mitigation measures in the Hurricane Fortified for Existing Homes® program promulgated by the IBHS;

c. The dwelling contains Opening Protection in accordance with the qualification requirements set forth in Paragraph **D.1.b.;** or

d. The dwelling contains a Total Hip Roof.

2. The provisions of this rule do not apply:

a. To condominiums or tenant policies.

b. If the policy excludes the peril of Windstorm or Hail.

c. To dwellings under construction.

d. To Coverage **C** – Personal Property unless the policy also provides Coverage **A** – Dwelling.

e. To mobile homes.

3. To be eligible for a premium credit, mitigation features are not required for adjacent structures including, but not limited to, detached garages, storage sheds, barns, apartments, etc. located on the insured premises.

C. Proof of Compliance

The named insured must submit proof that the windstorm loss mitigation features and/or construction techniques have been implemented for each of the following:

1. IBHS Hurricane Fortified for Safer Living®

The named insured shall provide a copy of the proper designation certificate from the IBHS issued for the dwelling.

2. IBHS Hurricane Fortified for Existing Homes®

The named insured shall provide a copy of the proper designation certificate from the IBHS issued for the dwelling. The credit will apply for five years from the date of designation. In order to continue receiving the mitigation credit after five years, the dwelling must be re-inspected and re-designated by the IBHS. If the IBHS designation expires, the applicable mitigation credit will expire upon renewal.

3. Opening Protection

The existence of Opening Protection may be verified by proof of installation.

4. Total Hip Roof

The existence of a hip roof may be verified through photographs of the roof.

D. Description of Mitigation Credit Tables

With respect to dwellings to which this rule applies and subject to all other provisions of this Windstorm Mitigation Program, the following approved and properly maintained windstorm mitigation features shall be recognized for a premium credit.

1. Mitigation Features

a. IBHS Hurricane Fortified Homes

(1) A home designated by the IBHS as Hurricane Fortified for Safer Living®.

(2) A home designated by the IBHS as Hurricane Fortified for Existing Homes®, including:

(i) Hurricane Fortified for Existing Homes Bronze, Option 1

(ii) Hurricane Fortified for Existing Homes Bronze, Option 2

(iii) Hurricane Fortified for Existing Homes Silver, Option 1

(iv) Hurricane Fortified for Existing Homes Silver, Option 2

(v) Hurricane Fortified for Existing Homes Gold, Option 1

(vi) Hurricane Fortified for Existing Homes Gold, Option 2

b. Opening Protection

(1) Building opening protective features must have been tested and/or certified as having met standards of the American Society for Testing and Materials ASTM E 1886 (standard test method) and ASTM E 1996 (standard specification). Such opening protective features shall be considered qualified.

(2) Qualifying opening protection must be present at all exterior envelope openings (such as windows, garage doors, sliding doors, swinging doors, glass block, door sidelights, and skylights) on the dwelling structure. For the credit to apply, the following conditions must be met:

(i) In accordance with the qualification requirements set forth in Paragraph **D.1.b.(1):**

(a) All exterior building envelope openings with glazing (e.g. glass) shall have qualified impact-resistant and wind pressure-resistant opening protection;

(b) All exterior building envelope openings without glazing shall have qualified wind pressure-resistant opening protection; and

(c) All garage doors (with and without glazing) shall meet or exceed a qualified minimum pressure resistance.

(ii) Opening protection must be installed by a qualified contractor, according to the manufacturer's specifications.

(iii) Impact-resistant protective devices must not be made of wood structural panels, such as OSB or plywood, or be homemade.

c. Total Hip Roof

A Total Hip Roof is a roof that slopes in four directions such that the end formed by the intersection of slopes is a triangle.

E. Premium Determination

1. To compute the Extended Coverage Non-seasonal or Seasonal Base Premium or the Broad or Special Form Non-seasonal Base Premium:

a. Determine the Extended Coverage, Broad or Special Form Key Premium as described in Rule **301.**

b. Subtract the Coverage **A** Windstorm Loss Mitigation Credit shown on the state rates from the Coverage **A** Extended Coverage, Broad or Special Form Key Premium. If applicable, also subtract the Coverage **C** Windstorm Loss Mitigation Credit, shown on the state rates from the Coverage **C** Extended Coverage, Broad or Special Form Key Premium.

c. Multiply the Extended Coverage, Broad or Special Form Key Premium excluding Windstorm Loss Mitigation Coverage developed in Paragraph **1.b.** by the Key Factor for the desired limit of liability.

2. To compute the Seasonal Broad or Special Form Base Premium:

a. Determine the **DP 00 01** Extended Coverage Key Premium as described in Rule **301.**

b. Multiply the **DP 00 01** Extended Coverage Key Premium by the appropriate Seasonal factor shown in Table **301.A.#26(LC)** or Table **301.A.#29(LC)** to determine the Seasonal Broad or Special Form Key Premium.

c. Subtract the Coverage **A** Windstorm Loss Mitigation Credit shown in the state rates from the Coverage **A** Seasonal Broad or Special Form Key Premium determined in Paragraph **2.b.** If applicable, also subtract the Coverage **C** Windstorm Loss Mitigation Credit, shown on the state rates from the Coverage **C** Seasonal Broad or Special Form Key Premium.

d. Multiply the Seasonal Broad or Special Form Key Premium excluding Windstorm Loss Mitigation Coverage developed in Paragraph **2.c.** by the Key Factor for the desired limit of liability.

3. Mitigation Feature credits cannot be combined, except for Total Hip Roof and Opening Protection.

4. If mitigation measures are installed midterm, premium adjustment is required on a pro rata basis.

406. DEDUCTIBLES

Rule **406.** is replaced by the following:

All policies are subject to a deductible that applies to loss from all perils, except Earthquake. A separate deductible type applies to Earthquake Coverage as described in Rule **509.**

Refer to the Earthquake Coverage rule for the applicable deductible provision.

A. Base Deductible

$500 Deductible

B. Optional Deductibles

1. All Perils Deductibles

To compute the premium for these options, multiply the Base Premium for the Base Deductible by the factors selected from the following tables:

Fire				
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures				
	Coverages A, B, D Or E Limit (Expressed In $)			
Deductibles	**Up To 125,000**	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 100*	1.080	1.070	1.060	1.050
250*	1.040	1.035	1.030	1.025
1,000	0.981	0.987	0.988	0.992
2,500	0.933	0.953	0.959	0.973
5,000	0.865	0.906	0.919	0.945
7,500	0.809	0.866	0.884	0.922
10,000	0.759	0.829	0.854	0.901
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 Fire Deductibles.				

Table 406.B.1.#1 Fire Coverage A, B, D Or E Deductibles

Fire	
Coverage C And Other Personal Property Coverage Options	
Deductibles	**Factors**
$ 100*	1.070
250*	1.035
1,000	0.989
2,500	0.961
5,000	0.923
7,500	0.891
10,000	0.862
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 Fire Deductibles.	

Table 406.B.1.#2 Fire Coverage C Deductibles

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)				
E.C., V. & M.M., Broad And Special Forms				
Coverage A, B, D Or E And Coverage Options For Building And Non-building Structures				
	Coverage A, B, D Or E Limit (Expressed In $)			
Deductibles	**Up To 125,000**	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 100*	1.072	1.047	1.035	1.022
250*	1.040	1.027	1.021	1.011
1,000	0.935	0.957	0.967	0.980
2,500	0.800	0.857	0.888	0.935
5,000	0.665	0.741	0.791	0.874
7,500	0.582	0.660	0.719	0.825
10,000	0.530	0.599	0.662	0.784
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.				

Table 406.B.1.#3 E.C., V. & M.M., Broad And Special Forms Coverage A, B, D Or E Deductibles

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)	
E.C., V. & M.M., Broad And Special Forms	
Coverage C And Other Personal Property Coverage Options	
Deductibles	**Factors**
$ 100*	1.030
250*	1.016
1,000	0.973
2,500	0.910
5,000	0.833
7,500	0.775
10,000	0.728
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.	

Table 406.B.1.#4 E.C., V. & M.M., Broad And Special Forms Coverage C Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)				
E.C., V. & M.M., Broad And Special Forms				
Coverage A, B, D Or E And Coverage Options For Building And Non-building Structures				
	Coverage A, B, D Or E Limit (Expressed In $)			
Deductibles	**Up To 125,000**	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 100*	1.108	1.083	1.073	1.056
250*	1.060	1.047	1.044	1.034
1,000	0.910	0.928	0.939	0.948
2,500	0.727	0.773	0.802	0.838
5,000	0.548	0.603	0.645	0.711
7,500	0.451	0.500	0.541	0.621
10,000	0.393	0.436	0.472	0.555
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.				

Table 406.B.1.#5 E.C., V. & M.M., Broad And Special Forms Coverage A, B, D Or E Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)	
E.C., V. & M.M., Broad And Special Forms	
Coverage C And Other Personal Property Coverage Options	
Deductibles	**Factors**
$ 100*	1.077
250*	1.045
1,000	0.936
2,500	0.800
5,000	0.651
7,500	0.555
10,000	0.489
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.	

Table 406.B.1.#6 E.C., V. & M.M., Broad And Special Forms Coverage C Deductibles

2. Windstorm Or Hail Deductibles

When the policy covers the peril of Windstorm or Hail, the following deductible options may be used in conjunction with a deductible applicable to all other perils covered under Extended Coverage, Broad or Special Forms. They may not be used on a policy in conjunction with a Named Storm deductible as described in Paragraph **3.**

a. Percentage Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail percentage deductibles of 1%, 2%, 5%, 7.5% and 10% of the limit of liability that applies to Coverage **A, B, D** or **E,** whichever is greatest, when the dollar amount of the percentage deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Windstorm Or Hail Percentage Deductible Endorsement **DP 03 12.**

(3) Declarations Instructions

Enter, on the policy Declarations, the percentage amount that applies to Windstorm or Hail and the dollar amount that applies to All Other Perils. For example:

Deductible – Windstorm or Hail 2% of the Coverage **A** limit and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible percentage amounts that apply to Windstorm or Hail, deductible amounts that apply to other perils, and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible percentage amounts that apply to Windstorm or Hail and the deductible amounts that apply to other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories ~~07, 08, 48, 49 and 52~~110, 120, 130, 140, 150 and 160), additional calculations must be performed to ensure that the premium credit applied to the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

(a) Property **Not** Located in Area Serviced by the NCIUA

To compute the premium for this provision, multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected for the desired windstorm or hail deductible options from the following tables.

(b) Property **Is** Located in Area Serviced by the NCIUA

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rates, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories ~~07, 08, 48, 49 And 52 Only~~110 120, 130, 140, 150 And 160 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired windstorm or hail deductible option from the following tables and subtract the factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the windstorm or hail deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less than** the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired windstorm or hail deductible option

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Percentage	**All Other Perils Deductible Amounts**	**Coverages A, B, D Or E Limit (Expressed In $)**			
		Up To 125,000	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
1%	$ 100	0.956	0.926	0.916	0.899
	250	0.952	0.925	0.915	0.898
	500	0.946	0.924	0.913	0.897
	1,000	0.933	0.921	0.911	0.895
	2,500	–	–	–	0.879
	5,000	–	–	–	0.878
	7,500	–	–	–	0.872
	10,000	–	–	–	0.855
2%	100	0.868	0.841	0.832	0.818
	250	0.866	0.840	0.832	0.817
	500	0.863	0.838	0.830	0.816
	1,000	0.856	0.836	0.828	0.815
	2,500	–	0.830	0.823	0.810
	5,000	–	–	–	0.805
	7,500	–	–	–	0.797
	10,000	–	–	–	0.792
5%	100	0.705	0.680	0.675	0.665
	250	0.704	0.679	0.674	0.664
	500	0.701	0.678	0.673	0.663
	1,000	0.697	0.675	0.670	0.661
	2,500	0.686	0.669	0.665	0.657
	5,000	0.671	0.663	0.659	0.652
	7,500	–	0.657	0.655	0.648
	10,000	–	–	0.651	0.646
7.5%	100	0.622	0.599	0.594	0.585
	250	0.620	0.598	0.593	0.585
	500	0.618	0.596	0.592	0.584
	1,000	0.615	0.594	0.590	0.582
	2,500	0.606	0.588	0.585	0.577
	5,000	0.594	0.581	0.578	0.572
	7,500	0.585	0.578	0.574	0.569
	10,000	–	0.574	0.572	0.566
10%	100	0.557	0.535	0.531	0.522
	250	0.555	0.534	0.530	0.522
	500	0.553	0.533	0.529	0.521
	1,000	0.550	0.530	0.527	0.519
	2,500	0.542	0.524	0.521	0.515
	5,000	0.532	0.518	0.515	0.510
	7,500	0.524	0.514	0.511	0.506
	10,000	0.518	0.511	0.509	0.504

Table 406.B.2.a.(7)#1 Coverage A, B, D Or E Windstorm Or Hail Percentage Deductible.

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)								
Coverage C And Other Personal Property Coverage Options*								
Windstorm Or Hail Deductible Percentage	**All Other Perils Deductible Amounts (Expressed In $)**							
	100	**250**	**500**	**1,000**	**2,500**	**5,000**	**7,500**	**10,000**
1%	0.909	0.908	0.906	0.902	0.890	0.876	0.870	0.853
2%	0.827	0.826	0.825	0.822	0.815	0.804	0.795	0.791
5%	0.671	0.670	0.669	0.667	0.662	0.655	0.650	0.645
7.5%	0.591	0.590	0.589	0.587	0.582	0.575	0.571	0.568
10%	0.528	0.527	0.526	0.523	0.518	0.513	0.508	0.505
* Only use when policy also covers building or non-building structures.								

Table 406.B.2.a.(7)#2 Coverage C And Other Personal Property Windstorm Or Hail Percentage Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Percentage	**All Other Perils Deductible Amounts**	**Coverages A, B, D Or E Limit (Expressed In $)**			
		Up To 125,000	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
1%	$ 100	0.990	0.947	0.926	0.885
	250	0.975	0.937	0.917	0.878
	500	0.949	0.921	0.902	0.867
	1,000	0.903	0.893	0.878	0.848
	2,500	–	–	–	0.802
	5,000	–	–	–	0.711
	7,500	–	–	–	0.654
	10,000	–	–	–	0.608
2%	100	0.916	0.866	0.843	0.802
	250	0.902	0.855	0.833	0.795
	500	0.879	0.840	0.819	0.784
	1,000	0.841	0.812	0.794	0.765
	2,500	–	0.748	0.737	0.718
	5,000	–	–	–	0.664
	7,500	–	–	–	0.605
	10,000	–	–	–	0.567
5%	100	0.785	0.730	0.711	0.688
	250	0.771	0.720	0.701	0.681
	500	0.749	0.705	0.687	0.669
	1,000	0.715	0.676	0.663	0.650
	2,500	0.634	0.612	0.605	0.604
	5,000	0.540	0.542	0.539	0.549
	7,500	–	0.495	0.496	0.511
	10,000	–	–	0.464	0.483
7.5%	100	0.729	0.681	0.667	0.650
	250	0.715	0.670	0.658	0.643
	500	0.693	0.655	0.643	0.632
	1,000	0.659	0.626	0.619	0.613
	2,500	0.582	0.563	0.561	0.566
	5,000	0.498	0.492	0.495	0.512
	7,500	0.444	0.449	0.453	0.474
	10,000	–	0.421	0.423	0.446
10%	100	0.692	0.650	0.640	0.626
	250	0.678	0.639	0.630	0.619
	500	0.656	0.624	0.616	0.608
	1,000	0.623	0.596	0.591	0.589

2,500	0.548	0.532	0.534	0.542
5,000	0.466	0.461	0.468	0.487
7,500	0.417	0.419	0.425	0.449
10,000	0.384	0.391	0.396	0.422

Table 406.B.2.a.(7)#3 Coverage A, B, D Or E Windstorm Or Hail Percentage Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)								
Coverage C And Other Personal Property Coverage Options*								
Windstorm Or Hail Deductible Percentage	**All Other Perils Deductible Amounts (Expressed In $)**							
	100	**250**	**500**	**1,000**	**2,500**	**5,000**	**7,500**	**10,000**
1%	0.927	0.917	0.901	0.873	0.789	0.693	0.634	0.587
2%	0.845	0.836	0.821	0.796	0.733	0.646	0.585	0.548
5%	0.719	0.709	0.695	0.671	0.616	0.550	0.504	0.469
7.5%	0.674	0.665	0.650	0.626	0.573	0.510	0.467	0.436
10%	0.646	0.636	0.621	0.598	0.545	0.483	0.441	0.412
* Only use when policy also covers building or non-building structures.								

Table 406.B.2.a.(7)#4 Coverage C And Other Personal Property Windstorm Or Hail Percentage Deductibles

b. Higher Fixed-Dollar Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail fixed-dollar deductible amounts of $1,000, $2,000, $5,000, $7,500 and $10,000 when the dollar amount of the higher fixed-dollar deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

An endorsement is not required.

(3) Declarations Instructions

Separately enter, on the policy Declarations, the deductible amounts that apply to Windstorm or Hail and All Other Perils. For example: $1,000 for Windstorm or Hail and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible amounts that apply to Windstorm or Hail and to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible amounts that apply to Windstorm or Hail and other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories ~~07, 08, 48, 49 and 52~~110, 120, 130, 140, 150 and 160), additional calculations must be performed to ensure that the premium credit applied to the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

(a) Property **Not** Located in Area Serviced by the NCIUA

Multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected for the desired windstorm or hail

deductible options from the following tables.

(b) Property **Is** Located in Area Serviced by the NCIUA

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rates under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories ~~07, 08, 48, 49 And 52 Only~~110, 120, 130, 140, 150 And 160 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired windstorm or hail deductible option from the following tables and subtract the factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the windstorm or hail deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less than** the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired windstorm or hail deductible option.

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Amounts	**All Other Perils Deductible Amounts**	**Coverage A Or B Limit (Expressed In $)**			
		Up To 125,000	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 1,000	$ 100	0.942	0.962	0.972	0.984
	250	0.940	0.961	0.971	0.983
	500	0.938	0.959	0.970	0.982
2,000	100	0.850	0.896	0.921	0.955
	250	0.849	0.895	0.920	0.954
	500	0.847	0.893	0.918	0.953
	1,000	0.843	0.891	0.916	0.952
5,000	100	0.685	0.758	0.807	0.887
	250	0.683	0.757	0.806	0.886
	500	0.681	0.756	0.805	0.885
	1,000	0.678	0.753	0.803	0.883
	2,500	0.672	0.747	0.797	0.879
7,500	100	0.606	0.681	0.738	0.841
	250	0.605	0.680	0.738	0.841
	500	0.603	0.679	0.736	0.840
	1,000	0.600	0.676	0.734	0.838
	2,500	0.593	0.670	0.729	0.833
	5,000	0.586	0.664	0.723	0.828
10,000	100	0.556	0.623	0.684	0.803
	250	0.555	0.622	0.684	0.802
	500	0.553	0.621	0.682	0.801
	1,000	0.550	0.618	0.680	0.799
	2,500	0.543	0.612	0.675	0.795
	5,000	0.536	0.606	0.669	0.790
	7,500	0.532	0.602	0.665	0.786

Table 406.B.2.b.(7)#1 Coverage A, B, D Or E Windstorm Or Hail Fixed-dollar Deductibles

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)							
Coverage C And Other Personal Property Coverage Options*							
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts (Expressed In $)						
	100	250	500	1,000	2,500	5,000	7,500
$ 1,000	0.977	0.977	0.975	–	–	–	–
2,000	0.937	0.936	0.935	0.933	–	–	–
5,000	0.848	0.847	0.846	0.844	0.839	–	–
7,500	0.793	0.792	0.791	0.789	0.784	0.778	–
10,000	0.750	0.749	0.747	0.745	0.740	0.735	0.731
* Only use when policy also covers building or non-building structures.							

Table 406.B.2.b.(7)#2 Coverage C And Other Personal Property Windstorm Or Hail Fixed-dollar Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts	Coverage A ~~Or~~And B Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 1,000	$ 100	0.979	0.983	0.987	0.985
	250	0.965	0.972	0.978	0.978
	500	0.943	0.957	0.963	0.967
2,000	100	0.900	0.917	0.930	0.940
	250	0.886	0.907	0.921	0.933
	500	0.864	0.892	0.906	0.922
	1,000	0.831	0.863	0.882	0.903
5,000	100	0.766	0.791	0.817	0.849
	250	0.752	0.781	0.808	0.842
	500	0.730	0.766	0.793	0.831
	1,000	0.697	0.737	0.769	0.812
	2,500	0.624	0.673	0.711	0.765
7,500	100	0.712	0.731	0.756	0.797
	250	0.698	0.721	0.747	0.790
	500	0.676	0.706	0.732	0.779
	1,000	0.643	0.677	0.708	0.760
	2,500	0.569	0.613	0.650	0.713
	5,000	0.494	0.543	0.584	0.659
10,000	100	0.681	0.695	0.716	0.759
	250	0.666	0.684	0.706	0.752
	500	0.645	0.669	0.692	0.741
	1,000	0.611	0.640	0.668	0.722
	2,500	0.538	0.577	0.610	0.675
	5,000	0.462	0.506	0.544	0.620
	7,500	0.420	0.463	0.501	0.582

Table 406.B.2.b.(7)#3 Coverage A, B, D Or E Windstorm Or Hail Fixed-dollar Deductibles

Territories ~~32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60~~170-390 (Inland)							
Coverage C And Other Personal Property Coverage Options*							
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts (Expressed In $)						
	100	250	500	1,000	2,500	5,000	7,500
$ 1,000	0.983	0.974	0.959	–	–	–	–
2,000	0.924	0.915	0.900	0.877	–	–	–
5,000	0.813	0.803	0.789	0.765	0.712	–	–
7,500	0.756	0.747	0.732	0.708	0.655	0.595	–
10,000	0.718	0.709	0.694	0.671	0.618	0.557	0.517
* Only use when policy also covers building or non-building structures.							

Table 406.B.2.b.(7)#4 Coverage C And Other Personal Property Windstorm Or Hail Fixed-dollar Deductibles

3. Named Storm Deductibles – Territories ~~07, 08, 48, 49 and 52~~110, 120, 130, 140, 150 and 160

When the policy covers the peril of Windstorm or Hail, the following deductible options may be used in the listed territories in conjunction with the deductible applicable to all other Perils under Extended Coverage, Broad or Special Forms. They may not be used on a policy in conjunction with a Windstorm or Hail deductible as described in Paragraph **2.**

a. Percentage Deductibles – Territories ~~07, 08, 48, 49 and 52 Only~~110, 120, 130, 140,150 And 160 Only

(1) Deductible Amounts

This option provides for higher Named Storm percentage deductibles of 1%, 2%, 5%, 7.5% and 10% of the limit of liability that applies to Coverage **A, B, D** or **E,** whichever is greatest, when the dollar amount of the percentage deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Named Storm Deductible – North Carolina Endorsement **DP 32 18.**

(3) Declarations Instructions

Enter, on the policy Declarations, the percentage amount that applies to Named Storm and the dollar amount that applies to All Other Section **I** Perils. For example:
Deductible – Named Storm 2% of Coverage **A** limit and $500 for all other perils.

(4) Deductible Application

In the event of a Named Storm loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings and Non-building Structures differ by the deductible percentage amounts that apply to Named Storm, deductible amounts that apply to other perils and the Coverage **A, B, D** or **E** limit.
The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible percentage amounts that apply to Named Storm and the deductible amounts that apply to other perils.

(6) Use Of Factors

The factors displayed in Paragraph **(7)** incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Named Storm deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories ~~07, 08, 48, 49 and 52~~110, 120,130,140,150 and 160), additional calculations must be performed to ensure that the premium credit applied for the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rate pages, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories ~~07, 08, 48, 49 And 52 Only~~110, 120, 130, 140,150 And 160 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired named storm deductible option from the following table and subtract that factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the named storm deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less** than the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** the result in Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired named storm deductible option.

Territories ~~07, 08, 48, 49, 52~~ 110, 120, 130, 140, 150 and 160(Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Named Storm Percentage	**All Other Perils Deductible Amounts**	**Coverage A, B, D Or E Limit (Expressed In $)**			
		Up To 125,000	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
1%	$ 100	0.958	0.928	0.918	0.902
	250	0.954	0.927	0.917	0.901
	500	0.947	0.925	0.915	0.900
	1,000	0.933	0.922	0.912	0.897
	2,500	–	–	–	0.886
	5,000	–	–	–	0.878
	7,500	–	–	–	0.872
	10,000	–	–	–	0.855
2%	100	0.872	0.845	0.837	0.824
	250	0.869	0.844	0.836	0.823
	500	0.865	0.842	0.834	0.821
	1,000	0.857	0.838	0.831	0.819
	2,500	–	0.831	0.824	0.813
	5,000	–	–	–	0.806
	7,500	–	–	–	0.798
	10,000	–	–	–	0.792
5%	100	0.711	0.688	0.683	0.673
	250	0.709	0.687	0.682	0.672
	500	0.707	0.685	0.680	0.671
	1,000	0.702	0.681	0.677	0.668
	2,500	0.689	0.674	0.670	0.663
	5,000	0.671	0.665	0.662	0.656
	7,500	–	0.657	0.656	0.651
	10,000	–	–	0.652	0.647
7.5%	100	0.629	0.608	0.603	0.594
	250	0.628	0.606	0.602	0.594
	500	0.625	0.605	0.600	0.592
	1,000	0.621	0.601	0.597	0.590
	2,500	0.609	0.593	0.590	0.584
	5,000	0.595	0.584	0.582	0.577
	7,500	0.585	0.579	0.577	0.572
	10,000	–	0.575	0.573	0.569
10%	100	0.565	0.545	0.541	0.532
	250	0.563	0.543	0.539	0.531
	500	0.561	0.541	0.538	0.530
	1,000	0.557	0.538	0.535	0.527
	2,500	0.546	0.530	0.528	0.521
	5,000	0.534	0.521	0.519	0.515
	7,500	0.525	0.516	0.514	0.510
	10,000	0.519	0.512	0.510	0.506

Table 406.B.3.a.(7)#1 Coverage A, B, D Or E Named Storm Percentage Deductible

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150, 160 (Beach & Coastal)								
Coverage C And Other Personal Property Coverage Options*								
	All Other Perils Deductible Amounts (Expressed In $)							
Named Storm Percentage	**100**	**250**	**500**	**1,000**	**2,500**	**5,000**	**7,500**	**10,000**
1%	0.912	0.910	0.908	0.904	0.890	0.876	0.869	0.852
2%	0.832	0.831	0.829	0.825	0.817	0.804	0.795	0.790
5%	0.679	0.678	0.676	0.673	0.666	0.658	0.651	0.646
7.5%	0.600	0.599	0.597	0.594	0.587	0.579	0.573	0.569
10%	0.537	0.536	0.534	0.531	0.525	0.516	0.511	0.507
* Only use when policy also covers building or non-building structures.								

Table 406.B.3.a.(7)#2 Coverage C And Other Personal Property Named Storm Percentage Deductibles

b. Higher Fixed-dollar Deductibles – Territories ~~07, 08, 48, 49 And 52 Only~~110, 120,130,140,150 And 160 Only

(1) Deductible Amounts

This option provides for higher Named Storm Fixed-dollar deductible amounts of $1,000, $2,000, $5,000, $7,500 and $10,000 when the dollar amount of the higher fixed-dollar deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Named Storm Deductible – North Carolina Endorsement **DP 32 18.**

(3) Declarations Instructions

Enter, on the policy Declarations, the deductible amounts that apply to Named Storm and All Other Perils. For example: $1,000 for Named Storm and $500 for All Other Perils.

(4) Deductible Application

In the event of a Named Storm loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible amounts that apply to Named Storm and to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible amounts that apply to Named Storm and to other perils.

(6) Use Of Factors

The factors displayed in Paragraph **(7)** incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Named Storm deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories~~ 07, 08, 48, 49 and 52~~110, 120,130,140,150 and 160), additional calculations must be performed to ensure that the premium credit applied for the deductible is not greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rate pages, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories~~ 07, 08, 48, 49 And 52 Only~~110, 120,130,140,150 And 160 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired named storm deductible option from the following table and subtract that factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form

Base Premium. The result is the named storm deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less** than the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** the result in Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired named storm deductible option.

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Named Storm Deductible Fixed-dollar Amounts	**All Other Perils Deductible Amounts**	**Coverage A ~~Or~~ And B Limit (Expressed In $)**			
		Up To 125,000	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 1,000	$ 100	0.943	0.963	0.973	0.985
	250	0.942	0.962	0.972	0.984
	500	0.939	0.960	0.970	0.983
2,000	100	0.853	0.899	0.923	0.957
	250	0.852	0.897	0.922	0.956
	500	0.849	0.895	0.920	0.955
	1,000	0.845	0.892	0.917	0.953
5,000	100	0.692	0.764	0.812	0.891
	250	0.690	0.763	0.811	0.890
	500	0.687	0.761	0.810	0.889
	1,000	0.683	0.757	0.807	0.887
	2,500	0.674	0.750	0.800	0.881
7,500	100	0.614	0.689	0.745	0.847
	250	0.613	0.687	0.744	0.846
	500	0.610	0.686	0.743	0.845
	1,000	0.606	0.682	0.740	0.842
	2,500	0.597	0.674	0.733	0.837
	5,000	0.587	0.665	0.724	0.830
10,000	100	0.565	0.631	0.692	0.809
	250	0.563	0.630	0.691	0.809
	500	0.561	0.628	0.690	0.807
	1,000	0.557	0.625	0.687	0.805
	2,500	0.548	0.617	0.680	0.799
	5,000	0.538	0.608	0.671	0.792
	7,500	0.533	0.602	0.666	0.787

Table 406.B.3.b.(7)#1 Coverage A, B, D Or E Named Storm Higher Fixed-dollar Deductibles

Territories ~~07, 08, 48, 49, 52~~110, 120, 130, 140, 150 and 160 (Beach & Coastal)							
Coverage C And Other Personal Property Coverage Options*							
Named Storm Deductible Fixed-dollar Amounts	**All Other Perils Deductible Amounts (Expressed In $)**						
	100	**250**	**500**	**1,000**	**2,500**	**5,000**	**7,500**
$ 1,000	0.979	0.978	0.976	–	–	–	–
2,000	0.940	0.939	0.937	0.934	–	–	–
5,000	0.853	0.852	0.850	0.848	0.841	–	–
7,500	0.800	0.799	0.797	0.794	0.788	0.780	–
10,000	0.757	0.756	0.754	0.752	0.745	0.737	0.732
* Only use when policy also covers building or non-building structures.							

Table 406.B.3.b.(7)#2 Coverage C And Other Personal Property Named Storm Higher Fixed-dollar Deductibles

To develop the Seasonal Base Premiums, multiply the following factors by the **DP 00 01** Extended Coverage Base Premiums:

Territory	DP 00 02	DP 00 03
~~07, 08~~	~~1.10~~	~~1.20~~
~~32, 34, 41, 45 – 47, 53~~	~~1.50~~	~~1.55~~
~~36, 38, 39, 44, 60~~	~~1.50~~	~~1.55~~
~~48, 49, 52~~	~~1.10~~	~~1.20~~
~~57~~	~~1.50~~	~~1.55~~

Territory	DP 00 02	DP 00 03
110-160	1.10	1.20
170-390	1.50	1.55

Table 301.A.#26(R) Extended Coverage, Broad And Special Forms – Coverage A Seasonal Key Premiums Forms DP 00 02 And DP 00 03

RULE 508.
TREES, SHRUBS AND OTHER PLANTS

C. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

The rates in the following table apply to all occupancies, territories, construction and protection classifications, unless otherwise specified:

Fire (DP 00 01)	
Protection Class	**Rates Per $1,000**
1 – 8	$ 2.50
8B, 9, 9E, 9S & 10	4.50

Extended Coverage (DP 00 01) – All Specified Perils		
	Rates Per $1,000	
Territory	**Including Wind Or Hail**	**Excluding Wind Or Hail**
~~07, 08~~ 110-120	$ 57.00	$ 1.00
~~48, 49, 52~~ 130-160	29.00	1.00
~~32, 34, 41, 45, 47, 53~~ 170-290	15.00	1.00
~~36, 38, 39, 44, 57, 60~~ 300-390	13.10	1.00

Windstorm Or Hail (DP 00 02 And DP 00 03)	
Territory	**Rates Per $1,000**
~~07, 08~~ 110-120	$ 56.00
~~48, 49, 52~~ 130-160	28.00
~~32, 34, 41, 45 , 47, 53~~ 170-290	14.00
~~36, 38, 39, 44, 57, 60~~ 300-390	12.10

Table 508.C.1.(R) Premium Computation

NORTH CAROLINA

DWELLING INSURANCE

SECTION G - INFORMATION REQUIRED BY N.C. GENERAL STATUTE 58-36-15 (d2) and (d3)

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NOTE: THIS SECTION IS INCLUDED SEPARATELY AS PART 2 OF THE FILING

Notice to Manualholders

PERSONAL LINES
DWELLING POLICY PROGRAM MANUAL – MULTISTATE RULES
NOTICE DP-MU-2014-RU-001

CAUTION

Refer to state Notices for announcement of the use of this revision in individual jurisdictions.

INSTRUCTIONS TO MANUALHOLDERS

If your company has adopted this revision, you should insert the enclosed page(s) into your manual.

EFFECTIVE DATE

Refer to individual state Notices for effective date language.

CHANGE(S)

This notice presents the 2014 revisions to the Dwelling Policy Program Manual – General Rules. The following rules were revised:

- Rule **102.** Perils Insured Against has been revised to more closely reflect coverages provided by the individual Dwelling Policy forms.
- Rule **104.** Protection Classification Information has been revised to refer manual users to the ISO Community Mitigation Classification (CMC) Manual when determining the ISO Public Protection Classification information.
- Rule **210.** Refer To Company has been revised to introduce a facultative reinsurance rule.
- Rule **402.** Coverage **C** – Personal Property In Buildings Subject To Commercial Class Rates Or Specific Rates has been revised to complement changes made in Division Five of the Commercial Lines Manual (CLM).
- Rule **501.** Coverage **B** – Other Structures has been revised to add instructions which advise that no entry is needed in the policy Declarations for Coverage **B** since this coverage is automatically provided on a blanket basis for up to 10% of the Coverage **A** limit in all Dwelling policy forms.
- Rule **502.** Coverage **D** – Fair Rental Value and Coverage **E** – Additional Living Expense has been revised to add instructions which advise that no entry is needed in the policy Declarations for Coverage **D** in Form **DP 00 01** and for Coverages **D** and **E** in Forms **DP 00 02** and **DP 00 03** since these coverages are automatically provided for up to 20% of the Coverage **A** limit available. In addition, we have made changes to complement the companion forms filing.
- Rule **505.** Building Items Condo Unit-owner – **DP 00 01** Or **DP 00 02** has been revised to delete Paragraph **B.** to complement a change in the companion forms filing.
- Rule **510.** Theft Coverage has been revised to change the base deductible for Theft Coverage to $500 and introduce a new deductible factor for the $250 option. In addition, the factors for $1,000 and $2,500 have been revised to correspond with this change.
- Rule **513.** Limited Water Back-up And Sump Discharge Or Overflow Coverage has been revised to reflect that increased limits of coverage are now available.
- Rule **515.** Motorized Golf Cart – Physical Loss Coverage has been revised to delete text referencing the separate deductible for each involved golf cart.
- Rule **517.** Limited Fungi, Wet Or Dry Rot, Or Bacteria Coverage has been revised to reinforce that the limits provided are on an aggregate basis and to delete text to condense and streamline the rule.

Rule **211.** Additional Insured has been introduced to complement Additional Insured Described Location Endorsement **DP 04 41.**

Exceptions to the General Rules were previously filed and implemented on an individual state basis for eventual multistate application. Now that the exceptions apply in most states, the following exceptions are being relocated to the General Rules:

- Rule **303.** Ordinance Or Law Coverage – All Forms (Table **303.B.3.a.(1)(a)** and Table **303.B.3.a.(2)**)
- Rule **406.** Deductibles, multistate text in Paragraphs **A.** and **B.**
- Rule **503.** Ordinance Or Law Coverage For Coverage **B** – Specific Structures, Building Items And Improvements, Alterations And Additions (Paragraph **C.2.**)
- Rule **509.** Earthquake Coverage (Paragraphs **E.3., E.4., E.5.** and **F.**)

The following rules have been revised to make minor editorial revisions:

- Rule **204.** Multiple Locations
- Rule **205.** Multiple Policies
- Rule **304.** Permitted Incidental Occupancies
- Rule **404.** Mobile Or Trailer Homes – **DP 00 01** Only
- Rule **407.** Automatic Increase In Insurance
- Rule **408.** Protective Devices
- Rule **409.** Actual Cash Value Loss Settlement Windstorm Or Hail Losses To Roof Surfacing – **DP 00 02, DP 00 03** And **DP 00 01** With **DP 00 08**
- Rule **410.** Building Code Effectiveness Grading
- Rule **504.** Improvements, Alterations And Additions Tenant And Co-op Unit-owner – **DP 00 01** Or **DP 00 02**
- Rule **511.** Sinkhole Collapse Coverage

COMPANION REVISION

We are simultaneously revising our forms, which are being distributed under separate Notices.

REVISED PAGE(S)

DP-i thru DP-viii

DP-1 thru DP-23

PAGE CHECKLIST

Included in this distribution is a page checklist displaying the latest page numbers and edition dates.

REFERENCE INFORMATION (FOR COMPANY USE ONLY)

Circular Reference(s):

- Refer to individual state Notices for the approval/implementation circular references.
- LI-DP-2013-097 (07/01/2013) Dwelling Policy Program 2014 Multistate Loss Costs Revision To Be Submitted
- LI-DP-2013-096 (07/01/2013) Dwelling Policy Program 2014 Multistate Rules Revision To Be Submitted

Filing Reference(s):

- DP-2013-RRU13
- DP-2013-RLC13

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DWELLING POLICY PROGRAM MANUAL
PAGE CHECKLIST – MULTISTATE

THIS MANUAL PAGE CHECKLIST DISPLAYS THE LATEST PAGE INFORMATION AS OF **7-14.**

NOTE: ALWAYS USE THE EDITION NUMBER TO DETERMINE THE LATEST PAGE.

IF YOUR MANUAL PAGES DO NOT COINCIDE WITH THIS LISTING, CONTACT CUSTOMER SUPPORT FOR THE NECESSARY MATERIAL TO UPDATE YOUR MANUAL.

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	NUMBER	DATE		NUMBER	DATE
DP-MU-2014-RU-001	–	7-14	DP-1 thru DP-23	2nd	7-14
DP-i thru DP-viii	2nd	7-14			

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PART I
COVERAGE AND DEFINITION TYPE RULES

RULE 100.
INTRODUCTION

A. About The Dwelling Manual

The Dwelling Policy Program provides property and related coverages using the forms and endorsements referred to in this Manual. The rates, rules, forms and endorsements of the company shall apply in all cases not provided for in this Manual. This program does not apply to Farm Property. Refer to the company for its method of insuring farm property.

B. Manual Structure

1. Contents

The Dwelling Policy Program Manual contains the rules, classifications and rating provisions for the issuance of the Dwelling Policy. The Manual is divided into two sections, multistate general rules and state rules and rates.

The multistate general rules section contains rules common to most states. Any departures, additions, etc. to these rules, unique to individual jurisdictions, are contained in the state rules and rates section.

The general rules do **not** contain premiums, rates, charges or credits expressed in dollars and cents. They do, however, contain rating factors that are applied to state premiums.

2. General Rules

These rules are grouped into the following categories:

a. Part **I** – Coverage And Definition Type Rules,

b. Part **II** – Servicing Type Rules,

c. Part **III** – Base Premium Computation Rules,

d. Part **IV** – Adjusted Base Premium Computation Rules, and

e. Part **V** – Additional Coverages And Increased Limits Rules.

3. State Rules And Rates/ISO Loss Costs

These rules are grouped into the following categories:

a. Exceptions and Additional Rules,

b. Special State Requirements,

c. Territory Definitions,

d. Key Premium/Key Factor Tables, and

e. Premiums, Rates, Charges and Credits.

C. Company Rates/ISO Loss Costs

1. Definition

This Manual contains either ISO loss costs or individual company rates. A loss cost is that portion of the premium which covers only losses and the costs associated with settling losses.

2. Company Rates

All rules in this Manual are designed to be utilized with rates. All references in the rules and examples to rates and/or premiums (including base premiums) shall be interpreted to mean those established by the individual insurance company.

3. Loss Cost Conversion

Each insurance company must provide manualholders with either its own rates or with procedures to convert ISO loss costs to rates and/or premiums. If an insurer provides its own rates, use them in place of the ISO loss costs in this Manual. If an insurer does not provide its own rates, manualholders must convert ISO loss costs in this Manual to rates and/or premiums before applying any of the rules. Refer to the company for special instructions – including rounding procedures – on how to do this.

RULE 101.
FORMS, COVERAGES, MINIMUM LIMITS OF LIABILITY

A. Forms

The Dwelling Policy Program makes available the following policy forms:

1. Dwelling Property 1 Basic Form **DP 00 01,**

2. Dwelling Property 2 Broad Form **DP 00 02,** and

3. Dwelling Property 3 Special Form **DP 00 03.**

B. Coverages

1. Forms **DP 00 02** and **DP 00 03** provide the following coverages. These coverages are written as separate items in the policy or in separate policies:

a. Coverage **A** – Dwelling

b. Coverage **B** – Other Structures

c. Coverage **C** – Personal Property

d. Coverage **D** – Fair Rental Value

e. Coverage **E** – Additional Living Expense

2. Form **DP 00 01** provides Coverages **A** through **D;** Coverage **E** is available by endorsement.

RULE 101.
FORMS, COVERAGES, MINIMUM LIMITS OF LIABILITY
(Cont'd)

C. Minimum Limits Of Liability

The following coverages are subject to a minimum limit of liability:

Coverages	Minimum Limit
Coverage **A** – Dwelling	$12,000 (Form **DP 00 02**) $15,000 (Form **DP 00 03**)
Coverage **C** – Personal Property	$4,000 without Coverage **A** (Forms **DP 00 02** and **DP 00 03**)
There are **no** minimum limits for Form **DP 00 01**	

Table 101.C. Minimum Limits Of Liability

RULE 102.
PERILS INSURED AGAINST

The following is a general description of the coverages provided by the individual Dwelling Policy Forms. The policy should be consulted for exact contract conditions.

Perils	DP 00 01 Basic Form	DP 00 02 Broad Form	DP 00 03 Special Form
Fire or Lightning, Internal Explosion	Yes	Yes	Yes
Extended Coverage meaning Windstorm or Hail, Explosion, Riot or Civil Commotion, Aircraft, Vehicles, Smoke, Volcanic Eruption	Optional*	Yes	Yes
Vandalism or Malicious Mischief	Optional**	Yes	Yes
Damage by burglars, Falling objects, Weight of ice, snow or sleet, Accidental discharge or overflow of water or steam, Sudden and accidental tearing apart of a heating system or appliance for heating water, Freezing, Sudden and accidental damage from artificially generated electrical current.	No	Yes	Yes
Additional risks with certain exceptions	No	No	Yes***
* May only be written with the perils of Fire or Lightning, Internal Explosion ** May only be written with Extended Coverage *** Special Coverage (Coverages **A** and **B**)			

Table 102. Perils Insured Against

RULE 103. ELIGIBILITY

A Dwelling Policy may be issued to provide insurance under:

A. Coverage **A** – on a dwelling building:

1. Used solely for residential purposes except that certain incidental occupancies or up to 5 roomers or boarders are permitted;

2. Containing not more than four apartments; and

3. Which may be in a townhouse or rowhouse structure; or

4. In course of construction.

B. Coverage **A** – on a mobile or trailer home:

1. Using Form **DP 00 01** only;

2. Used solely for residential purposes except that certain incidental occupancies or up to 5 roomers or boarders are permitted;

3. Containing not more than one apartment;

4. For a policy period of not longer than one year; and

5. At the permanent location described in the policy.

C. Coverage **B:**

1. At the same location as the dwelling eligible for insurance under Coverage **A;**

2. Not used for business purposes except a permitted incidental occupancy or when rented for use as a private garage;

3. At a separate location when used in connection with the insured location but not for business purposes.

D. Coverage **C** in:

1. A dwelling, mobile or trailer home eligible under Coverage **A;** or

2. A dwelling with rental apartments including furnishings, equipment and appliances in halls or utility rooms; or

3. Any apartment, cooperative or condominium unit used as private living quarters of the insured or rented to others.

E. Coverage **D** for the loss of the fair rental value of:

1. A building eligible for insurance under Coverage **A** or **B;** or

2. Private living quarters eligible under Coverage **C.**

F. Coverage **E** for the additional living expenses incurred to maintain the insured's household.

RULE 104. PROTECTION CLASSIFICATION INFORMATION

Determine the ISO Public Protection Classification; refer to ISO's Community Mitigation Classifications (CMC) Manual, applicable to the municipality or classified area where the insured property is located.

RULE 105. SEASONAL DWELLING DEFINITION

A seasonal dwelling is a dwelling with continuous unoccupancy of three or more consecutive months during any one year period.

RULE 106.
CONSTRUCTION DEFINITIONS

A. Frame

Exterior wall of wood or other combustible construction, including wood iron-clad, stucco on wood or plaster on combustible supports or aluminum or plastic siding over frame.

B. Masonry Veneer

Exterior walls of combustible construction veneered with brick or stone.

C. Masonry

Exterior walls constructed of masonry materials such as adobe, brick, concrete, gypsum block, hollow concrete block, stone, tile or similar materials and floors and roof of combustible construction. (Disregarding floors resting directly on the ground).

D. Superior Construction

1. Non-Combustible

Exterior walls and floors and roof constructed of, and supported by metal, asbestos, gypsum, or other noncombustible materials.

2. Masonry Non-Combustible

Exterior walls constructed of masonry materials (as described in Paragraph **C.**) and floors and roof of metal or other non-combustible materials.

3. Fire Resistive

Exterior walls and floors and roof constructed of masonry or other fire resistive materials.

E. Mixed (Masonry/Frame)

A combination of both frame and masonry construction shall be classed and coded as frame when the exterior walls of frame construction (including gables) exceed 33 1/3% of the total exterior wall area; otherwise class as masonry.

RULE 107.
SINGLE AND SEPARATE BUILDINGS DEFINITION

A. Single Building

All buildings or sections of buildings which are accessible through unprotected openings shall be considered as a single building.

B. Separate Building

1. Buildings which are separated by space shall be considered separate buildings.

2. Buildings or sections of buildings which are separated by:

a. A 6 inch reinforced concrete or an 8 inch masonry party wall; or

b. A documented minimum two hour non-combustible wall which has been laboratory tested for independent structural integrity under fire conditions;

which pierces or rises to the underside of the roof and which pierces or extends to the innerside of the exterior wall shall be considered separate buildings. Accessibility between buildings with independent walls or through masonry party walls described above shall be protected by at least a Class A Fire Door installed in a masonry wall section.

RULE 108. – 200.
RESERVED FOR FUTURE USE

PART II
SERVICING TYPE RULES

RULE 201.
POLICY PERIOD

The policy may be written for a period of:

A. One year and may be extended for successive policy periods by extension certificate based upon the forms, premiums and endorsements then in effect for the company.

B. Three years prepaid at three times the annual premium.

C. Three years in annual installments. Each annual installment shall be the annual premium then in effect for the company. Use Deferred Premium Payment Endorsement **DP 04 32.**

For maintaining common anniversary dates, a policy may be written for a period less than one year or less than three years on a pro rata basis.

RULE 202.
CHANGES OR CANCELLATIONS

If insurance is increased, cancelled or reduced, the additional or return premium shall be computed on a pro rata basis, subject to the minimum premium.

RULE 203.
MANUAL PREMIUM REVISION

A manual premium revision shall be made in accordance with the following procedures:

A. The effective date of such revision shall be as announced.

B. The revision shall apply to any policy or endorsement in the manner outlined in the announcement of the revision.

C. Unless otherwise provided at the time of the announcement of the premium revision, the revision shall not affect:

1. In-force policy forms, endorsements or premiums, until the policy is renewed; or

2. In the case of a Deferred Premium Payment Plan, in-force policy premiums, until the anniversary following the effective date of the revision.

RULE 204.
MULTIPLE LOCATIONS

A policy may be issued to provide insurance at more than one Described Location in the same state provided:

A. The same form and deductible applies at each location;

B. A separate policy Declarations page is completed for each location; or

C. The policy Declarations page is completed by:

1. Showing the total policy premium for all locations in the premium payments section.

2. Showing the deductible by entry of the deductible amount and adding "at each location".

3. Inserting the form number that applies.

4. Adding an appropriate reference to the Additional Dwelling Declarations or company equivalent.

RULE 205.
MULTIPLE POLICIES

A. Application

Insurance may be provided on the same property under two or more Dwelling policies in one or more companies as follows:

1. The same form and endorsements must apply to all policies.

2. The same deductible amount must apply to all policies.

B. Endorsement

Use Premium Sharing – Two Or More Policies Endorsement **DP 04 30.**

C. Premium

The premium for each policy is developed as follows:

1. Compute the premium for the total limits of liability from the manual of the company issuing each policy.

2. Allocate the premium determined in Paragraph **1.** based on the ratio of each policy's limit of liability to the total limits of liability for all policies.

RULE 205.
MULTIPLE POLICIES (Cont'd)

D. Example

The following example is a premium computation between two companies using a $50,000 Coverage **A** Limit. The premiums shown are only for illustration.

Each Company's	Company A	Company B
Percentage share	70%	30%
Premium for $50,000 Cov. **A**	$240	$200
Each Company's Policy Premium	168 (70% of 240)	60 (30% of 200)
Total Premium	(168 + 60) = 228	

Table 205.D. Example

RULE 206.
MINIMUM PREMIUM

A. For prepaid policies a minimum **annual** premium shall be charged for each policy.

B. When policies are written under a premium payment plan, no payment shall be less than the minimum premium for each annual period.

C. The minimum premium may include all chargeable endorsements or coverages for Fire or Fire and Allied Lines if written at inception of the policy.

D. The minimum annual premium shall **not** include charges for Theft or Earthquake Coverage, except when Earthquake is the only peril covered under the policy.

E. Refer to company for minimum premium.

RULE 207.
TRANSFER OR ASSIGNMENT

Subject to the consent of the company, all rules of this Manual and any necessary adjustments of premium, a policy may be endorsed to effect:

A. Transfer to another location within the same state; or

B. Assignment from one insured to another in the event of transfer of title of the dwelling.

RULE 208.
WAIVER OF PREMIUM

A. When a policy is endorsed after the inception date, an amount of additional or return premium may be waived.

B. Refer to company for amount that may be waived.

RULE 209.
WHOLE DOLLAR PREMIUM RULE

Each premium shown on the policy and endorsements shall be rounded to the nearest whole dollar. A premium of fifty cents ($.50) or more shall be rounded to the next higher whole dollar.

In the event of cancellation by the company, the return premium may be carried to the next higher whole dollar.

RULE 210.
REFER TO COMPANY

Refer to company for:

A. Rating or classifying any risk for which there is no manual rate.

B. Situations where a portion of the property coverage is reinsured on a facultative basis.

The following rating procedure is available for the determination of the applicable premium:

1. Manual rules and rates shall apply to the portion of the property limit of liability retained by the company.

2. For any portion of the limit(s) of liability obtained by means of facultative reinsurance, the premium shall be the facultative cost for such insurance increased by a charge up to but not exceeding 50% of the facultative cost.

With respect to premium developed in accordance with this Paragraph **2.,** the company is responsible for maintaining complete files, including all details relating to selection of the premium charge.

Whenever a risk is rated on a refer-to-company basis each company is responsible for complying with regulatory or statutory rate filing or disclosure requirements.

Note

Rates shall not be inadequate, excessive or unfairly discriminatory.

RULE 211.
ADDITIONAL INSURED

A. Coverage Description

1. In addition to the named insured shown in the Declarations, another person or organization may be considered an insured in this policy with respect to Coverage **A** – Dwelling and Coverage **B** – Other Structure at the Described Location listed in the Schedule, or elsewhere in the policy. The interest of such persons or organization and the Described Location to which it applies may be acknowledged by naming them in the endorsement referenced in Paragraph **C.**

2. Such persons or organizations are entitled to receive notification if the policy is canceled or nonrenewed by the insurer.

RULE 211.
ADDITIONAL INSURED (Cont'd)

B. Premium Computation

No additional charge is made for use of this endorsement.

C. Endorsement

Use Additional Insured Endorsement **DP 04 41.**

RULES 212. – 300.
RESERVED FOR FUTURE USE

PART III
BASE PREMIUM COMPUTATION RULES

RULE 301.
BASE PREMIUM COMPUTATION

To compute the Base Premium, use the Key Premiums and Key Factors that are displayed in Rule **301.** Refer to state company rates/ISO loss costs.

A. Fire (All Forms), Extended Coverage (DP 00 01), Broad Form (DP 00 02), Or Special Form (DP 00 03) For Coverage A – Dwelling/Coverage C – Personal Property

1. From the Key Premium Table in this Manual, select the Key Premium for the classifications or coverages that apply to the risk.

2. From the Key Factor Table in this Manual, determine the Key Factor for the desired limit of liability. If the desired limit of liability is not shown in the table, **interpolate** as illustrated in Paragraph **B.** of this rule.

3. Multiply the Key Premium by the Key Factor and round to the nearest whole dollar to develop the Base Premium ($.50 or more rounded to the next higher whole dollar).

B. Interpolation Example

1. When the desired limit of liability is **less** than the highest limit shown, interpolate the Key Factors using the nearest limit above and below the desired limit, for example:

a. $25,500 desired limit; the nearest limits are $25,000 and $26,000.

b. For $25,000 the Key Factor is 1.082; for $26,000 the Key Factor is 1.098. Figure the difference between the two Key Factors and divide by 10. This provides a factor per $100.

$$\begin{array}{r} 1.098 \\ -\ 1.082 \\ \hline .016 \div 10 = .0016 \end{array}$$

c. Multiply the factor per $100 times five, and add 1.082: the Key Factor for $25,000:

$$\begin{array}{r} .0016 \\ \times\ 5 \\ \hline .0080 + 1.082 = 1.090 \end{array}$$

d. The result, 1.090, is the Key Factor for this example.

2. The factors shown in the interpolation example are for illustration only and are not necessarily the factors shown in the Key Factor Table of this Manual.

RULE 302.
VANDALISM AND MALICIOUS MISCHIEF – DP 00 01

Develop the Base Premium by multiplying the same limit of liability selected for Extended Coverage by the Vandalism and Malicious Mischief rate. Refer to state company rates/ISO loss costs.

RULE 303.
ORDINANCE OR LAW COVERAGE – ALL FORMS

A. Applicability By Form

1. DP 00 01

Coverage is **not** automatically included in this form but may be added by endorsement. See Paragraph **B.** for rating instructions.

2. DP 00 02 And DP 00 03

A limited amount of coverage is automatically included at each Described Location to pay for the increased costs necessary to comply with the enforcement of an ordinance or law. This amount is equal to 10% of the limit of liability that applies to:

a. Coverage **A** or Unit-owner Building Items if the insured is an owner of a Described Location; or

b. Coverage **B** if the insured is an owner of a Described Location which is not insured for Coverage **A** or Unit-owner Building Items; or

c. Improvements, Alterations and Additions if the insured is a tenant of a Described Location.

This amount may be increased by endorsement. See Paragraph **B.** for rating instructions.

RULE 303.
ORDINANCE OR LAW COVERAGE – ALL FORMS
(Cont'd)

B. New Or Increased Coverage

1. Ordinance Or Law Coverage

The policy may be endorsed to add (Form **DP 00 01**) or increase (Form **DP 00 02/DP 00 03**) basic Ordinance or Law Coverage to accommodate the increased costs known or estimated by the insured for material and labor to repair or replace the damaged property and to demolish the undamaged portion of damaged property and clear the site of resulting debris according to the ordinance or law.

2. Endorsement

For Form **DP 00 01,** use Ordinance Or Law Coverage Endorsement **DP 04 74.** For Form **DP 00 02** or **DP 00 03,** use Ordinance Or Law – Increased Amount Of Coverage Endorsement **DP 04 71.**

3. Premium Determination

a. Described Location Including Coverage A

(1) Form DP 00 01

(a) Fire And Extended Coverage

The premium is computed by multiplying the Base Premium by the appropriate factor selected from the following table:

Percentage Of Coverage A	
Total Amount	**Factors**
10%	1.03
25%	1.08
50%	1.15
75%	1.23
100%	1.30
For each add'l 25% increment, add:	.08

Table 303.B.3.a.(1)(a) Factors

(b) Vandalism And Malicious Mischief

Multiply the rate per $1,000 used to determine the Vandalism and Malicious Mischief Base Premium by the dollar amount of coverage added. Then multiply the result by .30.

(2) DP 00 02 Or DP 00 03 – Fire, Broad Or Special Forms

The premium is computed by multiplying the Base Premium by the appropriate factor selected from the following table:

Percentage Of Coverage A		
Increase In Amount	**Total Amount**	**Factors**
15%	25%	1.05
40%	50%	1.12
65%	75%	1.20
90%	100%	1.27
For each add'l 25% increment, add:		.08

Table 303.B.3.a.(2) Factors

b. Described Location Not Including Coverage A, But Including Coverage B – Specific Structures, Unit-owner Building Items, And/Or Improvements, Alterations And Additions

See Rule **503.** for rating instructions.

RULE 304.
PERMITTED INCIDENTAL OCCUPANCIES

A. Coverage Description

1. One of the incidental occupancies described in Paragraph **B.** is permitted in a premises eligible for coverage under a Dwelling Policy, if:

a. The policy provides insurance under Coverage **A, B** or **C;**

b. The incidental occupancy is operated by the insured who is the owner or a resident of the premises; and

c. There are no more than two persons at work in the incidental occupancy.

2. Use Permitted Incidental Occupancies Endorsement **DP 04 20.**

B. Permitted Incidental Occupancies

1. Offices, Schools or Studios meaning offices for business or professional purposes, and private schools or studios for music, dance, photography and other instructional purposes.

2. Small Service Occupancies meaning occupancies primarily for service rather than sales. For example: barber or beauty shop, tailor or dressmaker, telephone exchanges or shoe repair shops using handwork only.

3. Storage of merchandise if the value of the merchandise does not exceed $10,000.

RULE 304.
PERMITTED INCIDENTAL OCCUPANCIES (Cont'd)

C. Amount Of Insurance

The amounts of insurance for the contents of the incidental occupancy and merchandise in storage shall be stated as separate contents items in the policy Declarations.

D. Premium Computation

Determine the Coverage **C** Base Premium under Rule **301.,** using the single Key Factor for the total amount of insurance for:

1. Household personal property,

2. Contents of the incidental occupancy, and

3. Merchandise in storage.

RULE 305.
LOSS SETTLEMENT OPTIONS

A. Functional Replacement Cost Loss Settlement – Forms DP 00 02 And DP 00 03 Only

1. Introduction

The policy provides building loss settlement on a replacement cost basis if, at the time of loss, the amount of insurance on the damaged building represents at least 80% of the full replacement cost of the building immediately before the loss.

2. Coverage Description

The policy may be endorsed to provide building loss settlement exclusively on a functional replacement cost basis if, at the time of loss, the amount of insurance on the damaged building is 80% or more of the functional replacement cost of the building immediately before the loss. Functional Replacement Cost means the amount which it would cost to repair or replace the damaged building with less costly common construction materials and methods which are functionally equivalent to obsolete, antique or custom construction materials and methods.

3. Premium Computation

Develop the Base Premium in accordance with Rule **301.** for the amount of insurance selected for this option.

4. Endorsement

Use Functional Replacement Cost Loss Settlement Endorsement **DP 05 30.**

B. Actual Cash Value Loss Settlement – Forms DP 00 02 And DP 00 03 Only

1. Introduction

The policy provides building loss settlement on a replacement cost basis if, at the time of loss, the amount of insurance on the damaged building represents at least 80% of the full replacement cost of the building immediately before the loss.

2. Coverage Description

The policy may be endorsed to provide building loss settlement exclusively on an actual cash value basis if, on the inception date of the policy, the Coverage **A** limit of liability selected by the insured is less than 80% of the full replacement cost of the dwelling.

3. Premium Computation

The premium is computed by multiplying the Base Premium by the appropriate factor from the following table:

Coverage A Limit Of Liability Equals Less Than_____% Of Replacement Value	Factor
80%, but not less than 50%	1.05
Less than 50%	1.10

Table 305.B.3. Factors

4. Endorsement

Use Actual Cash Value Loss Settlement Endorsement **DP 04 76.**

RULES 306. – 400.
RESERVED FOR FUTURE USE

PART IV
ADJUSTED BASE PREMIUM COMPUTATION RULES

RULE 401.
SUPERIOR CONSTRUCTION

A. Introduction

Refer to the Construction Definition rule in this Manual for details.

B. Extended Coverage Rating Classification

For Extended Coverage rating purposes a dwelling classified as:

1. Fire Resistive is considered Wind Resistive.

2. Masonry Non-Combustible is considered Semi-Wind Resistive.

C. Premium Computation

Multiply the Masonry Base Premium by the appropriate factor selected from the following table:

Classifications	Fire	E.C., Broad & Special Forms
Fire Resistive & Masonry Non-Combustible	.50	.50
Non-Combustible	.50	1.00

Table 401.C. Superior Construction Factors

RULE 402.
COVERAGE C – PERSONAL PROPERTY IN BUILDINGS SUBJECT TO COMMERCIAL CLASS RATES OR SPECIFIC RATES

A. Fire

If the building is classified in Division Five of the Commercial Lines Manual – Fire And Allied Lines, Rule **85.,** Paragraph **B.1., B.2., B.3.** or **B.4.,** use the appropriate factor selected from the following table:

Types Of Construction	B.1. Or B.2.*	All Other B.2. Classifications, B.3., B.4. Or Is Rated Specifically
1. Fire Resistive, Masonry Non-Comb. & Non-Comb. Multiply the Masonry Coverage **C** Base Premium by:	.50	1.00
2. All Other Construction Multiply the Masonry Coverage **C** or Frame Base Premium by:	1.00	2.00
* Hotels and Motels Without Restaurant Only		

Table 402.A. Coverage C – Personal Property In Buildings

B. Extended Coverage, Vandalism And Malicious Mischief, Broad Or Special Form

Multiply the Coverage **C** Base Premium by 1.00.

RULE 403.
DWELLING UNDER CONSTRUCTION

A. Coverage Description

Two methods are provided for insuring this exposure.

1. Named Insured Is The Intended Occupant

A builder (contractor) may be designated as an additional insured. The policy may be cancelled upon completion of the dwelling. Use Dwelling Under Construction Endorsement **DP 11 43.**

2. Named Insured Is Not The Intended Occupant

The policy shall specify building is in course of construction and permission is granted to complete.

For other coverage bases, refer to the Commercial Lines Manual.

B. Premium Computation

1. Multiply the Coverage **A** Owner Occupied Base Premium by .65.

2. Multiply the Coverage **A** Non-Owner Occupied Base Premium by 1.00.

RULE 404.
MOBILE OR TRAILER HOMES – DP 00 01 ONLY

Refer to the state company rates/ISO loss costs.

Rule **410.** does not apply to Mobile or Trailer homes.

RULE 405.
TOWNHOUSE OR ROWHOUSE

A. Individual Family Units

Determine the total number of individual family units within a Fire Division. For example, a two family dwelling attached to a one family dwelling is considered **three** individual family units within a Fire Division if both dwellings are not separated by a fire wall. Four attached two family dwellings are considered **eight** individual family units within a Fire Division if they are not separated by fire walls. A policy may be issued for:

1. Coverage **A** when the dwelling contains one, two, three or four individual family units within a Fire Division.

2. Coverage **C** in a dwelling with one or more individual family units within a Fire Division.

RULE 405.
TOWNHOUSE OR ROWHOUSE (Cont'd)

B. Premium Computation

Number Of Individual Family Units	Use Coverage A* Or C Base Premium
1, 2, 3 or 4	1, 2, 3 or 4 families
5 or more	5 or more families
* Refer to Commercial Lines Manual for Building Coverage when it contains five or more individual family units within a Fire Division	

Table 405.B. Townhouse Or Rowhouse

RULE 406.
DEDUCTIBLES

All policies are subject to a deductible that applies to loss from all perils except Earthquake. A separate deductible type applies to Earthquake Coverage as described in Rule **509.**

For Theft Coverage, the deductible amount may differ from the deductible amount that applies to Fire and Allied Lines perils.

Refer to the Earthquake and Theft Coverage rules for the applicable deductible provision.

A. Base Deductible

$500 Deductible.

B. Optional Deductibles

1. All Perils Deductibles

To compute the premium for these options, multiply the Base Premium for the Base Deductible by the factors selected from the state exception pages.

2. Windstorm Or Hail Deductibles

When the policy covers the peril of Windstorm or Hail, the following deductible options may be used in conjunction with a deductible applicable to all other perils covered under Extended Coverage, Broad or Special Forms.

a. Percentage Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail percentage deductibles of 1%, 2%, 5%, 7.5% and 10% of the limit of liability that applies to Coverage **A, B, D** or **E,** whichever is greatest, when the dollar amount of the percentage deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Windstorm Or Hail Percentage Deductible Endorsement **DP 03 12.**

(3) Declarations Instructions

Enter, on the policy Declarations, the percentage amount that applies to Windstorm or Hail and the dollar amount that applies to All Other Perils. For example:

Deductible – Windstorm or Hail 2% of the Coverage **A** limit and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and coverage options for buildings and non-building structures differ by the deductible percentage amounts that apply to Windstorm or Hail, deductible amounts that apply to other perils, and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and other personal property coverage options differ by the deductible percentage amounts that apply to Windstorm or Hail and the deductible amounts that apply to other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

To compute the premium for this provision, multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected from the state exception pages.

RULE 406.
DEDUCTIBLES (Cont'd)

b. Higher Fixed-dollar Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail fixed-dollar deductible amounts of $1,000, $2,000, $5,000, $7,500 and $10,000 when the dollar amount of the higher fixed-dollar deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

An endorsement is not required.

(3) Declarations Instructions

Separately enter, on the policy Declarations, the deductible amounts that apply to Windstorm or Hail and All Other Perils. For example: $1,000 for Windstorm or Hail and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and coverage options for buildings and non-building structures differ by the deductible amounts that apply to Windstorm or Hail and to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and other personal property coverage options differ by the deductible amounts that apply to Windstorm or Hail and other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

To compute the premium for this provision, multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected from the state exception pages.

RULE 407.
AUTOMATIC INCREASE IN INSURANCE

A. Coverage Description

The policy may be endorsed to provide automatic annual increases in the Coverage **A** and **B** limits of liability.

B. Premium Computation

1. The premium is computed by multiplying the Base Premium by the appropriate factors selected from the following table as follows:

Amount Of Annual Increase	Factor
4%	1.02
6%	1.03
8%	1.04
Each Add'l 4% over 8% add:	.02

Table 407.B.1. Factors

2. The premium for a three-year policy is 3.2 times the annual policy premium.

C. Endorsement

Use Automatic Increase In Insurance Endorsement **DP 04 11.**

RULE 408.
PROTECTIVE DEVICES

A. Protective Devices Factors

Approved and properly maintained installations of fire alarms and automatic sprinklers in the dwelling may be recognized for a reduced premium – computed by multiplying the Fire Base Premium by the selected factors below:

Protective Devices Factors

Type Of Installation*	Dwelling Factor	Mobile Or Trailer Home Factor
Central Station Reporting Fire Alarm	.90 to 1.00	.92 to 1.00
Fire Department Reporting Fire Alarm	.93 to 1.00	.95 to 1.00
Local Fire Alarm	.95	.97
Automatic Sprinklers In All Areas Including Attics, Bathrooms, Closets, Attached Structures	.80 to .90	.90 to .95
Automatic Sprinklers In All Areas Except Attic, Bathroom, Closet And Attached Structure Areas That Are Protected By A Fire Detector	.90 to 1.00	.95 to 1.00
* Refer to company for eligibility, types of systems and devices, installations, and available credits		

Table 408.A. Protective Devices Factors

B. Endorsement

Use Premises Alarm Or Fire Protection System Endorsement **DP 04 70.**

RULE 409.
ACTUAL CASH VALUE LOSS SETTLEMENT WINDSTORM OR HAIL LOSSES TO ROOF SURFACING – DP 00 02, DP 00 03 AND DP 00 01 WITH DP 00 08

A. Introduction

The policy provides settlement for building losses on a repair or replacement cost basis, subject to certain conditions.

B. Coverage Description

The policy may be endorsed to provide loss settlement exclusively on an Actual Cash Value basis for roof surfacing when damage is caused by the peril of Windstorm or Hail.

C. Premium Determination

To develop a premium for this option, multiply the Extended Coverage, if applicable, and Broad or Special Form Base Premium by a factor of .98.

D. Endorsement

Use Actual Cash Value Loss Settlement Windstorm Or Hail Losses To Roof Surfacing Endorsement **DP 04 75.**

RULE 410.
BUILDING CODE EFFECTIVENESS GRADING

This rule does not apply to Mobile or Trailer homes.

A. General Information

1. The Building Code Effectiveness Grading Schedule (BCEGS) develops a grade of 1 to 10 for a community based on the adequacy of its building code and the effectiveness of its enforcement of that code. Policies which cover the perils of Windstorm or Hail or Earthquake may be eligible for special rating treatment, subject to the criteria in the following paragraphs. The BCEGS factor applies, where applicable, in addition to the Public Protection Classification factors.

2. In some communities, two BCEGS classifications may be assigned. One classification for personal lines indicated next to "PERS" will apply to one- and two-family dwelling buildings and/or personal property contained in such buildings. The other classification indicated next to "COML" will apply to all other buildings occupied for residential, commercial and/or manufacturing purposes, including personal and business property contained therein. The ISO Community Mitigation Classifications will indicate the application of each grade.

3. Refer to the ISO Community Mitigation Classifications (CMC) Manual for the BCEGS classifications for a community and their effective dates.

B. Community Grading

1. The BCEGS classification applies to any building that has an original certificate of occupancy dated the year of the effective date of the community grading, or later. A rating factor has been developed for each community classification.

2. If a community is regraded subsequent to its initial grading, the factor for the revised grade applies to buildings that have an original certificate of occupancy dated the year of the effective date of the revised grading, or later.

3. Where certificates of occupancy are not issued, equivalent documentation acceptable to the company may be used.

4. If, due to an addition or alteration, the original building is changed to comply with the latest building code, the factor for the community classification applicable at the time the reconstruction is completed will apply to such building.

RULE 410.
BUILDING CODE EFFECTIVENESS GRADING (Cont'd)

5. The BCEGS classification may apply to Windstorm or Hail or Earthquake, or to both. Specific information is provided in the ISO Community Mitigation Classifications (CMC) Manual. If the grade in the manual does not apply to one of the perils, the factor should not be applied for that peril.

C. Individual Grading

Where buildings have been built in full conformance with the natural hazard mitigation elements of one of the nationally recognized building codes even though the community grade is greater than one, exception rating procedures may apply.

1. Any building may be classified as a 1 for Windstorm or Hail upon certification by a registered or licensed design professional, based on an on-site inspection, that such building is in compliance with one of the three nationally recognized building codes with respect to mitigation of the windstorm or hail hazard. This classification is effective only from the date of the certification.

2. Any building may be classified as a 1 for Earthquake upon certification by a registered or licensed design professional, based on an on-site inspection, that such building is in compliance with the earthquake mitigation elements of one of the three nationally recognized building codes. This classification is effective only from the date of the certification.

D. Ungraded Risks

Buildings which do **not** meet the criteria in Paragraph **B.** or **C.** for classification assignment are rated and coded as ungraded risks. Do not classify as a 10.

E. Premium Credit Computation

1. Community Grading

a. Windstorm Or Hail

Compute the premium credit as follows:

(1) For buildings which are eligible under Paragraph **B.** of this rule, and for personal property inside such buildings, multiply the Key Premium for Extended Coverage **(DP 00 01)** by the applicable factor in Paragraph **E.1.c.(1);** and

(2) Multiply the result from Paragraph **(1)** by the Key Factor for the desired amount of insurance.

b. Earthquake

When Earthquake Endorsement **DP 04 69** is attached to the policy, multiply the Earthquake Base Premium by the appropriate factor in Paragraph **E.1.c.(2)** located in the state exceptions.

c. Credit Factors

Refer to state exceptions for state-specific factors.

2. Individual Grading

For any building classified as a 1 based upon certification as set forth in Paragraph **C.,** use the appropriate factor listed under Paragraph **E.1.c.** located in the state exceptions.

RULES 411. – 499.
RESERVED FOR FUTURE USE

PART V
ADDITIONAL COVERAGES AND INCREASED LIMITS RULES

RULE 500.
MISCELLANEOUS LOSS COSTS

This rule is reserved to provide rates for various rating rules in this Manual. Refer to state company rates/ISO loss costs.

RULE 501.
COVERAGE B – OTHER STRUCTURES

A. Coverage Description

Coverage for other structures described as covered under Coverage **B** is automatically provided on a blanket basis for up to 10% of the Coverage **A** limit.

1. Under Form **DP 00 01,** use of this option reduces the Coverage **A** limit for the same loss.
2. Under Form **DP 00 02** or **DP 00 03,** this limit is additional insurance.

The blanket limit may not be increased.

No entry is needed in the policy Declarations for this coverage to apply.

B. Specific Structures Coverage

Coverage may be purchased for specific structures. Enter the limit of liability and description of each structure in the policy Declarations. Refer to Paragraph **C.** for premium computation instructions.

C. Premium Computation

1. Structure Rented To Others For Dwelling Purposes

Rate each structure separately as a Coverage **A** Dwelling, Non-Owner-Occupied under Rule **301.**

2. Structure Not Rented To Others For Dwelling Purposes

a. Policy includes Coverage **A** or structure does not have permitted incidental occupancy or is at same Described Location as the dwelling:

(1) Fire, Extended Coverage, Broad And Special Forms

Refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

(2) Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

b. Policy does not include Coverage **A** or structure has permitted incidental occupancy or is not at same Described Location as the dwelling:

(1) Fire, Extended Coverage, Broad And Special Forms

Rate each structure separately as a Coverage **A** item under Rule **301.** using the one Family Key Premium.

(2) Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

RULE 502.
COVERAGE D – FAIR RENTAL VALUE
COVERAGE E – ADDITIONAL LIVING EXPENSE

A. Introduction

Coverage is automatically provided in the forms on a limited basis as follows:

1. Form DP 00 01

a. Coverage D

Up to 20% of the Coverage **A** limit is available. Use of this option reduces the Coverage **A** limit for the same loss. No entry is needed in the policy Declarations for this coverage to apply.

b. Coverage E

Not automatically included in form. It may be added as noted in Paragraph **B.**

2. Form DP 00 02 Or DP 00 03

Coverage **D** and **E** combined – Up to 20% of the Coverage **A** limit is available for Coverage **D** and Coverage **E** combined as additional insurance. No entry is needed in the policy Declarations for this coverage to apply.

B. Coverage Description

Coverage may be increased or added as follows for all forms:

1. Coverage D

a. The amount recoverable each month under this coverage shall be based on the lost rental income less any expenses that do not continue during untenability.

b. Enter amount of increase in the policy Declarations.

c. For **DP 00 01,** the amount recoverable each month is limited to a fraction of the total rental value amount insured under the policy. This fraction is equal to one divided by the number of months dwelling is rented per year.

RULE 502.
COVERAGE D – FAIR RENTAL VALUE
COVERAGE E – ADDITIONAL LIVING EXPENSE (Cont'd)

DP 00 01 Example

Factors		
$10,000	=	Rental Value Coverage in Form (20% of Coverage **A** limit of $50,000)
+2,000	=	Additional Insurance (Shown under Coverage **D** in policy Declarations)
$12,000	=	Total Rental Value Amount Insured
Scenario A		
If dwelling is rented for entire year, then fraction = 1/12. $12,000 X 1/12 = Up to $1,000 available each month.		
Scenario B		
If dwelling is rented 8 months per year, then fraction = 1/8. $12,000 X 1/8 = Up to $1,500 available each month.		

Table 502.B.1.c. DP 00 01 Example

2. Coverage E

a. Enter initial limit **(DP 00 01)** or amount of increase **(DP 00 02** or **DP 00 03)** in policy Declarations.

b. For **DP 00 01,** the amount recoverable each month is limited to no more than 25% per month of the total additional living expense amount insured under the policy.

c. For **DP 00 01,** use Additional Living Expense Endorsement **DP 04 14.**

C. Premium Computation

1. Policy Includes Coverage A Or Coverage C

a. Fire, Extended Coverage, Broad And Special Forms

Refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

b. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

2. Policy Does Not Include Coverage A Or Coverage C

a. Fire, Extended Coverage, Broad And Special Forms

(1) One To Four Family Dwelling

Multiply the Coverage **A** Key Premium by the Coverage **A** Key Factor, for:

(a) The Coverage **D** limit, times .53; or

(b) The Coverage **E** limit, times 1.00

(2) Five Or More Family Dwelling

Calculate the premium as instructed above using the Four Family Key Premium.

b. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

RULE 503.
ORDINANCE OR LAW COVERAGE FOR COVERAGE B – SPECIFIC STRUCTURES, BUILDING ITEMS AND IMPROVEMENTS, ALTERATIONS AND ADDITIONS

A. Coverage Description

1. DP 00 01

The policy may be endorsed to add an amount of Ordinance or Law Coverage equal to the amounts noted in Paragraphs **1.** and **2.**

2. DP 00 02 Or DP 00 03

The basic 10% of coverage may be initially increased to the amounts noted in Paragraphs **A.2.a.** and **b.**

a. 50% of the total Coverage **B** or Unit-owner Building Items limit; or

b. 100% of the Improvements, Alterations and Additions limit.

B. Increased Limits

These amounts may be further increased in 25% increments.

C. Premium Determination

1. The premium for this additional coverage is determined based on the dollar amount of coverage added for **DP 00 01,** or the dollar amount of increase, represented by the increased percentage selected above the basic limit for **DP 00 02** or **DP 00 03.**

2. Multiply state company rates/ISO loss costs Rule **500.** Miscellaneous Rates by .30.

RULE 504. IMPROVEMENTS, ALTERATIONS AND ADDITIONS TENANT AND CO-OP UNIT-OWNER – DP 00 01 OR DP 00 02

A. Introduction

Named perils coverage is automatically provided in the forms for up to 10% of the Coverage **C** limit.

1. DP 00 01

Use of this option reduces the Coverage **C** limit for the same loss.

2. DP 00 02

This limit is additional insurance.

This limit may be increased for an additional premium.

B. Special Coverage

For Form **DP 00 02,** coverage may be extended to Special Coverage for an additional premium.

C. Stand Alone Coverage

Coverage may be written without Coverage **A, B, C, D** or **E.**

D. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

a. If the policy includes Coverage **A, B, C, D** or **E,** refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

b. If the policy does not include Coverage **A, B, C, D** or **E,** multiply the Coverage **A.,** Four Family, Owner-occupied Key Premium (for the territory, protection and construction applying to the Described Location) by the Coverage **A** Key Factor for the amount of insurance desired.

2. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

E. Endorsement

1. To provide Named Perils Coverage, use Improvements, Alterations And Additions Endorsement **DP 04 31.**

2. To provide Special Coverage, use Improvements, Alterations And Additions Endorsement **DP 04 31** and Special Coverage Endorsement **DP 04 65.**

RULE 505. BUILDING ITEMS CONDO UNIT-OWNER – DP 00 01 OR DP 00 02

A. Coverage Description

Unit-owners building items are not covered in the forms.

However, for an additional premium, coverage is available on a Named Perils or Special Coverage basis.

B. Stand Alone Coverage

Coverage may be written without Coverage **A, B, C, D** or **E.**

C. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

a. If the policy includes Coverage **A, B, C, D** or **E,** refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

b. If the policy does not include Coverage **A, B, C, D** or **E,** multiply the Coverage **A.,** Four Family, Owner-Occupied Key Premium (for the territory, protection and construction applying to the Described Location) by the Coverage **A** Key Factor for the amount of insurance desired.

2. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

D. Endorsement

1. To provide Named Perils Coverage, use Form **DP 00 01** or **DP 00 02** and Unit-owners Coverage Endorsement **DP 17 66.**

2. To provide Special Coverage, use Form **DP 00 02** and Unit-owners Coverage Endorsement **DP 17 66** and Special Coverage Endorsement **DP 04 65.**

RULE 506.
LOSS ASSESSMENT PROPERTY COVERAGE CO-OP OR CONDO UNIT-OWNER OR TENANT – DP 00 01 OR DP 00 02 DWELLING BUILDING OWNER – ALL FORMS

A. Coverage Description

1. Coverage for property loss assessment, for which the insured may be liable, is not included in the forms.

2. Coverage is available for an additional premium for all insured perils.

3. When coverage is desired for the peril of Earthquake, refer to Rule **509.C.** for policy writing and rating instructions.

B. Stand Alone Coverage

Coverage may be written without Coverage **A, B, C, D** or **E.**

C. Endorsement

Use Loss Assessment Property Coverage Endorsement **DP 04 63.**

D. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

a. If the policy includes Coverage **A, B, C, D** or **E,** refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

b. If the policy does not include Coverage **A, B, C, D,** or **E,** multiply the Coverage **A.,** Four Family, Owner-Occupied Key Premium (for the territory, protection and construction applying to the described location) by the Coverage **A** Key Factor for the amount of insurance desired.

2. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

RULE 507.
FIRE DEPARTMENT SERVICE CHARGE

The limit of $500 may be increased subject to the rules and rates of the company.

RULE 508.
TREES, SHRUBS AND OTHER PLANTS

A. Form DP 00 01

1. Coverage Description

Coverage for trees, shrubs and other plants is not provided in this form. However, for an additional premium, coverage is available for specified perils on two bases, with and without the peril of windstorm or hail. Coverage is limited to a $500 per item maximum.

Declare on the endorsement or elsewhere in the policy, as directed by the company, whether the peril of windstorm or hail applies.

2. Stand Alone Coverage

This coverage may be written without Coverage **A, B, C, D** or **E.**

3. Endorsement

Use Trees, Shrubs And Other Plants Endorsement **DP 04 17.**

B. Forms DP 00 02 Or DP 00 03

1. Coverage Description

Up to 5% of the Coverage **A** limit is available in the form (subject to a $500 per item maximum) for specified perils as additional insurance.

2. Windstorm Or Hail Coverage

Coverage for Windstorm or Hail is available up to 5% of Coverage **A** limit (subject to a $500 per item maximum) for an additional premium.

3. Endorsement

Use Windstorm Or Hail Endorsement **DP 04 18.**

RULE 508.
TREES, SHRUBS AND OTHER PLANTS (Cont'd)

C. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

Refer to state company rates/ISO loss costs Rule **508.**

2. Vandalism And Malicious Mischief (DP 00 01)

Refer to state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

RULE 509.
EARTHQUAKE COVERAGE

A. Coverage Description

The policy may be endorsed to provide coverage against a loss resulting from the peril of Earthquake. This peril shall apply to all Property Coverages for the same limits provided in the policy. When added to the Fire policy, this peril shall apply to the same coverages and for the same limits that apply to the peril of Fire. Use Earthquake Endorsement **DP 04 69.**

B. Earthquake Only Coverage

When a policy is written to cover only the peril of Earthquake:

1. Use Form **DP 00 01** for Actual Cash Value Loss Settlement or **DP 00 02** for Replacement Cost;

2. Use Earthquake And Volcanic Eruption Endorsement **DP 16 13;** and

3. Multiply the rates in this rule by a **factor** of 1.10.

C. Loss Assessment Coverage

When the policy is extended to cover loss assessment resulting from loss by this peril, the limit of liability shall be based on the insured's proportionate interest in total value of all collectively owned buildings and structures of the corporation or association of property owners. Refer to company for rates. Use Loss Assessment Coverage For Earthquake Endorsement **DP 04 68.**

D. Deductible

Deductible percentage amounts of 5%, 10%, 15%, 20% and 25% of the limit of liability for Coverage **A** and Coverage **C** are included in this rule.

In the event of an Earthquake loss to covered property, the dollar amount is deducted from the total of the loss for Coverages **A, B** and **C.**

Earthquake rates/loss costs are displayed for the 5% and 10% deductible in the state company rates/ISO loss costs Rule **509.** Credit factors for deductible percentage amounts of 15%, 20% and 25% are provided in Paragraph **F.** Premium For Higher Deductibles of this rule.

E. Premium For Base Deductible

Develop the Base Premium as follows:

1. Determine whether Construction Table **A, B,** and/or **C** applies for the appropriate deductible. Refer to state company rates/ISO loss costs.

2. Determine the Earthquake territory according to the ZIP code of the residence premises from the State Territory Definitions section in this manual.

3. Add the results of the following three steps:

a. Multiply the Coverage **A** limit by the state company rates/ISO loss costs for Coverage **A** in the table;

b. Multiply the Coverage **C** limit by the state company rates/ISO loss costs for Coverage **C** in the table; and

c. Multiply the sum of the Additional Coverage **D** and **E** limits by the state company rates/ISO loss costs for Coverages **D** and **E** in the table.

4. For Building or Non-building Structure Items – All Forms:

Multiply the state company rates/ISO loss costs for Coverage **B** in the table by the appropriate limit of liability for the following Other Building Coverage options, as applicable, and add to the applicable premium determined in Paragraph **E.3.**

a. Coverage **B** – Specific Structures;

b. Improvements, Alterations and Additions – Increased Limits;

c. Building Items Coverage;

5. For Ordinance or Law – Basic and Increased Limit – All Forms:

When the basic Ordinance or Law Coverage limit is added or increased, the earthquake premium is developed based on the added or increased limit of insurance.

a. For Forms **DP 00 01, DP 00 02** and **DP 00 03,** multiply the rate determined in Paragraph **E.3.a.** by the appropriate factor selected from Rule **303.B.3.a.**

b. For Coverage **B** – Specific Structures, Improvements, Alterations and Additions and Building Items Coverage, the premium for this additional coverage is determined based on the dollar amount of added or increased coverage, represented by the increased percentage amount selected above the basic limit. The rate for each additional $1,000 of insurance is determined as follows: multiply the state company rates/ISO loss costs for Coverage **B** in the table by .30 and add to the applicable premium determined in Paragraph **E.**

RULE 509.
EARTHQUAKE COVERAGE (Cont'd)

F. Premium For Higher Deductibles

Multiply the Earthquake base premium determined in Paragraph **E.** for the 10% deductible by the appropriate factor from the following table:

Deductible Percentage	Frame	Masonry	Superior
15%	.80	.85	.75
20%	.65	.70	.60
25%	.50	.60	.45

Table 509.F. Higher Deductibles Factors

G. Building Code Effectiveness Grading

Refer to General Rule **410.** Building Code Effectiveness Grading for information which may affect Earthquake rating.

RULE 510.
THEFT COVERAGE

A. Introduction

A Fire policy insuring Coverage **A** or **C** may be extended, for an additional premium, to provide On and Off-Premises Coverage for the perils of Theft and Vandalism and Malicious Mischief (V.&M.M.) resulting from theft.

1. Owner-Occupied Dwellings, Co-Op Or Condo Units; And Apartments Occupied By Tenant (Named Insured)

a. Coverage Description

The policy may be extended to provide On or Off-Premises Coverage.

b. Minimum Limit Of Liability

The minimum limit of liability is $1,000 each for On and Off-Premises Coverage.

c. Off-Premises Coverage

Off-Premises Coverage is **only** available when On-Premises Coverage is purchased.

The limit of liability shall not be greater than that selected for On-Premises Coverage.

d. Endorsement

Use Broad Theft Coverage Endorsement **DP 04 72.**

2. Non-Owner-Occupied Dwellings, Co-op Or Condo Units; And Apartments Occupied By Tenant (Other Than Named Insured)

a. Coverage Description

The policy may be extended to provide On-Premises Coverage **only.**

b. Limit Of Liability

The minimum limit of liability is $1,000.

c. Endorsement

Use Limited Theft Coverage Endorsement **DP 04 73.**

B. Premium Computation

Refer to state company rates/ISO loss costs for the Base Deductible.

Compute the premiums separately for each premises in the manner and sequence that follows:

1. Theft And Vandalism And Malicious Mischief

a. Owner-Occupied Dwellings

Compute the premiums for the desired limit of liability separately for On and Off-Premises Coverage.

b. Non-Owner-Occupied Dwellings, (On-Premises Only)

Multiply the On-Premises premium computed above by a factor of 1.50.

2. Burglar Alarm Discount (On-Premises Only)

a. Approved and properly maintained installations of burglar alarms in the dwelling may be recognized for a reduced premium – developed by applying the selected factors to the premiums computed in Paragraph **B.1.a.** or **B.1.b.**

Type Of Installation*	Factor
Central Station Reporting Burglar Alarm	.95 to 1.00
Police Station Reporting Burglar Alarm	.97 to 1.00
Local Burglar Alarm	.98
* Refer to company for eligibility, types of systems and devices, installations and available credits.	

Table 510.B.2.a. Factors

b. Use Premises Alarm Or Fire Protection System Endorsement **DP 04 70.**

C. Deductibles

1. Base Deductible

$500 Deductible.

RULE 510.
THEFT COVERAGE (Cont'd)

2. Optional Deductibles

To compute the premium for this provision, multiply the premium for the Base Deductible computed in Paragraph **B.1.** by the factor listed in the following table:

Deductible*	Factor
$ 100	1.26
$ 250	1.05
$ 1,000	.84
$ 2,500	.68

* Refer to the state company rates pages for the minimum annual additional premium charge that applies per policy.

Table 510.C.2 Factors

RULE 511.
SINKHOLE COLLAPSE COVERAGE

A. Coverage Description

The policy may be endorsed to provide Sinkhole Collapse Coverage.

B. Premium Computation

1. Refer to state company rates/ISO loss costs; and

2. Multiply the rate per $1,000 by:

a. Coverage **A, B** and/or **C** amounts of insurance;

b. Improvements, Alterations and Additions – Increased Limits;

c. Other Building or Structure Options (for example, Bldg. Items Coverage);

d. Other Personal Property Coverage Options (for example, Merchandise in Storage); or

e. Ordinance or Law Coverage, basic amount and, if applicable, increased amount of coverage.

C. Endorsement

Use Sinkhole Collapse Endorsement **DP 04 99.**

RULE 512.
WINDSTORM OR HAIL COVERAGE – AWNINGS, SIGNS AND OUTDOOR RADIO AND TELEVISION EQUIPMENT

A. Coverage Description

The peril of Windstorm or Hail does **not** cover:

1. Awnings, Signs and Outdoor Radio and Television Equipment in **DP 00 01** or **DP 00 02;**

2. Outdoor Radio and Television Equipment in **DP 00 03;**

whether or not attached to a Dwelling Building or Other Structure.

B. Premium Computation

Coverage may be provided for an additional premium. Refer to the state company rates/ISO loss costs.

C. Endorsement

Use Windstorm Or Hail – Radio And Television Antennas, Awnings And Signs Endorsement **DP 04 19.**

RULE 513.
LIMITED WATER BACK-UP AND SUMP DISCHARGE OR OVERFLOW COVERAGE

A. Coverage Description

The policy forms exclude coverage for loss resulting from water or waterborne material which backs up through sewers or drains or which overflows or is discharged from a sump, sump pump or related equipment.

When the optional Limited Water Back-up And Sump Discharge Or Overflow Coverage endorsement is attached to the policy, coverage is provided with respect to direct physical loss, not caused by the negligence of an insured, to property covered, caused by water or waterborne material which originates from within the dwelling on the Described Location and backs up through sewers or drains or which overflows or is discharged from a sump, sump pump or related equipment. The basic limit is $5,000. Unless increased limits are selected, the basic limit must be entered on the coverage endorsement or the policy Declarations.

B. Increased Limits

The limit may be increased to $10,000, $15,000, $20,000 or $25,000. The limit selected is entered on the coverage endorsement or the policy Declarations.

C. Premium Computation

Refer to state company rates/ISO loss costs.

D. Endorsement

Use Limited Water Back-up And Sump Discharge Or Overflow Coverage Endorsement **DP 04 95.**

RULE 514.
ASSISTED LIVING CARE COVERAGE

A. Introduction

The policy provides coverage to named insureds and resident relatives who are members of the insured's household.

B. Coverage Description

1. The policy may be endorsed to provide personal property and additional living expense coverage to a person regularly residing in an Assisted Living Care facility, provided such person:

a. Is related to an insured by blood, marriage or adoption; and

b. Is not a member of that insured's household.

2. An assisted living care facility is a facility that provides assisted living services such as dining, therapy, medical supervision, housekeeping and social activities. It is **not** a hospice, prison or rehabilitation facility.

3. The endorsement provides the following basic limits of coverage:

a. $10,000 for Coverage **C** – Personal Property with limitations ranging from $100 to $500 for certain items of property; and

b. $6,000, at $500 per month, for Additional Living Expenses.

C. Premium

Refer to state company rates/ISO loss costs.

D. Endorsement

Use Assisted Living Care Coverage Endorsement **DP 04 59.**

RULE 515.
MOTORIZED GOLF CART – PHYSICAL LOSS COVERAGE

A. Coverage Description

The policy may be endorsed to provide coverage for physical loss to a motorized golf cart, including permanently installed accessories, equipment and parts, owned by an insured.

Also covered, for an amount equal to 10% of the limit of the highest scheduled cart, are accessories, equipment or parts designed or made solely for the cart that are **not** permanently installed provided such property is at the Described Location or in or upon the cart off the Described Location at the time of loss.

Coverage for loss caused by collision is optional and only applies if declared on the schedule of the endorsement.

B. Eligibility

To be eligible for coverage, the motorized golf cart shall be of the type designed to carry up to four people on a golf course for the purpose of playing golf and shall not have been built, or modified after manufacture, to exceed a speed of 25 m.p.h. on level ground.

Read the endorsement for all conditions of coverage.

C. Limit Of Liability

The limit of liability shall be selected by the insured. However, that limit should be representative of the actual cash value of the motorized golf cart including any permanently installed accessories, etc.

D. Deductible

A $500 deductible replaces any other deductible in the policy with respect to any one loss covered under the endorsement.

E. Premium Computation

Rate each cart separately using the rate per $500 of insurance. Refer to state company rates/ISO loss costs.

F. Endorsement

Use Owned Motorized Golf Cart – Physical Loss Coverage Endorsement **DP 05 28.**

RULE 516.
GRAVEMARKERS

A. Coverage Description

Coverage for gravemarkers, including mausoleums, is not included in the forms. The policy may be endorsed to provide $5,000 in coverage for gravemarkers, including mausoleums, on the Described Location.

B. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

Refer to the state company rates/ISO loss costs Rule **500.** Miscellaneous Rates.

2. Vandalism And Malicious Mischief (DP 00 01)

Refer to the state company rates/ISO loss costs Rule **302.** Vandalism And Malicious Mischief.

C. Endorsement

Use Gravemarkers Endorsement **DP 04 58.**

RULE 517.
LIMITED FUNGI, WET OR DRY ROT, OR BACTERIA COVERAGE

A. Coverage Description

When the optional Limited Fungi, Wet Or Dry Rot, Or Bacteria Coverage Endorsement is attached to the policy, limited amounts of insurance are automatically provided as follows:

$10,000, on an aggregate basis, to pay for loss and associated costs to covered real or personal property, owned by an insured, that is damaged by fungi, wet or dry rot, or bacteria on the Described Location as defined in the coverage endorsement. If the basic limit is selected, it is entered on the coverage endorsement or the policy Declarations.

This Coverage applies only for the policy period in which the loss or costs occur.

If more than one location is insured under this policy, enter the address of such locations on this endorsement or the policy Declarations.

B. Increased Limits

Limits may be increased to $25,000 or $50,000. The limit selected is entered on the coverage endorsement or the policy Declarations.

C. Premium Computation

1. Basic Limits

There is no premium adjustment.

2. Increased Limits

Refer to state company rates/ISO loss costs for an additional charge.

D. Endorsement

Use Limited Fungi, Wet Or Dry Rot, Or Bacteria Coverage Endorsement **DP 04 22.**

RULES 518. – 600.
RESERVED FOR FUTURE USE

Notice to Manualholders

PERSONAL LINES
DWELLING POLICY PROGRAM MANUAL – NORTH CAROLINA RULES
NOTICE DP-NC-2017-RU-001

CAUTION

Manualholders should determine from company instructions whether a company has adopted this revision.

INSTRUCTIONS TO MANUALHOLDERS

If your company has adopted this revision, you should update your manual accordingly.

EFFECTIVE DATE

The revision is subject to the following rule of application:

These changes are applicable to all new and renewal policies becoming effective on or after January 1, 2017.

CHANGE(S)

We are revising the following rules in the North Carolina Rate Pages:

- Rule **A3.** Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only to provide updated Building and Contents windstorm or hail exclusion credits for Territories 07, 08, 48, 49 and 52;
- Rule **A9.** Windstorm Mitigation Program to provide updated windstorm loss mitigation credits for Coverage **A** Dwelling and Coverage **C** Personal Property;
- Rule **301.** Base Premium Computation to provide updated rates for Nonseasonal and Seasonal Coverages for Owner-occupied and Non-owner-occupied key premiums for various territories; and
- Rule **404.** Mobile Or Trailer Homes – **DP 00 01** Only to provide factors for Fire and Extended Coverage.

In addition, we are introducing an exception to Rule **401.** in the North Carolina Exception Pages to update the Superior Construction Factors and we are revising Rule **406.** Deductibles in the North Carolina Exception Pages to:

- Revise the Dwelling Base Deductible from $250 to $500;
- Introduce new deductible factors for the $250 option;
- Revise deductible factors for the current all perils deductible options of $100, $1,000 and $2,500 and for the current Windstorm or Hail and Named Storm deductible options;
- Introduce additional optional higher all perils deductibles, for Fire and Extended Coverage, of $5,000, $7,500 and $10,000;
- Introduce, for all new and revised options for all coverages except Coverage **C** – Personal Property, deductible factors that will vary by Amount of Insurance thresholds of: up to $125,000, $125,001 to $175,000, $175,001 to $250,000, and $250,001 and above;
- Introduce, for new and revised all perils deductible options, separate deductible factors for Coverage **C** – Personal Property;
- Introduce, for Coverage **C** – Personal Property for optional higher percentage or fixed-dollar options for Windstorm or Hail, deductible factors that vary by windstorm or hail deductible; introduces additional optional higher percentage deductibles, for Extended Coverage, of 7.5% and 10% for Windstorm or Hail;

- Introduce additional optional higher fixed-dollar deductibles, for Extended Coverage, of $7,500 and $10,000 for Windstorm or Hail;
- Introduce additional optional higher percentage deductibles, for Extended Coverage, of 7.5% and 10% for Named Storm; and
- Introduce optional higher Named Storm fixed-dollar deductibles for certain coastal territories.

COMPANION REVISION

We are simultaneously revising our forms, which are being issued under a separate Notice.

REVISED PAGE(S)

DP-E-8 thru DP-E-27

DP-R-1 thru DP-R-17

PAGE CHECKLIST

Included with this Notice is a page checklist displaying the latest page numbers and edition dates.

REFERENCE INFORMATION (FOR COMPANY USE ONLY)

Circular Reference(s):

- P-16-5 (04/12/2016) Correction – Revised Dwelling Fire Extended And Coverage Policy Program Revisions – North Carolina
- P-16-3 (04/04/2016) Revised Dwelling Fire And Extended Coverage Policy Program Revisions – North Carolina

Filing Reference(s):

- NCRI – 130495623 (Rules – Bureau)
- NCRI – 130339739 (Rates – Bureau)

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DWELLING POLICY PROGRAM MANUAL
PAGE CHECKLIST – NORTH CAROLINA

THIS MANUAL PAGE CHECKLIST DISPLAYS THE LATEST STATE PAGE INFORMATION AS OF **1-17.**

PLEASE REFER TO THE PAGE CHECKLIST IN MULTISTATE NOTICE TO MANUALHOLDERS **DP-MU-2003-RU-001** FOR THE MULTISTATE PAGES IN EFFECT FOR YOUR JURISDICTION.

NOTE: ALWAYS USE THE EDITION NUMBER TO DETERMINE THE LATEST PAGE.

PAGE NUMBER	EDITION		PAGE NUMBER	EDITION	
	NUMBER	DATE		NUMBER	DATE
DP-NC-2017-RU-001	–	1-17	DP-E-15	3rd	1-17
			DP-E-16 thru DP-E-27	1st	1-17
DP-E-1	4th	7-13			
DP-E-2, DP-E-3	3rd	7-13	DP-R-1	8th	1-17
DP-E-4	1st	6-08	DP-R-2	4th	1-17
DP-E-5	3rd	5-12	DP-R-3 thru DP-R-14	5th	1-17
DP-E-6	3rd	5-11	DP-R-15	7th	1-17
DP-E-7	5th	4-14	DP-R-16	8th	1-17
DP-E-8	5th	1-17	DP-R-17	5th	1-17
DP-E-9 thru DP-E-11	6th	1-17	DP-R-18	3rd	5-11
DP-E-12	7th	1-17	DP-R-19	2nd	5-12
DP-E-13	6th	1-17			
DP-E-14	4th	1-17	DP-T-1	2nd	5-12

ADDITIONAL RULE(S)

RULE A1.
SPECIAL STATE REQUIREMENTS

A. Special Provisions Endorsement DP 32 32

Use this endorsement with all Dwelling Policies.

B. Windstorm Exterior Paint And Waterproofing Exclusion Endorsement DP 32 61

Use this endorsement with **all** Dwelling Policies covering Extended Coverage in Territories 07 and 08.

C. Company Rates/State Rates

References in the manual to "state company rates" means "state rates" in North Carolina.

D. Flood, Earthquake, Mudslide, Mudflow, Landslide, Or Windstorm Or Hail Insurance Notice

North Carolina law provides that an insurer selling property insurance that does not provide coverage for the perils of flood, earthquake, mudslide, mudflow, landslide, or windstorm or hail shall provide a specific notice (a "warning" set forth in the related statute) to the policyholder as to which of the listed perils are not covered under the policy.

The required notice must be:

1. Provided upon issuance and renewal of each policy;

2. In Times New Roman 16-point font or another equivalent font; and

3. Must be included in the policy on a separate page immediately before the Declarations page.

The following warning, citing which peril is not covered, must be furnished with each new policy and upon each renewal:

"WARNING: THIS PROPERTY INSURANCE POLICY DOES NOT PROTECT YOU AGAINST LOSSES FROM [FLOODS], [EARTHQUAKES], [MUDSLIDES], [MUDFLOWS], [LANDSLIDES], [WINDSTORM OR HAIL]. YOU SHOULD CONTACT YOUR INSURANCE COMPANY OR AGENT TO DISCUSS YOUR OPTIONS FOR OBTAINING COVERAGE FOR THESE LOSSES. THIS IS NOT A COMPLETE LISTING OF ALL OF THE CAUSES OF LOSSES NOT COVERED UNDER YOUR POLICY. YOU SHOULD READ YOUR ENTIRE POLICY TO UNDERSTAND WHAT IS COVERED AND WHAT IS NOT COVERED."

E. North Carolina Endorsement DP 32 46

Use this endorsement with all Dwelling Policies.

RULE A2.
RESTRICTION OF INDIVIDUAL POLICIES

If a Dwelling Policy would not be issued because of unusual circumstances or exposures, the named insured may request a restriction of the policy provided no reduction in premium is allowed. Such request shall be referred to the company.

RULE A3.
WINDSTORM OR HAIL EXCLUSION – TERRITORIES 07, 08, 48, 49 AND 52 ONLY

A. Introduction

The peril of Windstorm or Hail may be excluded if:

1. The property is located in an area eligible for such coverage from the North Carolina Insurance Underwriting Association; and

2. A Windstorm or Hail Rejection Form is secured and maintained by the company.

B. Premium Computation

1. To compute the Extended Coverage Non-seasonal or Seasonal Base Premium or the Broad or Special Form Non-seasonal Base Premium:

(a) Determine the Extended Coverage, Broad or Special Form Key Premium as described in Rule **301.**

(b) Subtract the Windstorm Or Hail Exclusion Credit shown on the state rates from the Extended Coverage, Broad or Special Form Key Premium.

(c) Multiply the Extended Coverage, Broad or Special Form Key Premium excluding Windstorm or Hail Coverage developed in Paragraph **(b)** by the Key Factor for the desired limit of liability.

2. To compute the Seasonal Broad or Special Form Base Premium:

(a) Determine the **DP 00 01** Extended Coverage Key Premium as described in Rule **301.**

(b) Multiply the **DP 00 01** Extended Coverage Key Premium by the appropriate Seasonal factor shown in Table **301.A.#26(LC)** or Table **301.A.#29(LC)** to determine the Seasonal Broad or Special Form Key Premium.

(c) Subtract the Windstorm Or Hail Exclusion Base Credit shown on the state rates from the Seasonal Broad or Special Form Key Premium determined in Paragraph **(b).**

(d) Multiply the Seasonal Broad or Special Form Key Premium excluding Windstorm Or Hail Coverage developed in Paragraph **(c)** by the Key Factor for the desired limit of liability.

RULE A3.
WINDSTORM OR HAIL EXCLUSION – TERRITORIES 07, 08, 48, 49 AND 52 ONLY (Cont'd)

C. Endorsement

Use Windstorm Or Hail Exclusion – North Carolina Endorsement **DP 32 87.**

When Windstorm Or Hail Exclusion Endorsement **DP 32 87** is attached to the policy, enter the following in Declarations:

"This policy does not provide coverage for the peril of Windstorm or Hail."

RULE A4.
REPLACEMENT COST COVERAGE – DP 00 01 ONLY

A. The policy may be endorsed to provide replacement cost coverage on buildings without deduction for depreciation.

B. This rule is intended to have limited application. Use it **only** on those **DP 00 01** policies that currently use it. Do **not** use it on any new policies.

Use Replacement Cost Endorsement **DP 32 62.**

RULE A5.
INSTALLMENT PAYMENT PLAN

When an annual policy is issued on an installment basis, the following rules apply:

A. The first installment shall be due on the effective date of the policy and the due date of the last installment shall be no later than one month prior to the policy anniversary date.

B. The premium calculated for the first installment payment, exclusive of installment charges, shall not be less than the pro rata charge for the period from the inception date of the policy to the due date of the next installment.

C. Refer to the state rates for the additional charge that shall be made for each installment.

RULE A6.
UNPROTECTED DWELLINGS – PROTECTION CLASS 9, 9E, 9S OR 10

A. Unprotected Dwellings

Unprotected dwellings are dwellings located in areas:

1. With no fire protection, in which case, Class 10 premiums apply; or

2. Designated as protection Class 9, 9E, 9S or 10, in which case, the premiums shown for these classifications apply.

B. Seasonal Dwelling

1. When the heating, plumbing and telephone facilities are suspended during the period of seasonal unoccupancy, attach Seasonal Dwelling Endorsement **DP 32 47** to the policy.

2. To determine the premium, multiply the premium developed in Paragraph **A.** by a factor of 1.10.

C. Vacancy Period Extension

The policy provides coverage for a vacant dwelling only if the period of vacancy does not exceed 60 consecutive days. This period may be extended by use of one of the two following options:

1. Vacancy And/Or Unoccupancy Permit – Unprotected Dwellings Endorsement **DP 32 52**

The additional premium for this option shall be the lower of the following calculations:

a. Multiply the limits of liability shown in the policy for Coverages **A, B** and **C** and for other coverages by the rate displayed on the state rates Table **A6.C.1.a.(R).**

b. Multiply the policy premium for all perils and coverages by a factor of .10 for each additional 30 consecutive day period (or fraction thereof) of vacancy.

2. Two Thirds Vacancy Clause – Unprotected Dwellings North Carolina Endorsement **DP 32 53**

There is no additional premium for this option, but, during the additional period of vacancy, policy limits are reduced by 33 1/3%.

D. Unoccupancy Period Extension

The policy provides coverage for an unoccupied dwelling only if the period of unoccupancy does not exceed 90 consecutive days. This period may be extended – at no additional charge – for successive periods of up to:

1. 90 consecutive days each, for non-seasonal dwellings, or

2. 10 months each, for seasonal dwellings.

Use Vacancy And/Or Unoccupancy Permit – Unprotected Dwellings Endorsement **DP 32 52.**

RULE A7.
PRIMARY INSURANCE NOTICE

A. Endorsement

Coverage	DP 00 01	DP 00 02 And DP 00 03
A	DP 32 80	DP 32 83
B	DP 32 81	DP 32 84
C	DP 32 82	DP 32 85

Table A7.A. Primary Insurance Notice

Use the appropriate Primary Insurance Endorsement(s), specified in Table **A7.A.,** only with a North Carolina Joint Underwriting Association (NCJUA) or North Carolina Insurance Underwriting Association (NCIUA) policy insuring a dwelling building covered under Coverage **A,** structures covered under Coverage **B** or personal property covered under Coverage **C.**

These endorsements replace the Other Insurance Condition in the policy form and make the NCJUA or NCIUA policy primary insurance for the insured property specified on the endorsement. Primary Insurance may be written for Coverages **A, B** and/or **C.** When a Primary Insurance Endorsement is not attached to the policy, the Other Insurance Condition in the policy form is unchanged.

B. Rating

1. Primary Insurance

a. When the Coverage **A, B** or **C** Limit of Liability is less than 100% of actual cash value or replacement value, divide the selected limit by the ACV or replacement value, whichever applies. The result is the "Percent of Total Value".

b. Go to the First Loss Table and select the factor that corresponds to the "Percent of Total Value" computed in Paragraph **1.a.**

c. Multiply the total value of the dwelling (actual or replacement) by the factor selected in Paragraph **1.b.**

d. Use the resulting product as the limit for computing the Coverage **A, B** or **C** premium.

2. Coverage A Example

Replacement Value of Dwelling: $6,000,000

Primary Policy – Coverage **A** Limit: $1,500,000

a. Divide Coverage **A** Limit by Replacement Value limit ($1,500,000/$6,000,000 = 25% or 25.00 Percent of Total Value).

b. Find Factor that corresponds to Percent of Total Value.

c. Multiply Replacement Value by Factor from Column **2** ($6,000,000)(.712) = $4,272,000.

d. Use resulting product to compute Coverage **A** premium. (Rate the policy as if $4,272,000 is the Coverage **A** limit to be insured.)

Note

This procedure is used to determine the appropriate exposure basis for primary insurance. It does not increase the amount of coverage available.

RULE A7.
PRIMARY INSURANCE NOTICE Cont'd)

FIRST LOSS TABLE

(Used When Primary Coverage Provided)

% Of Total Value	Factor
1.00	.224
1.10	.229
1.20	.235
1.30	.241
1.40	.247
1.50	.252
1.60	.258
1.70	.264
1.80	.270
1.90	.275
2.00	.281
2.10	.284
2.20	.287
2.30	.290
2.40	.293
2.50	.296
2.60	.298
2.70	.301
2.80	.304
2.90	.307
3.00	.310
3.10	.316
3.20	.321
3.30	.327
3.40	.333
3.50	.339
3.60	.344
3.70	.350
3.80	.356
3.90	.362
4.00	.367
4.10	.373
4.20	.379
4.30	.385
4.40	.390
4.50	.396
4.60	.402
4.70	.408
4.80	.413
4.90	.419
5.00	.425
6.00	.448
7.00	.471
7.50	.482
8.00	.494
9.00	.517

% Of Total Value	Factor
10.00	.540
11.00	.551
12.00	.563
13.00	.574
14.00	.586
15.00	.597
16.00	.609
17.00	.620
18.00	.632
19.00	.643
20.00	.655
21.00	.660
22.00	.678
23.00	.689
24.00	.701
25.00	.712
26.00	.720
27.00	.721
28.00	.734
29.00	.741
30.00	.748
31.00	.756
32.00	.763
33.00	.770
34.00	.773
35.00	.776
36.00	.780
37.00	.784
38.00	.788
39.00	.792
40.00	.795
41.00	.799
42.00	.802
43.00	.804
44.00	.808
45.00	.811
46.00	.815
47.00	.818
48.00	.821
49.00	.824
50.00	.827
51.00	.830
52.00	.832
53.00	.834
54.00	.837
55.00	.839

% Of Total Value	Factor
56.00	.841
57.00	.844
58.00	.846
59.00	.848
60.00	.850
61.00	.853
62.00	.855
63.00	.857
64.00	.860
65.00	.862
66.00	.864
67.00	.867
68.00	.869
69.00	.871
70.00	.873
71.00	.876
72.00	.878
73.00	.880
74.00	.883
75.00	.885
76.00	.890
77.00	.894
78.00	.899
79.00	.903
80.00	.908
81.00	.913
82.00	.917
83.00	.922
84.00	.926
85.00	.931
86.00	.936
87.00	.940
88.00	.945
89.00	.949
90.00	.954
91.00	.959
92.00	.963
93.00	.968
94.00	.972
95.00	.977
96.00	.982
97.00	.986
98.00	.991
99.00	.995
100.00	1.000

RULE A8.
OPTIONAL RATING CHARACTERISTICS

Companies may use the following optional rating characteristics or any combination of such optional rating characteristics and Bureau filed characteristics to determine rates, as long as applicable legal requirements are satisfied. The resulting premium shall not exceed the premium that would have been determined using the rates, rating plans, classifications, schedules, rules and standards promulgated by the Bureau, except as provided by statute. The rating factor for any combination of the following optional risk characteristics cannot exceed 1.00, unless the resulting premium does not exceed the Bureau premium.

A. Policy characteristics not otherwise recognized in this manual. Examples include: account or multi-policy credit; tiers; continuity of coverage; coverages purchased; intra-agency transfers; payment history; payment options; prior insurance; and new and renewal status.

B. Policyholder/Insured personal characteristics not otherwise recognized in this manual. Examples include: smoker/non-smoker status; credit information; loss history; loss prevention training/education; age; work status; marital status; number of years owned; household composition; and good student/education.

C. Dwelling characteristics not otherwise recognized in this manual. Examples include: gated community; retirement community; limited access community; revitalized/renovated home; security, safety or loss deterrent systems or devices; age of home; and construction type and quality.

D. Affinity group or other group not otherwise recognized in this manual.

E. Any other rating characteristics or combination of characteristics if filed by a company and approved by the Commissioner.

RULE A9.
WINDSTORM MITIGATION PROGRAM

A. Introduction

With respect to risks located in Territories 07, 08, 48, 49 and 52, premium credits shall be made available for insureds who build, rebuild or retrofit certain residential dwellings, in accordance with specified standards, to better resist hurricanes and other catastrophic windstorm events.

B. Eligibility

1. A dwelling may be eligible for a premium credit if:

a. The dwelling has been designed and constructed in conformity with, and has been certified as meeting, the Hurricane, Tornado and Hail and High Wind requirements of the Hurricane Fortified for Safer Living® (Fortified) program promulgated by the Institute for Business and Home Safety® (IBHS);

b. The dwelling has been certified as meeting, either the Bronze, Silver or Gold hurricane mitigation measures in the Hurricane Fortified for Existing Homes® program promulgated by the IBHS;

c. The dwelling contains Opening Protection in accordance with the qualification requirements set forth in Paragraph **D.1.b.;** or

d. The dwelling contains a Total Hip Roof.

2. The provisions of this rule do not apply:

a. To condominiums or tenant policies.

b. If the policy excludes the peril of Windstorm or Hail.

c. To dwellings under construction.

d. To Coverage **C** – Personal Property unless the policy also provides Coverage **A** – Dwelling.

e. To mobile homes.

3. To be eligible for a premium credit, mitigation features are not required for adjacent structures including, but not limited to, detached garages, storage sheds, barns, apartments, etc. located on the insured premises.

C. Proof of Compliance

The named insured must submit proof that the windstorm loss mitigation features and/or construction techniques have been implemented for each of the following:

1. IBHS Hurricane Fortified for Safer Living®

The named insured shall provide a copy of the proper designation certificate from the IBHS issued for the dwelling.

2. IBHS Hurricane Fortified for Existing Homes®

The named insured shall provide a copy of the proper designation certificate from the IBHS issued for the dwelling. The credit will apply for five years from the date of designation. In order to continue receiving the mitigation credit after five years, the dwelling must be re-inspected and re-designated by the IBHS. If the IBHS designation expires, the applicable mitigation credit will expire upon renewal.

3. Opening Protection

The existence of Opening Protection may be verified by proof of installation.

4. Total Hip Roof

The existence of a hip roof may be verified through photographs of the roof.

D. Description of Mitigation Credit Tables

With respect to dwellings to which this rule applies and subject to all other provisions of this Windstorm Mitigation Program, the following approved and properly maintained windstorm mitigation features shall be recognized for a premium credit.

RULE A9.
WINDSTORM MITIGATION PROGRAM (Cont'd)

1. Mitigation Features

a. IBHS Hurricane Fortified Homes

(1) A home designated by the IBHS as Hurricane Fortified for Safer Living®.

(2) A home designated by the IBHS as Hurricane Fortified for Existing Homes®, including:

(i) Hurricane Fortified for Existing Homes Bronze, Option 1

(ii) Hurricane Fortified for Existing Homes Bronze, Option 2

(iii) Hurricane Fortified for Existing Homes Silver, Option 1

(iv) Hurricane Fortified for Existing Homes Silver, Option 2

(v) Hurricane Fortified for Existing Homes Gold, Option 1

(vi) Hurricane Fortified for Existing Homes Gold, Option 2

b. Opening Protection

(1) Building opening protective features must have been tested and/or certified as having met standards of the American Society for Testing and Materials ASTM E 1886 (standard test method) and ASTM E 1996 (standard specification). Such opening protective features shall be considered qualified.

(2) Qualifying opening protection must be present at all exterior envelope openings (such as windows, garage doors, sliding doors, swinging doors, glass block, door sidelights, and skylights) on the dwelling structure. For the credit to apply, the following conditions must be met:

(i) In accordance with the qualification requirements set forth in Paragraph **D.1.b.(1):**

(a) All exterior building envelope openings with glazing (e.g. glass) shall have qualified impact-resistant and wind pressure-resistant opening protection;

(b) All exterior building envelope openings without glazing shall have qualified wind pressure-resistant opening protection; and

(c) All garage doors (with and without glazing) shall meet or exceed a qualified minimum pressure resistance.

(ii) Opening protection must be installed by a qualified contractor, according to the manufacturer's specifications.

(iii) Impact-resistant protective devices must not be made of wood structural panels, such as OSB or plywood, or be homemade.

c. Total Hip Roof

A Total Hip Roof is a roof that slopes in four directions such that the end formed by the intersection of slopes is a triangle.

E. Premium Determination

1. To compute the Extended Coverage Non-seasonal or Seasonal Base Premium or the Broad or Special Form Non-seasonal Base Premium:

a. Determine the Extended Coverage, Broad or Special Form Key Premium as described in Rule **301.**

b. Subtract the Coverage **A** Windstorm Loss Mitigation Credit shown on the state rates from the Coverage **A** Extended Coverage, Broad or Special Form Key Premium. If applicable, also subtract the Coverage **C** Windstorm Loss Mitigation Credit, shown on the state rates from the Coverage **C** Extended Coverage, Broad or Special Form Key Premium.

c. Multiply the Extended Coverage, Broad or Special Form Key Premium excluding Windstorm Loss Mitigation Coverage developed in Paragraph **1.b.** by the Key Factor for the desired limit of liability.

2. To compute the Seasonal Broad or Special Form Base Premium:

a. Determine the **DP 00 01** Extended Coverage Key Premium as described in Rule **301.**

b. Multiply the **DP 00 01** Extended Coverage Key Premium by the appropriate Seasonal factor shown in Table **301.A.#26(LC)** or Table **301.A.#29(LC)** to determine the Seasonal Broad or Special Form Key Premium.

c. Subtract the Coverage **A** Windstorm Loss Mitigation Credit shown in the state rates from the Coverage **A** Seasonal Broad or Special Form Key Premium determined in Paragraph **2.b.** If applicable, also subtract the Coverage **C** Windstorm Loss Mitigation Credit, shown on the state rates from the Coverage **C** Seasonal Broad or Special Form Key Premium.

d. Multiply the Seasonal Broad or Special Form Key Premium excluding Windstorm Loss Mitigation Coverage developed in Paragraph **2.c.** by the Key Factor for the desired limit of liability.

3. Mitigation Feature credits cannot be combined, except for Total Hip Roof and Opening Protection.

4. If mitigation measures are installed midterm, premium adjustment is required on a pro rata basis.

PART I
COVERAGE AND DEFINITION TYPE RULES

RULE 100.
INTRODUCTION

Paragraph **C.** does not apply.

RULE 103.
ELIGIBILITY

Paragraph **B.4.** is replaced by the following:

4. For a policy period of not longer than three years; and

RULE 104.
PROTECTION CLASSIFICATION INFORMATION

Rule **104.** is replaced by the following:

Determine the ISO Public Protection classification; refer to ISO's Community Mitigation Classifications (CMC) Manual, applicable to the municipality or classified area where the insured property is located.

PART II
SERVICING TYPE RULES

RULE 201.
POLICY PERIOD

Paragraph **C.** is replaced by the following:

C. Three years in annual installments. Each annual installment shall be the annual premium then in effect for the company.

RULE 206.
MINIMUM PREMIUM

Paragraphs **D.** and **E.** are replaced by the following:

D. Refer to state company rates for the minimum premium.

RULE 208.
WAIVER OF PREMIUM

Paragraph **B.** is replaced by the following:

B. Refer to state company rates for amount that may be waived.

PART III
BASE PREMIUM COMPUTATION RULES

RULE 302.
VANDALISM AND MALICIOUS MISCHIEF – DP 00 01

The following is added to Rule **302.:**

The 60 day limit of vacancy may be extended. The charge for the additional period of vacancy shall be based on the difference between the premiums for vacant and non-vacant buildings, and shall be figured pro rata for the period allowed in the endorsement.

Use Vandalism And Malicious Mischief Vacancy Endorsement **DP 04 40.**

RULE 305.
LOSS SETTLEMENT OPTIONS

Paragraph **A.4.** is replaced by the following:

A. Functional Replacement Cost Loss Settlement – Forms DP 00 02 And DP 00 03 Only

4. Endorsement

Use Functional Replacement Cost Loss Settlement – North Carolina Endorsement **DP 32 63.**

Paragraph **B.** is replaced by the following:

B. Actual Cash Value Loss Settlement – Forms DP 00 02 And DP 00 03 Only

1. Introduction

The policy provides building loss settlement on a replacement cost basis if, at the time of loss, the amount of insurance on the damaged building represents at least 80% of the full replacement cost of the building immediately before the loss.

2. Coverage Description

The policy may be endorsed to provide building loss settlement exclusively on an actual cash value basis if, on the inception date of the policy, the Coverage **A** limit of liability selected by the insured is less than 80% of the full replacement cost of the dwelling.

3. Mobile Or Trailer Home

When written in conjunction with this endorsement, Form **DP 00 02** may be used to insure a mobile or trailer home.

To develop the Base Premium, multiply the premium developed in Rule **301.** by a factor of .98.

RULE 305.
LOSS SETTLEMENT OPTIONS (Cont'd)

4. Dwelling Building Other Than Mobile Or Trailer Home

The premium is computed as follows:

a. Multiply the Coverage **A** limit of liability by the appropriate factor from the following table and round to the nearest $1,000:

% Of Replacement Value*	Factor
20%	4.00
30%	2.67
40%	2.00
50%	1.60
60%	1.33
70%	1.14

Table 305.B.4.a. Factors

b. Develop a Base Premium in accordance with Rule **301.** for the amount of insurance computed in Paragraph **B.4.a.**

c. Multiply the premium determined in Paragraph **B.4.b.** by the appropriate factor from the following table:

% Of Replacement Value*	Factor
20%	.73
30%	.74
40%	.75
50%	.76
60%	.77
70%	.78
80%	.80

Table 305.B.4.c. Factors

5. Endorsement

Use Actual Cash Value Loss Settlement Endorsement **DP 04 76.**

PART IV
ADJUSTED BASE PREMIUM COMPUTATION RULES

RULE 401.
SUPERIOR CONSTRUCTION

Table **401.C.** is replaced by the following:

Classifications	Fire	E.C., Broad & Special Forms
Fire Resistive & Masonry Non-combustible	.50	.75
Non-combustible	.50	1.00

Table 401.C. Superior Construction Factors

RULE 406.
DEDUCTIBLES

Rule **406.** is replaced by the following:

All policies are subject to a deductible that applies to loss from all perils, except Earthquake. A separate deductible type applies to Earthquake Coverage as described in Rule **509.**

Refer to the Earthquake Coverage rule for the applicable deductible provision.

A. Base Deductible

$500 Deductible

B. Optional Deductibles

1. All Perils Deductibles

To compute the premium for these options, multiply the Base Premium for the Base Deductible by the factors selected from the following tables:

Fire				
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures				
	Coverages A, B, D And E Limit (Expressed In $)			
Deductibles	**Up To 125,000**	**125,001 To 175,000**	**175,001 To 250,000**	**250,001 And Above**
$ 100*	1.080	1.070	1.060	1.050
250*	1.040	1.035	1.030	1.025
1,000	0.981	0.987	0.988	0.992
2,500	0.933	0.953	0.959	0.973
5,000	0.865	0.906	0.919	0.945
7,500	0.809	0.866	0.884	0.922
10,000	0.759	0.829	0.854	0.901
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 Fire Deductibles.				

Table 406.B.1.#1 Fire Coverage A, B, D Or E Deductibles

Fire	
Coverage C And Other Personal Property Coverage Options	
Deductibles	**Factors**
$ 100*	1.070
250*	1.035
1,000	0.989
2,500	0.961
5,000	0.923
7,500	0.891
10,000	0.862
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 Fire Deductibles.	

Table 406.B.1.#2 Fire Coverage C Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)				
E.C., V. & M.M., Broad And Special Forms				
Coverage A, B, D Or E And Coverage Options For Building And Non-building Structures				
	Coverage A, B, D Or E Limit (Expressed In $)			
Deductibles	Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 100*	1.072	1.047	1.035	1.022
250*	1.040	1.027	1.021	1.011
1,000	0.935	0.957	0.967	0.980
2,500	0.800	0.857	0.888	0.935
5,000	0.665	0.741	0.791	0.874
7,500	0.582	0.660	0.719	0.825
10,000	0.530	0.599	0.662	0.784
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.				

Table 406.B.1.#3 E.C., V. & M.M., Broad And Special Forms Coverage A, B, D Or E Deductibles

Territories 07, 08, 48, 49, 52 (Beach & Coastal)	
E.C., V. & M.M., Broad And Special Forms	
Coverage C And Other Personal Property Coverage Options	
Deductibles	Factors
$ 100*	1.030
250*	1.016
1,000	0.973
2,500	0.910
5,000	0.833
7,500	0.775
10,000	0.728
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.	

Table 406.B.1.#4 E.C., V. & M.M., Broad And Special Forms Coverage C Deductibles

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)				
E.C., V. & M.M., Broad And Special Forms				
Coverage A, B, D Or E And Coverage Options For Building And Non-building Structures				
	Coverage A, B, D Or E Limit (Expressed In $)			
Deductibles	Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 100*	1.108	1.083	1.073	1.056
250*	1.060	1.047	1.044	1.034
1,000	0.910	0.928	0.939	0.948
2,500	0.727	0.773	0.802	0.838
5,000	0.548	0.603	0.645	0.711
7,500	0.451	0.500	0.541	0.621
10,000	0.393	0.436	0.472	0.555
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.				

Table 406.B.1.#5 E.C., V. & M.M., Broad And Special Forms Coverage A, B, D Or E Deductibles

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)	
E.C., V. & M.M., Broad And Special Forms	
Coverage C And Other Personal Property Coverage Options	
Deductibles	Factors
$ 100*	1.077
250*	1.045
1,000	0.936
2,500	0.800
5,000	0.651
7,500	0.555
10,000	0.489
* Refer to state rates for the minimum annual additional premium charge that applies per location for all $100 and $250 E.C., V. & M.M., Broad And Special Forms Deductibles.	

Table 406.B.1.#6 E.C., V. & M.M., Broad And Special Forms Coverage C Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

2. Windstorm Or Hail Deductibles

When the policy covers the peril of Windstorm or Hail, the following deductible options may be used in conjunction with a deductible applicable to all other perils covered under Extended Coverage, Broad or Special Forms. They may not be used on a policy in conjunction with a Named Storm deductible as described in Paragraph **3.**

a. Percentage Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail percentage deductibles of 1%, 2%, 5%, 7.5% and 10% of the limit of liability that applies to Coverage **A, B, D** or **E,** whichever is greatest, when the dollar amount of the percentage deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Windstorm Or Hail Percentage Deductible Endorsement **DP 03 12.**

(3) Declarations Instructions

Enter, on the policy Declarations, the percentage amount that applies to Windstorm or Hail and the dollar amount that applies to All Other Perils. For example:

Deductible – Windstorm or Hail 2% of the Coverage **A** limit and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible percentage amounts that apply to Windstorm or Hail, deductible amounts that apply to other perils, and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible percentage amounts that apply to Windstorm or Hail and the deductible amounts that apply to other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories 07, 08, 48, 49 and 52), additional calculations must be performed to ensure that the premium credit applied to the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

RULE 406.
DEDUCTIBLES (Cont'd)

(a) Property **Not** Located in Area Serviced by the NCIUA

To compute the premium for this provision, multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected for the desired windstorm or hail deductible options from the following tables.

(b) Property **Is** Located in Area Serviced by the NCIUA

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rates, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired windstorm or hail deductible option from the following tables and subtract the factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the windstorm or hail deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less than** the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired windstorm or hail deductible option.

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Percentage	All Other Perils Deductible Amounts	Coverages A, B, D And E Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
1%	$ 100	0.956	0.926	0.916	0.899
	250	0.952	0.925	0.915	0.898
	500	0.946	0.924	0.913	0.897
	1,000	0.933	0.921	0.911	0.895
	2,500	–	–	–	0.879
	5,000	–	–	–	0.878
	7,500	–	–	–	0.872
	10,000	–	–	–	0.855
2%	100	0.868	0.841	0.832	0.818
	250	0.866	0.840	0.832	0.817
	500	0.863	0.838	0.830	0.816
	1,000	0.856	0.836	0.828	0.815
	2,500	–	0.830	0.823	0.810
	5,000	–	–	–	0.805
	7,500	–	–	–	0.797
	10,000	–	–	–	0.792
5%	100	0.705	0.680	0.675	0.665
	250	0.704	0.679	0.674	0.664
	500	0.701	0.678	0.673	0.663
	1,000	0.697	0.675	0.670	0.661
	2,500	0.686	0.669	0.665	0.657
	5,000	0.671	0.663	0.659	0.652
	7,500	–	0.657	0.655	0.648
	10,000	–	–	0.651	0.646
7.5%	100	0.622	0.599	0.594	0.585
	250	0.620	0.598	0.593	0.585
	500	0.618	0.596	0.592	0.584
	1,000	0.615	0.594	0.590	0.582
	2,500	0.606	0.588	0.585	0.577
	5,000	0.594	0.581	0.578	0.572
	7,500	0.585	0.578	0.574	0.569
	10,000	–	0.574	0.572	0.566
10%	100	0.557	0.535	0.531	0.522
	250	0.555	0.534	0.530	0.522
	500	0.553	0.533	0.529	0.521
	1,000	0.550	0.530	0.527	0.519
	2,500	0.542	0.524	0.521	0.515
	5,000	0.532	0.518	0.515	0.510
	7,500	0.524	0.514	0.511	0.506
	10,000	0.518	0.511	0.509	0.504

Table 406.B.2.a.(7)#1 Coverage A, B, D Or E Windstorm Or Hail Percentage Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)								
Coverage C And Other Personal Property Coverage Options*								
Windstorm Or Hail Deductible Percentage	All Other Perils Deductible Amounts (Expressed In $)							
	100	250	500	1,000	2,500	5,000	7,500	10,000
1%	0.909	0.908	0.906	0.902	0.890	0.876	0.870	0.853
2%	0.827	0.826	0.825	0.822	0.815	0.804	0.795	0.791
5%	0.671	0.670	0.669	0.667	0.662	0.655	0.650	0.645
7.5%	0.591	0.590	0.589	0.587	0.582	0.575	0.571	0.568
10%	0.528	0.527	0.526	0.523	0.518	0.513	0.508	0.505
* Only use when policy also covers building or non-building structures.								

Table 406.B.2.a.(7)#2 Coverage C And Other Personal Property Windstorm Or Hail Percentage Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Percentage	All Other Perils Deductible Amounts	Coverages A, B, D And E Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
1%	$ 100	0.990	0.947	0.926	0.885
	250	0.975	0.937	0.917	0.878
	500	0.949	0.921	0.902	0.867
	1,000	0.903	0.893	0.878	0.848
	2,500	–	–	–	0.802
	5,000	–	–	–	0.711
	7,500	–	–	–	0.654
	10,000	–	–	–	0.608
2%	100	0.916	0.866	0.843	0.802
	250	0.902	0.855	0.833	0.795
	500	0.879	0.840	0.819	0.784
	1,000	0.841	0.812	0.794	0.765
	2,500	–	0.748	0.737	0.718
	5,000	–	–	–	0.664
	7,500	–	–	–	0.605
	10,000	–	–	–	0.567
5%	100	0.785	0.730	0.711	0.688
	250	0.771	0.720	0.701	0.681
	500	0.749	0.705	0.687	0.669
	1,000	0.715	0.676	0.663	0.650
	2,500	0.634	0.612	0.605	0.604
	5,000	0.540	0.542	0.539	0.549
	7,500	–	0.495	0.496	0.511
	10,000	–	–	0.464	0.483
7.5%	100	0.729	0.681	0.667	0.650
	250	0.715	0.670	0.658	0.643
	500	0.693	0.655	0.643	0.632
	1,000	0.659	0.626	0.619	0.613
	2,500	0.582	0.563	0.561	0.566
	5,000	0.498	0.492	0.495	0.512
	7,500	0.444	0.449	0.453	0.474
	10,000	–	0.421	0.423	0.446
10%	100	0.692	0.650	0.640	0.626
	250	0.678	0.639	0.630	0.619
	500	0.656	0.624	0.616	0.608
	1,000	0.623	0.596	0.591	0.589
	2,500	0.548	0.532	0.534	0.542
	5,000	0.466	0.461	0.468	0.487
	7,500	0.417	0.419	0.425	0.449
	10,000	0.384	0.391	0.396	0.422

Table 406.B.2.a.(7)#3 Coverage A, B, D Or E Windstorm Or Hail Percentage Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)								
Coverage C And Other Personal Property Coverage Options*								
Windstorm Or Hail Deductible Percentage	All Other Perils Deductible Amounts (Expressed In $)							
	100	250	500	1,000	2,500	5,000	7,500	10,000
1%	0.927	0.917	0.901	0.873	0.789	0.693	0.634	0.587
2%	0.845	0.836	0.821	0.796	0.733	0.646	0.585	0.548
5%	0.719	0.709	0.695	0.671	0.616	0.550	0.504	0.469
7.5%	0.674	0.665	0.650	0.626	0.573	0.510	0.467	0.436
10%	0.646	0.636	0.621	0.598	0.545	0.483	0.441	0.412
* Only use when policy also covers building or non-building structures.								

Table 406.B.2.a.(7)#4 Coverage C And Other Personal Property Windstorm Or Hail Percentage Deductibles

b. Higher Fixed-Dollar Deductibles

(1) Deductible Amounts

This option provides for higher Windstorm or Hail fixed-dollar deductible amounts of $1,000, $2,000, $5,000, $7,500 and $10,000 when the dollar amount of the higher fixed-dollar deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

An endorsement is not required.

(3) Declarations Instructions

Separately enter, on the policy Declarations, the deductible amounts that apply to Windstorm or Hail and All Other Perils. For example: $1,000 for Windstorm or Hail and $500 for All Other Perils.

(4) Deductible Application

In the event of a Windstorm or Hail loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible amounts that apply to Windstorm or Hail and to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible amounts that apply to Windstorm or Hail and other perils.

(6) Use Of Factors

The factors for the Windstorm or Hail Deductibles incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Windstorm or Hail deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories 07, 08, 48, 49 and 52), additional calculations must be performed to ensure that the premium credit applied to the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

RULE 406.
DEDUCTIBLES (Cont'd)

(a) Property **Not** Located in Area Serviced by the NCIUA

Multiply the Extended Coverage, Broad or Special Form Base Premium for the Base Deductible for each coverage insured under the policy by the factor selected for the desired windstorm or hail deductible options from the following tables.

(b) Property **Is** Located in Area Serviced by the NCIUA

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rates under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired windstorm or hail deductible option from the following tables and subtract the factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the windstorm or hail deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less than** the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired windstorm or hail deductible option.

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts	Coverage A Or B Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 1,000	$ 100	0.942	0.962	0.972	0.984
	250	0.940	0.961	0.971	0.983
	500	0.938	0.959	0.970	0.982
2,000	100	0.850	0.896	0.921	0.955
	250	0.849	0.895	0.920	0.954
	500	0.847	0.893	0.918	0.953
	1,000	0.843	0.891	0.916	0.952
5,000	100	0.685	0.758	0.807	0.887
	250	0.683	0.757	0.806	0.886
	500	0.681	0.756	0.805	0.885
	1,000	0.678	0.753	0.803	0.883
	2,500	0.672	0.747	0.797	0.879
7,500	100	0.606	0.681	0.738	0.841
	250	0.605	0.680	0.738	0.841
	500	0.603	0.679	0.736	0.840
	1,000	0.600	0.676	0.734	0.838
	2,500	0.593	0.670	0.729	0.833
	5,000	0.586	0.664	0.723	0.828
10,000	100	0.556	0.623	0.684	0.803
	250	0.555	0.622	0.684	0.802
	500	0.553	0.621	0.682	0.801
	1,000	0.550	0.618	0.680	0.799
	2,500	0.543	0.612	0.675	0.795
	5,000	0.536	0.606	0.669	0.790
	7,500	0.532	0.602	0.665	0.786

Table 406.B.2.b.(7)#1 Coverage A, B, D Or E Windstorm Or Hail Fixed-dollar Deductibles

Territories 07, 08, 48, 49, 52 (Beach & Coastal)							
Coverage C And Other Personal Property Coverage Options*							
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts (Expressed In $)						
	100	250	500	1,000	2,500	5,000	7,500
$ 1,000	0.977	0.977	0.975	–	–	–	–
2,000	0.937	0.936	0.935	0.933	–	–	–
5,000	0.848	0.847	0.846	0.844	0.839	–	–
7,500	0.793	0.792	0.791	0.789	0.784	0.778	–
10,000	0.750	0.749	0.747	0.745	0.740	0.735	0.731
* Only use when policy also covers building or non-building structures.							

Table 406.B.2.b.(7)#2 Coverage C And Other Personal Property Windstorm Or Hail Fixed-dollar Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts	Coverage A Or B Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 1,000	$ 100	0.979	0.983	0.987	0.985
	250	0.965	0.972	0.978	0.978
	500	0.943	0.957	0.963	0.967
2,000	100	0.900	0.917	0.930	0.940
	250	0.886	0.907	0.921	0.933
	500	0.864	0.892	0.906	0.922
	1,000	0.831	0.863	0.882	0.903
5,000	100	0.766	0.791	0.817	0.849
	250	0.752	0.781	0.808	0.842
	500	0.730	0.766	0.793	0.831
	1,000	0.697	0.737	0.769	0.812
	2,500	0.624	0.673	0.711	0.765
7,500	100	0.712	0.731	0.756	0.797
	250	0.698	0.721	0.747	0.790
	500	0.676	0.706	0.732	0.779
	1,000	0.643	0.677	0.708	0.760
	2,500	0.569	0.613	0.650	0.713
	5,000	0.494	0.543	0.584	0.659
10,000	100	0.681	0.695	0.716	0.759
	250	0.666	0.684	0.706	0.752
	500	0.645	0.669	0.692	0.741
	1,000	0.611	0.640	0.668	0.722
	2,500	0.538	0.577	0.610	0.675
	5,000	0.462	0.506	0.544	0.620
	7,500	0.420	0.463	0.501	0.582

Table 406.B.2.b.(7)#3 Coverage A, B, D Or E Windstorm Or Hail Fixed-dollar Deductibles

Territories 32, 34, 36, 38, 39, 41, 44, 45, 46, 47, 53, 57, 60 (Inland)							
Coverage C And Other Personal Property Coverage Options*							
Windstorm Or Hail Deductible Amounts	All Other Perils Deductible Amounts (Expressed In $)						
	100	250	500	1,000	2,500	5,000	7,500
$ 1,000	0.983	0.974	0.959	–	–	–	–
2,000	0.924	0.915	0.900	0.877	–	–	–
5,000	0.813	0.803	0.789	0.765	0.712	–	–
7,500	0.756	0.747	0.732	0.708	0.655	0.595	–
10,000	0.718	0.709	0.694	0.671	0.618	0.557	0.517
* Only use when policy also covers building or non-building structures.							

Table 406.B.2.b.(7)#4 Coverage C And Other Personal Property Windstorm Or Hail Fixed-dollar Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

3. Named Storm Deductibles – Territories 07, 08, 48, 49 and 52

When the policy covers the peril of Windstorm or Hail, the following deductible options may be used in the listed territories in conjunction with the deductible applicable to all other Perils under Extended Coverage, Broad or Special Forms. They may not be used on a policy in conjunction with a Windstorm or Hail deductible as described in Paragraph **2.**

a. Percentage Deductibles – Territories 07, 08, 48, 49 and 52 Only

(1) Deductible Amounts

This option provides for higher Named Storm percentage deductibles of 1%, 2%, 5%, 7.5% and 10% of the limit of liability that applies to Coverage **A, B, D** or **E,** whichever is greatest, when the dollar amount of the percentage deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Named Storm Deductible – North Carolina Endorsement **DP 32 18.**

(3) Declarations Instructions

Enter, on the policy Declarations, the percentage amount that applies to Named Storm and the dollar amount that applies to All Other Section **I** Perils. For example:
Deductible – Named Storm 2% of Coverage **A** limit and $500 for all other perils.

(4) Deductible Application

In the event of a Named Storm loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings and Non-building Structures differ by the deductible percentage amounts that apply to Named Storm, deductible amounts that apply to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible percentage amounts that apply to Named Storm and the deductible amounts that apply to other perils.

(6) Use Of Factors

The factors displayed in Paragraph **(7)** incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Named Storm deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories 07, 08, 48, 49 and 52), additional calculations must be performed to ensure that the premium credit applied for the deductible is **not** greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rate pages, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired named storm deductible option from the following table and subtract that factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the named storm deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less** than the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** the result in Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired named storm deductible option.

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Named Storm Percentage	All Other Perils Deductible Amounts	Coverage A, B, D Or E Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
1%	$ 100	0.958	0.928	0.918	0.902
	250	0.954	0.927	0.917	0.901
	500	0.947	0.925	0.915	0.900
	1,000	0.933	0.922	0.912	0.897
	2,500	–	–	–	0.886
	5,000	–	–	–	0.878
	7,500	–	–	–	0.872
	10,000	–	–	–	0.855
2%	100	0.872	0.845	0.837	0.824
	250	0.869	0.844	0.836	0.823
	500	0.865	0.842	0.834	0.821
	1,000	0.857	0.838	0.831	0.819
	2,500	–	0.831	0.824	0.813
	5,000	–	–	–	0.806
	7,500	–	–	–	0.798
	10,000	–	–	–	0.792
5%	100	0.711	0.688	0.683	0.673
	250	0.709	0.687	0.682	0.672
	500	0.707	0.685	0.680	0.671
	1,000	0.702	0.681	0.677	0.668
	2,500	0.689	0.674	0.670	0.663
	5,000	0.671	0.665	0.662	0.656
	7,500	–	0.657	0.656	0.651
	10,000	–	–	0.652	0.647
7.5%	100	0.629	0.608	0.603	0.594
	250	0.628	0.606	0.602	0.594
	500	0.625	0.605	0.600	0.592
	1,000	0.621	0.601	0.597	0.590
	2,500	0.609	0.593	0.590	0.584
	5,000	0.595	0.584	0.582	0.577
	7,500	0.585	0.579	0.577	0.572
	10,000	–	0.575	0.573	0.569
10%	100	0.565	0.545	0.541	0.532
	250	0.563	0.543	0.539	0.531
	500	0.561	0.541	0.538	0.530
	1,000	0.557	0.538	0.535	0.527
	2,500	0.546	0.530	0.528	0.521
	5,000	0.534	0.521	0.519	0.515
	7,500	0.525	0.516	0.514	0.510
	10,000	0.519	0.512	0.510	0.506

Table 406.B.3.a.(7)#1 Coverage A, B, D Or E Named Storm Percentage Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)								
Coverage C And Other Personal Property Coverage Options*								
	All Other Perils Deductible Amounts (Expressed In $)							
Named Storm Percentage	100	250	500	1,000	2,500	5,000	7,500	10,000
1%	0.912	0.910	0.908	0.904	0.890	0.876	0.869	0.852
2%	0.832	0.831	0.829	0.825	0.817	0.804	0.795	0.790
5%	0.679	0.678	0.676	0.673	0.666	0.658	0.651	0.646
7.5%	0.600	0.599	0.597	0.594	0.587	0.579	0.573	0.569
10%	0.537	0.536	0.534	0.531	0.525	0.516	0.511	0.507
* Only use when policy also covers building or non-building structures.								

Table 406.B.3.a.(7)#2 Coverage C And Other Personal Property Named Storm Percentage Deductibles

RULE 406.
DEDUCTIBLES (Cont'd)

b. Higher Fixed-dollar Deductibles – Territories 07, 08, 48, 49 And 52 Only

(1) Deductible Amounts

This option provides for higher Named Storm Fixed-dollar deductible amounts of $1,000, $2,000, $5,000, $7,500 and $10,000 when the dollar amount of the higher fixed-dollar deductible selected exceeds the amount of the All Other Perils deductible. This option is not available for policies covering only personal property.

(2) Endorsement

Use Named Storm Deductible – North Carolina Endorsement **DP 32 18.**

(3) Declarations Instructions

Enter, on the policy Declarations, the deductible amounts that apply to Named Storm and All Other Perils. For example: $1,000 for Named Storm and $500 for All Other Perils.

(4) Deductible Application

In the event of a Named Storm loss to covered property, the dollar amount is deducted from the total of the loss for all coverages.

(5) Coverage Options

The deductible factors for Coverage **A, B, D** or **E** and Coverage Options For Buildings And Non-building Structures differ by the deductible amounts that apply to Named Storm and to other perils and the Coverage **A, B, D** or **E** limit.

The deductible factors for Coverage **C** and Other Personal Property Coverage Options differ by the deductible amounts that apply to Named Storm and to other perils.

(6) Use Of Factors

The factors displayed in Paragraph **(7)** incorporate the factors for the All Perils Deductibles. Do not use the factors for the All Perils Deductibles when rating a policy with a higher Named Storm deductible.

(7) Deductible Factors

When the property is located in an area serviced by the North Carolina Insurance Underwriting Association (NCIUA – Territories 07, 08, 48, 49 and 52), additional calculations must be performed to ensure that the premium credit applied for the deductible is not greater than the premium credit that would be applied if the peril of Windstorm or Hail were excluded from the policy.

To determine if an "adjusted deductible credit" or the calculated deductible credit applies, complete each of the following steps:

Step **1.** Multiply the windstorm or hail exclusion credit shown in the state rate pages, under Additional Rule **A3.** Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only, by the Key Factor, for the same amount of insurance used to determine the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** Multiply the result determined in Step **1.** by .9 to determine the "adjusted deductible credit".

Step **3.** Select the factor for the desired named storm deductible option from the following table and subtract that factor from unity (1.00).

Step **4.** Multiply the factor determined in Step **3.** by the Extended Coverage, Broad or Special Form Base Premium. The result is the named storm deductible credit.

Step **5.** Compare the results in Steps **2.** and **4.** If the result in:

Step **2.** is **less** than the result in Step **4.,** to compute the premium, subtract the "adjusted deductible credit" from the Extended Coverage, Broad or Special Form Base Premium.

Step **2.** is **greater than or equal to** the result in Step **4.,** multiply the Extended Coverage, Broad or Special Form Base Premium by the factor for the desired named storm deductible option.

RULE 406.
DEDUCTIBLES (Cont'd)

Territories 07, 08, 48, 49, 52 (Beach & Coastal)					
Coverage A, B, D Or E And Coverage Options For Buildings And Non-building Structures					
Named Storm Deductible Fixed-dollar Amounts	All Other Perils Deductible Amounts	Coverage A Or B Limit (Expressed In $)			
		Up To 125,000	125,001 To 175,000	175,001 To 250,000	250,001 And Above
$ 1,000	$ 100	0.943	0.963	0.973	0.985
	250	0.942	0.962	0.972	0.984
	500	0.939	0.960	0.970	0.983
2,000	100	0.853	0.899	0.923	0.957
	250	0.852	0.897	0.922	0.956
	500	0.849	0.895	0.920	0.955
	1,000	0.845	0.892	0.917	0.953
5,000	100	0.692	0.764	0.812	0.891
	250	0.690	0.763	0.811	0.890
	500	0.687	0.761	0.810	0.889
	1,000	0.683	0.757	0.807	0.887
	2,500	0.674	0.750	0.800	0.881
7,500	100	0.614	0.689	0.745	0.847
	250	0.613	0.687	0.744	0.846
	500	0.610	0.686	0.743	0.845
	1,000	0.606	0.682	0.740	0.842
	2,500	0.597	0.674	0.733	0.837
	5,000	0.587	0.665	0.724	0.830
10,000	100	0.565	0.631	0.692	0.809
	250	0.563	0.630	0.691	0.809
	500	0.561	0.628	0.690	0.807
	1,000	0.557	0.625	0.687	0.805
	2,500	0.548	0.617	0.680	0.799
	5,000	0.538	0.608	0.671	0.792
	7,500	0.533	0.602	0.666	0.787

Table 406.B.3.b.(7)#1 Coverage A, B, D Or E Named Storm Higher Fixed-dollar Deductibles

Territories 07, 08, 48, 49, 52 (Beach & Coastal)							
Coverage C And Other Personal Property Coverage Options*							
Named Storm Deductible Fixed-dollar Amounts	All Other Perils Deductible Amounts (Expressed In $)						
	100	250	500	1,000	2,500	5,000	7,500
$ 1,000	0.979	0.978	0.976	–	–	–	–
2,000	0.940	0.939	0.937	0.934	–	–	–
5,000	0.853	0.852	0.850	0.848	0.841	–	–
7,500	0.800	0.799	0.797	0.794	0.788	0.780	–
10,000	0.757	0.756	0.754	0.752	0.745	0.737	0.732
* Only use when policy also covers building or non-building structures.							

Table 406.B.3.b.(7)#2 Coverage C And Other Personal Property Named Storm Higher Fixed-dollar Deductibles

RULE 407.
AUTOMATIC INCREASE IN INSURANCE

Rule **407.** is replaced by the following:

A. Automatic Increase In Insurance Endorsement – DP 32 11

1. The policy may be endorsed to provide automatic annual increases in the Coverage **A, B** and **C** limits of liability. Apply a factor to the Base Premium as follows:

Amount Of Annual Increase	Factor
4%	1.02
6%	1.03
8%	1.04
Each Additional 4% over 8% add:	.02

Table 407.A.1. Factors

2. The premium for a 3 year policy is 3.2 times the annual policy premium.

3. Use Automatic Increase In Insurance Endorsement **DP 32 11.**

B. Inflation Guard Endorsement – DP 32 70

1. The policy may be extended to automatically adjust the limit of liability applicable to Coverage **A** under the Dwelling Policy. This limit will be adjusted at the same rate as the change in the Index shown on the Declarations, billing notice or named on the form.

2. There is no additional charge for this endorsement. Companies electing to use this endorsement must use it exclusively and are required to notify the North Carolina Rate Bureau of their election.

3. The following Indexes have been approved by the Department of Insurance and may be used with the approved Inflation Guard Endorsement:

(a) Marshall & Swift Boeckh (MS/B) Residential Cost Index published by the American Appraisal Company, Inc.;

(b) Composite Construction Cost Index published by the U.S. Department of Commerce;

(c) Consumer Price Index published by the U.S. Department of Labor;

(d) Marshall & Swift Boeckh (MS/B) Construction Cost Index published Marshall & Swift Boeckh (MS/B);

(e) RSMeans CostWorks Valuator published by RSMeans.

(f) Xactware Inflation Index published by Xactware Solutions, Inc.

4. Use Inflation Guard Endorsement **DP 32 70.**

RULE 408.
ALARMS, SMOKE DETECTORS, FIRE EXTINGUISHERS AND AUTOMATIC SPRINKLERS

The title of Rule **408.** Protective Devices is replaced by the preceding title.

Rule **408.** is replaced by the following:

A. Approved and properly maintained installations of fire alarms, smoke detectors, automatic sprinklers and fire extinguishers in the dwelling may be recognized for a reduced premium – computed by multiplying the fire Base Premium by the selected factors as follows.

Type Of Installation*	Dwelling Factor	Mobile Or Trailer Home Factor
Central Station Reporting Fire Alarm	.90	.92
Fire Department Reporting Fire Alarm	.93	.95
Local Fire Alarm Smoke Detectors	.95	.97
Automatic Sprinklers in all areas including attics, bathrooms, closets, attached structures	.80	.90
Automatic Sprinklers in all areas except attic, bathroom, closet and attached structure areas that are protected by a fire detector	.90	.95
Fire Extinguishers	.95	.95
* Refer to Company for eligibility, types of systems and devices, installation, and available credits.		

Table 408.A. Protective Devices Factors

B. A premium credit for Fire Extinguishers shall be allowed if the dwelling has, installed on each floor and basement in a readily accessible place, at least:

1. One fire extinguisher classified and labeled as 2-A (classified as A-1 prior to July 1, 1956), or

2. Two fire extinguishers classified and labeled as 1-A (classified as A-2 prior to July, 1956).

The extinguishers must be maintained in good, working order.

C. Use Premises Alarm Or Fire Protection System Endorsement **DP 32 50.**

RULE 409.
ACTUAL CASH VALUE LOSS SETTLEMENT WINDSTORM OR HAIL LOSSES TO ROOF SURFACING – DP 00 02, DP 00 03 AND DP 00 01 WITH DP 00 08

Rule **409.** does not apply.

RULE 410.
BUILDING CODE EFFECTIVENESS GRADING

Rule **410.** does not apply.

PART V
ADDITIONAL COVERAGES AND INCREASED LIMITS RULES

RULE 502.
COVERAGE D – FAIR RENTAL VALUE COVERAGE E – ADDITIONAL LIVING EXPENSE

Paragraph **A.** is replaced by the following:

A. Introduction

Coverage is provided in the forms on a limited basis as follows:

1. Form DP 00 01

a. Coverage D

Up to 10% of the Coverage **A** limit is available. Use of this option reduces the Coverage **A** limit for the same loss.

b. Coverage E

Not automatically included in form. It may be added as noted in Paragraph **B.**

2. Form DP 00 02 Or DP 00 03

Coverage **D** and **E** combined – Up to 10% of the Coverage **A** limit is available for Coverage **D** and Coverage **E** combined as additional insurance.

RULE 507.
FIRE DEPARTMENT SERVICE CHARGE

Rule **507.** is replaced by the following:

The limit of $500 provided under the policy may be increased. Refer to the state rates.

RULE 509.
EARTHQUAKE COVERAGE

Rule **509.** is replaced by the following:

A. Coverage Description

When added to the Fire policy, this peril shall apply to the same coverages and for the same limits that apply to the peril of Fire.

Use Earthquake Coverage Endorsement **DP 04 69.**

B. Loss Assessment Coverage

When the policy is extended to cover loss assessment resulting from loss by this peril, the limit of liability shall be based on the insured's proportionate interest in total value of all collectively owned buildings and structures of the corporation or association of property owners. Refer to company for rates.

Use Loss Assessment Coverage For Earthquake Endorsement **DP 04 68.**

C. Deductible

The base deductible is 5% of the limit of liability for Coverage **A, B** or **C,** whichever is greatest and is subject to a $250 minimum.

This deductible may be increased for a premium credit. In the event of an Earthquake loss to covered property, the dollar amount is deducted from the total of the loss for Coverages **A, B** and **C.**

D. Premium For Base Deductible

Develop the premium as follows:

1. From the state rates:

a. Determine the Earthquake Zone;

b. Determine if Rate Table **A,** and/or **B** applies;

c. Select the rate according to construction from the Rate Table; and

2. Multiply the rate determined in Paragraph **D.1.c.** by the amounts of insurance for:

a. Coverages **A, B, C, D** and **E;**

b. Improvements, Alterations and Additions – Increased Limits;

c. Other Building Coverage options (i.e. Bldg. Items Coverage);

d. Other Personal Property Coverage (i.e. Merchandise in Storage);

e. Ordinance or Law total amount of insurance (includes basic, and if applicable, increased amounts).

E. Premium for Higher Deductibles

Multiply the Base Premium determined in Paragraph **E.** by a factor from the following table:

Deductible Percentage	Frame And Superior	Masonry
10%	.89	.95
15%	.78	.89
20%	.67	.84
25%	.56	.79

Table 509.E. Higher Deductibles Factors

RULE 510.
THEFT COVERAGE

This rule is deleted.

Refer to the Theft Insurance program filed by or on behalf of the company insuring the risk.

RULE 512.
WINDSTORM OR HAIL COVERAGE – MISCELLANEOUS PROPERTIES

The title of Rule **512.** Windstorm Or Hail Coverage - Awnings, Signs And Outdoor Radio And Television Equipment is replaced by the preceding title.

Rule **512.** is replaced by the following:

A. Property Not Covered

The peril of Windstorm or Hail does **not** cover damage to the following properties whether attached to or separated from a dwelling or other structure on the Described Location:

1. Signs or cloth awnings, including their supports;

2. Radio or television antennas or aerials, including their lead-in wiring, masts or towers;

3. Swimming pools;

4. Screens, including their supports, around a swimming pool, patio or other areas;

5. Fences, property line and similar walls, including seawalls;

6. Bathhouses, cabanas, greenhouses, hothouses, pergolas, slathouses, trellises;

7. Outdoor equipment used to service the Described Location; or

8. Structures located over water, whether or not permanently attached to the ground, including the property in or on the structure.

B. Endorsement

Damage to these properties may be covered for an additional premium. Separately describe each property item and corresponding limit of liability on Windstorm Or Hail – Miscellaneous Properties Endorsement **DP 32 19** or the Declarations.

C. Greenhouses And/Or Hothouses

1. When the structure, greenhouse (hothouse) glass and any flowers and plants contained in the structure are insured as a single item:

a. Include, in the limit of liability for each structure, the value of all glass, as computed in Paragraph **1.c.,** and the value of any flowers and plants in that structure;

b. Add the "Glass Condition of Insurance", in Paragraph **3.a.** of this rule, to Windstorm Or Hail – Miscellaneous Properties Endorsement **DP 32 19** or the Declarations; and

c. Specify, in the "Glass Condition of Insurance", the dollar amount of all glass being insured. This amount is determined by multiplying the agreed value per square foot of glass by the number of square feet of all insured glass.

2. When the structure, greenhouse (hothouse) glass or the flowers and plants contained in the structure are **separately** insured, specify the limit of liability **separately** for each structure, all glass and the flowers and plants in that structure.

When glass is separately insured:

a. Add the "Glass Condition of Insurance", in Paragraph **3.b.** of this rule, to Windstorm Or Hail – Miscellaneous Properties Endorsement **DP 32 19** or the Declarations; and

b. Specify, in the "Glass Condition of Insurance", the agreed value per square foot of glass and the number of square feet of all glass. The limit of liability of all glass being insured is determined by multiplying these two amounts.

3. Glass Condition of Insurance

a. Use this Condition when glass is **not** separately insured:

"Windstorm or Hail Coverage for Greenhouse (Hothouse) Glass

It is understood by you and us that, in the event greenhouse (hothouse) glass is broken or destroyed by the peril of Windstorm or Hail, we will pay no more than the least of the following amounts:

A. $____. This dollar amount for greenhouse (hothouse) glass is determined by multiplying:

1. The agreed value per square foot of greenhouse (hothouse) glass, $____, by

2. The number of square feet of all insured greenhouse (hothouse) glass, ____;

B. An amount computed by:

1. Dividing the number of square feet of all broken or destroyed greenhouse (hothouse) glass by the total number of square feet of insured greenhouse (hothouse) glass, and

2. Multiplying the amount computed in **B.1.** above by the dollar amount for greenhouse (hothouse) glass stated in **A.** above; or

C. The actual cost to repair or replace the broken or destroyed greenhouse (hothouse) glass.

Also, if greenhouse (hothouse) glass is covered by other insurance, we will pay no more than the proportion of a loss that the dollar amount for such greenhouse (hothouse) glass stated in **A.** above bears to the total amount of insurance covering that glass".

RULE 512.
WINDSTORM OR HAIL COVERAGE – MISCELLANEOUS PROPERTIES (Cont'd)

b. Use this Condition when glass **is** separately insured:

"Windstorm or Hail Coverage for Greenhouse (Hothouse) Glass

It is understood by you and us that, in the event greenhouse (hothouse) glass is broken or destroyed by the peril of Windstorm or Hail, we will pay no more than the least of the following amounts:

A. The limit of liability declared above for greenhouse (hothouse) glass, which is determined by multiplying:

1. The agreed value per square foot of greenhouse (hothouse) glass, $ ____, by

2. The number of square feet of all insured greenhouse (hothouse) glass, ____;

B. An amount computed by:

1. Dividing the number of square feet of all broken or destroyed greenhouse (hothouse) glass by the total number of square feet of insured greenhouse (hothouse) glass, and

2. Multiplying the amount computed in **B.1.** above by the limit of liability for greenhouse (hothouse) glass declared above; or

C. The actual cost to repair or replace the broken or destroyed greenhouse (hothouse) glass.

Also, if greenhouse (hothouse) glass is covered by other insurance, we will pay no more than the proportion of loss that our limit of liability for such greenhouse (hothouse) glass bears to the total amount of insurance covering that glass".

D. Premium

Refer to the state rates.

RULE 513.
WATER BACK UP AND SUMP OVERFLOW

Rule **513.** does not apply.

RULE 515.
MOTORIZED GOLF CART – PHYSICAL LOSS COVERAGE

Rule **515.** does not apply.

RULE 517.
LIMITED FUNGI, WET OR DRY ROT, OR BACTERIA COVERAGE

Rule **517.** does not apply.

ADDITIONAL RULE(S)

RULE A3.
WINDSTORM OR HAIL EXCLUSION – TERRITORIES 07, 08, 48, 49 AND 52 ONLY

Territory	Const.*	Building Credit	Contents Credit
07	M	$ 170	$ 22
	F	179	23
08	M	174	24
	F	183	25
48	M	96	12
	F	101	13
49	M	94	11
	F	99	12
52	M	105	12
	F	110	13

* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table A3.B.2.(R) Windstorm Or Hail Exclusion – Territories 07, 08, 48, 49 And 52 Only

RULE A5.
INSTALLMENT PAYMENT PLAN

C. The additional charge per installment is $3.00.

RULE A6.
UNPROTECTED DWELLINGS – PROTECTION CLASS 9, 9E, 9S OR 10

Rates Per $1,000	
Additional rate of insurance	$ 1.50

Table A6.C.1.a.(R) Unprotected Dwellings – Protection Class 9, 9E, 9S Or 10

RULE A9.
WINDSTORM MITIGATION PROGRAM

Mitigation Feature	Territory 07	Territory 08	Territory 48	Territory 49	Territory 52
Total Hip Roof	$ 9	$ 9	$ 5	$ 5	$ 5
Opening Protection	10	9	5	5	5
Total Hip Roof and Opening Protection	19	18	10	10	10
IBHS Designation:					
Hurricane Fortified for Safer Living®	31	32	12	13	19
Hurricane Fortified for Existing Homes® Bronze Option 1	7	7	4	4	4
Hurricane Fortified for Existing Homes® Bronze Option 2	12	12	5	5	7
Hurricane Fortified for Existing Homes® Silver Option 1	19	20	7	7	12
Hurricane Fortified for Existing Homes® Silver Option 2	23	24	8	8	14
Hurricane Fortified for Existing Homes® Gold Option 1	25	25	10	10	14
Hurricane Fortified for Existing Homes® Gold Option 2	28	29	11	11	17

Table A9.E.#1(R) – Windstorm Loss Mitigation Credit – Coverage A – Dwelling

Mitigation Feature	Territory 07	Territory 08	Territory 48	Territory 49	Territory 52
Total Hip Roof	$ 1	$ 1	$ 1	$ 1	$ 1
Opening Protection	1	1	1	1	1
Total Hip Roof and Opening Protection	2	2	1	1	1
IBHS Designation:					
Hurricane Fortified for Safer Living®	5	5	2	2	3
Hurricane Fortified for Existing Homes® Bronze Option 1	1	1	1	1	1
Hurricane Fortified for Existing Homes® Bronze Option 2	2	2	1	1	1
Hurricane Fortified for Existing Homes® Silver Option 1	3	3	1	1	2
Hurricane Fortified for Existing Homes® Silver Option 2	3	4	1	1	2
Hurricane Fortified for Existing Homes® Gold Option 1	4	4	1	1	2
Hurricane Fortified for Existing Homes® Gold Option 2	4	4	2	2	2

Table A9.E.#2(R) – Contents Windstorm Loss Mitigation Credit – Coverage C – Personal Property

RULE 206.
MINIMUM PREMIUM

D. Minimum Premium – $50.

RULE 208.
WAIVER OF PREMIUM

B. Amount that may be waived – $3 or less.

RULE 301.
BASE PREMIUM COMPUTATION

Owner-occupied And Non-owner-occupied Key Premiums – Territories 07, 08, 32				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 07	Territory 08	Territory 32
1	M	$ 11	$ 13	$ 30
	F	16	17	40
2	M	12	13	30
	F	16	18	41
3	M	12	13	31
	F	16	18	42
4	M	12	14	32
	F	17	19	43
5	M	12	14	32
	F	17	19	44
6	M	13	15	35
	F	18	20	47
7	M	14	16	37
	F	19	22	50
8	M	16	18	42
	F	22	25	57
8B, 9, 9E, 9S	M	18	20	46
	F	24	27	63
10	M	22	24	57
	F	30	33	77
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#1(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Owner-occupied And Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#2(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 34, 36, 38				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 34	Territory 36	Territory 38
1	M	$ 34	$ 32	$ 30
	F	46	43	40
2	M	35	32	30
	F	47	44	41
3	M	35	33	31
	F	48	45	42
4	M	36	34	32
	F	49	46	43
5	M	37	34	32
	F	50	47	44
6	M	40	37	35
	F	54	51	47
7	M	42	39	37
	F	57	53	50
8	M	48	45	42
	F	65	61	57
8B, 9, 9E, 9S	M	53	49	46
	F	72	67	63
10	M	64	60	57
	F	88	82	77
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#3(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Owner-occupied And Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#4(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 39, 41, 44				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 39	Territory 41	Territory 44
1	M	$ 28	$ 54	$ 34
	F	38	74	47
2	M	28	55	35
	F	39	75	48
3	M	29	56	36
	F	39	77	49
4	M	29	58	37
	F	40	78	50
5	M	30	59	37
	F	41	80	51
6	M	32	63	40
	F	44	86	55
7	M	34	67	42
	F	47	91	58
8	M	39	76	49
	F	53	104	66
8B, 9, 9E, 9S	M	43	84	54
	F	59	115	73
10	M	53	103	66
	F	72	140	89
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#5(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#6(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 45, 46, 47				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 45	Territory 46	Territory 47
1	M	$ 37	$ 41	$ 32
	F	51	56	44
2	M	38	42	33
	F	52	57	45
3	M	39	43	34
	F	53	59	46
4	M	40	44	35
	F	54	60	47
5	M	40	45	35
	F	55	61	48
6	M	43	48	38
	F	59	66	52
7	M	46	51	40
	F	62	69	54
8	M	52	58	46
	F	72	79	62
8B, 9, 9E, 9S	M	58	64	50
	F	79	87	69
10	M	71	78	62
	F	96	107	84

* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table 301.A.#7(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04

* Use this limit of liability to develop premiums for policy amounts less than $1,000.

Table 301.A.#8(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 48, 49, 52				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 48	Territory 49	Territory 52
1	M	$ 28	$ 25	$ 24
	F	39	34	32
2	M	29	26	24
	F	39	35	33
3	M	30	26	25
	F	40	36	34
4	M	30	27	25
	F	41	36	34
5	M	31	27	26
	F	42	37	35
6	M	33	29	28
	F	45	40	38
7	M	35	31	29
	F	48	42	40
8	M	40	35	33
	F	55	48	46
8B, 9, 9E, 9S	M	44	39	37
	F	60	53	50
10	M	54	48	45
	F	74	65	61
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#9(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#10(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 53, 57, 60				
Fire – Coverage A – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 53	Territory 57	Territory 60
1	M	$ 24	$ 30	$ 26
	F	32	40	36
2	M	24	30	27
	F	33	41	37
3	M	25	31	27
	F	34	42	37
4	M	25	32	28
	F	34	43	38
5	M	26	32	29
	F	35	44	39
6	M	28	35	31
	F	38	47	42
7	M	29	37	32
	F	40	50	44
8	M	33	42	37
	F	46	57	51
8B, 9, 9E, 9S	M	37	46	41
	F	50	63	56
10	M	45	57	50
	F	61	77	68

* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table 301.A.#11(R) Fire – Coverage A – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.38	$ 27	1.48
2	.42	28	1.52
3	.47	29	1.56
4	.51	30	1.60
5	.56	31	1.64
6	.60	32	1.68
7	.65	33	1.72
8	.69	34	1.76
9	.74	35	1.80
10	.78	36	1.84
11	.82	37	1.88
12	.87	38	1.92
13	.92	39	1.96
14	.96	40	2.00
15	1.00	41	2.04
16	1.04	42	2.08
17	1.08	43	2.12
18	1.12	44	2.16
19	1.16	45	2.20
20	1.20	46	2.24
21	1.24	47	2.28
22	1.28	48	2.32
23	1.32	49	2.36
24	1.36	50	2.40
25	1.40	Each Addi-	
26	1.44	tional $1,000	.04

* Use this limit of liability to develop premiums for policy amounts less than $1,000.

Table 301.A.#12(R) Fire – Coverage A – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 07, 08, 32				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 07	Territory 08	Territory 32
1	M	$ 3	$ 4	$ 11
	F	5	6	16
2	M	3	4	12
	F	5	6	16
3	M	4	4	12
	F	5	6	16
4	M	4	4	12
	F	5	6	17
5	M	4	4	12
	F	5	6	17
6	M	4	5	13
	F	5	6	18
7	M	4	5	14
	F	6	7	19
8	M	5	6	16
	F	7	8	22
8B, 9, 9E, 9S	M	5	6	18
	F	7	9	24
10	M	6	8	22
	F	9	11	30
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#13(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Owner-occupied And Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#14(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 34, 36, 38				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 34	Territory 36	Territory 38
1	M	$ 12	$ 11	$ 10
	F	17	16	14
2	M	12	12	10
	F	17	16	14
3	M	13	12	11
	F	17	16	14
4	M	13	12	11
	F	18	17	15
5	M	13	12	11
	F	18	17	15
6	M	14	13	12
	F	19	18	16
7	M	15	14	12
	F	20	19	17
8	M	17	16	14
	F	23	22	20
8B, 9, 9E, 9S	M	19	18	16
	F	26	24	21
10	M	23	22	19
	F	32	30	26
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#15(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Owner-occupied And Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#16(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 39, 41, 44				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 39	Territory 41	Territory 44
1	M	$ 11	$ 17	$ 13
	F	15	23	17
2	M	11	17	13
	F	15	24	18
3	M	11	18	13
	F	15	24	18
4	M	12	18	14
	F	16	25	19
5	M	12	18	14
	F	16	25	19
6	M	13	20	15
	F	17	27	20
7	M	13	21	16
	F	18	28	22
8	M	15	24	18
	F	21	33	25
8B, 9, 9E, 9S	M	17	26	20
	F	23	36	27
10	M	21	32	24
	F	28	44	33
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#17(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#18(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 45, 46, 47				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 45	Territory 46	Territory 47
1	M	$ 14	$ 14	$ 12
	F	18	19	17
2	M	14	14	12
	F	19	20	17
3	M	14	15	13
	F	19	20	17
4	M	14	15	13
	F	20	21	18
5	M	15	15	13
	F	20	21	18
6	M	16	17	14
	F	22	23	19
7	M	17	17	15
	F	23	24	20
8	M	19	20	17
	F	26	27	23
8B, 9, 9E, 9S	M	21	22	19
	F	29	30	26
10	M	26	27	23
	F	35	37	32
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#19(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#20(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 48, 49, 52				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 48	Territory 49	Territory 52
1	M	$ 10	$ 9	$ 9
	F	14	13	13
2	M	10	10	10
	F	14	13	13
3	M	11	10	10
	F	14	13	13
4	M	11	10	10
	F	15	14	14
5	M	11	10	10
	F	15	14	14
6	M	12	11	11
	F	16	15	15
7	M	12	12	12
	F	17	16	16
8	M	14	13	13
	F	20	18	18
8B, 9, 9E, 9S	M	16	15	15
	F	21	20	20
10	M	19	18	18
	F	26	25	25
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#21(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#22(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Owner-occupied And Non-owner-occupied Key Premiums – Territories 53, 57, 60				
Fire – Coverage C – All Forms – Non-seasonal And Seasonal				
		1 – 5 Families		
Protection Class	Const.*	Territory 53	Territory 57	Territory 60
1	M	$ 9	$ 11	$ 10
	F	12	16	14
2	M	9	12	10
	F	12	16	14
3	M	9	12	11
	F	12	16	14
4	M	9	12	11
	F	13	17	15
5	M	10	12	11
	F	13	17	15
6	M	10	13	12
	F	14	18	16
7	M	11	14	12
	F	15	19	17
8	M	12	16	14
	F	17	22	20
8B, 9, 9E, 9S	M	14	18	16
	F	19	24	21
10	M	17	22	19
	F	23	30	26
* M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.				

Table 301.A.#23(R) Fire – Coverage C – All Forms – Non-seasonal And Seasonal Non-owner-occupied Key Premiums

Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.35	$ 27	3.73
2	.48	28	3.86
3	.61	29	3.99
4	.74	30	4.12
5	.87	31	4.25
6	1.00	32	4.38
7	1.13	33	4.51
8	1.26	34	4.64
9	1.39	35	4.77
10	1.52	36	4.90
11	1.65	37	5.03
12	1.78	38	5.16
13	1.91	39	5.29
14	2.04	40	5.42
15	2.17	41	5.55
16	2.30	42	5.68
17	2.43	43	5.81
18	2.56	44	5.94
19	2.69	45	6.07
20	2.82	46	6.20
21	2.95	47	6.33
22	3.08	48	6.46
23	3.21	49	6.59
24	3.34	50	6.72
25	3.47	Each Addi-	
26	3.60	tional $1,000	.13
* Use this limit of liability to develop premiums for policy amounts less than $1,000.			

Table 301.A.#24(R) Fire – Coverage C – All Forms Owner And Non-owner-occupied – Non-seasonal And Seasonal Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Extended Coverage, Broad And Special Forms – Coverage A Key Premiums*				
		Forms		
Territory	Const.*	DP 00 01	DP 00 02	DP 00 03
07	M	185	196	204
	F	195	207	215
08	M	191	202	210
	F	201	213	221
32	M	29	39	44
	F	30	41	45
34	M	33	45	50
	F	35	47	53
36	M	19	26	29
	F	20	27	30
38	M	17	23	26
	F	18	24	27
39	M	20	27	30
	F	21	28	32
41	M	48	65	72
	F	51	69	77
44	M	29	39	44
	F	30	41	45
45	M	46	62	69
	F	48	65	72
46	M	30	41	45
	F	32	43	48
47	M	38	51	57
	F	40	54	60
48	M	114	121	125
	F	120	127	132
49	M	111	118	122
	F	117	124	129
52	M	128	136	141
	F	135	143	149
53	M	28	38	42
	F	29	39	44
57	M	25	34	38
	F	26	35	39
60	M	25	34	38
	F	26	35	39

* **DP 00 01** Key Premiums are Non-seasonal and Seasonal. **DP 00 02** and **DP 00 03** Key Premiums are Non-seasonal only and include the charge for Extended Coverage and Vandalism and Malicious Mischief perils. M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table 301.A.#25(R) Extended Coverage, Broad And Special Forms – Coverage A Key Premiums

To develop the Seasonal Base Premiums, multiply the following factors by the **DP 00 01** Extended Coverage Base Premiums:

Territory	DP 00 02	DP 00 03
07, 08	1.10	1.20
32, 34, 41, 45 – 47, 53	1.50	1.55
36, 38, 39, 44, 60	1.50	1.55
48, 49, 52	1.10	1.20
57	1.50	1.55

Table 301.A.#26(R) Extended Coverage, Broad And Special Forms – Coverage A Seasonal Key Premiums Forms DP 00 02 And DP 00 03

Extended Coverage, Broad And Special Forms – Coverage A			
Key Factors			
Limit Of Liability (000's)	Coverage A	Limit Of Liability (000's)	Coverage A
$ 1*	.24	$ 27	1.64
2	.29	28	1.69
3	.34	29	1.74
4	.40	30	1.79
5	.45	31	1.84
6	.51	32	1.89
7	.56	33	1.94
8	.62	34	1.99
9	.67	35	2.04
10	.72	36	2.09
11	.78	37	2.14
12	.83	38	2.19
13	.89	39	2.24
14	.94	40	2.29
15	1.00	41	2.34
16	1.05	42	2.39
17	1.10	43	2.44
18	1.16	44	2.49
19	1.21	45	2.54
20	1.27	46	2.59
21	1.32	47	2.64
22	1.37	48	2.69
23	1.43	49	2.74
24	1.48	50	2.79
25	1.54	Each Addi-	
26	1.59	tional $1,000	.05

* Use this limit of liability to develop premiums for policy amounts less than $1,000.

Table 301.A.#27(R) Extended Coverage, Broad And Special Forms – Coverage A Key Factors

RULE 301.
BASE PREMIUM COMPUTATION (Cont'd)

Extended Coverage, Broad And Special Forms – Coverage C Key Premiums*				
		Forms		
Territory	Const.*	DP 00 01	DP 00 02	DP 00 03
07	M	26	28	29
	F	27	29	30
08	M	27	29	30
	F	28	30	31
32	M	2	3	3
	F	2	3	3
34	M	2	3	3
	F	2	3	3
36	M	1	1	2
	F	1	1	2
38	M	1	1	2
	F	1	1	2
39	M	1	1	2
	F	1	1	2
41	M	6	8	9
	F	6	8	9
44	M	3	4	5
	F	3	4	5
45	M	5	7	8
	F	5	7	8
46	M	2	3	3
	F	2	3	3
47	M	3	4	5
	F	3	4	5
48	M	15	16	17
	F	16	17	18
49	M	14	15	15
	F	15	16	17
52	M	16	17	18
	F	17	18	19
53	M	2	3	3
	F	2	3	3
57	M	1	1	2
	F	1	1	2
60	M	2	3	3
	F	2	3	3

* **DP 00 01** Key Premiums are Non-seasonal and Seasonal. **DP 00 02** and **DP 00 03** Key Premiums are Non-seasonal only and include the charge for Extended Coverage and Vandalism and Malicious Mischief perils. M = Masonry, F = Frame. Masonry Veneer is rated as masonry. Aluminum or plastic siding over frame is rated as frame.

Table 301.A.#28(R) Extended Coverage, Broad And Special Forms – Coverage C Key Premiums

To develop the Seasonal Base Premiums, multiply the following factors by the **DP 00 01** Extended Coverage Base Premiums:

Territory	DP 00 02	DP 00 03
07, 08	1.10	1.20
32, 34, 41, 45 – 47, 53	1.50	1.55
36, 38, 39, 44, 60	1.50	1.55
48, 49, 52	1.10	1.20
57	1.50	1.55

Table 301.A.#29(R) Extended Coverage, Broad And Special Forms – Coverage C Seasonal Key Premiums Forms DP 00 02 And DP 00 03

Extended Coverage, Broad And Special Forms – Coverage C			
Key Factors			
Limit Of Liability (000's)	Coverage C	Limit Of Liability (000's)	Coverage C
$ 1*	.17	$ 27	4.51
2	.33	28	4.68
3	.50	29	4.85
4	.67	30	5.02
5	.83	31	5.19
6	1.00	32	5.36
7	1.17	33	5.53
8	1.34	34	5.70
9	1.50	35	5.87
10	1.67	36	6.04
11	1.84	37	6.21
12	2.00	38	6.38
13	2.17	39	6.55
14	2.33	40	6.72
15	2.50	41	6.89
16	2.67	42	7.06
17	2.84	43	7.23
18	3.00	44	7.40
19	3.17	45	7.57
20	3.34	46	7.74
21	3.51	47	7.91
22	3.67	48	8.08
23	3.84	49	8.25
24	4.00	50	8.42
25	4.17	Each Addi-	
26	4.34	tional $1,000	.17

* Use this limit of liability to develop premiums for policy amounts less than $1,000.

Table 301.A.#30(R) Extended Coverage, Broad And Special Forms – Coverage C Key Factors

RULE 302.
VANDALISM AND MALICIOUS MISCHIEF – (DP 00 01)

Rates Per $1,000	
Not Seasonal or Vacant	$ .17
Seasonal and Not Vacant	1.40
Vacant	9.30
In Course of Construction	.19

Table 302.(R) Vandalism And Malicious Mischief (DP 00 01)

RULE 404.
MOBILE OR TRAILER HOMES – (DP 00 01)

Multiply the Frame Construction, Coverage **A** or **C** Base Premium by .9 for Fire and 1.25 for Extended Coverage.

RULE 406.
DEDUCTIBLES

B. Optional Deductibles

The Minimum Additional Charge is $25.00.

RULE 500.
MISCELLANEOUS LOSS COSTS

Rates Per $1,000*	
Exposure	**Rates**
A. Fire: Protection Class 1 – 8	$ 2.50
Fire: Protection Class 8B, 9, 9E, 9S & 10	4.50
B. Extended Coverage **(DP 00 01)**	1.00
C. Broad Form **(DP 00 02)**	1.50
D. Special Form **(DP 00 03)**	2.00
E. Broad Form **(DP 00 02)** with Endorsement **DP 04 65**	2.00
* These rates apply to all occupancies, territories, construction and protection classifications, unless otherwise specified. Rates for **A.** are cumulative with either **B., C., D.,** or **E.**	

Table 500.(R) Miscellaneous Rates

RULE 507.
FIRE DEPARTMENT SERVICE CHARGE

The Additional Rate per $1,000 of insurance is $15.00.

RULE 508.
TREES, SHRUBS AND OTHER PLANTS

C. Premium Computation

1. Fire, Extended Coverage, Broad And Special Forms

The rates in the following table apply to all occupancies, territories, construction and protection classifications, unless otherwise specified:

Fire (DP 00 01)	
Protection Class	**Rates Per $1,000**
1 – 8	$ 2.50
8B, 9, 9E, 9S & 10	4.50

Extended Coverage (DP 00 01) – All Specified Perils		
	Rates Per $1,000	
Territory	**Including Wind Or Hail**	**Excluding Wind Or Hail**
07, 08	$ 57.00	$ 1.00
48, 49, 52	29.00	1.00
32, 34, 41, 45 – 47, 53	15.00	1.00
36, 38, 39, 44, 57, 60	13.10	1.00

Windstorm Or Hail (DP 00 02 And DP 00 03)	
Territory	**Rates Per $1,000**
07, 08	$ 56.00
48, 49, 52	28.00
32, 34, 41, 45 – 47, 53	14.00
36, 38, 39, 44, 57, 60	12.10

Table 508.C.1.(R) Premium Computation

RULE 509.
EARTHQUAKE COVERAGE

D. Premium For Base Deductible

	Zone	Frame*	Masonry*	Superior
Table A				
Coverages **A, B, D** Or **E**	3	$ .36	$ 1.72	$ .68
Improvements, etc.	4	.23	1.05	.39
& Other Building Options	5	.18	.57	.27
Table B				
Coverage **C** & Other	3	$ .36	$ 1.43	$ .36
Personal Property	4	.23	.82	.23
Options	5	.18	.57	.18
* If exterior Masonry Veneer is covered, rate as Masonry; if not covered – rate as Frame.				

Zone Definitions		
Zone 3		
Anson	Davie	Richmond
Brunswick	Gaston	Robeson
Cabarrus	Iredell	Rowan
Catawba	Lincoln	Scotland
Cleveland	Mecklenburg	Stanly
Columbus	Montgomery	Union
Zone 4		
Alexander	Forsyth	Pender
Alleghany	Graham	Polk
Ashe	Haywood	Randolph
Avery	Henderson	Rutherford
Bladen	Hoke	Surry
Buncombe	Jackson	Swain
Burke	Macon	Transylvania
Caldwell	Madison	Watauga
Cherokee	McDowell	Wilkes
Clay	Mitchell	Yadkin
Cumberland	Moore	Yancey
Davidson	New Hanover	
Zone 5		
Balance of State		

Table 509.D.1.(R) Premium For Base Deductible 5% Deductible

RULE 511.
SINKHOLE COLLAPSE COVERAGE

Rates Per $1,000	
Cov. **A** or **B** and Other Bldg. Options	$ .30
Cov. **C** or Personal Property Options	.10

Table 511.B.1.(R) Premium Computation

RULE 512.
WINDSTORM OR HAIL COVERAGE – MISCELLANEOUS PROPERTIES

Rates Per $1,000				
	Territories			
	07, 08	48, 49, 52	32, 34, 41, 45 – 47, 53	36, 38, 39, 44, 57, 60
1. Signs				
All Metal	$ 33.60	$ 16.80	$ 12.10	$ 11.20
Other Construction	112.00	56.00	44.30	38.70
2. Cloth Awnings	56.00	28.00	14.00	12.10
3. Radio Or Television Equipment	112.00	56.00	44.30	32.70
4. Swimming Pools – Construction Of Pool And Related Structures*				
Masonry, Uncovered	.94	.47	.37	.28
Masonry, With Combustible Superstructures (Including Roof) And/Or Fencing – Pool Only	.94	.47	.37	.28
Masonry, With Combustible Superstructures (Including Roof) And/Or Fencing – Superstructure And/Or Fencing	32.60	16.30	11.20	8.40
Other Construction With Or Without Roof	32.60	16.30	11.20	8.40
Inflated Enclosure Or Covering Of Plastic Material	168.00	84.00	65.30	56.00
5. Screens (Including Supports)	32.60	16.30	11.20	8.40
6. Fences And Walls				
Masonry, Iron Or Reinforced Concrete	2.80	1.40	1.12	1.03
Other Construction	56.00	28.00	14.00	12.10
7. Bathhouses, Cabanas, Pergolas, Slathouses, Trellises; Structures Over Water				
Masonry	4.67	2.33	1.49	1.31
Other Construction – Fully Enclosed	6.53	3.27	1.96	1.68
Other Construction – Not Fully Enclosed	17.72	8.86	7.00	6.53
8. Outdoor Equipment	4.80	2.40	2.12	2.03
9. Greenhouses Or Hothouses				
Structures Including Glass, Flowers And Plants	130.60	65.30	61.10	60.60
If insured separately: Structure	11.56	5.78	4.67	4.48
Glass	66.20	33.10	31.30	30.80
Flowers And Plants	87.80	43.90	40.60	40.10

* If any part of a pool's enclosure or roof is made of plastic film or cloth, supported on wood framing, the entire pool is subject to the rates displayed for Inflated Enclosure or Covering of Plastic Material.

Table 512.D.(R) Premium Windstorm Or Hail Coverage – Miscellaneous Properties

RULE 514.
ASSISTED LIVING CARE

C. Premium

For Basic Limits, the rate per unit is $55.38.

For increased Coverage **C** Limit, the rate per $1,000 is $6.38.

1. TERRITORY DEFINITIONS – (For all Coverages and Perils Other than Earthquake).

A. Cities

City of	County of	Code
Charlotte	Mecklenburg	38
Durham	Durham	32
Greensboro	Guilford	36
Raleigh	Wake	32
Winston-Salem	Forsyth	36

B. Other Than Cities

County of	Code
Alamance	57
Alexander	60
Alleghany	60
Anson	44
Ashe	60
Avery	60
Beaufort	49
Bertie	45
Bladen	41
Brunswick	52
Buncombe	60
Burke	60
Cabarrus	60
Caldwell	60
Camden	49
Carteret	52
Caswell	46
Catawba	60
Chatham	53
Cherokee	60
Chowan	49
Clay	60
Cleveland	60
Columbus	41
Craven	49
Cumberland	34
Currituck	48
Dare	48
Davidson	57
Davie	60
Duplin	45
Durham	53
Edgecombe	47
Forsyth	57
Franklin	47
Gaston	39
Gates	45
Graham	60
Granville	46
Greene	45
Guilford	57
Halifax	47
Harnett	47
Haywood	60
Henderson	60
Hertford	45
Hoke	47
Hyde	48
Iredell	60
Jackson	60
Johnston	47
Jones	49
Lee	47
Lenoir	45
Lincoln	60
Macon	60
Madison	60
Martin	45
McDowell	60
Mecklenburg	39
Mitchell	60
Montgomery	44
Moore	47
Nash	47
New Hanover	52
Northampton	47
Onslow	52
Orange	53
Pamlico	48
Pasquotank	49
Pender	52
Perquimans	49
Person	46
Pitt	45
Polk	60
Randolph	57
Richmond	44
Robeson	41
Rockingham	60
Rowan	60
Rutherford	60
Sampson	45
Scotland	47
Stanly	60
Stokes	60
Surry	60
Swain	60
Transylvania	60
Tyrrell	49
Union	39
Vance	46
Wake	53
Warren	46
Washington	49
Watauga	60
Wayne	45
Wilkes	60
Wilson	47
Yadkin	57
Yancey	60

Beach Area – Localities south and east of the Inland Waterway from the South Carolina Line to Fort Macon (Beaufort Inlet), thence south and east of Core, Pamlico, Roanoke and Currituck Sounds to the Virginia Line, being those portions of land generally known as the "Outer Banks".

Beach Areas in Currituck, Dare and Hyde counties: 07

Beach areas in Brunswick, Carteret, New Hanover, Onslow and Pender counties: 08

PREFILED TESTIMONY
OF
ROBERT J. CURRY

2018 DWELLING INSURANCE
FILING BY THE
NORTH CAROLINA RATE BUREAU

Q. Please state your name and business address.

A. My name is Robert J. Curry. My business address is Insurance Services Office, 545 Washington Boulevard, Jersey City, New Jersey.

Q. By whom are you employed?

A. I am employed by Insurance Services Office (ISO) and have been employed by ISO since October 8, 1984.

Q. What are your responsibilities at ISO?

A. At the time when this rate review was prepared I was generally responsible for managing and overseeing the preparation of North Carolina personal property rate reviews. Additionally, I am ISO's Regulatory Actuary. In this role, I interface with all insurance departments on actuarial questions and issues about ISO filings for all lines of business.

Q. What is your employment background?

A. I have been employed by ISO for over thirty years in various actuarial positions. I was hired as an Actuarial Assistant in 1984 in the Data Management and Control area. In 1990, I joined Actuarial Development as an Actuarial Consultant coordinating work on the quarterly Industry Operating Results and several Insurance Issues Series studies. In 1994, I joined Actuarial Government Services as a Regional Actuary. In 1998, I joined the Personal Lines Actuarial Division (PLAD) as a Manager and Associate Actuary. In PLAD, I was responsible for personal auto filings in 25 states and the use of catastrophe models in personal property ratemaking. In 2003 I was appointed Assistant Vice President and Actuary of the Personal Property Actuarial Division. In 2015, after a reorganization I was named Actuarial Product Director for Personal Property and I am now Assistant Vice President and Regulatory Actuary in Government Relations.

Q. What is your background in actuarial science and your educational background?

A. I have a Bachelor of Science degree in mathematics from Cook College at Rutgers University. I am a Fellow of the Casualty Actuarial Society (CAS) and a member of the American Academy of Actuaries (AAA). I have met the continuing professional education requirements of the AAA through the date of this testimony. I am a Chartered Property Casualty Underwriter (CPCU). I have also earned the Associate in Insurance Accounting and Finance (AIAF) and Associate in Regulatory Compliance (ARC) designations. I have served on the CAS Examination Committee, CAS Committee on Special Interest Seminars, CAS Ratemaking and Product Management Seminar Committee, CAS Continuing Education Committee and CAS Syllabus Committee. I was the chair of the CAS Predictive Modeling Seminar Committee and the In Focus Seminar Planning committee. I have also served as a member of the American Academy of Actuaries Committee on Automobile Insurance Issues. I am currently a member of the In Focus Seminar planning committee. I am a member of the AAA Big Data Task Force.

Q. Are you familiar with dwelling ratemaking in other states?

A. Yes. I have worked on all Bureau property reviews and filings in North Carolina since 2003. As part of my duties at ISO, I am familiar with the data collection and ratemaking procedures in use throughout the United States, in addition to North Carolina.

Q. What work have you performed with respect to the Rate Bureau's 2018 dwelling rate filing in North Carolina?

A. Through ISO, I have been involved in the preparation of the 2018 dwelling rate and territory definition filing for the Rate Bureau in several respects. First, ISO, as a licensed statistical agent in North Carolina, collects data from a significant number of insurers that write dwelling insurance in North Carolina, as well as from the North Carolina Insurance Underwriting Association (commonly called the "Beach Plan") and the North Carolina Joint Underwriting Association (commonly called the "FAIR Plan") which are residual market mechanisms.

Second, ISO collects, reviews and compiles data from three other statistical organizations licensed in North Carolina that collect homeowners dwelling data from Bureau member companies. All companies writing dwelling insurance in North Carolina must report to one of these four organizations. The other three organizations are: the Independent Statistical Service (ISS), the American Association of Insurance Services (AAIS) and the National Independent Statistical Service (NISS).

Third, ISO provides consulting actuarial services directly to the Bureau. I have been directly involved in this aspect of the Bureau's dwelling insurance rate filings for a number of years. As in the past, ISO staff and I compiled the ratemaking data to be reviewed by the Property Rating Subcommittee, the Property Committee and the Governing Committee in preparation of the filing.

Fourth, ISO staff put together the vast majority of the data, information and calculations contained in Exhibit RB-1. This lengthy process was performed under the direction of the Bureau committees. I attended meetings of those Bureau committees together with other ISO staff.

Finally, I have reviewed the filed rates to determine if they are calculated in accordance with the Casualty Actuarial Society's (CAS) Statement of Principles Regarding Property and Casualty Insurance Ratemaking. In accordance with Actuarial Standard of Practice No. 17 Expert Testimony by Actuaries, I conducted my review in terms of reasonableness rather than solely in terms of whether there is precise agreement on each issue. In addition, I applied the applicable rate standards set forth in Article 36 of Chapter 58 of the North Carolina General Statutes, including but not limited to 58-36-10, i.e., that rates must not be excessive, inadequate or unfairly discriminatory and that certain statutory rating factors must be considered.

Q: What is the relationship between this filing and the filing dated November 30, 2016 that was later withdrawn?

A: After that filing was made, it was determined that there was a significant amount of incorrect input data relating to the beach and coastal areas of the state due to a data reporting problem. For a variety of reasons, that incorrect data resulted in numerous incorrect factors, calculations and indications in that filing. The Rate Bureau determined that, rather than trying to amend that filing with corrected data, the best course of action would be to withdraw that filing so that there would be ample opportunity to obtain and fully verify the data. During this time, additional years of data became available in the normal course of the data reporting cycle. The withdrawn filing used data through 2013, whereas this 2018 filing uses the most recently available data, which is through 2015. Since many of the numbers, exhibits and calculations in the withdrawn filing were not correct, comparisons of numbers, exhibits and calculations in that filing with those in the current filing are not meaningful or appropriate.

Q. What data are utilized in Exhibit RB-1?

A. The Rate Bureau has the responsibility of filing forms and making rates for all dwelling insurance policies written in North Carolina (with the exception of policies that may be written by county farm mutuals pursuant to N.C.G.S. 58-36-50). The Bureau combines the data as to those policies in its filings as if there were a single company with the exposure and loss experience of all those policies. Rates are then analyzed in rate filings as if those rates were being made for this hypothetical one company. The ratemaking data reflected in Exhibit RB-1 is, in general, based on the aggregate dwelling experience of the approximately 50 individual insurance companies that write dwelling policies in North Carolina, together with the experience written on dwelling insurance policies in the residual market as described below. Those entities submit their data to one of the four statistical organizations described above. The four statistical organizations subject each entity's data to a series of verification edits and then consolidate the data for their reporting entities. The statistical agents then transmit their consolidated data to ISO for final review and consolidation. After consolidating the data, ISO produces exhibits of the combined data in a format and detail necessary for review by the Rate Bureau committees and ultimately for use in rate filings.

The statistical agents are licensed by the Commissioner of Insurance in North Carolina. They have collected, reviewed, compiled and submitted the data underlying this filing as a regular practice and in the regular course of their business responsibilities as licensed statistical agents in North Carolina.

With respect to Exhibit RB-1 the supporting data for the rate level changes for dwelling insurance are contained in Section C. Five years of premium and loss experience are displayed in Section C. The five years are the years ended December 31, 2011 through December 31, 2015.

The loss experience used in the filing is what we call "accident year" experience. I can explain that best by giving you an example. The losses for the accident year ended December 31, 2015 consist of all losses caused by claims that occurred during the one-year period ended December 31, 2015. If a claim occurred December 29, 2015 and resulted in either a loss being paid or a reserve being established after January 1, 2016, that loss would be a part of the accident year losses for the period ended December 31, 2015. The criteria for slotting losses into accident years is the date the claim occurred.

Q. Please describe what are commonly called the "Beach Plan" and the "FAIR Plan" and the role of their loss data?

A. They are both residual market organizations that write policies for those policyholders who cannot obtain insurance in the voluntary market. The term "Beach Plan" is the commonly used term for the North Carolina Insurance

Underwriting Association. It is a residual market organization set up by the North Carolina legislature in Article 45 of the insurance statutes. It writes dwelling, homeowners and other types of property insurance policies for policyholders in the 18 coastal counties.

The Beach Plan writes policies in its own name. It receives and retains premiums, adjusts losses and reports statistics in essentially the same manner as voluntary insurance companies for those purposes. It uses dwelling forms and rates filed by the Rate Bureau, except that it applies a 5% statutory surcharge on the wind and hail coverage. When the Beach Plan reports its statistical data to ISO, ISO reviews those statistical data in the same manner that it does for voluntary companies.

The second residual market mechanism in North Carolina is the Fair Access to Insurance Requirements plan, commonly called the "FAIR Plan." It writes in all areas of the state except the beach. It writes dwelling policies but does not write homeowners policies. No surcharge is applied to FAIR Plan policies.

The size and growth of the Beach and FAIR Plans reflect the fact that voluntary companies are unwilling to write in coastal areas where the manual rate level is inadequate. Although voluntary companies have chosen not to accept the risk of writing dwelling policies at the rates that they can charge, North Carolina law requires those companies to be responsible for payment of some or all of the losses that occur on those policies when they are written by the Beach Plan and FAIR Plan. Data from these two residual market organizations have always been included in Bureau property filings for the line of insurance under review in the same manner as data from voluntary insurance companies that write that line of insurance. It is actuarially appropriate and necessary to include the residual market data with the voluntary data to ensure that the rates are representative of the entire market since every policy potentially could be written in the voluntary market.

The Beach and Fair Plans write 59% of the statewide extended coverage portion of the dwelling insurance premium. They have the highest market share in the beach territories -- 95% in territory 120 and 93% in territory 110. The market share in territories 130, 140 and 200 is about 80%; in territory 230 it is about 65%; in territories 150 and 170 it is about 70%; and in territory 160 it is about 65%. See exhibit RB-3 A.

Q. What is the reason for using five years' of premium and loss data to determine the indicated rate level change?

A. Five years of data are used to balance the stability of the rates with responsiveness to current conditions. The North Carolina statutes allow the Rate Bureau to consider five years of experience in its property rate level filings in addition to other factors that are to be considered. Traditional ratemaking for the fire coverage of a dwelling policy has relied on five years of experience with the weights of .10, .15, .20, .25 and .30 being given to each year respectively as the way to achieve this balance. The accident year weights used by the Bureau are identical to those used by Insurance Services Office in developing their advisory loss costs for dwelling fire insurance. These weights are generally accepted in all jurisdictions in which ISO makes dwelling filings. For the extended coverage portion of the dwelling policy, which by nature is more likely to be unstable because of weather events, equal weights are given to each year for stability. This treatment is a common and accepted ratemaking practice used by ISO countrywide.

Q. Mr. Curry, please turn to page C-1 of Exhibit RB-1. Would you explain what that page represents.

A. Page C-1 is what we call a statewide rate level calculation for the fire portion of a dwelling policy. Page C-1 is a determination of what the actual indicated rate level change is for dwelling fire. The data shown are for all business written in the voluntary market and the data written by the North Carolina Beach and FAIR Plans.

Q. Referring to column 1 on page C-1, what are "Adjusted Incurred Losses"?

A. The incurred losses in column 1 are the losses from all causes from claims that occurred during each of the respective accident years. The figure includes losses that have already been paid, losses that are not yet paid and are represented by outstanding claim reserves, and losses that have been incurred but for which no individual reserve exists because they have not yet been reported.

Q. Have the losses as shown in column 1 been adjusted in any way?

A. Yes, there are two adjustments. First, these losses have been adjusted to a common $500 deductible level. The second adjustment results from the use of a loss development factor.

Q. What is the purpose of adjusting the reported losses by applying a loss development factor?

A. As I mentioned a moment ago, the losses in column 1 of page C-1 include losses that are not yet reported. By definition, since they are not yet reported, we cannot simply take a reported number and add it to the losses. They are included by what is known as an adjustment for IBNR (incurred but not reported) losses. This is accomplished through the use of loss development factors. The losses as they are reported to us cover all claims that occur during the respective accident years ended December 31. When they are reported to the statistical agent they are evaluated as of March 31 of the next year. As of March 31 some of the losses have already been paid and some have not. Those that have not are represented by loss reserves. The loss reserves, of course, are estimates of what will ultimately be paid on these outstanding claims. Since we want the estimates to be as accurate as possible, we look at history to see how losses have changed, or "developed," in the past from the time they were initially reported to the time they were ultimately paid. For example, if we look back and see that historically there has been a 1% increase in the amount of losses from the time they were initially reported as reserves until the time they were ultimately paid, we would logically assume that the same development pattern will hold true for losses incurred during the year ended December 31, 2015. Accordingly, we would make an adjustment by increasing the losses as they are initially reported to us by 1%.

Q. What causes losses to change or develop as you have described?

A. The losses that are paid as of the date of the initial reporting, of course, do not change. As to the reserve portion of the losses, however, changes would typically result from the fact that the ultimate loss payments are more or less than estimated at the time of the initial report. Another factor would be the late reporting of claims. For example, if a claim occurred on December 25 of any given year and for some reason was not timely reported to the company, it might very well be that the losses as initially reported would not include any provision for that particular claim. By the time of the next year's evaluation, however, the claim would have worked its way into the system and the total loss would include either the paid amount or the reserved amount for that particular claim. This would cause an upward development in the total losses as initially reported.

Q. Will you please refer to page D-12 of RB-1 and explain how the loss development factors used in the filing were calculated?

A. Yes. In the top section of that page, the North Carolina incurred losses evaluated as of 15, 27, 39, 51, 63, 75 and 87 months for the accident years for which data are available are shown. In calculating loss development factors, we have used the data of companies reporting to ISO. The entry in

the first column for the accident year ended December 31, 2013 is $9,609,120. This is in the column that is labeled "15 Months." This is the first evaluation of the losses caused by claims that occurred during the year that ended December 31, 2013. The evaluation was made as of March 31, 2014 -- 15 months after the beginning of the accident year. Twelve months later (March 31, 2015) the losses caused by claims that occurred during the year ended December 31, 2013 had decreased to $9,287,968. This is the evaluation as of 27 months after the beginning of the accident year. This decrease represents an decrease in losses, or negative development, of -3.3% (0.967) as shown in the column on that page labeled "27:15." As shown on page D-12, we have looked at the development from 15 months to 27 months for eleven different years. The average development for those years was .971, or -2.9%.

Q. Does page D-12 also show development figures for periods later than 27 months?

A. Yes. Studies have shown that for dwelling fire virtually all losses have been paid by the time of the evaluation at 87 months after the beginning of an accident year. We calculate loss development factors for the periods from 27 months to 39 months, 39 months to 51 months, 51 months to 63 months, 63 months to 75 months and 75 months to 87 months. For example, by the time of the 39 month evaluation the losses for the accident year ended December 31, 2013 had become $9,335,943. This represents an increase of 1.005, or 0.5%, over the losses for the same accident year evaluated as of 27 months. The average development over the period 27 months to 39 months for the ten most recent years for which the data are available was 0.996, or -0.4%.

Q. Will you explain how the loss development factor used to determine the ultimate payment value of the accident year ended December 31, 2015 losses was determined?

A. Yes. The development factors for each of the applicable periods, as shown on page D-12, are:

Development Period	Factor
15 to 27	0.971
27 to 39	0.996
39 to 51	0.999
51 to 63	1.000
63 to 75	1.000
75 to 87	1.000

If you multiply all of these factors you will get a factor of .966 to apply to the year ended December 31, 2015 losses.

Q. What other adjustments must be made to the losses?

A. The losses need to be adjusted by trend to reflect the cost levels anticipated to prevail during the period that the proposed rates are expected to be in effect. For this filing the analysis assumed an effective date is June 1, 2018. This date is relevant for trending purposes as is explained in my testimony. This assumed trend effective date is different from the filed effective date of October 1, 2018. If the trending were to go to the assumed effective date, the rate indications would be slightly higher.

Q. Could you please describe how the loss trend is developed and applied?

A. The loss trend is developed in a two step process. The first step is the development of a current cost factor that brings the losses up to the cost level of the external Current Cost Index that is used as the basis of the loss trend. The second step is the development of a loss projection factor based upon an exponential fit of the last twelve quarters of the Current Cost Index and the actual dwelling pure premium trend. The loss projection factor projects the losses from May 15, 2017 (the midpoint of the latest quarter of the external index) to June 1, 2019, the average date of loss for one year policies which are assumed to be written at the proposed rates (i.e. one year beyond the trend effective date of June 1, 2018).

Q. You mentioned that the loss trend is based on a Current Cost Index. What are the components of the Current Cost Index used for dwelling fire?

A. The Current Cost Index is a weighted average of the Modified Consumer Price Index (MCPI) and the CoreLogic Residential Index (CLRI), with the MCPI receiving 5% weight and the CLRI receiving 95% weight. The intent of the weights is to reflect the split between contents type losses and buildings type losses. The weights have been updated from the previous weights of 20% to the MCPI and 80% to the CLRI based on building and contents data.

Q. How are the weights of 95% to the CoreLogic Residential Index and 5% to the Modified Consumer Price Index determined?

A. The weights were based on an examination of fire losses, apportioning the losses between buildings and contents.

	Buildings	Contents
2011	95.4%	4.6%

2012	95.5%	4.5%
2013	95.4%	4.6%
2014	95.2%	4.8%
2015	95.1%	4.9%

Q. What is the CoreLogic Residential Index?

A. The CoreLogic Residential Index is an index of construction costs. The particular index used in this filing is based on information compiled specifically for construction costs in North Carolina.

Q. What is the Modified Consumer Price Index?

A. The Modified Consumer Price Index is based on selected components of the Consumer Price Index that correspond to the items that dwelling policies cover. The components used and the weights given to them are House Furnishings (70%), Apparel Commodities (20%) and Entertainment Commodities (10%).

Q. Please illustrate what factors would be applied to trend the losses for the year ended December 31, 2015.

A. The losses from the accident year ended December 31, 2015 are first adjusted by the Current Cost Factor for 2015 of 1.003 which is found on page D-14. The Current Cost Factor is the ratio of the Current Cost Index from the quarter ending June 30, 2017 to the Current Cost Index value for the full year 2015. The Current Cost Factor brings the losses from the cost levels corresponding to an average date of loss of June 30, 2015 to the cost levels corresponding to the midpoint of the latest quarter (May 15, 2017) of the Current Cost Index. Since the average date of loss for policies that will be written at the proposed rates is June 1, 2019 (one year past the trend effective date) it is necessary to project the losses from the May 15, 2017 cost level to that date. This is accomplished by projecting the losses at the annual rate of change of 0.2% for 24.5 months. This loss projection factor of 1.004 is calculated on page D-15.

Q. You mentioned that the actual pure premium trend was considered in the selection of trend factors. How was this data examined?

A. The pure premium experience was examined by the Property Rating Subcommittee. A pure premium is the ratio of the losses to the number of insured house years. These data were fit to an exponential curve and an annual rate of change was calculated. This rate of change was compared

to the annual rate of change of the Current Cost Index. In reviewing the loss trends, the annual rates of change in dwelling pure-premium during the 2011-2015 experience period are similar to the observed annual changes in the external indices. Therefore, to project losses to a 2018 level, a 0% additional annual trend adjustment was selected by the Property Rating Subcommittee for both the fire and the extended coverage portions of the dwelling filing. This results in the total 0.2% annual rate of change used to trend the prospective losses.

Q. Where on page C-1 are these factors applied?

A. The current cost factor for each year is applied as part of the current cost/current amount factor in column 3. The loss projection factor is combined with the premium projection factor and the trend from first dollar to produce the composite projection factor. This composite projection factor is applied in column 5 in the development of the Trended Loss Cost.

Q. You mentioned the trend from first dollar. Could you describe what that is and how it is developed and applied?

A. The index is a first dollar index. All of the losses have been adjusted to a $500 deductible level. As such, increases in cost as measured by the current cost index would affect losses below the deductible and cause an additional increase as losses below the deductible increase above it.

For example, a loss of $1,000 subject to a $500 deductible results in a payment of $500 to the insured. If there is 10% inflation the $1,000 loss grows to $1,100. This results in a payment to the insured of $600, which is a resulting effective inflation of 20.0%, an incremental trend of 10%. The procedure used in the filing is a standard one that accounts for this effect. The procedure in essence converts all the losses to a first dollar basis before the trend factor is applied. To obtain the resulting trended losses, the deductible portion of the trended losses are subtracted out. The trend from first dollar factor as shown on page D-19 is the incremental difference in the trend factor resulting from the application of our procedure. Using our example from before, the formula for trend from first dollar on page D-19 results in trend of 1 + (((.1) (500))/((1.1)(500))) = 1.10, which matches what was calculated earlier.

Q. Please refer to column 2 of page C-1. With reference to the column headed "Adjusted Incurred Losses Including LAE," please state what the figure $46,257,067 represents.

A. These are the losses and loss adjustment expenses associated with claims that occurred in the accident year ended December 31, 2015. The losses are the sum of the adjusted incurred losses in column 2, adjusted by a trended loss adjustment expense factor of 1.094.

Q. How is the trended loss adjustment expense factor of 1.094 developed?

A. Each year the Rate Bureau sends a call to its member companies for expense-related data. These calls showed that loss adjustment expenses for the calendar years December 31, 2011, December 31, 2012, December 31, 2013, December 31, 2014 and December 31, 2015, after dropping the high and low values, averaged 8.8% for the period as shown on page D-26.

This factor of 8.8% must be adjusted for the change in cost levels of the items that go into loss adjustment expenses. These expenses include items like adjuster's salaries, rents and overhead items related to claims settlement. In essence, these items will not change as losses change but rather will vary as general economic trends vary. We adjust the loss adjustment expense factor by taking a ratio of the expense trend to the loss trend on page D-29. This adjustment results in trended loss adjustment factor of 1.094.

Q. Could you please explain how the expense trend used to adjust the loss adjustment expense factor is developed?

A. The expense trend used to adjust the loss adjustment expense factor is based on an analysis of the Current Expense Index, which is an index based on a 50% weighting to the Compensation Cost Index, a 25% weight to the all items CPI (less energy) a 25% weight to the all items CPI (including energy), which were the latest available when the selection was made, for marine, fire and casualty insurance. The data for this index are shown on pages D-23-24. Based on an analysis of these data, an annual rate of change of 2% was selected by the Property Rating Subcommittee of the Bureau.

Q. Please explain the development and application of the expense projection factor in adjusting the loss adjustment expense factor?

A. The five year (excluding the high and low values) average loss adjustment expense factor of 8.8% reflects an averaging of the five years 2011, 2012, 2013, 2014 and 2015. As such the factor is representative of the time period corresponding to 2013.

The expense projection factor uses the 2.0% annual rate of change based on an exponential curve of the Current Expense Index. Since the loss adjustment expense ratio is at the cost level corresponding to July 1, 2013, it is necessary to project this cost to the average date of claim for the period assumed by the trend effective data or , June 1, 2019 (one year beyond our trend effective date). This calculation is displayed on line (2) on page D-29.

Q. What other adjustments must be made to the loss adjustment expense factor in order to use it?

A. The loss adjustment expense factor is determined as the ratio of expenses to losses. Having adjusted the expense portion of the factor in the numerator, we need to adjust the losses in the denominator by the loss trend, to reflect both the current cost factor and the loss projection factor.

Q. Could you please describe what is being done in Column 3 of page C-1?

A. In Column 3 the previously described current cost factors and current amount of insurance factors are combined into the current cost/current amount factors. This is done by determining the ratio of the current cost factor to the current amount factor. For example, the current cost/current amount factor of 0.952 for 2015 is the ratio of the 2015 current cost factor of 1.003 to the 2015 current amount factor of 1.054. Through these steps the losses and premiums have been brought to the cost level of May 15, 2017.

Q Please describe the development of the current amount factor.

A. The current amount factor is calculated, separately for buildings and contents, by taking the ratio of the average policy size relativity for each year to the projected average policy size relativity as of May 15, 2017, the same projection date as is used for the losses in the development of the current cost factor. The average policy size relativity is calculated by taking a weighted average of the policy size relativity curve for each amount of insurance using the exposures for each amount of insurance as weights. By taking the ratio of these relativities for each year to the May 15, 2017 value, we are in effect measuring the percentage growth in the premiums at present rates from year to year caused by changes in amount of insurance. Selections of an annual growth rate of 2.2% for building and 3.0% for contents were made by the Property Rating Subcommittee. Since the average relativity differs for buildings and contents and is forecasted separately, the resulting current amount factors for buildings and contents

are weighed on a premium distribution to produce a combined current amount factor.

Q. How is the current amount factor used in the calculation of the indicated rate level change?

A. The current amount factor for each year is the denominator in the current cost/current amount factor for that year shown in column 3 of page C-1. The premium projection factor is the denominator in the composite projection factor (CPF) used in column 5 of page C-1. The combined effect of these two factors is to bring the average rating factor to the level for the amount of insurance expected to prevail during the period for which these rates are expected to be in use. For example, for 2015 the current cost factor is 1.003 and the current amount factor is 1.054. The ratio of these two factors results in a current cost/current amount factor of 0.952 which appears in column 3 on page C-1 in the 2015 row.

Q. Could you please describe what is being done in column 5 of page C-1?

A. Column 5 combines all of the elements in columns 1 through 4. In column 5, the losses and loss adjustment expenses are trended to the cost level expected to prevail during the period based on the trend effective data (average date of claim of June 1, 2019). The house years are also projected to reflect the anticipated amounts of insurance for business written between June 1, 2018 and May 30, 2019. As an example, the calculation of Column 5 for 2015 is:

(1)	Adjusted Incurred Losses Including LAE (C-1, Col 2)	46,257,067
(2)	Current Cost/Amount Factor (C-1, Col.3 from p. D-18)	0.952
(3)	Earned House Years (C-1, Col. 4)	706,650
(4)	Composite Projection Factor (D-19, line 8)	0.971
(5)	Trended Loss Cost (C-1, Col. 5) (1)*(2)*(4)/(3)	60.51

Q. Please describe the development of the premium projection factor.

A. As I mentioned earlier, for each year we have an average policy size relativity that is calculated as a weighted average of each amount of insurance relativity. The premium projection factor is calculated by fitting an

exponential curve to the average policy size relativities. This curve is used to develop an annual rate of change for the policy size relativities. In the case of dwelling fire buildings, the average annual rate of change is 2.2% as shown on page D-17. Since the current amount factor has been calculated as the value on May 15, 2017, the premium projection factor will be calculated as the expected growth from May 15, 2017 to December 1, 2018 (which is six months after the trend effective date of June 1, 2018). This date of November 1, 2017 represents the midpoint of the year in which it is assumed that policies will be written using the proposed rates. This results in a Premium Projection Factor of 1.034 that is shown on Page D-17. A similar calculation is done for fire contents and this produces a Premium Projection Factor of 1.047. The two factors are weighed together to produce the Premium Projection Factor of 1.035. This is shown on Page D-19 in row 5.

Q. Could you please explain column 6 on page C-1?

A. Column 6 is the average rating factor for the policies purchased in each year. The average rating factor is the ratio of the average rate at manual level to the average current (after the most recent relativity filing) base rate. For example, let's assume that the current territory base rate for frame construction with $75,000 buildings coverage is $100, that the rating factor for masonry is 0.9 and that the rating factor to purchase an additional $25,000 of coverage A is 1.2. Then the average rating factor for a $100,000 masonry policy is calculated as:

$$(100 * 1.2 * 0.9) / 100 = 1.08$$

This factor is needed to adjust the average trended loss costs in column (5) to a base class level. Since most policyholders do not purchase exactly the base amount of coverage, the average trended loss cost is divided by the average rating factor to convert this average trended loss cost into a trended base class loss cost which is shown in column 7.

Q. Could you please explain line 9 on page C-1?

A. Line 9 is the resulting weighted trended base loss cost obtained by applying the accident year weights shown in Column 8 to the trended loss cost for each year shown in Column 7. This weighted trended loss cost is our forecasted base loss cost for policies written during the one-year period after the assumed effective date of June 1, 2018, if there were no change in rate level.

Q. Could you please explain line 10 on page C-1?

A. Line 10 is the credibility of the experience based on the number of house years during the 5-year period. The full credibility standard is based on a procedure considering the frequency of claims and the variability of the size of those claims. The procedure is explained in a CAS Proceedings Paper "Credibility of the Pure Premium" by Mayerson, Jones and Bowers. The full credibility standard is based on a normal distribution with a 90% probability of the pure premium being within 10% of the expected value. The full credibility standard for Fire is 500,000 house years and 330,000 house years for Extended Coverage.

Q. Could you please explain what line 11 entitled "Fixed Expense per Policy" on page C-1 refers to and what it represents?

A. Line 11, "Fixed Expense per Policy" refers to the dollars of prospective premiums that the general expenses will be on policies. General expenses, along with other acquisition expenses, constitute fixed expenses. They are fixed in that they do not vary as a direct function of the premium dollar. For example, the cost of office equipment, rent and other overhead-type expenses would be among the items classified as either general expenses or other acquisition expenses. Those expenses are fixed in the sense that they do not vary directly as a function of premium. Such things as commissions and premium taxes, on the other hand, are examples of expenses that do rise or fall directly with premium.

The number shown on line 11 ($3.88) represents the dollars of general expenses trended to the levels anticipated to prevail during the period from June 1, 2018 to May 30, 2019 (the average date of which is December 1, 2018) and the projected premiums for business written during the same period. This is appropriate because general expenses are essentially incurred at the time a policy is written.

Q. Could you explain how the figure $3.88 was derived?

A. This derivation of 3.88 is shown on page D-29 in line (5), "Factor to trend expense based on Current Expense Index." It starts out with an untrended general expense ratio of .050 that is based on the average of the 2013, 2014 and 2015 general expense ratios. These are shown on page D-25.

The average of these represents the average expense ratio corresponding to 2013. In order to trend these to the cost levels anticipated to prevail between June 1, 2018 and May 30, 2019, we project these by using the Current Expense Index described earlier. This is done by projecting the average annual change of +2.0% over the period from June 30, 2014 (the average

date of the experience on which the general expense ratio is based) to December 1, 2018 (the average date of writing under the assumed trend date). Since this ratio is relative to premium, we must project the amount of insurance from 2014 levels to the level anticipated on business written between June 1, 2018 and May 30, 2019. For example, as shown on line 5 of page D-29 for the general expense provision, this is done by using the current amount factor for 2014 of 1.091 and the premium projection factor of 1.113. The result is:

$$\frac{0.050 \times 1.091}{1.113} = .049.$$

A similar calculation is show on line 5 on page D-29 for other acquisition expenses.

Q. What does Line 12 on page C-1 entitled "Loss & Fixed Expenses" show?

A. Line 12 is a combination of the trended base class loss cost and the trended general expenses and other acquisition expenses. The figure $19.22 is the dollar amount that is required to cover the portion of the insurance base rate that accounts for losses, loss adjustment expenses, general expenses and other acquisition expenses.

Q. What does line 13 on page C-1 entitled "Expected Loss & Fixed Expense Ratio" show?

A. This line takes into account the other expense items to which I just referred. If you look at page D-25 of the filing, you can see that the commission and brokerage is 11.2% of the premium dollar. Taxes, licenses and fees are 2.9% of the premium dollar. The provision for policyholder dividends is 0.4%. The provision utilized in this filing for underwriting profit for dwelling fire is 8.5%.

As in past dwelling filings, Bureau committees reviewed the payment of dividends to policyholders. Based on a review of the latest available data as well as the multi-year history of companies consistently paying dividends to policyholders, the Bureau concluded that a factor for expected dividends is appropriate. The data contained on page D-25 show that the dividends, though constituting a small percentage of premium, have been paid consistently and in material amounts over the years. Based on these facts, the Bureau has included a provision of 0.4% of premium to reflect anticipated dividends during the experience period. Given the consistency of the historical data as to the payment of dividends, this is a reasonable assumption. Reflecting dividends in a filing by a rating bureau is an actuarially

sound methodology and reflects the fact that the profit level in the filing will not be achieved without reflection of the fact that dividends will be paid.

The underwriting profit provision was selected by the Rate Bureau's committees based on reviewing the profit analysis by Dr. Appel and Dr. Vander Weide. This filing also contains a 1% margin for contingencies. All those items add up to 24.0%. These items are what are known as variable expenses. They vary in direct proportion with the premium dollar. Out of every dollar of premium written, 24.0 cents will have to go to pay for these expenses, and leaving only 76.0 cents to pay for losses, for loss adjustment expenses and for general and other acquisition expenses. The expected loss and fixed expense ratio shows the percentage of the premium dollar you will have available to pay for trended losses, trended loss adjustment expenses and trended general expenses and other acquisition expenses.

Q. What is the source of the percentages on page D-25 with respect to commissions and brokerage and with respect to taxes, licenses, and fees?

A. They were calculated from the NCRB's expense calls for 2013, 2014 and 2015.

Q: What is the source of the percentage on page D-25 for contingencies?

A: The Bureau committees selected that factor. A 1% factor has been consistently employed in past Bureau property insurance rate filings. A 1% contingency factor is a standard factor that has been used for many years across the country in property insurance ratemaking. The factor was selected by the Bureau committees based upon recognition of the systematic bias that causes actual underwriting experience to be worse than the provision assumed in the rates. There are numerous reasons for this bias.

One reason is that property insurance involves many risks, but not all of them are observable in the experience or are adequately recognized in normal ratemaking. An example is the potential for conflagration such as could result from large brush fires. The state is particularly at risk for several years following hurricanes that blow down thousands of trees, particularly pine trees in the eastern part of the state. Those trees become the tinder for brush fires. The risk is particularly significant if droughts occur in years subsequent to the hurricane. Widespread brush fires have destroyed many homes in other states and constitute an exposure in North Carolina, but that exposure is not reflected in the five years of loss data underlying this filing because there have not been widespread and catastrophic brush fires in North Carolina in the experience period.

In addition, the writing of property insurance in North Carolina is subject to law changes, court interpretations, jury determinations and judicial determinations that expand losses beyond what was contemplated when the policies were written. For example, under rules of legal construction of insurance policies, ambiguity in policy language, although unintended, will result in the courts construing policy provisions in favor of broader coverage than was envisioned by the insurance industry when it drafted the policy. An unexpected ruling as to coverage in one case may then be compounded by similar results as to numerous other policyholders.

Further, delay and difficulty in obtaining needed rate increases is a factor. In North Carolina and a very few other states, insurance companies writing property insurance are required to go through rating bureaus in order to achieve needed rate increases. This regulatory system can cause significant delay in obtaining needed rate level increases and differs from states that rely more on competition to set rates. The system in this state requires that data be collected from all of the approximately 50 companies writing dwelling insurance and then be aggregated and analyzed prior to making a filing for needed higher rates on behalf of all companies. Additionally, there can be significant further delays in the setting of hearings and in obtaining regulatory approval before revised rates can be charged and premiums collected.

Q. Would you explain line 14 on page C-1 entitled "Base Rate Excluding Comp. for Assess. Risk & Deviations"?

A. The Net Base Rate per policy is calculated by dividing the Loss and Fixed expenses in line 12 by the expected loss and fixed expense ratio in line 13. This is the net base rate before incorporating the anticipated deviation and compensation for assessment risk per policy.

Q: Would you explain line 15 on page C-1 entitled "Compensation for Assessment Risk Per Policy"?

A: Compensation for assessment risk is a provision which is calculated by Dr. Appel (see his prefiled testimony and exhibits) to reflect the cost to voluntary market insurers of maintaining sufficient capital to pay the assessments for residual market losses to the extent required by law. If the residual market (Beach Plan and FAIR Plan) does not have sufficient capital, reinsurance and reserves to pay losses for a catastrophic event, then companies writing homeowners, dwelling and other lines of property insurance in the voluntary market will be assessed for such losses even if they do not write in the coastal or beach areas. In effect the voluntary market companies are being required by law to provide free reinsurance to the policyholders who can only find coverage in the residual market. The voluntary market companies

must therefore maintain capital sufficient to cover such losses, even though those companies have not elected voluntarily to write the policies that give rise to those losses. The compensation for assessment risk factor is the provision for compensation that must be paid to voluntary market insurers for bearing this risk of assessments from the Beach/FAIR Plans, i.e., it is the cost of the capital required to support the exposure to potential residual market assessments.

A factor to reflect this exposure has been incorporated in Bureau property filings. As a result of legislative action in 2009, the exposure of the voluntary market companies to residual market assessments was capped at one billion dollars. Dr. Appel's analysis of the necessary compensation for the risk of residual market assessments reflects this new cap and, as a result, the 3.8% factor in this filing for compensation for assessment risk is significantly lower than it was before the cap was instituted.

The compensation for assessment risk amount of 1.50 is calculated by first multiplying the 3.8% provision by the current average statewide base rate of 33.81, resulting in a value of 1.28. To be incorporated in the rates, however, this provision must be adjusted to account for the commissions and taxes, licenses and fees that the companies will need to pay on this additional premium. That is done by dividing the 1.28 by 1 minus the sum of commission and brokerage expense and taxes, licenses and fees expense as shown below.

$$\frac{1.28}{1- 0.112-.029} = 1.50$$

Q. What is the source of the percentage on line 17 for anticipated deviations?

A. A 0% provision for deviations was selected for the dwelling portion of the filing and the extended coverage portion of the filing, based on an analysis of the last several years of deviations, consent to rate and residual market surcharge experience.

Q. Would you explain line 18 on page C-1 entitled "Deviation Amount per Policy"?

A. Line 18 is the dollar amount of deviation that needs to be in the final rate to ensure that the selected 0% deviation percentage is accounted for.

Q Would you explain line 19 on page C-1 entitled "Required Base Rate per Policy"?

A. Line 19 is the required base rate that is needed to ensure that sufficient revenue is collected to cover the losses and expenses that are expected to result from the policies written during the year following the effective date of this filing.

Q. Would you explain line 20 on page C-1 entitled "Current Base Rate"?

A. Line 20 is the current base rate for all of the policies written in the most recent year included in the review. This rate assumes that each policyholder is buying only the base coverage.

Q. Would you explain line 21 on page C-1 entitled "Indicated Rate Level Change"?

A. Line 21 is the percentage change in the current rates which will be necessary to make the rates adequate for the cost levels that are expected to prevail in the one-year period following the effective date of the filing. It is determined by taking the required base rate per policy on line 19 and dividing it by the current base rate from line 20. This results in an indicated rate level change for fire portion of the filing of -20.8%.

Q. How are these changes distributed by class?

A. On page C-6 the calculations of the indicated change for fire buildings and contents classes are shown. Column 1 displays the Trended Adjusted Incurred Losses for each of the two classes - buildings and contents. The losses shown are for the latest five years. Column 2 gives the Five Year House Years total, which is the sum of the exposures by class for the five-year period. Column 3 provides the Trended Average Rating Factor. Each year's costs have been trended by using each class's own current cost factors and a loss projection factor. Column 4 gives the Base Loss Cost for each class and total. This loss cost is obtained by dividing the five year total trended adjusted incurred losses by the five-year total house years times the trended average rating factor. Column 5 is the credibility assigned to each class's experience, based on the full credibility standard of 500,000 house years for fire. Column 6 is the Credibility Weighted Loss Cost for each class. The complement of credibility for use in this calculation is the Total Base Loss Cost multiplied by the ratio of the class's current base rate to the total current base rate.

The statewide credibility weighted loss cost is obtained by weighting the class credibility weighted loss cost by the individual class house years. Column 7 provides the Indicated Base Loss Cost by class.

This is the statewide base loss cost adjusted by the class relativity indicated by the credibility weighted loss cost. Column 8 shows the Current Base Rate by class. Column 9 displays the Expected Loss and Fixed Expense Ratio. The

Indicated Net Base Rate is shown in column 10. The indicated net base rate is the sum of the loss cost and fixed expenses divided by the expected loss and fixed expense ratio. Column 11 is the Compensation for Assessment Risk Per Policy. Column 12 is the Base Rate Excluding Deviations. Column 14 is a derivation of dollars of deviation that need to be reflected in the required base rate. Column 15 is the sum of the indicated net base rate before deviations in column 12 and the deviation amount in column 14. Column 16 shows the Indicated Base Rate Change by class. Column 17 shows the Indicated Rate Change Balanced to Statewide Level. This rate change includes the impact of statewide change of --20.8%.

Q. Does the filing contain a revision of the present territory definitions and relativities?

A. Yes. This filing first introduces the same territory definitions, or boundary changes, that were approved and implemented in the last homeowners rate filing in 2015. As with that change, the territorial definition changes proposed in this filing are based on a study by the Bureau designed to more fairly reflect the loss potential of the counties and areas involved by grouping together counties and areas with similar loss potential. Once the new territory definitions are implemented, the indicated rates for the newly defined territories are shown on page C-9 in column 17 for fire and page C-11 column 20 for extended coverage.

In connection with the overall rate level change, new territory rate changes are displayed on page A-2. In the new rates based on these changes, new territorial relativities are determined in such a way that no overall statewide rate level change results. In other words, based on each territory's own indications, the relativities are revised, with policies in some territories receiving increases and policies in others receiving decreases. The overall statewide change as a result of territorial changes is 0. When the territorial relativity changes are then compounded with the filed statewide rate level change, the overall change is equal to the filed change, subject to possible minor rounding differences.

Q. How has the Rate Bureau treated general and other acquisition expense by territory?

A. The Rate Bureau has treated 100% of general expense and other acquisition expense as not varying by territory.

Q. Is the average rating factor for the extended coverage portion of the filing as shown on page C-3 determined in the same way as for fire insurance?

A. Yes.

Q. Are the incurred losses and loss adjustment expenses in Columns 1 through 5 on page C-3 determined in the same manner as you testified with respect to fire insurance?

A. Yes, except for the following. The actual hurricane losses for extended coverage, while reviewed and considered, have been excluded and replaced by the "Modeled Base Class Loss Cost", which is displayed in line 12 of page C-3. Also, the actual excess losses in column 2 have been replaced by an excess factor loading included in column 3 of page C-3. The excess procedure exhibit is shown on D-30.

Q. You indicated that actual losses due to hurricanes have been excluded on Page C-3. Have you excluded them anywhere else in the filing?

A. Yes, they have been excluded in the development of the indications by class and by territory, and in the calculation of the non-hurricane excess factor.

Q. How have these losses been identified in order to be excluded?

A. The method to remove the hurricane losses depends on the detail of the available data. For 1950-1965 only statewide wind data is available; consequently, for a year in which a hurricane occurred, losses from that year are removed from the calculation of the statewide excess factor. This is shown by the omission of the year in question on page D-30.

Since territory data is available (in varying detail) for 1966-2015, the calculation of the non-hurricane losses is done at the territory level for this period. After it has been determined that a particular hurricane is accounted for by hurricane models, the territories affected are determined by use of recorded wind speeds and central pressures at 6 hour intervals, storm tracks, and wind to non-wind ratios.

The non-hurricane wind losses for a territory are calculated by replacing the hurricane year wind to non-wind ratio by the average wind to non-wind ratio of the non-hurricane years. Given the revised wind to non-wind ratio for the hurricane year, the reported non-hurricane total losses and the reported non-hurricane wind losses are then “backed into.” For the years in which the territory codes 01-04 were in effect (1966-1982), the average wind to non-wind ratios are based on the non-hurricane years from 1966-1982. For the years in which the territory codes 04 and 30-41 were in effect (1983-1999), the average wind to non-wind ratios are based on the non-hurricane years from 1983 to 1999.

For 1986-1995, territory losses by month are available for ISO data only. The territory non-hurricane losses for this period are calculated as follows: first the average losses for the month in which the hurricane occurred are calculated based on the non-hurricane years. The average monthly losses are then added to the eleven remaining months of the hurricane year and divided by the hurricane year annual losses resulting in a non-hurricane adjustment factor. This factor is then applied appropriately to either reported losses or adjusted losses by territory for all statistical agents to obtain non-hurricane losses. For severe hurricanes, wind type losses are sometimes reported as water losses or all other property damage losses. To accurately estimate the non-hurricane losses, the above non-hurricane factors are calculated for water and all other property damage and then applied to the water losses and the all other property damage losses.

For 1996-2002, based on information from NOAA and other sources, the specific dates on which a given hurricane was active in North Carolina are determined. The loss experience for ISO is then examined by date and cause-of-loss. Wind losses and losses for other weather-related perils which occurred on these dates are assumed to be hurricane losses. For ISO data, the percentage of hurricane losses to total losses is calculated. To estimate the hurricane losses for statistical agents other than ISO, the percentage of hurricane losses in the ISO data (relative to the ISO yearly total) is applied to the total loss amounts for the other statistical agents.

For 2003-2015, a procedure similar to that of 1996-2002 is used. The difference is that ISO and ISS data is available and examined rather than just the ISO data. For the ISO and ISS data, the percentage of hurricane losses to total losses is calculated. To estimate the hurricane losses for statistical agents other than ISO and ISS, the percentage of hurricane losses in the ISO and ISS data (relative to the ISO and ISS yearly total) is applied to the total loss amounts for the other statistical agents.

This procedure is similar to the procedure ISO uses in other states.

Actual hurricane losses of $82,069,834 were removed from 2011; $1,981,107 were removed from 2012; $3,250,768 were removed from 2014; and $3,906,320 were removed from 2015. This information is shown on pages D-33 and D-34 and in a footnote on page C-3.

Q. Do you have an opinion as to whether the incurred losses excluding hurricanes shown in column 1 on page C-3 of RB-1 accurately represent the anticipated value of dwelling extended coverage incurred losses, excluding

actual hurricane losses which resulted from claims which took place during each of the years ended December 31 in North Carolina?

A. Yes, I do.

Q. What is that opinion?

A. I believe that the losses excluding actual hurricane losses shown in column 1 do accurately represent the expected ultimate value of those losses.

Q. Could you please describe the figure contained in line 12 labeled "Modeled Base Class Loss Cost" on page C-3?

A. These are the prospective hurricane losses resulting from the blending of the results of two hurricane simulation models developed by AIR Worldwide (AIR) and Risk Management Solutions (RMS). The NCRB decided to use two hurricane simulation models in this filing in response to statements by the Department of Insurance personnel that multiple models should be employed in future rate filings. The use of multiple models is required by HB 287 starting with filings made on or after October 1, 2017.

Q. Why were hurricane models used to develop the hurricane losses?

A. Modeling is the accepted and most accurate way of considering the hurricane exposure. Hurricanes are highly variable in frequency, intensity and location of occurrence. Modeling employs publicly available meteorological data and scientifically accepted procedures for the purpose of analyzing average hurricane losses and appropriately reflecting a more complete distribution of the types of hurricanes that could occur and the potential for losses from those hurricanes at a given location. In addition to providing accuracy in projecting hurricane exposure, one of the effects of using modeling to replace actual losses is that rate indications are smoothed out rather than affected by periodic spikes following hurricanes. Since we consider the losses from five years of data in the basic ratemaking calculation, if a very large hurricane like Hazel, Fran or Floyd happened to hit during one of the five years, it would make rates rise above the actuarially sound rate level that is based on the long-term potential of hurricanes. Also, if a hurricane were to hit a particular area of the state, the losses might be reflected only in that area of the state, with little or no reflection in other areas of the state. Without modeling, such an occurrence would result in rates in that area of the state spiking in beyond the actuarially sound level.

An example of the need and value of models in producing stable loss costs can be seen from the hurricane season of 2017. Earlier this year one major

hurricane struck Texas and shortly thereafter, another major hurricane struck Florida. Still another major hurricane struck Puerto Rico, and another hurricane struck the Gulf coast.

If rates for next year in those jurisdictions were based on those hurricanes rather than on models, rates would spike up in the next rate filings in those jurisdictions. Conversely, if rates for 2017 had been made the year before based on there being no major hurricane strikes during the preceding five year period, it would not be actuarially appropriate to assume that the absence of any hurricanes losses would be the expectation for 2017. Conceptually, in my actuarial opinion it is unsound for regulators to try to justify suppressing rates by claiming that there have been no recent significant hurricane losses and promising to raise rates after the occurrence of a future significant hurricane. Further, from a practical and public policy standpoint, raising rates drastically following a devastating and sometimes tragic hurricane is the worst time for the policyholder. The use of simulation models produces a stable and actuarially sound projection of the true loss potential both in terms of statewide exposure values and in terms of territorial distribution of that exposure. Modeling is far preferable to any analysis based on the happenstance of insurance loss data.

As stated above, the Property Rating Subcommittee and I have for a number of years examined actual hurricane losses in North Carolina in connection with excluding those losses from the incurred losses in filings. Further, the Bureau committees and I have determined that the limited amount of longer-term hurricane loss data and the age of much of such hurricane loss data call into question the validity of employing such data to project hurricane losses, for a number of reasons. For one thing, devastating hurricanes are relatively uncommon events in comparison with other causes of loss. The occurrence or non-occurrence of actual hurricane events are not properly predictive of the range of hurricane events that can occur or the probability of occurrence of those events. There is not enough experience with hurricanes since accurate insurance loss records began to be maintained for actuaries to employ actual losses as opposed to models. Much of the past insurance loss data is quite old and is of limited utility in projecting future hurricane losses. It includes losses from hurricanes that occurred when housing patterns were different, when population density was lower, when houses were built differently, when building codes were different, when construction prices were different, when houses had fewer and less expensive contents, when labor costs and practices were different, etc.

Modeling is uniformly employed in the insurance industry, in the reinsurance industry, in the financial world and in the meteorological world to determine expected prospective hurricane losses. Modeling analyzes the risk of future

hurricane losses based on scientific principles rather than on the happenstance of past hurricanes. Scientists who work on the models update those models frequently to reflect the latest understanding of meteorological science.

Q. What did ISO furnish to Aon Benfield to enable Aon Benfield to perform its analysis?

A. ISO furnished to Aon Benfield the North Carolina extended coverage insurance exposure data on the total number of earned house years and earned insurance years by territory for the most recent year in the experience period. These data included ISO, FAIR Plan/Beach Plan, NISS and ISS data and were compiled by ISO. These data are correct to the best of my knowledge, information and belief.

Q. How are these modeled hurricane losses derived?

A. The two models simulate many years of hurricane losses and develop hurricane losses for the portfolio of North Carolina exposures provided. The results of the two models are blended by Aon and then provided to ISO. Aon trended the losses for use in the filing. ISO reviewed the model results provided by Aon Benfield and found them to be reasonable. The development of the modeled hurricane losses is shown on page D-36 to D-37. Note that the trended modeled hurricane losses (including LAE) on line A of page D-36 match the hurricane losses on page RB-7. Page D-37 shows the development of the territory modeled base class loss cost (BCLC).

Aon Benfield made an adjustment to account for loss adjustment expenses(LAE). Aon Benfield's data shows that LAE as a percentage of hurricane losses is lower than the percentage for non-hurricane losses. Therefore, the lower LAE percentage (6%) was applied to the modeled hurricane losses.

Q. How is the amount of insurance in effect determined?

A. For the purpose of developing the hurricane loss cost, the amount of insurance that is in effect is determined as the sum of the various internal limits found in the extended coverage portion of a dwelling policy. There are four coverages involved: Coverage A (building), Coverage B (other structures), Coverage C (contents) and Coverage D (loss of use). The total amount of coverage can vary by policy form. For form 1, the total limit for

buildings is the Coverage A amount, and neither Coverage B nor Coverage D provides additional limits because any Coverage B or D losses are applied against the Coverage A limit. The coverage C limit is as reported on the individual policy record.

For policy forms 2 and 3, the total limit for buildings is the sum of Coverage A, Coverage B, and Coverage D limits. The Coverage B limit is 10% of Coverage A, and the Coverage D limit is also 10% of Coverage A. The coverage C limit is as reported on the individual policy record. These differences in total amounts were reflected by Aon Benfield in running the models.

Q. In addition to excluding all hurricane losses and replacing them with the modeled hurricane losses, what other adjustments to the losses have been made because of catastrophes?

A. An excess wind analysis and procedure was employed. An adjustment was made to the non-hurricane wind losses in the years in which there were very severe storms such as tornadoes, thunderstorms and other damaging wind storms. The adjustment caps average losses by territory in years where abnormally high losses coincide with severe non-hurricane storm activity. The adjustment relies on a factor developed by using a statewide average consisting of years without losses influenced by severe non-hurricane storms. A long-term excess factor of 1.055 was loaded into the losses. This calculation is shown on pages D-30 and D-31. This procedure has been employed in past filings and is customarily employed to smooth out and properly reflect prospective non-hurricane wind losses.

Q. Are general expenses and other acquisition expenses for extended coverage determined in the same manner as for fire insurance?

A. Yes.

Q. Is the loss trend procedure the same for extended coverage as it was for fire insurance?

A. Yes, it is.

Q. What is the source of the 22.87 item for net cost of reinsurance in line 19 of page C-3?

A. The source of the 22.87 item for net cost of reinsurance is an analysis performed for the Rate Bureau by Aon Benfield. In that analysis Aon Benfield determined

the net cost of reinsurance incurred by insurers for the catastrophe reinsurance for the hurricane exposure. The net cost of that reinsurance is the expense and profit component of the reinsurance premium paid by those insurers (the loss component is in the direct losses used in the overall rate determination).

Details of the analysis are included in the testimony of other witnesses.

In the 2011 dwelling filing, the factor for the net cost of reinsurance was determined solely by Dr. Appel's methodology, which is based on his analysis of economic principles and data. The Department and the Commissioner, while acknowledging that the necessity of purchasing reinsurance is a cost of writing dwelling insurance in North Carolina, criticized Dr. Appel's methodology as being hypothetical and not based on actual data. In this filing, the Bureau relies upon the data that AON has accumulated as to the actual cost of purchasing reinsurance in the current reinsurance market. AON is the largest reinsurance broker and maintains a database of reinsurance transactions in the actual reinsurance market.

To calculate the net cost of reinsurance per policy, the total dollars of reinsurance is divided by the number of house years for 2015 times the 2015 average rating factor, the premium projection factor and the current amount factor for 2015. The resulting quantity is then divided by the expected loss and fixed expense ratio. The actual calculation is:

$$\frac{95{,}223{,}290}{658{,}846 * 7.516 * 1.05 * 1.032 * 0.776} = 22.87$$

Q. Are the remaining portions of the rate level calculation for extended coverage similar to that for fire insurance?

A. Yes, they are.

Q. What other changes does the filing make for dwelling insurance?

A. The filing revises the credits for the Windstorm or Hail Exclusion and Wind Mitigation that is available in Territories 110, 120, 130, 140, 150 and 160. The derivation of these credits is shown on pages C-15 - C-18.

Q. Please turn to page A-1 of Exhibit RB-1 and explain what is shown on that page?

A. Page A-1 of Exhibit RB-1 shows the filed statewide rate level change. The Governing Committee decided to apply capping to the indicated rate level changes in order to mitigate the impact to individual policyholders. The

maximum change is 35% by territory for fire and extended coverage combined.

Q. What is shown on Page A-2 of Exhibit RB-1?

A. Page A-2 shows the capped rate level change filed for each territory.

Q. Do you have an opinion as to whether the data utilized and the method of calculating the filed rate level changes and the territory definitional changes contained in the filing are sound and actuarially reliable and if so, what is that opinion?

A. Yes, I have an opinion. In my opinion, the data utilized and the ratemaking methodologies used by the Rate Bureau are consistent with generally accepted actuarial principles and procedures and they are actuarially sound and reliable. In my opinion the ratemaking methodology and the revised territories are actuarially sound and produce indicated rates that meet the statutory standard of being not excessive, inadequate or unfairly discriminatory. The filed rates differ from the indicated rates because of the 35% combined fire and extended coverage territory cap. The filed rates are a reasonable step toward an adequate level.

Q. Do you have an opinion as to whether the filed rate level changes contained in Exhibit RB-1 are fully justified and, if so, what is that opinion?

A. In my opinion, they are fully justified and are not excessive in any respect.

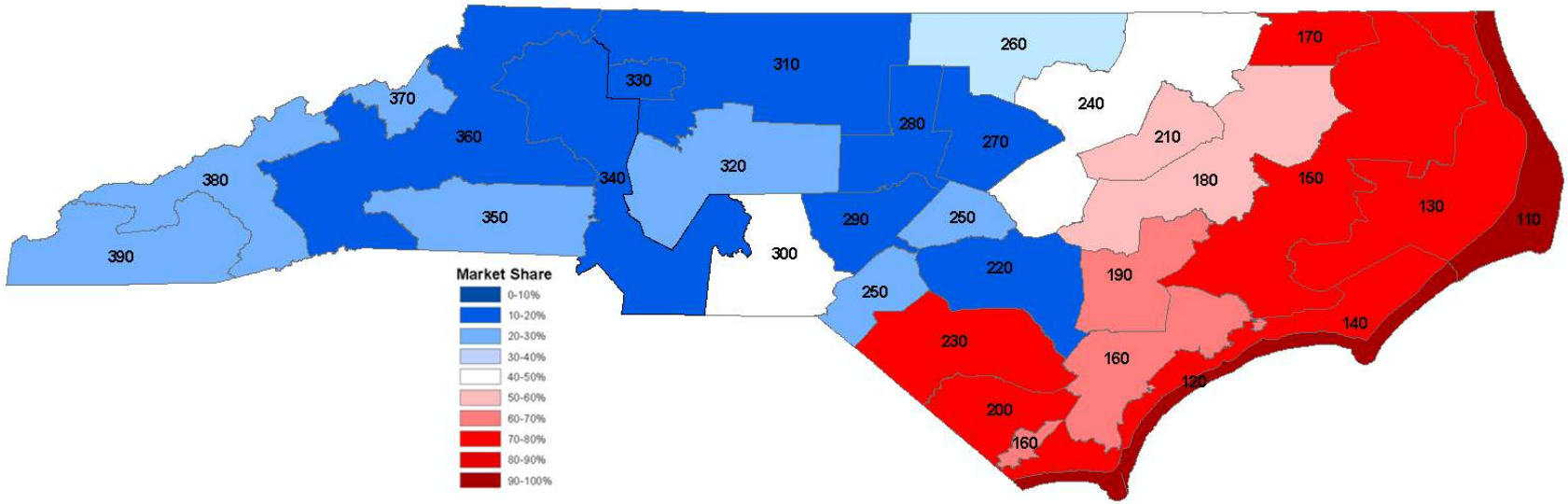
Q. Are there any qualifications you wish to attach to your opinion?

A. Yes. In reaching my opinion, I have, as in the past and as is customary in the general course of my work, relied on the accuracy of the data supplied by the Rate Bureau and the ISS, NISS and the individual companies that reported data to ISO. I have relied on Dr. Vander Weide and Dr. Appel for the determination of the appropriate profit and on Dr. Appel and Paul Anderson for the compensation for assessment risk components of the rates. Additionally, I have relied upon Aon Benfield and Paul Anderson for the blended output of the AIR and RMS models and on Aon Benfield for the factor for the net cost of reinsurance. I have applied appropriate actuarial standards when reviewing these various data sources.

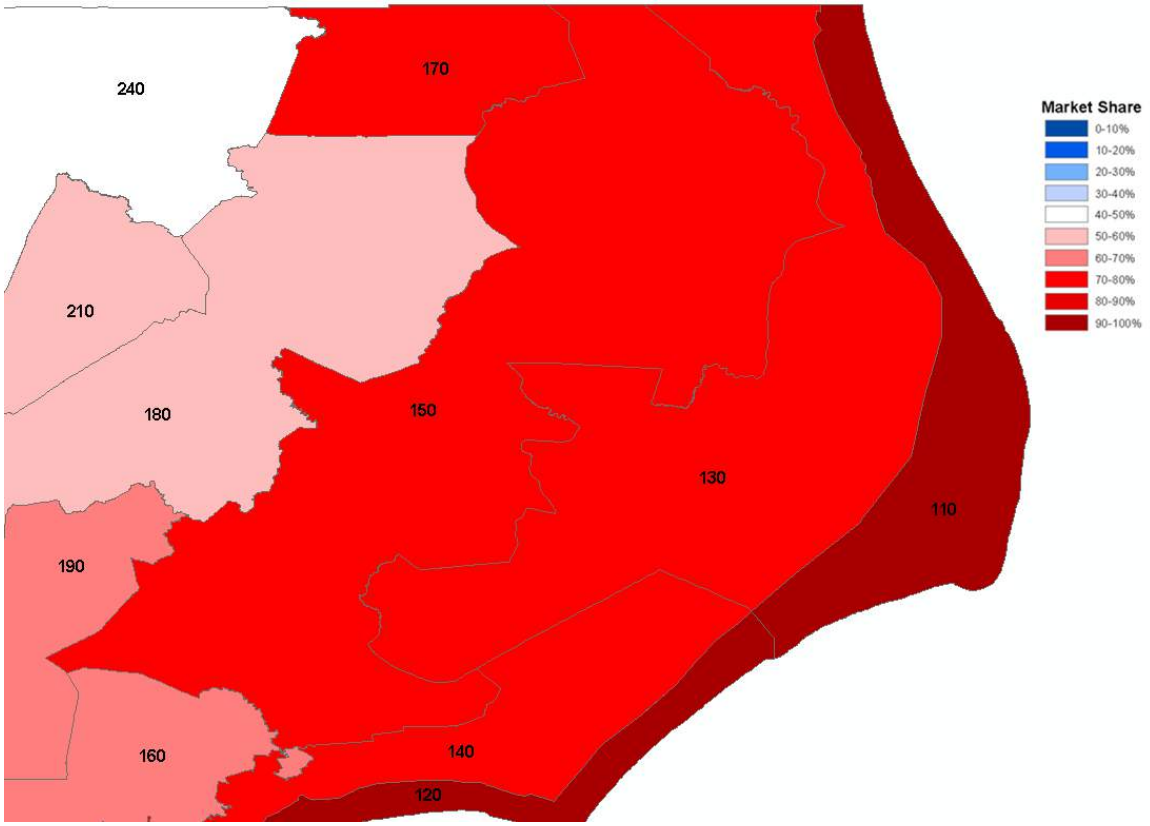
Q. Does that conclude your testimony?

A. Yes, it does.

North Carolina FAIR Plan and Beach Plan
Dwelling Extended Coverage Written Premium
Market Share By Territory



North Carolina–Northeast Coast
FAIR Plan and Beach Plan
Dwelling Market Share
By Territory



North Carolina–Southeast Coast
FAIR Plan and Beach Plan
Dwelling Market Share
By Territory

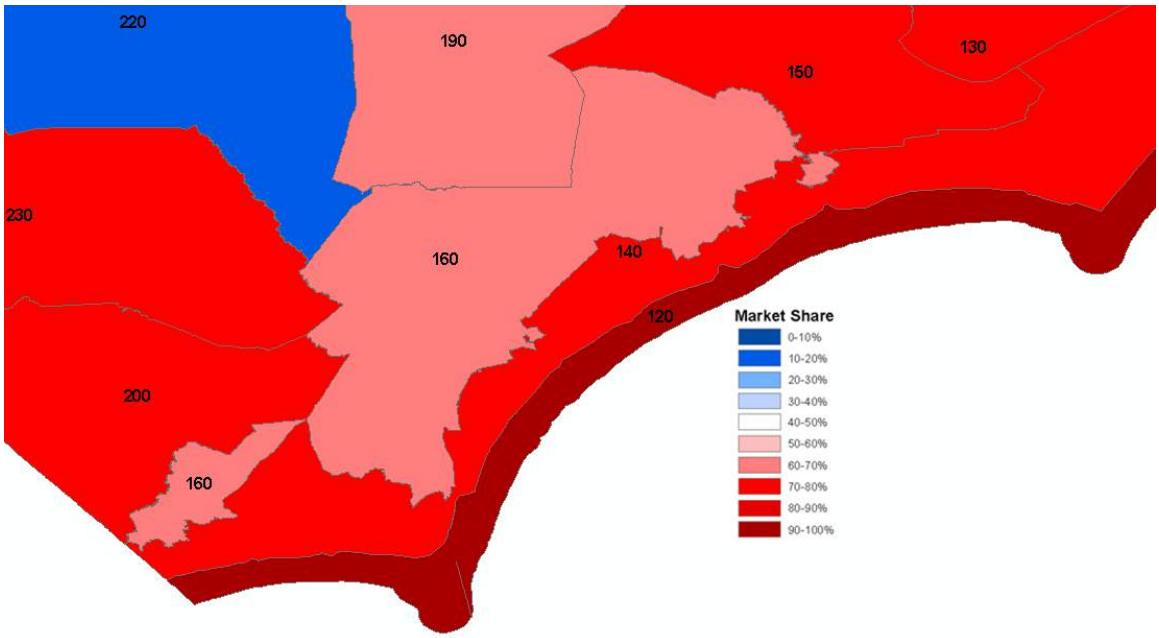


Exhibit RB-4

PREFILED TESTIMONY

OF

BRIAN MICHAEL DONLAN

2018 DWELLING INSURANCE

RATE FILING BY THE

NORTH CAROLINA RATE BUREAU

Q: Please state your name and your employer.

A: My name is Brian Michael Donlan. I work at Allstate Insurance Company at 2775 Sanders Road, Northbrook, IL 60062.

Q: What is your educational background?

A: I received a Bachelor of Arts in Economics with High Distinction from the University of Minnesota, Morris Campus in 1994. I received a Masters of Arts in Economics from the University of Iowa in Iowa City, Iowa in 1996.

Q: Do you have any additional certifications or qualifications?

A: I have been a Fellow of the Casualty Actuarial Society since 2005. I have participated in several committees of the organization. I have served on the Examination Committee of the Casualty Actuarial Society. I volunteered as a University Liaison for the Casualty Actuarial Society from 2003 until 2011. I have been a member of the Committee on Professionalism Education for the Casualty Actuarial Society since 2009. I am a member of the American Academy of Actuaries, and meet all of the continuing education requirements. I am also on the Board of Trustees of the Actuarial Foundation.

Q: What is your employment background?

A: I worked as a Pricing Analyst at GEICO Insurance Company in Washington, DC from 1996 until 1998. At GEICO, my primary responsibilities included developing the pricing strategies for Private Passenger Auto in a variety of states. From 1998 until 1999 I worked as an analyst at PricewaterhouseCoopers (PwC) in Chicago, Illinois. At PwC my responsibilities included assisting in the evaluation of the adequacy of reserves for several insurance companies. In the fall of 1999 I began my career at Allstate. From 1999 until 2006, I served several different Allstate regions developing rates. In 2007 through 2012, I served as a State Manager (Product Manager) for Encompass Insurance. Encompass is the Independent Agency channel in the Allstate Corporation. I determined the pricing, product and underwriting strategies for 12 states. Since the beginning of 2013, I have been serving as the Pricing Director for Encompass Insurance. In this role I have had countrywide responsibilities for Encompass, including North Carolina.

Q: Do you have experience with Dwelling Insurance ratemaking?

A: Yes. Encompass makes Dwelling Insurance ("Dwelling") filings across the country. I have responsibility for those filings.

Q: What is your role with respect Property insurance ratemaking in North Carolina?

A: For the past several years I have been Chairman of the Property Rating Subcommittee of the North Carolina Rate Bureau ("Bureau"). I am on the Property Committee of the Bureau. I represent Allstate on these committees.

Q: Can you explain the role of the Bureau with respect to Dwelling rates?

A: The Bureau was created by statute in 1977. According to the statutes and the Bureau's Constitution, its jurisdiction and role generally include the establishment of policy forms and rates for residential real property insurance policies written in

North Carolina. This jurisdiction includes all policies of residential Dwelling Fire and Extended Coverage insurance ("Dwelling") insurance. Companies writing those policies must be members of the Bureau (with the limited exception of town or county farmers mutual writers pursuant to N.C. G. S. 58-36-50). Approximately 50 companies that are members of the Bureau write Dwelling policies in the voluntary market.

Dwelling policies are also written by the North Carolina Insurance Underwriting Association (commonly called the "Beach Plan") and the North Carolina Joint Underwriting Association (commonly called the "FAIR Plan"). The Beach Plan writes Dwelling policies in the 18 coastal counties, and the FAIR plan writes Dwelling policies throughout the rest of the state. When those two organizations, which are known as "residual market organizations," write Dwelling policies, they use the Bureau's forms and rates. Policyholders may end up purchasing Dwelling policies either from a company in the voluntary market or from the Beach and FAIR Plans.

The rates for all Dwelling policies are filed by the Bureau and are subject to approval by the Commissioner of Insurance in filings such as this one. Total written premium for Dwelling insurance written in the voluntary and residual markets is over $250 million a year. Approved Bureau rates are sometimes called "manual rates" or "bureau rates."

Individual companies can charge more or less than the approved Bureau rates through deviations and consent to rate. Such actions by individual companies are outside of the Bureau's jurisdiction. In recent years, there has been a significant growth in the use of consent to rate, by which companies may charge higher premiums on individual policies after obtaining the consent of the policyholder. Dwelling policies written by the Beach Plan and FAIR Plan are written at the Bureau rate. There is a 5% surcharge on the wind portion of the premium in the Beach Plan.

In the 18 beach and coastal counties, the Beach Plan is overwhelmingly the largest writer of Dwelling policies. Dwelling policies have increasingly been written by the FAIR Plan in the rest of the state. These facts, together with the fact that there has been a decline in the number of voluntary companies writing Dwelling policies and an increase in the use of consent to rate by individual companies, point to the fact that Dwelling rates are too low.

Q: Can you explain the responsibilities of the Property Rating Subcommittee of the Bureau?

A: The Property Rating Subcommittee is involved in the development of rates, rating plans and territories for the Bureau, including the Dwelling rates. Companies that currently have representation on the Subcommittee include American Bankers Insurance Company of Florida, American Modern Home Insurance Company, Farmers Insurance Exchange, Foremost Insurance Company, Horace Mann Insurance Company, Nationwide Mutual Insurance Company, N.C. Farm Bureau Mutual Insurance Company, State Farm Mutual Automobile Insurance Company, Travelers Indemnity Company, USAA and Allstate Insurance Company. Allstate Insurance Company chairs the Subcommittee. All representatives on the Subcommittee are actuaries or/or have extensive experience in ratemaking.

Q: Please describe how the Property Rating Subcommittee was involved in this particular Filing.

A: The Subcommittee analyzed the data that was reviewed and presented to the Subcommittee by Insurance Services Office ("ISO"). This includes exposure, loss and expense data. The Subcommittee made selections based on the data and the expertise provided by Rob Curry and others of ISO, Dr. David Appel of Milliman, Paul Anderson of Milliman, Dr. Jim Vander Weide, Elizabeth Henderson of Aon Benfield and Robert Fox of Aon Benfield. Ultimately, the

Subcommittee developed recommendations to the Property Committee and the Governing Committee of the Bureau as to rate levels that meet the statutory requirement that rates not be "excessive, inadequate or unfairly discriminatory." Those Committees adopted the recommendations of the Subcommittee. The Governing Committee capped the actuarially sound rates as will be discussed below.

The Rating Subcommittee has always been involved in developing and recommending to the Bureau the methodology used in its property filings. The approach in this Filing is generally consistent with prior filings. The Subcommittee made a concerted effort to employ methodology in this Filing in a number of respects to respond to the positions, statements and actions of the North Carolina Commissioner of Insurance, the North Carolina Department of Insurance and the North Carolina Legislature. These changes include using two hurricane models, making a major change to the methodology and calculation of the net cost of reinsurance and making other changes that will be described in more detail below and in the testimony of other witnesses.

Q: Please describe the overall ratemaking methodology in the Filing.

A. The approach in this Filing is consistent with prior property filings of the Bureau. Premiums should equal expected losses, plus expected expenses, plus a margin for a fair and reasonable profit. This is the fundamental insurance ratemaking equation to comply with the statutory ratemaking standard. In this Filing, the required base rate per policy is developed by adding the appropriate profit and contingencies to the estimated costs associated with the policy. The required base rate is then compared to the current base rate to determine the "indicated" rate change. For Dwelling filings, this is done separately for the two portions of the policy, the Fire portion and the Extended Coverage portion.

The indicated rate change is the actuarially sound percentage change necessary to make the rates comply with the statutory standard that they not be excessive, inadequate or unfairly discriminatory. The indicated rate level change differs from the "filed" rate level change because of capping, which will be discussed later in my testimony. The Bureau's Governing Committee elected to cap in order to mitigate the impact of this Filing on policyholders. The Bureau's goal is to have rates eventually reach the indicated rate level, but the Bureau has in the past engaged in a process of gradualism to reach the actuarially sound rate level.

Since the indicated changes generally were the largest in the beach and coastal territories, the impact of capping is greatest in those areas.

Q: How does the methodology account for the loss experience of all of the insurance companies and entities that write Dwelling insurance in North Carolina?

A: For purposes of Bureau rate filings, all of the loss data in the state is consolidated to assume a single insurance entity with the composite, or aggregate loss, expense and exposure distribution of all companies writing this line of insurance. ISO aggregates the data that it receives directly from various insurers as well as the data compiled by other licensed statistical organizations. The experience of the Beach Plan and the FAIR Plan is also included. The latest year of available written premium used in the Filing is 2015. In 2015, the total written premium for the Fire portion of Dwelling policies was approximately 83 million. In 2015, the total premium for the Extended Coverage portion of Dwelling policies was approximately $172 million. These dollar amounts include both residual market mechanisms that write Dwelling policies.

Q: How are the expected losses determined?

A: This Filing uses the loss experience of five accident years from January 1, 2011 through December 31, 2015. Using five years is consistent with prior filings, North Carolina statutes, and generally accepted ratemaking practices. The losses, excluding hurricane and excess wind losses, are adjusted to the base class level ($500 deductible level) and loss development factors are applied. The loss development factors account for the fact that the ultimate losses are oftentimes different from those estimated early on. A factor for excess wind losses of 5.5% was determined based on historic experience and applied to each accident year for Extended Coverage. The excess wind factor was determined based on ISO's standard excess wind procedure that has been used in North Carolina for many years. Under that smoothing procedure, the long-term excess factor is the ratio of the long-term average of the excess loss ratios to the average of the long-term normal loss ratios. Historical non-hurricane wind experience back to 1950 is considered.

Losses are also trended to reflect the change in costs. The Current Cost Index reflects this trend and is based on a Modified Consumer Price Index and the CoreLogic Residential Index. In determining the Current Amount Factor, the Subcommittee reviewed pure premium experience and determined that no additional loss trend adjustment would be applied. The trended losses and loss adjustment expenses are divided by the house years to determine the average trended loss cost. That cost is then converted to the trended base-class loss cost by dividing the average rating factor for each accident year. Ultimately, the five years are each applied a weight. For the Fire portion of the policy, accident year 2015, the most recent year for which data is available, receives a weight of 30%. Accident year 2014 receives a weight of 25%. Accident year 2013 receives a weight of 20%. Accident year 2012 receives a weight of 15%. Accident year 2011 receives a weight of 10%. These weights are consistent with past filings. The use of differing weights is a longstanding procedure in the Fire analysis that is intended to reflect responsiveness to changes while incorporating

multiple years of data. For the Extended Coverage analysis, all five accident years are applied an equal weight of 20%. This is consistent with past filings and is based on the concept that Extended Coverage perils are weather related and thus more random. In connection with modeled hurricane losses, trending was performed by Aon Benfield based on factors provided by ISO (which were based on the selections made by the Subcommittee), and the resulting modeled hurricane losses including trend and loss adjustment expense were provided to ISO.

Q: How is hurricane exposure reflected?

A: Hurricane losses are so extreme and so volatile that for many years the accepted actuarial procedure for determining prospective hurricane losses has been through the use of hurricane models rather than actual past hurricane losses. The Bureau reviews and considers actual hurricane losses but began using modeled losses in 1993. The Bureau used the AIR model consistently and exclusively in all property filings until 2015 when the Bureau resolved to use two models. The Bureau first filed using two models in its 2016 Dwelling Filing (a filing that was withdrawn because of data input problems unrelated to modeling). In considering whether to use two models in that filing, the Property Rating Subcommittee reviewed the positions and statements of the North Carolina Commissioner of Insurance, the North Carolina Department of Insurance, proposed legislation in the North Carolina legislature and the practices of many primary insurers and reinsurers that use two models. It chose to use two models despite the significant expense and technical difficulty caused by doing so. The Bureau decided that the actuarially appropriate methodology for a composite industry filing by a bureau is to weight the results from the two models equally. The legislature subsequently enacted a requirement that the Bureau use more than one hurricane model in Bureau property rate filings made after October 1, 2017.

Prior to selecting the two modelers, the Subcommittee reviewed which modelers are most commonly relied upon by insurers, reinsurers and parties to related financial transactions. It found that AIR and RMS are the two most widely used. The Subcommittee selected RMS to be the second modeler. In determining prospective hurricane losses in the Filing, the Subcommittee made certain to use modelers whose models have been approved by the rigorous review process of the Florida Commission on Hurricane Loss Projection Methodology. That Commission has examined hurricane models in great detail over many years and authorizes their use in Florida rate filings. The Commission retains experts in relevant fields who review the meteorological, wind engineering, damageability, claims, statistical, computer programming and other aspects of modeling in detail. Over the years, it has reviewed advancements in various scientific disciplines relating to hurricane modeling and has required modelers to reflect such advancements. It approves only those models that meet its rigorous standards.

The Subcommittee noted that it is natural and expected that model results will differ from one another and that all models will change over time. Different models project different loss costs in different areas. Prior to the Bureau having a second model run for the first time, the Subcommittee concluded that the actuarially sound and fair approach to the use of two models is to blend those models by averaging the loss costs of the two models. Doing so weights the models equally and avoids bias in favor of one model. The Subcommittee determined that Aon Benfield, the world's largest reinsurance broker with extensive experience with modeling, is able to both determine the modelers' results and to average the results from the two modelers. AON Benfield does this often in the normal course of its business. The blended results from the AIR standard catalogue and the RMS long-term historical model are employed to determine the prospective hurricane losses on page C-3 of the Filing. As will be discussed further below, the AIR warm sea surface temperature catalogue and

the RMS medium term model are employed in the analysis and determination by Aon Benfield of the net cost of reinsurance factor in the Filing.

Q. Was hurricane modeling designed to produce high rate levels?

A. Absolutely not. One of the great values of modeling is to produce stable and accurate rate levels. Without modeling, rate levels would fluctuate wildly, both higher and lower, following the occurrence or non-occurrence of significant hurricanes. Modeling is relied upon on all sides of insurance, reinsurance, catastrophe bond and other financial transactions to give the best and most unbiased projection of the prospective average hurricane loss costs.

Further, the Subcommittee made decisions that led to lower modeled hurricane loss costs than could otherwise have resulted. For example, the Subcommittee chose not to utilize the storm surge component of the models. The storm surge component reflects the fact that losses from storm surge flooding, that are not intended to be covered the policy, are sometimes paid as wind losses after a hurricane. Additionally, in this Filing the Bureau elected to employ the loss adjustment expense factor based on AON's data as to catastrophes, a factor that is lower than the factor based on loss adjustment expense data in non-catastrophe situations.

The model versions used were RMS RiskLink v 17.0 and AIR Touchstone v 5. As is the customary and accepted practice in the insurance, reinsurance and catastrophe bond industries, the models were run with aggregate demand surge (AIR) and loss amplification (RMS) included. These aspects of the models account for the expected additional cost for supplies and labor if a very large hurricane event occurs. Experience demonstrates that when such catastrophic events have occurred, there is significant increase in demand for the limited supply of plywood, shingles, labor, hotel rooms and/or other necessities; there are delays in repairing properties; there are longer stays in hotels; and there are

other increased costs beyond those when smaller hurricanes occur. There is also claims inflation resulting from the fact that claims adjusters may not be able to investigate every claim if it is under a certain threshold, given the volume of claims they have to settle post-catastrophe. As a result, the overall costs increase.

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Q: How is the expense data compiled and reviewed?

A: The Bureau conducts special expense data calls annually. Companies complete the special expense call, which includes reporting expense dollars as well as premiums at collected level and adjusted to manual level. The Bureau checks and compiles this information for all companies and sends it to ISO to include in the Filing.

Commissions and brokerage, taxes, licenses, and fees are a function of written premium. The ratios for these expenses from the North Carolina special calls from 2013 to 2015, the most recently available calls, were used. The three-year average was selected. For Commissions & Brokerages, the selection was 11.2% for Fire and 9.8% for Extended Coverage. In both instances, the selection is within 0.2% of each individual year. For Taxes, Licenses and Fees, the selection was 2.9% for Fire and 2.7% for Extended Coverage. The selection is within 0.1% of each individual year. General and other acquisition expenses are determined based on a ratio to earned premium at manual level. The North Carolina special calls from 2013 to 2015 were also used. The three-year average was selected. The selected General Expense was 5.0% for Fire and 4.1% for Extended Coverage. The selected Other Acquisition Expense was 6.8% for Fire and 6.7% for Extended Coverage. These selections are then adjusted by ISO to reflect trend.

The loss adjustment expenses, both allocated and unallocated, are included with the losses in calculating the indication. Similar to the other expenses, the Subcommittee reviewed the loss adjustment expense data from the Bureau's data calls. Experience from calendar years 2011 through 2015 were reviewed. The ratio of loss adjustment expenses to incurred losses was analyzed. Consistent with past filings, the highest and lowest years were removed. This allows for more stability due to the variable nature of incurred losses. The selected loss adjustment expense was 8.8% for Dwelling Fire and 10.5% for Extended Coverage. The loss adjustment expense provision for hurricane losses was based upon data from Aon Benfield and was selected to be 6.0%.

The Subcommittee reviewed expense index trends, including the All items CPI Index (both with and without Energy) and the Total Compensation Cost Index – Insurance Carriers, Agent Brokers and Service from the Bureau of Labor Statistics. These measures varied from 1.90% to 2.31% based on different time periods. Based on the review, the Subcommittee selected a 2.0% expense trend. This factor was then used to trend expense dollars from the midpoint of the base period to the midpoint of the trend period.

Q: Did the Subcommittee consider the profit provision?

A: Yes. Like past filings, the Subcommittee picked a conservative underwriting profit provision. Dr. Vander Weide provided a range for the current cost of capital, which was relied on by the Subcommittee. The range varied from 8.8% on net worth using a Risk Premium Analysis to 12.1% using a Discounted Cash Flow methodology for the property/casualty insurance industry.

The Subcommittee selected an underwriting profit provision of 8.5% of premium. Based on Dr. Appel's analysis, this would generate a statutory return of 7.6% on net worth for Fire and 6.4% for Extended Coverage. This is significantly below Dr. Vander Weide's lower bound of 8.8%. It is the statutory return that should be

considered when determining the underwriting profit in North Carolina because it does not take into account investment income on surplus, so clearly the Subcommittee is being very conservative with its selection. Even if the 8.5% underwriting profit is combined with both investment income from insurance operations and investment income from surplus, the estimated return on net worth would be 10.3% for Fire and 9.5% for Extended Coverage. These are within Dr. Vander Weide's range and thus the selected underwriting profit provision cannot be deemed excessive. The Subcommittee's selection and these returns take into consideration the recent changes to the federal corporate income tax rates. Furthermore, the Bureau has capped the filed rate changes below the indicated rates such that the combined fire and extended coverage rate change does not exceed 35% in any territory. Presupposing all other assumptions in the Filing are realized, that would result in even lower profit margins being realized in the territories subject to capping.

Q: Did the Subcommittee consider a contingency provision?

A: Yes, the Subcommittee chose to reflect a 1% contingency provision. This is consistent with past filings and is common across the country. The contingency provision reflects the systematic bias that causes actual losses to be higher than those reflected in the rates. There are multiple reasons for the bias.

Sources of this systematic bias in property insurance include, but are not limited to, judicial decisions that extend policy coverage beyond what was anticipated in the rates, legislative changes, regulatory delay or reduction of rate filings and other factors.

Rate filings are generally not approved prior to their intended effective date or for more than requested. Courts rarely restrict coverage to less than intended in the policy forms and frequently expand coverage beyond what was intended. In

addition, major unexpected losses can come from large and infrequent events of a type and magnitude that are not reflected in the experience period.

Thus, estimated premium that does not reflect a provision for these contingencies will very frequently fall short of needed premium. When these premiums are inadequate and underwriting losses are observed, an insurer must borrow from surplus to indemnify its policyholders or claimants properly. According to Actuarial Standard of Practice #30, the actuary should include a contingency provision if the assumptions used in the ratemaking process produce cost estimates that are not expected to equal average actual costs, and if this difference cannot be eliminated by changes in other components of the ratemaking process. The Subcommittee believes that a contingency provision is appropriate and necessary, and it has conservatively selected a 1% factor in this Filing, the same as with all recent property insurance filings. I believe that a 2% factor would not be unreasonable given the nature of Dwelling insurance.

Q: Has the risk of a residual market assessment been considered in the Filing?

A: Yes. The residual market for property insurance in North Carolina is very large. In all 100 counties, Dwelling policies can be written by a residual market mechanism. For non-coastal areas, that mechanism is known as the FAIR Plan. In the 18 coastal counties, Dwelling policies can be written by the Beach Plan. The companies that voluntarily write property insurance in North Carolina are vulnerable to situations where large hurricanes cause losses that exceed the surplus and reinsurance of the residual market mechanisms. In such cases, there will be a “nonrecoupable assessment” on the voluntary insurers writing property insurance in the state of Beach Plan losses up to $1 billion. There is no cap as to FAIR Plan losses that are assessed to the companies. These potential residual market assessments are a legislatively imposed cost of doing business in the state and are a condition for writing Dwelling insurance. The voluntary

companies need to have and retain capital in order to contemplate potential assessments. The Subcommittee reviewed and adopted an analysis done by Dr. Appel on the necessary compensation for this assessment risk. The analysis is explained in the testimony of witnesses from Milliman. Based on this analysis the Subcommittee determined that a 3.8% factor is appropriate to reflect in the Filing. It is important to note that the nonrecoupable assessment potential was intended by the legislature to be an appropriate factor in making rates and that the 3.8% factor would be much higher if the statutory $1 billion cap on Beach Plan losses were not in existence.

Q: Was the cost of reinsurance considered in the Filing?

A: Yes. There are numerous scenarios where the potential losses due to a single hurricane are far greater than the entire premium collected by all the companies for the entire state of North Carolina during a year. In order to remain viable long-term, the industry must purchase reinsurance. Doing so protects both the companies and their policyholders. The costs associated with the reinsurance are costs of doing business in the state.

Q: What is reinsurance?

A: Simply put, reinsurance is insurance for insurers. When insurance companies are aware of situations in which the potential losses are greater than the company is willing or able to tolerate, they purchase reinsurance or engage in catastrophe bond transactions to mitigate those situations. Essentially the insurers will use a portion of the premium to purchase reinsurance. This is common across the industry, including at Allstate.

Q: How are the reinsurance costs reflected in the Filing?

A: The costs of reinsurance are incorporated through the work of Aon Benfield, based on Aon Benfield's extensive data and experience relating to reinsurance transactions. Aon Benfield is the largest reinsurance broker in the world. Aon Benfield advised the Subcommittee as to the parameters of the reinsurance program for the hypothetical one company for which rates are being made in the Filing. It then calculated the net cost of that reinsurance based on its extensive data and experience. The parameters that were recommended by Aon Benfield and selected by the Subcommittee include the attachment and exhaustion points, the placement percentage, the perils that are commonly included in reinsurance treaties for a hurricane prone state such as North Carolina and the inclusion of one reinstatement. The parameters reflect the amount of reinsurance that the hypothetical one company should purchase to protect its solvency and its ability to pay losses in the optimal manner. Consistent with Aon Benfield's extensive experience and advice, the Subcommittee recommended the use of AIR's warm sea surface temperature event set and RMS' medium term model as the bases for determining the provision for reinsurance costs. Reinsurers, primary insurers and other parties customarily use such models to determine reinsurance rates. The results from those two models were averaged by Aon Benfield, and the blended average results were used in the calculation of the net cost of reinsurance factor displayed on page C-3 of the Filing.

Q: Why were actual reinsurance costs not used?

A: It is not possible to measure and aggregate reinsurance costs of the various insurance companies applicable to Dwelling insurance written in North Carolina. The approximately 50 individual insurance companies likely have hundreds of different reinsurance treaties that cover many different lines of insurance (homeowners, automobile, commercial property, other residential property, etc.) as well as Dwelling. Those companies negotiate reinsurance treaties in many different geographical areas (portion of a state, single state, multiple states, Atlantic Basin areas, countrywide or international). Reinsurance treaties may

cover a single or many different perils (such as flooding, hurricanes, direct earthquake losses, tornados, wildfires, etc.). Often, an individual company will purchase reinsurance from different reinsurers for different layers of loss under different types of treaties covering different perils. Often, companies use catastrophe bonds or self-insure for different layers of loss. It is therefore not feasible for the Bureau to validly measure and aggregate reinsurance costs specific to North Carolina Dwelling insurance.

It is important to note that the calculation of the net cost of reinsurance in this Filing should and does relate exclusively to the loss costs in North Carolina. For reasons discussed later in my testimony, it would not be appropriate for North Carolina insureds to assume the reinsurance costs of exposures in other states (such as Florida or California), and vice-versa. Aon Benfield's database is based on actual reinsurance transactions and on conditions in the current reinsurance market. It is updated regularly to reflect changes in actual market conditions. Aon Benfield's database and expertise are a great source of information as to actual and current reinsurance practices and costs for the hypothetical one company writing Dwelling insurance in North Carolina.

Q. From the standpoint of individual companies, how does ratemaking in North Carolina differ from other states?

A. In other states each company files its own Dwelling rates independently. However, in North Carolina, the Bureau has the responsibility to file rates on behalf of the entire industry. The process in North Carolina establishes a system of bureau rates for use on all Dwelling policies written in the state.

In essence, the Bureau makes rates for a hypothetical one company that is composed of the aggregate policyholder attributes and loss experience of all the Dwelling policies written in the state. Those policies include attributes such as the dollar amount of insurance written on each home, the territory in which each

home is located, the nature of the use of the house, the protection class of the area in which the home is located, the type of construction, the deductible level, the type of coverage, etc. A more technical term for these attributes is "exposure."

Once the Bureau rate has been set through the filing and approval process, Bureau companies must charge that rate unless they obtain approval to charge either more (through consent to rate) or less (through downward deviations).

Q. **You stated earlier that premiums are established at a level equal to expected losses plus expected expenses and a margin for a fair and reasonable profit. Does this mean that ratemaking is a simple matter of adding up past losses, past expenses and past profit and then putting them into a simple equation to equal premium?**

A. That is not at all the case, for numerous reasons. A prime reason is that ratemaking is prospective. The ratemaking process requires the determination of the expected future losses and the expected future expenses of the hypothetical or composite company. While it is important to consider past losses and expenses in determining expected future losses and expenses, the process is much more complex than that. There may be many reasons why past losses and expenses are not expected to occur at the same level in the future. Even if they were expected to occur at about the same level as in the past, past losses and expenses have to be extended to the future period when the rates are going to be in effect in order to reflect factors such as underlying trends and cost of living changes.

Further, it is particularly difficult to estimate prospective losses for property lines of business such as Dwelling insurance because losses in those lines are so volatile and the types of perils insured are so varied. For numerous reasons, it is more difficult in property lines than in other personal lines to determine

prospective losses because policies cover so many different situations and events. For instance, Dwelling policies must pay for losses to buildings and contents for fires, for numerous types of weather events including hurricanes and tornados and for other perils. Even putting aside the potential impact of hurricanes, property lines are highly dependent upon weather events, including tornado outbreaks, winter storms, hailstorms, freezing temperatures, etc.

Such volatility is greatly compounded in hurricane prone states such as North Carolina. In North Carolina and other hurricane prone states, a significant percentage of the prospective long-term average annual losses in certain territories of the state are caused by intense hurricanes. Intense hurricanes are relatively infrequent but are devastating when they do occur. It would be actuarially unsound to rely on a few years of actual hurricane losses to estimate prospective average hurricane losses because of the extreme volatility of such losses.

The volatility of property insurance in a hurricane prone state can be explained in part by a statistical concept of “independence” that is useful to consider in distinguishing between different lines of property casualty insurance. If one home is damaged by a hurricane, it is very likely that many other homes in the same geographic region will be damaged at the same time. The risk of damage for each individual home is not independent of the risk of damage to the other homes because a single event can cause widespread damage. By way of contrast, in auto liability insurance, when there is one auto collision, there generally is not a greater likelihood of there being numerous other auto collisions in the same geographic region at the same time. While the amount paid for a personal injury claim arising out of that single auto collision may far exceed the premium collected for the individual policy involved, that fact is not replicated to numerous other policies because auto collisions are generally random and independent events. However, when intense hurricanes occur, there are likely to

be payments far in excess of the premium collected on a large number of policies.

Q: Please describe the nature and the operations of the Beach Plan and FAIR Plan as they relate to Dwelling insurance in North Carolina.

A. The Beach Plan and the FAIR Plan are both residual market mechanisms set up by the North Carolina legislature to write property insurance in situations where policyholders cannot obtain insurance through the competitive, voluntary market. Essentially, the reason that those companies in the voluntary market are unwilling to write the policies is that the Bureau rates they are permitted to charge in the voluntary market are inadequate.

The Beach Plan and FAIR Plan write policies filed by the Bureau that contain the same provisions as those that have been approved for use by the voluntary insurance companies. Data from all of these policies is in the Filing. Companies that voluntarily write Dwelling insurance anywhere in North Carolina are subject to Beach Plan assessments, even if they do not write in the 18 coastal counties. However, voluntary companies are statutorily prohibited from receiving a distribution from the Beach Plan's surplus or from profiting on business written by the Beach Plan. In effect, the voluntary companies give up any opportunity to make a profit by allowing policyholders to be written in the Beach Plan.

As shown in the Filing, the current Bureau manual rate is far too low in the beach and coastal territories. Further, the consent to rate process, by which companies can charge higher than the Bureau rate with the consent of the policyholder, is largely unavailable as a practical matter because of the existence of the Beach Plan.

When a prospective policyholder seeks Dwelling insurance, it is not predetermined whether the policyholder will be written by the Beach Plan or FAIR

Plan, or instead by a voluntary company. Policyholders often switch back and forth depending on which option works best for them and depending on whether a voluntary company will write them. In computing the exposures and the loss experience of the hypothetical one company in North Carolina for which rates are being made in this Filing, the exposures and loss experience of the Beach Plan and the FAIR Plan must be combined with the rest of the data as if the Beach Plan and FAIR Plan were private insurance companies.

It is noteworthy that a very large percentage of Dwelling premium in the coastal counties goes to the residual market, rather than the voluntary companies. While the Beach Plan was statutorily set up to be the market of "last resort," it appears to be the market of first resort in many instances. This is predominantly because the currently approved Bureau rates are highly inadequate for the risk. Otherwise, with numerous companies competing in the state, normal competitive market forces would come into play and companies would write voluntarily.

The fact that rates at the beach and coast are significantly inadequate creates a dilemma for the Beach Plan. On the one hand, the inadequate rates diminish the Beach Plan's ability to build up sufficient surplus in the "good" years when there are no hurricanes in order to provide a cushion to pay losses in the "bad" years when severe hurricanes occur. Even in the good years, the Beach Plan has to pay claims for traditional insured events such as fires, etc.

The Beach Plan's approach has been to purchase both reinsurance and catastrophe bonds. Whatever amounts the Beach Plan spends in the reinsurance and catastrophe bond markets is at the expense of building up its surplus in those years when hurricanes do not affect North Carolina.

Q. Please explain what will happen when a catastrophic hurricane hits the coastal area and exceeds the surplus of the Beach Plan.

A. When the next truly catastrophic hurricane next occurs, the inadequacy of rates at the beach and coast will increase the likelihood of one and possibly two types of assessments: "non-recoupable assessments" on the companies that voluntarily write insurance throughout the state and "catastrophe recovery charges" on all property insurance policyholders throughout the state. These assessments are set forth by statute and will arise after exhaustion of the Beach Plan's ability to pay, including any reinsurance that it has purchased. The assessments on the companies will occur first, and any assessments on policyholders will occur following exhaustion of that assessment on companies.

As discussed previously, companies that write any Dwelling insurance in North Carolina are subject to a non-recoupable assessment for Beach Plan losses in a given year up to a total of $1 billion dollars. This assessment will be imposed in accordance with a formula reflecting each company's property insurance writings across the entire state and in the 18 coastal counties. Each company makes an individual decision whether it will write Dwelling insurance at all in North Carolina and if so the extent that it writes in the vulnerable coastal counties. The risk of an assessment drives each company's decision whether to write at all in the state, and if so, how much to write and where.

The potential assessment on statewide policyholders is called the catastrophe recovery charge. Statutes require the assessment of all policyholders who have purchased Dwelling and other property policies throughout the entire state after their insurance companies have paid the $1 billion nonrecoupable assessment discussed above. The catastrophe recovery charge on policyholders could be up to 10% of their premium per year. The voluntary companies will be required to impose and administer this assessment on policyholders. The 10% charge would continue annually as long as necessary to collect the amounts that were paid out for Beach Plan losses in excess of the $1 billion assessment on companies.

The ultimate effect of the regulatory system in North Carolina is that rates for policyholders insured through the Beach Plan are being subsidized, both explicitly and implicitly. The explicit subsidy arises from the fact that insurance companies have to pay the first $1 billion of losses over and above the Beach Plan's existing surplus and reinsurance, and the Filing passes along this cost in the form of the 3.8% provision for the compensation for assessment risk to policyholders throughout the state. In addition, there is an implicit subsidy in that policyholders across the state face the possibility of imposition of the 10% charge. Another way of looking at the situation is that the insurance industry and policyholders across the state are providing free reinsurance to the Beach Plan.

As stated earlier, the fact that Bureau rates in coastal areas are too low means that the Beach Plan's rates are too low. This is demonstrated by the indications for coastal areas in the Filing as well as by the large number of policies in the residual market for coastal areas. The greater the inadequacy of coastal rates, the greater will be the number of policies written by the Beach Plan at those inadequate rates. The result is a greater potential that policyholders across the state will be required to pay catastrophe recovery charges to the Beach Plan to fund claims payments to policyholders at the beach and coast. Since the rates are inadequate, the Beach Plan's ability to accumulate a sufficient surplus to pay losses or alternatively to use those premiums to purchase reinsurance is diminished. This means, in turn, that there is a greater chance that Beach Plan losses will have to be paid by policyholders throughout the state.

It is important to note that the companies' exposure to losses of the FAIR Plan are not subject to the $1 Billion cap that is applicable to Beach Plan losses. The FAIR Plan writes Dwelling policies statewide. Policies written throughout the state are also vulnerable to losses from catastrophic hurricanes to different degrees. The companies are subject to unlimited assessments as to those losses. The FAIR Plan has experienced rapid growth in recent years, with the

number of earned house years growing from approximately 116,000 in 2011 to approximately 264,000 in 2015.

Q. Is the reason that the Beach Plan purchases reinsurance similar to the reason that private companies purchase reinsurance?

A. Yes. For the same reason that the Beach Plan purchases reinsurance, the hypothetical "one company" for which the Bureau files rates must purchase reinsurance. That hypothetical one company is faced with numerous realistic hurricane loss scenarios that far exceed its ability to pay. It would be irresponsible and imprudent for that one company not to purchase reinsurance. The need of that hypothetical one company to purchase reinsurance is reflected in the net cost of reinsurance analysis prepared by Aon Benfield. In prior Dwelling filings, that analysis was conducted by Dr. Appel of Milliman, but he did not have access to the data that Aon Benfield retains. Dr. Appel necessarily had to calculate the net cost of reinsurance indirectly. In the last homeowners filing, witnesses for the Department of Insurance criticized his calculations as being hypothetical. Now, direct data is now available through Aon Benfield. Nevertheless, the Rating Subcommittee requested Dr. Appel to perform his analysis again. That analysis corroborates the Aon Benfield analysis that was reviewed and approved by the Rating Subcommittee and used in the Filing.

The hypothetical one company (voluntary companies plus the Beach Plan and FAIR Plan) receives about $250 million in Dwelling written premium annually in North Carolina. In comparison, there are many scenarios in which hurricane losses are projected to be many multiples of that amount. If an individual company experienced a loss many multiples of its collected premium, it would first look to its surplus and reinsurance. If there were insufficient surplus and reinsurance, then that company would become insolvent. Unlike the Beach Plan, which has the backstop of assessing policyholders statewide, individual companies do not have a backstop. Following Hurricane Hugo that hit South

Carolina and Hurricane Andrew that hit Florida, there were multiple insolvencies. Unlike the Beach Plan, the hypothetical one company does not have the right to recoup losses from policyholders across the state.

Q. Does the Filing in any manner require policyholders in North Carolina to pay the losses or subsidize the rates of policyholders in other states, particularly hurricane prone states such the Gulf Coast states?

A: No. It would not be actuarially appropriate to do so, as each state is evaluated separately, and rates in North Carolina are based only on North Carolina's loss potential. Imposing such a subsidy would not be fair to North Carolina policyholders and would not be permitted by North Carolina regulators. There is a greater risk of hurricane losses in Florida and some other Gulf states than in North Carolina, and it would not be fair or actuarially sound for North Carolina policyholders to be asked pay for their losses or to subsidize the insurance costs for persons in those areas. For the same reason, it would not be fair or actuarially sound for the Bureau to attempt to spread the hurricane exposure of the hypothetical one company in North Carolina to persons in other states such as in the Midwest where there is little hurricane exposure. Policyholders and regulators in Iowa, for example, would not be willing to do that.

Q: Have dividends to policyholders been considered in the Filing?

A: Yes. According to the Statement of Principles Regarding Property and Casualty Insurance Company Ratemaking, the rates should contemplate the cost of policyholder dividends. Policyholder dividends are returns of premium to a company's policyholders and are not the same as dividends that for-profit companies pay to their shareholders. The Subcommittee considered policyholder dividends over the years 2011 through 2015. It noted that payments have consistently been made and in material amounts. Therefore, the Filing has

incorporated a provision of 0.4% of premium to reflect anticipated dividends during the prospective period for which rates are being made in this Filing. Reflecting anticipated dividends is an actuarially sound methodology in a rating bureau context such as that in North Carolina where rates are made for the composite of all companies.

Q: Have deviations been considered in the Filing?

A: Yes. Deviations, or savings to policyholders, are a cost of doing business in North Carolina for the insurers that have them approved. They are a cost of the risk transfer and therefore need to be contemplated according to the Statement of Principles Regarding Property and Casualty Insurance Company Ratemaking. Companies are required to reflect their approved deviations. If rates were set without contemplating them, the industry would not achieve the profit provision included in the rates. The Subcommittee reviewed the net variances from manual premium from deviations, consent to rate and Beach Plan surcharges and did not include a factor for deviations in this Filing.

Q: Are the data in the Filing reliable and accurate for ratemaking purposes?

A. Yes. The data underlying the Filing are reliable, accurate and appropriate for ratemaking. Individual insurance companies employ extensive procedures to assure the quality and reliability of ratemaking data used in the Filing. When individual companies submit their data to licensed statistical agents, the statistical agents review the data for possible errors and compliance with approved statistical plans. If an error is suspected, the statistical agents ask the company to review the data and to correct the data if necessary. When ISO consolidates premium, loss and expense data from the statistical agents, it reviews the accuracy of the data and similarly requests that the data be reviewed and corrected if errors are suspected. When the Bureau assembles expense

data and furnishes it to ISO, there are checks to determine the data's accuracy. Sometimes, if it is not feasible for a company to correct its data, that company's data is excluded from the Filing and that fact is noted in the Filing.

An additional check on accuracy and reliability is that the Bureau requested the statistical agents to produce exhibits for the Beach Plan, the FAIR plan, and the 10 largest writers of the Fire and Extended Coverage portions of the policy, displaying exposure distributions for key factors (such as territory, amount of insurance and protection class) for the years in the Filing. Each such company was asked to review and evaluate the accuracy of its data as reported to its statistical agent. Companies have confirmed that they have performed these reviews and that to the best of their knowledge their data are correct in all material respects. These companies constitute approximately 88% of the premium volume.

Q. Are changes in the territory definitions contained in the Filing?

A. Yes. The changes contained in the Filing for the Dwelling line comport with territory definitions that have been approved for the homeowners line based on an extensive study by the Bureau.

Q. Did the Subcommittee review rate level adequacy by territory?

A. Yes it did. ISO was asked to prepare the indicated rate level changes by territory. The indicated change for a particular territory was determined by comparing the required base class rate to the existing base class rate.

First, ISO calculated the indicated base class loss cost by territory. This resulted from calculating the total loss cost by territory and applying the resulting territorial relativity to the indicated statewide base loss cost. The territorial indicated base class loss cost was converted to the required base class rate by performing

expense, profit and deviation adjustments at the territorial level, similar to how adjustments were performed at the statewide level. The indicated changes by territory show rate levels by territory that are needed to spread the overall rate level equitably.

The Bureau did not allocate profit and contingencies differently across the state. This change was in response to criticism by the Commissioner and Department witnesses that such items should not be allocated in greater proportion to the areas of the state that have the highest prospective hurricane loss costs. As a result of this change, indications in this Filing are lower in coastal areas than they would have been under the prior methodology.

The Bureau also did not allocate the net cost of reinsurance by zone as in recent filings. The Department and its witnesses criticized the use of zones and the method of creating zones in prior filings. In this Filing, the Bureau has allocated the net cost of reinsurance to each individual territory, based on the analyses of Aon Benfield. The Rating Subcommittee felt that it is actuarially appropriate and fair that reinsurance costs be allocated to the territories based upon each territory's contribution to the need for reinsurance. Failure to do so would result in rates that are unfairly discriminatory toward policyholders in territories with a low contribution to the need for reinsurance. Policyholders in those territories are already subsidizing policyholders in the coastal areas in multiple other ways that are required by law, and it would be unfair to compound that subsidy by allocating reinsurance costs to policyholders in territories that do not create the need for reinsurance.

Q. Are the filed territorial rates the indicated rates?

A. No. In consideration of customer impacts, the Governing Committee directed that overall territorial impacts not exceed +35%. The Governing Committee

"capped" the filed rates based on the combined fire and extended coverage indications. It should be noted that the indicated rate level is the actuarially sound and correct rate level. The indicated rate is the rate level necessary to cover prospective losses and expenses and leave a fair and reasonable profit. The indicated rate level is the one that complies with the statutory standard that the rates be neither excessive, nor inadequate, nor unfairly discriminatory.

Q. Can you identify Exhibit RB-1?

A. Yes. This is a large portion of the Filing submitted by the Bureau with respect to revised Dwelling insurance rates in North Carolina. Exhibit RB-1 includes numerous exhibits and voluminous regulation responses and explanations pertaining to the indicated and filed rate level changes. The Filing also includes the current rate manual as Exhibit RB-2. The manual contains the rules, rates and classifications used to write Dwelling insurance in North Carolina. These have been approved by the Department and are on file with the Department. The Filing also contains the prefiled testimony and exhibits of witnesses in addition to mine (Exhibits RB-3 through RB-24).

Q. Do you have an opinion as to whether the indicated rate level changes in the Filing are excessive, inadequate or unfairly discriminatory?

A. Yes.

Q. What is that opinion?

A. It is my opinion that the indicated rates in the Filing are actuarially sound and meet the statutory standard of producing rates that are not excessive, inadequate or unfairly discriminatory. In that regard, I note that I have relied upon the accuracy of the data and analyses supplied by the statistical agents, the Bureau, Aon Benfield and Milliman as reviewed and checked, and I have also relied on

the reinsurance and profit analyses performed by Dr. Appel and Dr. Vander Weide. I qualify my opinion by noting that the filed rates have been developed by applying territory caps to the indicated rates. The filed rates are not excessive and the filed changes are a reasonable step toward the adequate level.

Q. Does this conclude your prefiled testimony?

A. Yes.

PRE-FILED DIRECT TESTIMONY OF ELIZABETH A HENDERSON

2018 DWELLING INSURANCE RATE FILING
by the
NORTH CAROLINA RATE BUREAU

Q. Please state your full name and business address for the record.

A. My name is Elizabeth Ann Henderson. My business address is Aon Benfield, 200 East Randolph Street, 11th Floor, Chicago, Illinois 60601.

Q. What is your involvement in this matter?

A. My employer, Aon Benfield, has been retained by North Carolina Rate Bureau (NCRB) to provide expertise and analysis with respect to the expected hurricane losses utilized in the NCRB 2018 Dwelling Insurance rate filing. I am part of the team at Aon Benfield that performed these services.

Q. What are your primary duties for Aon Benfield?

A. Aon Benfield is the world's largest reinsurance brokerage firm, and I am a Managing Director of the Catastrophe Risk Analytics group. I lead a catastrophe risk management team, consisting of 25+ catastrophe modeling professionals, engineers, and meteorologists. I am responsible for providing catastrophe modeling support for reinsurance placements and expected hurricane losses and

am charged with positioning my team as a key differentiator in client solutions including support for multi-model analyses, benchmark pricing, data quality peer comparisons, model evaluation, real-time event response, portfolio optimization, catastrophe cost allocations, and rating agency questionnaire support. In effect, we assist our clients in all aspects of managing their exposure to catastrophe risk.

Q. Describe your professional and educational background.

A. I have been with Aon Benfield for 14 years since graduating from Northwestern University with Bachelor of Arts degrees in Mathematics and Philosophy. In my role at Aon Benfield I have participated in and led the modeling efforts for reinsurance treaty placements on behalf of Aon Benfield's clients. My specializations include providing risk management consulting and catastrophe modeling services to United States property and casualty insurance companies, particularly in personal lines property, small commercial property, and worker's compensation. I have worked directly with companies to help them analyze the amount of risk due to catastrophes against which they are exposing their capital, and compare that risk to their risk tolerances. In assessing their catastrophe risk, we utilize two independent modeling firms: Risk Management Solutions (RMS) and Applied Insurance Risk (AIR). We provide detailed analyses of the model results to enable companies to make business decisions around catastrophe risk management, including setting underwriting guidelines,

developing rate indications, determining the appropriate amount of reinsurance to purchase and deploying growth capacity.

Q. Describe your early career at Aon Benfield.

A. I began working at Aon Benfield 14 years ago as a Catastrophe Risk Analyst. During my tenure at Aon Benfield I have worked within the Catastrophe Risk Analytics Group and have been promoted through five positions (Analyst, Senior Analyst, Associate Director, Director, and now Managing Director). My responsibilities grew with each new job as I expanded my capabilities. When I began my career as an Analyst, I was responsible for the day-to-day modeling for a variety of client accounts. This included processing and profiling raw client data into a model-specific import files, importing client data into the models of AIR and RMS, setting up and executing model runs in AIR and RMS, and pulling out results and building exhibits. I was responsible for ensuring the accuracy of my work, and reporting back to my clients about their results and how those results impacted their reinsurance treaties. In my early career I spent most of my time working within the models' framework and learning how different types of insurance terms are handled in each model, how to properly code client data to ensure accurate results, and how to interpret how portfolio changes and model changes impact results.

I was working in this role in 2004 and 2005 during the very active hurricane seasons that produced Hurricanes Katrina, Wilma, and others. These events were among the first major tests of the hurricane models after Hurricane Andrew in 1992. The utilization of modeling and understanding of how the models worked when these events occurred was greatly impacted, and the new knowledge resulting from those events led to changes that had a far-reaching impact on the insurance industry. It was at this time that both RMS and AIR developed their Medium-Term and Warm Sea-Surface Temperature hurricane event sets.

Q. How has your career progressed and changed over time?

A. In my current role at Aon Benfield I am responsible for the work output of a team of over 25 catastrophe analysts covering many clients. My job has three distinct areas of responsibility. First, I am responsible to my clients. I work directly with clients on specific projects such as reviewing how their internal coding process impacts model results and making recommendations on refining their data to produce more accurate loss estimates. I help clients identify their profitable business opportunities and build out a plan with regular monitoring to achieve the clients' growth plans. In addition to working directly on client projects, I meet regularly with my team to discuss and review other active client projects to ensure that we are delivering best in class analytics to all of our clients.

My second responsibility is to my team. I am a mentor and a coach to all members of my team and I take steps every day to align individual performance goals with business and client needs. The number of clients and amount of support we provide to our clients has increased significantly. As clients become more dependent on using model input across their business, there has been a large demand for support and evaluation of model results. We have increased the number of engagements pertaining to model evaluation and validation.
My third responsibility is to the business unit. I help to set the strategic priorities of the Catastrophe Analytics team within the context of the overall goals of Aon Benfield. In that role I am responsible for delivering innovative analytics solutions for Aon Benfield clients. In the past year I lead a team that developed and launched a new, interactive, data and analytics platform: Analytics Dashboards. Analytics Dashboards advance the way that business-critical data is visualized, interpreted, and delivered.

Q. Describe the role of Aon Benfield Analytics.

A. Aon Benfield Analytics provides consultative services to clients of Aon Benfield who sell primary insurance coverage and assists those insurers in the assessment of the risk of catastrophe loss to their portfolio and in the placement of reinsurance treaties to address that risk of catastrophe loss. The main areas of services to Aon Benfield clients include: catastrophe modeling; catastrophe insurance rate making assistance; actuarial services (e.g., range of loss and

expense estimation, enterprise risk management, reinsurance analysis, capital analysis); rating agency modeling and analysis; insurance and reinsurance accounting; and tax and finance related modeling and assistance.

Q. Describe the role of the Catastrophe Risk Analytics group.

A. The Catastrophe Risk Analytics group is a part of Aon Benfield Analytics. The role of this group is to provide clients of Aon Benfield with analytics involving the management of catastrophe risk and how it relates to their reinsurance purchasing decisions. We provide clients with analyses of their catastrophe risk and develop their understanding around different model views for their portfolio. We help our clients develop a management view of their catastrophe risk against which they can evaluate reinsurance purchasing decisions.

Q. Describe your experience with catastrophe models.

A. Beginning 14 years ago in my role as a catastrophe analyst, I have used multiple models to evaluate catastrophe risk for my clients. My daily work requires me to interpret and transform client data into appropriate “model-ready” files. I determine how to best incorporate the client data into the different models. I have prepared data and run analyses in the models RMS RiskLink, AIR Touchstone, Impact Forecasting Elements, and CoreLogic RQE, and have

pulled and analyzed loss output from those models. I have observed and reviewed changes in these models during my tenure at Aon Benfield. I use the output of the models (such as PMLs, AALs, Layer Expected Losses, Historical Loss projections) to help clients determine the exposures at risk to a catastrophe at various confidence intervals. Clients compare those loss projections to their internal risk thresholds to determine how much reinsurance they need to protect their earnings and capital. The models are used by reinsurers to evaluate portfolios and determine an appropriate price for risk transfer.

Q. Describe your experience with catastrophe reinsurance.

A. I work for Aon Benfield, the world's largest reinsurance brokerage. My role as a catastrophe analyst means that I am directly involved with our clients who are seeking to purchase catastrophe reinsurance. Output from our modeling is used by our brokers, clients, and capital markets to determine AAL's and the appropriate amount of reinsurance to purchase and what the appropriate fair market price for that reinsurance should be.

Q. Do you speak on topics pertaining to catastrophe modeling?

A. Yes. I speak annually at the Aon Benfield Analytics Client conference on various topics related to catastrophe modeling. That conference is routinely

attended by primary insurers, reinsurers, regulatory agencies, and modeling firms.

Q. What was Aon Benfield's role in this filing with respect to expected hurricane losses?

A. We provided advice to NCRB regarding how to input the exposure data it provided, how to run the AIR and RMS models consistently based on that exposure data, how to assure that the model output is correct and how to blend the results of the two models in the manner utilized in the marketplace by Aon Benfield's clients.

Q. Did the NCRB asked Aon Benfield to run the AIR and RMS models?

A. Yes. We ran the models of AIR Touchstone and RMS RiskLink. These are the most commonly relied upon hurricane catastrophe models in the industry and we run these two models on all of our clients' data, regardless of whether either model is used by the client to set rates. Our view is that it is important to understand the two primary views of risk that exist in the industry. These two models are routinely relied upon by reinsurers in pricing catastrophe risk and by primary insurers in determining anticipated hurricane losses. More than half of our clients use two models when evaluating their catastrophe risk and blend those results, as opposed to relying only on one model for management

decisions. Of those that utilize two models, the majority blend the results evenly, taking a straight average. We have used the same approach here for the NCRB to determine the appropriate modeled hurricane losses to use in the rate filing. Our recommendation is to use a straight average when calculating a blend of the results. This means that we run the individual models and determine the appropriate allocation of reinsurance and loss costs, independently for each model. Then we average the two results to determine the blend. The vast majority of our clients who blend multiple models use this method. One reason is due to the ease of understanding and auditing of results. Models change frequently in different ways, and it is important for people making business decisions based on those models to be able to track those changes at every point. By first determining the losses from RMS and AIR independently, you can gain insight into how each model interprets the risk differently. It is an approach that balances an insurer's access to detailed information from both models and then uses a blended metric to make purchasing decisions and allocate costs.

Q. Is it customary to run multiple models to determine catastrophe risk for your clients?

A. Yes. At Aon Benfield we believe it is important to understand the various views of catastrophe risk that exist about any particular client's portfolio. In a reinsurance transaction, multiple parties must agree upon a fair estimate of the cost to transfer the risk. Our clients need to understand how the market will be

interpreting their catastrophe risk, therefore it is important for them to understand how various models interpret their portfolios.

Q. Is it common that modeled losses will differ between the various model vendors?

A. Yes. There exists a degree of uncertainty in predicting losses from catastrophes. That is a natural consequence of the substantial volatility associated with the occurrence of relatively infrequent and rare events. While all modeling firms start with relatively similar meteorological and insurance data inputs, such as information on past storm characteristics and claims data from insurance companies, there are differences between modelers in their approaches to interpreting and supplementing this data to build a robust model. The process of developing the models brings with it a degree of uncertainty in the results, although there is no inherent upward or downward bias in this degree of uncertainty. Modelers must take the known meteorological data from actual storms and employ standard statistical techniques to distribute that limited data to create a distribution of storms that may happen in the future. This is how models can take similar input and come up with different results. The spread between two views of the same risk helps companies understand the uncertainty inherent in these models. Through blending of the results of multiple models, clients can better manage their catastrophe risks despite variation between model results. Given the number of variables involved in the development of a

catastrophe model and the degree of uncertainty associated with each variable, it would be unexpected and atypical if two independently derived models resulted in the same output or conclusions on a given set of data.

Q. How do the models change over time?

A. Over time modelers utilize advanced research and loss analyses to enhance their methodology, applying the most recent and relevant scientific understanding to their models. New research into past events, updates to building practices and building codes, insight from engineering experiments, and findings from recent events are among the many different types of information that are used to inform how the modelers make updates to their models. Each modeling firm takes a different approach to how frequently it updates its models and how it prioritizes the schedule by which perils and regions will be updated.

Q. Do modeled losses change as updated data is entered into the models?

A. Yes. As noted above, the models are reliant on many sources of data. Data on past storms and updated building code data, for example, will be used by modeling firms as inputs into developing their models. For the insurer, changes in coverage and the underlying policies-in-force will change the model output. Also, changes in an insurer's portfolio composition (i.e., where they write new

policies and the geographic concentration of their exposures) over time will change the results of the models.

Q. How do clients typically account for variation in the model losses between different models?

A. It has become increasingly common for companies to use two models. As I said, more than half of our clients use two models when evaluating their catastrophe risk, blending those results. Of those that utilize two models, the vast majority blend the results evenly, taking a straight average, as has been done for the NCRB in this filing. The percentage of clients that blend models to build a management view of risk has grown substantially in recent years. In my opinion, this has been driven by large loss experience, most specifically from hurricanes, that demonstrates the degree of uncertainty around any single selection, as well as what I will call model change volatility. The blending of two models produces less volatile and more reliable results over the long term than the use of a single model.

Clients are also exposed to volatility related to model change. When the models make changes to their underlying assumptions around frequency, hazard, and vulnerability, clients will see their catastrophe loss estimates change. The fact that modeling firms make updates on different schedules, and often interpret and apply new research in different ways, results in a changing risk management

environment. Using a blended view will smooth out some of that model change volatility over time.

Q. Let's talk further about the work Aon Benfield performed for the NCRB for this Dwelling rate filing. Can you describe the client data that was employed as input for the model runs?

A. The data we employed was provided to us by the NCRB. My understanding is that the data had been compiled on behalf of the NCRB by Insurance Services Office (ISO). The NCRB advised us that the data consisted of the aggregate exposure information for all dwelling risks in North Carolina, including those written by the companies and those written by the residual market (which in North Carolina is the NCIUA, or Beach Plan). In effect, the NCRB asked us to run the models using the aggregate data as if there were a single company writing all of the dwelling insurance in North Carolina.

Q. Please describe what Aon Benfield then did with the data provided by NCRB.

A. As is customary in our work, we reviewed the data received from the NCRB for completeness and reasonableness before we input it into the AIR and RMS models. Since the two models have different formats for inputting data, we worked with the NCRB to assure that the exposure data was properly and consistently

entered in the required format for each model. We are accustomed to this procedure because we have to do the same thing for the many individual companies that we represent.

The next step was to input the data and run the models. We ran the AIR Standard model and the RMS Historical model for the purpose of determining the modeled hurricane losses. We ran the AIR WSST model and the RMS Medium Term Rate model for the purpose of analyzing the cost of reinsurance against our extensive reinsurance market data, which is what we always do in assisting our clients with their reinsurance placements. In my experience, it is standard practice throughout the industry to rely upon the models we used to determine modeled hurricane losses and in reinsurance placements.

After the models were run, we reviewed each model's output individually to be sure that the output resulted from a consistent entry of the same exposure data. We again followed the same procedure for assuring data quality that we follow for all of our clients. Then we blended the results of the two models, taking a straight average of the results as I described earlier. We again reviewed the blended results to assure that the blending procedures were correctly performed and that the blended results were correct. Once we were satisfied that the results were correct, we provided the blended modeled hurricane losses to the NCRB for use in its dwelling rate review. At the NCRB's request, we also provided the results to Milliman for its use in the work it was doing as part of the NCRB's dwelling rate

review. Exhibit RB-6 sets forth the blended modeled hurricane losses resulting from the work I have described. Based on my knowledge and experience and the input data provided by the NCRB, these modeled hurricane losses are reasonable and appropriate projections of expected hurricane losses for use by the NCRB in its dwelling rate review and rate filing.

Also, we employed the modeled hurricane losses as part of our work determining and allocating the cost of reinsurance. My colleague, Robert Fox, led our analysis of the net cost of reinsurance, and his testimony is also included in this filing. I assisted with that work and, from my perspective the procedures that we followed were consistent with our standard business practices in assisting our clients with their reinsurance placements and produced results that are reasonable, sound and reliable.

Q. Does that conclude your testimony?

A. Yes.

Exhibit RB-6

North Carolina Rate Bureau
2018 Dwelling Rate Filing
Gross Modeled Hurricane Expected Losses including Cat LAE and Trend

Territory	Expected Loss
110	19,424,152
120	23,388,090
130	1,889,026
140	16,014,062
150	3,577,668
160	4,525,910
170	136,997
180	2,134,821
190	1,080,063
200	738,925
210	463,197
220	2,233,773
230	1,264,937
240	1,232,904
250	861,303
260	270,670
270	1,416,711
280	229,973
290	373,736
300	246,784
310	1,021,505
320	550,954
330	30,741
340	1,169,509
350	329,929
360	414,947
370	18,525
380	44,526
390	38,514
Grand Total	85,122,851

Modeled hurricane expected losses for North Carolina Rate Bureau, net of limits and deductibles. Results include demand surge and exclude storm surge. Losses represent 50/50 blend of AIRv5.0 100k Standard event set and RMSv17 Historical event set. Results also include provisions for LAE and loss trend.

EXHIBIT RB-7

PRE-FILED DIRECT TESTIMONY OF ROBERT C. FOX

2018 DWELLING INSURANCE RATE FILING
by the
NORTH CAROLINA RATE BUREAU

Q. Please state your full name and business address for the record.

A. My name is Robert Charles Fox. My business address is Aon Benfield, 200 East Randolph Street, 11th Floor, Chicago, Illinois 60601.

Q. What is your involvement in this matter?

A. My employer, Aon Benfield, has been retained by North Carolina Rate Bureau (NCRB) to provide expertise and analysis with respect to the expected hurricane losses and net cost of reinsurance utilized in the NCRB's 2018 Dwelling Insurance rate filing. I am part of the team at Aon Benfield that has performed those services.

Q. You indicated that you are employed by Aon Benfield. Who is Aon Benfield and what are your primary duties for that employer?

A. Aon Benfield is the world's largest reinsurance brokerage firm. I am Managing Director of the Catastrophe Actuarial practice group within Risk and Capital Strategy, a division of Aon Benfield Analytics. My primary responsibility is to assist insurance company clients of Aon Benfield in the areas of pricing and managing catastrophe risk.

The clients I work with buy some of the largest reinsurance programs in the world and many of these programs are exposed to hurricane risk along the Atlantic and Gulf coasts of the United States.

Q. Describe the role of Aon Benfield Analytics.

A. Aon Benfield Analytics is a division of Aon Benfield, and it provides consultative services to reinsurance clients of Aon Benfield. The main areas of services to Aon Benfield clients include: catastrophe modeling; catastrophe ratemaking assistance; actuarial services; rating agency modeling and analysis; insurance and reinsurance accounting; and tax and finance related modeling and assistance.

Q. Describe the role of the Catastrophe Actuarial practice group.

A. The role of this group is to provide clients of Aon Benfield with analytics and related support involving the pricing and management of catastrophe risk. We provide estimates and allocations of expected catastrophe costs for use in accounting, ratemaking, strategic planning, profit sharing, and production incentives. These catastrophe costs are expected average annual losses, the net cost of reinsurance, and cost of capital required to support retained catastrophe risk.

Q. What is catastrophe reinsurance, who buys it, and why do they buy it?

A. Reinsurance is insurance for insurance companies. An insurer that provides insurance to another insurer is called a reinsurer. The policy the reinsurer issues

reflecting the agreement to assume risks from the original policy-issuing insurer is referred to as a reinsurance treaty or a reinsurance contract. It is typically purchased in layers of coverage, with each layer attaching where the prior layer exhausts.

While much of the risk an insurer assumes by writing insurance policies, house fires for example, can be diversified by writing multiple policies because losses are typically not correlated, this increases the insurer's exposure to natural catastrophes. Because catastrophe losses are highly correlated, they can threaten the solvency of an insurer and impair its ability to pay the claims of its policyholders, and insurers with significant property exposure will secure catastrophe reinsurance through traditional reinsurance treaties or catastrophe bonds to address this risk. This reinsurance transfers catastrophe risk from individual insurers to the global reinsurance market, thereby protecting the solvency of the insurance industry and helping to ensure that all policyholder claims will be paid at a lower cost than maintaining surplus sufficient to retain the risk.

Q. Describe your professional and educational background.

A. I have been employed as an actuary for twenty-seven years, with all of that time devoted to the actuarial science called ratemaking. During thirteen of those twenty-seven years I was employed at Nationwide Insurance, where I developed rate filings for Homeowners and Auto, researched and improved ratemaking methodologies, and developed spreadsheets to implement those methodologies.

I was hired by Aon Benfield (then Aon Re) in 2005 to build a team dedicated to providing its primary insurance company clients with analytics based on catastrophe model output and expertise related to the pricing of catastrophe risk.

I graduated from Wheaton College in 1990 and received a bachelor of science degree in mathematics. I am an associate of the Casualty Actuarial Society and a member of the American Academy of Actuaries. I have satisfied the continuing education requirements of and am in good standing with those organizations.

Q. Describe your experience with hurricane models.

A. I have utilized hurricane model output in ratemaking since the mid-1990's as my employer then was an early adopter of hurricane modeling and I was involved in the evaluation and implementation of our first model. Prior to that time, I and many other actuaries were relying on various procedures based on historical hurricane loss data. Computerized models became available in the 1990's and became the state of the art by the late 1990's. Today, computer hurricane models are widely accepted as the best way of determining expected hurricane losses for ratemaking purposes.

Since joining Aon Benfield in 2005, I have used catastrophe model output heavily in my daily work for our insurance company clients. The models I have used most heavily are those for the perils of hurricane, earthquake and fire following, convective storm, and wildfire in the United States. I am personally responsible for our compliance with Actuarial Standard of Practice 38—Use of Models Outside the Actuary's Area of Expertise (ASOP 38), and actuaries at a number of clients of Aon Benfield state full or

partial reliance on me as having performed the steps required by that standard. I have advised over 100 insurance companies on incorporating the results of catastrophe models into primary insurance rates, with many of these having significant exposure to hurricane risk.

Client rate filings require allocating modeled loss costs to legal entity or business unit, line of business, policy form, and geographic unit. For filing purposes, the most common geographic unit is rating territory, but finer detail is often provided and allows for evaluation of territory definitions. I also assist clients in incorporating model results appropriately in statewide indications and relativity analyses, either up front or by reviewing a filing prior to submission. Once a filing is submitted, I am heavily involved in helping clients respond to regulator questions regarding catastrophe models.

Q. Describe your experience with catastrophe reinsurance.

A. I have incorporated reinsurance costs into rate filings since the late 1990's. Since joining Aon Benfield in 2005, I have analyzed thousands of catastrophe reinsurance layers in my daily work for Aon Benfield's insurance company clients. My work involves determining reinsurance costs for client rate filings, advising clients on the rate implications of various reinsurance structures, and developing strategic plans with executive management of client insurers.

Similar to my answer on modeled loss costs above, client rate filings require allocating catastrophe reinsurance costs to legal entity or business unit, line of business, policy form, and geographic unit. For filing purposes, the most common geographic unit again

is rating territory, but finer detail is often provided and allows for evaluation of territory definitions. I also assist clients in incorporating reinsurance costs appropriately in statewide indications and relativity analyses, either up front or by reviewing a filing prior to submission. As with modeled losses, once a filing is submitted, I am heavily involved in helping clients respond to regulator questions regarding reinsurance costs.

I am frequently involved in evaluating and communicating the primary insurance rate impacts of various reinsurance structures. Since this involves multiple divisions of a primary insurer, these communications typically involve more senior management. Evaluating rate impacts involves modeling and estimating rates-on-line for various reinsurance structures as well as their impact on required capital. Because reinsurance and capital costs involve different cost drivers, these costs are sometimes allocated to state and line of business level to provide a more detailed analysis of rate impacts.

Strategic planning involves the most detailed analysis and collaboration with the highest levels of client management. These projects often involve multiple representatives, some of whom may be a vice president, president, chief actuary, CFO, COO, or CEO depending on the size of the company. This analysis involves allocating all costs associated with catastrophe risk, expected losses, reinsurance costs, and capital costs, down to the individual policy or location level, adding provisions for non-modeled catastrophe and non-catastrophe losses and expenses, and comparing those costs to policy premiums. The results are mapped and aggregated along various dimensions to identify segments for rate action and/or growth. Multiple scenarios are evaluated for their impact on rate adequacy and some measure of portfolio size. The size of the

portfolio may be measured in premium, insured values, or policy counts, depending on the goals of the client.

Q. Do you speak on topics pertaining to insurance, catastrophe modeling, and/or catastrophe reinsurance?

A. Yes. I speak frequently on ratemaking for catastrophe risk, catastrophe risk management, and strategic planning for property insurance lines. All of these involve applications of catastrophe model output and reinsurance costs. In addition to speaking at Aon Benfield's annual Analytics Conference almost every year since 2006, I have spoken at meetings of the Casualty Actuarial Society (CAS), the Southeastern Regulators Association (SERA), the Southern California Casualty Actuarial Club (SCCAC), the Alabama Governor's Affordable Home Insurance Commission (AHIC), South Carolina's Coastal Property Task Force, and the Milliman Conference for Chief Actuaries. In addition, I have held educational meetings or less formal discussions on these topics with regulators in Alabama, California, South Carolina, Massachusetts, and Mississippi.

Q. Have you testified in other jurisdictions regarding catastrophe modeling or reinsurance?

A. Yes, I have testified in Florida regarding the use of hurricane models in ratemaking and incorporation of the net cost of reinsurance in actuarially sound rates. I have also testified in California regarding the use of wildfire and fire following earthquake models and the net cost of reinsurance in ratemaking.

Q. What was your role in this filing with respect to expected hurricane losses?

A. I provided advice to NCRB regarding best practices for estimating expected hurricane losses for ratemaking based on my experience advising primary company clients, communications with regulators in several states, and an annual review of hundreds of rate filings by me and my staff.

Q. Are catastrophe simulation models commonly used by insurers for ratemaking in catastrophe-exposed lines and jurisdictions?

A. Yes, catastrophe models, especially those modeling hurricane and earthquake risk, have become the standard method of estimating catastrophe risk in rate filings. In fact, the use of an accepted hurricane model is required by law in Florida, the most hurricane-prone state.

Q. What is meant by the term, "accepted," in your response?

A. The Florida legislature in 1995 created the Florida Commission on Hurricane Loss Projection Methodology (FCHLPM) to review both the public and trade secret information underlying submitted models and determine whether or not to accept each model as "accurate and reliable for ratemaking." The Commission is comprised of the Florida Insurance Consumer Advocate, the Chief Operating Officer of the Florida Hurricane Catastrophe Fund (FHCF), the Executive Director of the Citizens Property Insurance Corporation, the Director of the Florida Division of Emergency Management,

the actuary member of the FHCF Advisory Council, an employee of the Office of Insurance Regulation who is an actuary responsible for property insurance rate filings, five members appointed by the state's Chief Financial Officer (an industry actuary, a state university finance expert with a background in actuarial science, a state university statistics expert with a background in insurance, a state university expert in computer system design, and a state university expert in meteorology who specializes in hurricanes), and a licensed professional structural engineer who is a full-time faculty member in the state university system and who has expertise in wind mitigation techniques. The Commission is supported by a panel of additional experts who conduct on-site reviews of each model at the headquarters of the firm submitting the model. The professional team consists of actuaries, meteorologists, computer scientists, statisticians, hydrologists, structural engineers, and a coastal engineer.

I have personally attended several meetings of the FCHLPM and am convinced that the Commission's review of hurricane models is the most rigorous and thorough review possible outside of the reviews conducted internally by the modeling firms themselves.

Q. How is this acceptance in Florida relevant to ratemaking in North Carolina?

A. Many state regulators, including those in South Carolina, Alabama, Louisiana, and Texas, look to Florida's Commission to determine whether or not to accept a particular model for ratemaking because it is the only public entity that thoroughly examines hurricane models to determine their suitability for use in ratemaking. Most aspects of the Commission's review are as applicable to North Carolina as they are to Florida.

Q. Are the hurricane models used in the Rate Bureau's Dwelling Insurance rate filing to estimate expected hurricane losses accepted by the Florida Commission?

A. Yes, the AIR Hurricane Model for the United States, Version 16.0.0, as implemented in Touchstone 5.0.0, was accepted by the FCHLPM on August 2, 2017 as "accurate and reliable for projecting hurricane loss costs and probable maximum loss levels for residential property in Florida." AIR has had an accepted model in Florida continuously since 1996.

The RMS North Atlantic Hurricane Model Version 17.0 was accepted by the FCHLPM on May 12, 2017 as "accurate and reliable for projecting hurricane loss costs and probable maximum loss levels for residential property in Florida." RMS has had an accepted model in Florida continuously since 1997.

The current acceptances of the RMS and AIR models expire on November 1, 2019, by which point both firms are expected to have updated models accepted by the Commission.

Q. What level of credibility is typically assigned to the blended results of catastrophe simulation models in ratemaking?

A. It is industry standard practice that model results are considered 100% credible. Where multiple models are used, the blended results of the models are considered 100% credible.

Q. What does that mean?

A. Credibility is a relative measure, which depends not only on the credence an insurer places in the model output, but also on the availability of other potential estimates of expected catastrophe losses. Since catastrophe models incorporate all known information pertaining to catastrophe risk, there is no other data that would improve the estimate of expected catastrophe losses if it were used to complement the model output. Catastrophe models produce estimates that involve a significant amount of uncertainty, but model uncertainty is significantly less than the uncertainty inherent in any other approach. Catastrophe models are by far the best tool available to estimate insurers' exposure to catastrophe risk.

Q. Is it increasingly common for companies to use multiple models in rate filings?

A. Yes. For a variety of practical reasons, some companies continue to use only one model in some circumstances. For example, all companies filing property insurance rates in Florida use a single model because the Office of Insurance Regulation (OIR) there prohibits the use of multiple models for ratemaking. However, I always recommend the use of at least two models and many companies do so. The two models used by the Rate Bureau in this filing are by far the most commonly used hurricane models for ratemaking in the United States.

Q. Why does the Florida Office of Insurance Regulation prohibit the use of multiple models for ratemaking?

A. Florida statutes require that companies use “a” model accepted by the FCHLPM in rate filings. The OIR has interpreted this language to mean that companies must use “one and only one” model. This conclusion is best understood as a legal interpretation rather than an actuarial opinion. When the statutes were revised in 2014 to accommodate private flood coverage, they were written to specifically permit the use in rate filings of a straight average of the results from multiple flood models.

Q. What advice do you give clients of Aon Benfield regarding the use of multiple models versus a single model?

A. As I said earlier, I always recommend a multi-model approach using at least two models, weighting the models equally. Not only does that prevent you from being overly reliant on the assumptions of a particular model, but it also tempers any swings that might occur when a vendor updates a model. While hurricane models are now universally accepted as the most reliable forecast of anticipated long-term average hurricane losses, they are also being updated on a regular basis with new data and analysis.

Q. Did the Rate Bureau seek your advice on the use of multiple models versus a single model?

A. No. The Rate Bureau had already decided to use two models when it contacted Aon Benfield about its assistance with this Dwelling insurance rate review.

Furthermore, the Rate Bureau indicated in our initial discussions that it desired to use the AIR and RMS models that I identified earlier. I was already very familiar with those models and was very comfortable with the idea of the Rate Bureau using them.

Q. Would you please explain why or how it is that you were already familiar with the AIR and RMS models?

A. At Aon Benfield, we use these models on a daily basis in our work, and I have spent a great deal of time familiarizing myself with these models. As I mentioned earlier, I am personally responsible within our team for our compliance with ASOP 38, and I have performed the necessary reviews of the AIR and RMS models required by that standard.

Q. What types of events are included in the AIR and RMS hurricane models?

A. I've spent a lot of time researching this question, as it comes up frequently in conversations with clients. The simple answer is that the models include hurricanes but not tropical storms, but that answer is not as simple as it sounds. Consider Gabrielle (2001), which made landfall south of Tampa as a tropical storm but became a hurricane after crossing the state and heading back out to sea. Isidore (2002) was a hurricane in the Gulf, but weakened to tropical storm strength before making landfall near New Orleans. Cindy (2005) was classified as a tropical storm at the time of the event, but was later reclassified as a hurricane. Sandy (2012) produced hurricane force winds over the US before finally making landfall as a tropical storm. All of these events are

considered hurricanes by the National Hurricane Center because they were hurricane strength at some point in their existence.

We prepared a list of these events and others and sent them to both AIR and RMS to determine whether or not they considered these modeled hurricane events. Based on their responses and subsequent communications, we concluded that, for an event to be considered a modeled hurricane event for their US models, both firms require that the event produced hurricane-force winds over the US. Of the events mentioned above, Cindy and Sandy were the only modeled hurricane events.

Q. Why is the designation of an event important?

A. Any event that is not addressed by the model needs to be reflected in a provision for non-modeled losses in a rate filing. The responses from the modelers were consistent with the way Property Claim Services (PCS) designates events. Any event assigned a catastrophe code by PCS is also assigned a cause of loss. If that cause of loss is "hurricane," all losses associated with the event should be removed from traditional ratemaking approaches as they are reflected in rate filings by the hurricane models.

Q. How should hurricanes be addressed that lose strength to tropical storm level or even lower before reaching North Carolina?

A. The goal is to have all expected losses addressed somewhere but none double-counted. The most common approach from an individual company perspective is to remove from historical experience all losses from events that are assigned a hurricane-

designated PCS catastrophe code, since these events are the same as those the modeling firms consider modeled hurricane events. Unfortunately, PCS codes are not utilized by all companies reporting data to the Rate Bureau, so when aggregating industry data ISO must use a more complicated approach.

Q. Have you reviewed the approach taken by ISO to remove hurricane losses from the historical experience?

A. Yes, I have.

Q. Do you believe based on your review that the ISO approach is reasonable?

A. Yes. Given the data available to the Rate Bureau and ISO, I think the approach produces a reasonable complement to modeled hurricane losses. I do not believe that any hurricane losses have been double-counted, even for lower wind speeds far out from the eye of the hurricane or associated with hurricanes that have weakened but are still causing damage.

Q. What is demand surge?

A. Demand surge is simply a function of the economic law of supply and demand. It represents the increase in the cost of labor and materials needed to repair damaged property following a significant natural catastrophe event or series of events. This increase has been observed following such very large events and it is a natural result of

the increased demand for labor and materials in those situations. As a result, the models incorporate it into their loss estimates.

Q. Which applications of catastrophe model output typically reflect demand surge?

A. All applications of catastrophe model output should reflect demand surge. There is no reason to underestimate the impact of large events by ignoring the increase in demand for labor and materials as a result of those events. In our experience, all companies run the models with demand surge. In fact, the only times we ever run a model without demand surge at Aon Benfield are to measure the impact of demand surge for testing purposes and where specifically requested, such as for the South Carolina Department of Insurance, which requires that the impact of demand surge be separately displayed in filing forms. Here, the Rate Bureau requested that we also run the models without demand surge so that it could provide certain statutory information in the filing.

Q. Does South Carolina or any other state prohibit the inclusion of demand surge in modeled losses for rate filings?

A. No. South Carolina asks for the impact of demand surge in filing forms, but does not prohibit its inclusion in expected losses. I am not aware of any prohibitions against the use of demand surge in rate filings in any jurisdiction. In fact, the Florida Commission standards actually require that accepted models incorporate demand surge based on relevant data and actuarially sound methods and assumptions.

Q. North Carolina has laws prohibiting "price gouging" following a hurricane. Does that eliminate demand surge?

A. No. Florida has a similar law. Demand surge can and does occur due to supply and demand economics in situations that would not be considered price gouging and/or that would not be prevented by statutes prohibiting price gouging.

Q. Does it make sense for North Carolina hurricane losses to include demand surge for very large events impacting other states even if those events were less significant in North Carolina?

A. It does. Labor and materials can and do move freely across state lines, so demand surge is a regional, rather than a state-specific, phenomenon.

Q. The models contain simulated hurricane events that produce Category 5 wind speeds over North Carolina, even though North Carolina has not experienced Category 5 wind speeds in the recorded experience. Should those events be excluded from the models for ratemaking purposes?

A. No, that would not be appropriate. The meteorologists and other experts who have created the models have determined that it is appropriate to include simulated hurricane events that produce Category 5 wind speeds over North Carolina, and it is not appropriate for me as an actuary to interpose my judgment over that of those experts and to adjust the model in that manner unless I have evidence indicating that such an

adjustment should be made. As I described earlier, I have performed a detailed review of both the AIR and RMS models and I am not aware of any evidence indicating that such an adjustment of the models would be reasonable or appropriate. Further, it would not be reasonable or appropriate to exclude individual simulated events from the model results simply because they are rare or large. The models already take into account the relative rarity of such events, just as they already reflect the much more common scenarios of years in which there are no losses from hurricanes. The same science and analysis underlying the models that predicts many years in which there will no losses from hurricanes also underlies the projections that rare, large storms including Category 5 storms may occur. Excluding rare or large events would improperly bias the results downward without justification.

Q. Is it reasonable that rare simulated hurricane events should have a significant impact on expected average annual losses?

A. Absolutely. This is the nature of skew distributions like that of hurricane activity. Looking at the history of PCS hurricane events in North Carolina, three years—1996 (Fran), 1954 (Hazel), and 1999 (Floyd)—account for 53% of historical losses in today's dollars. Three years over the 68-year history of PCS data means that these 53% of historical losses came from 4.4% of the years tracked by PCS. Adding 1989 (Hugo), 67% of historical losses come from four (5.9%) of the years. It is reasonable and expected that rare events will have a significant impact on expected average annual losses.

Q. Earlier you mentioned that the projected losses produced by the catastrophe models may involve a significant amount of uncertainty. Does that uncertainty mean that it is appropriate to discount the losses produced by the models?

A. No. Uncertainty is an inherent part of modeling, but the uncertainty in these models means that the resulting modeled losses could be too low or too high. Unless one has clear and reliable evidence that a model's results are higher than they should be, the uncertainty that exists in catastrophe models is not a reasonable or appropriate basis upon which to discount those model results.

Q. Are you aware of how the reinsurance program was designed for purposes of this rate filing?

A. Yes, I am. Our team reviewed the actual reinsurance programs of our client companies writing property insurance predominantly in the Southeast, including North Carolina, that are currently in force. (Companies whose peak exposure is in Florida are not included, as those costs would be higher than reasonably expected in the other Southeastern states.) We set the attachment and exhaustion points of the proposed reinsurance program at the average attachment and exhaustion points of those actual programs. We then sent this information to Aon Benfield brokers actually working with companies in the reinsurance market and requested input as to how the various layers of reinsurance would be structured in the current marketplace. Based on the guidance received from those brokers, the reinsurance layers between the attachment and exhaustion points were determined. We then presented our proposed reinsurance structure to the Rate Bureau, and the Rate Bureau approved it. This reinsurance

structure, as recommended by Aon Benfield and approved by the Rate Bureau, is shown in Exhibit RB-8 accompanying this testimony.

Q. Do you believe the reinsurance structure selected by the Rate Bureau is reasonable?

A. Yes. The approach taken by the Rate Bureau is consistent with other elements of the rate filing. There is an inherent trade-off between reinsurance and required capital. Any risk that an insurer cedes to reinsurers is risk that the insurer does not have to fund with capital. Any risk retained must be funded with capital that requires a return, or profit.

For ease of incorporation into the remainder of the filing, we designed the reinsurance structure for 2018. This simply means that the modeled event losses used to design and price the reinsurance program were trended to 2018 for all purposes related to the provision for net cost of reinsurance.

Q. Why does the reinsurance program consider perils other than hurricane?

A. Peril-specific reinsurance towers are rare, so the program was designed on an all-perils basis. The Dwelling insurance policies contemplated in the Rate Bureau filing are exposed to not only hurricane losses, but also convective storm (tornado and hail) losses, winter storm losses, and fire following earthquake losses, so the program is consistent with what the aggregate one company assumed by the Rate Bureau would purchase.

Q. Why does the reinsurance structure not consider other lines of business or other states?

A. At the request of the Rate Bureau for consistency with the remainder of the filing, the reinsurance structure assumes that only Dwelling insurance for North Carolina is covered by the reinsurance treaty for the hypothetical one insurer issuing Dwelling insurance in North Carolina. Insurers purchase a wide range of catastrophe reinsurance structures, with layers covering anything from a single state and peril to a countrywide or even global layer covering all perils. If the Rate Bureau were to depart from consistency with the remainder of the filing with respect to its North Carolina-only approach, there is no alternative reinsurance structure that would be more appropriate for all insurers writing Dwelling insurance in the state.

It is also important to note that there is no diversification benefit (and no reduction in cost) to be gained by writing other property lines such as Homeowners or Commercial Property in North Carolina. These just represent more exposure in the same place and would increase reinsurance cost.

There is also little diversification benefit to reinsurance rates from writing in multiple states, even geographically diverse states. Financial theory indicates that investors are not willing to pay extra for the stock of a diversified firm because they can diversify more cheaply themselves. This same concept applies to reinsurers. An insurer with a diversified book of business does not pay less for reinsurance because the reinsurer can diversify its book of business more cheaply than the insurer.

A company with a well-diversified book can save reinsurance premium by sharing the layers they buy across multiple geographies. However, this savings comes from buying less reinsurance and not by paying reduced rates, and it comes with an increase in risk. For example, a typical reinsurance layer covering North Carolina would include one reinstatement of the coverage limit so that North Carolina insurers would have reinsurance coverage for two North Carolina events. If the layer were made to cover Texas as well, and Texas generated a reinsurance recovery, North Carolina would be left with reinsurance coverage for only one event. If Texas experienced two significant events, North Carolina would have no reinsurance coverage at all.

Q. How was the reinsurance premium estimated?

A. We used two approaches. First, we used our Technical Pricing Model, which is a proprietary model of reinsurance market prices that we maintain. Being the world's largest reinsurance broker provides us the opportunity to build a regression of reinsurance market rates-on-line based on insurer modeled expected losses and volatility in each layer by peril and catastrophe model vendor. This regression provides the most rigorous estimate of reinsurance pricing for the risk ceded. Relevant to the discussion above regarding the assumption of a single state reinsurance program, the Technical Pricing Model reflects that North Carolina hurricane risk is somewhat diversifying against the peak Florida hurricane risk of the reinsurance market. This regression takes a significant amount of time to complete, so it is not necessarily updated unless there is a significant market change. The most recent results are as of January 1, 2016, with treaties expiring December 31, 2016. Regression coefficients

have been judgmentally adjusted for subsequent renewal periods to reflect minor market changes, such as the recent reduction in the cost of reinsurer capital.

The second approach is to analyze the relationship between loss-on-line and rate-on-line for the most recent renewal period for regional insurers with Atlantic coast but no Florida exposure. This approach is less technical, but uses more current information. In a changing market, this can be useful.

The results of the two approaches described above were similar, so except for the bottom layer we selected a straight average of rates-on-line derived from each as shown in Exhibit RB-9. For the bottom layer we gave 2/3 weight to the loss-on-line approach and 1/3 to technical pricing to produce a smooth progression of margins to standard deviation. Before finalizing our recommendation to the Rate Bureau, we requested a review of our results from some of the more experienced brokers in our office, and they agreed that our rates-on-line were reasonable and consistent with current reinsurance market pricing.

Q. Are reinsurance rates regulated the way primary rates are?

A. No they are not. Market rates are determined in a free market which is very competitive. Both parties are knowledgeable and sophisticated regarding the risk transfer, and the buyer typically has the support of and representation by a broker to strengthen its position.

Q. How was the reinsurance premium allocated?

A. We allocated the reinsurance premium to peril and territory using an algorithm derived from our Technical Pricing Model as shown in Exhibit RB-11. Designed to replicate the way the reinsurance market prices risk, the model breaks down reinsurance premiums into three drivers: weighted ceded losses by peril, a capacity charge allocated on a quantity we call Internal Correlated Standard Deviation, and reinsurer cost of capital, allocated on External Correlated Standard Deviation.

For lower layers, expected ceded loss is the primary driver of reinsurance premiums so the allocation is based mostly on ceded losses (83.38% for Layer 1). Expected ceded losses are weighted by regression-derived coefficients that reflect the reinsurance market's view of model miss and potentially a charge for volatility of non-hurricane perils. The allocation of the ceded loss driver is based on the contribution of each peril and territory to expected reinsurance recoverables.

The capacity charge is similar to a minimum premium on the primary side. Reinsurers must collect something to cover expenses and risk, even if the models say the risk is negligible. This component becomes more dominant for higher reinsurance layers where the number of simulated events reaching the layer decreases and the rate-on-line approaches a minimum.

The allocation of the capacity charge component is intuitive. The segments of the business that drive the need for capacity should pay more of the capacity charge. Our goal therefore is to allocate the capacity charge to those perils and territories that see the greatest reductions in volatility of expected losses as a result of the placement of

each layer. Mathematically, we multiply the standard deviation of the losses ceded to the layer by the correlation between each policy and the remainder of the company (or Rate Bureau) portfolio. We call this quantity Internal Correlated Standard Deviation because the correlation is internal to the insurance company. From the policyholder perspective, if a policy is in a territory that drives the need for reinsurance, it will pay a bigger share of the capacity charge than a policy that is in a territory that is unlikely to benefit from the reinsurance being purchased.

Hurricane volatility drives the amount of capital reinsurers need to hold. Higher reinsurance layers involve transferring more hurricane volatility, so reinsurer cost of capital increases for higher reinsurance layers. Six years ago reinsurer cost of capital would have dominated the higher layers of a hurricane exposed treaty, but this component is no longer as significant due to the increase in the supply of capital to the reinsurance market. For this filing, reinsurer cost of capital drives only 20.13% of the allocation of the reinsurance cost for the top layer.

As it was with the capacity charge, the allocation of reinsurance capital is intuitive. This component is allocated based on the contribution of each peril and territory to expected industry hurricane loss volatility. Mathematically, we multiply the standard deviation of the losses ceded to the layer by the correlation between each policy and an industry loss portfolio, which serves as a proxy for the reinsurance market. We call this quantity External Correlated Standard Deviation because the correlation is external to the insurance company. From the policyholder perspective, if a policy is in a territory that drives industry hurricane risk, it will pay a bigger share of the reinsurer capital cost than a policy that is in a lower risk territory.

Q. How was the net cost of reinsurance calculated?

A. The net cost of reinsurance can be thought of simply as the reinsurance premium paid by the insurance company less expected ceded losses recoverable by the insurance company from the reinsurer. However, there are two adjustments that need to be made.

First, the reinsurance program assumes that the industry standard of one reinstatement of the limit applies. The cost to reinstate the limit is paid for as an automatic reduction to ceded losses otherwise recoverable following an event. If we ignore this, we will understate the net cost of reinsurance by overstating ceded losses recoverable.

Second, reinsurance treaties typically cover loss adjustment expenses (LAE) that can be allocated to a catastrophe event. Assuming a 6% ratio of “catastrophe LAE” to catastrophe loss, we adjust all modeled loss events by a factor of 1.06 prior to simulation to avoid double-counting LAE associated with catastrophe events. The factor of 1.06 was selected based on a review of LAE factors applied to catastrophe losses in AM Best SRQ submissions of Aon Benfield clients as shown in Exhibit RB-10.

Finally, by simulating thousands of years of events, we determine the expected ceded losses and catastrophe LAE by layer as well as an expected reinstatement premium. Then the net cost of reinsurance is simply deposit premium plus expected reinstatement premium less expected ceded losses and catastrophe LAE recoverable.

For the NCRB Dwelling filing, expected premiums are $143,529,683, expected recoverables are $48,306,393, and the net cost of reinsurance is $95,223,290. These results were allocated to territory as reflected in Exhibit RB-12 and provided to the Rate Bureau for use in this filing.

Q. Are you aware of the work performed by Dr. Appel for this and prior NCRB rate filings?

A. Yes, I am.

Q. Given your experience in catastrophe reinsurance, do you find his approach to be reasonable?

A. Yes. Our approach is based on detailed information on current reinsurance market rates and underlying model output. Dr. Appel does not have direct access to that information, but had instead designed a reinsurance program based at least in part on guidance provided to him several years ago by Aon Benfield. The dramatic reduction in reinsurance costs over the past five years has led to some increases in the amount of reinsurance purchased, so we provided updated information on current attachment and exhaustion return periods in the Southeastern United States. For this filing Dr. Appel has adjusted his treaty structure to be on an apples-to-apples basis with our analysis, and then proceeded with his prior approach in determining a net cost of reinsurance.

Dr. Appel's approach to pricing the reinsurance layer could be described as the exact opposite of ours. We built a model tying actual observed reinsurance market rates to

client model output metrics, and then applied the model to NCRB data. Dr. Appel instead takes the perspective of the reinsurer. Given various assumptions for items such as expenses and required surplus, he estimates the rate that would be required to achieve a reasonable rate of return to the reinsurer. I have not evaluated the individual assumptions that underlie Dr. Appel's analysis, but his approach produced an expected reinsurance premium and net cost that are similar to the results of our analysis, and in my opinion, the two approaches are corroborative of each other.

Q. Do you know whether the Rate Bureau has used in the Dwelling filing the Aon Benfield net cost of reinsurance results you provided?

A. Yes, I am advised that the Rate Bureau has used in the filing both our statewide net cost of reinsurance results and those results allocated to the territory level.

Q. Do you have an opinion regarding the appropriateness of the net cost of reinsurance provision incorporated into the Dwelling filing?

A. Yes. Based on my experience with hurricane models and using modeled hurricane losses and my experience with catastrophe reinsurance and determining catastrophe reinsurance costs for rate filings, it is my opinion that the provision for the net cost of reinsurance in the filing, at both the statewide and territory levels, is reasonable and appropriate.

Q. Does that conclude your testimony?

A. Yes.

North Carolina Rate Bureau
Support for Selected Reinsurance Structure

	All Perils Dwelling Only 50/50 Blend			
	1,000	4,260	Over the Top	
	500	3,366		
231	250	2,543		**2.44B**
122	200	2,273	**840M xs 1.60B**	**1.60B**
60	100	1,583	**450M xs 1.15B**	**1.15B**
30	50	1,059	**430M xs 720M**	**720M**
	25	635	**320M xs 400M**	
15	20	521		**400M**
	15	395	**220M xs 180M**	
8	10	249		**180M**
	5	84	Retention	
	AAL	129		
	STDV	375		

in $Millions

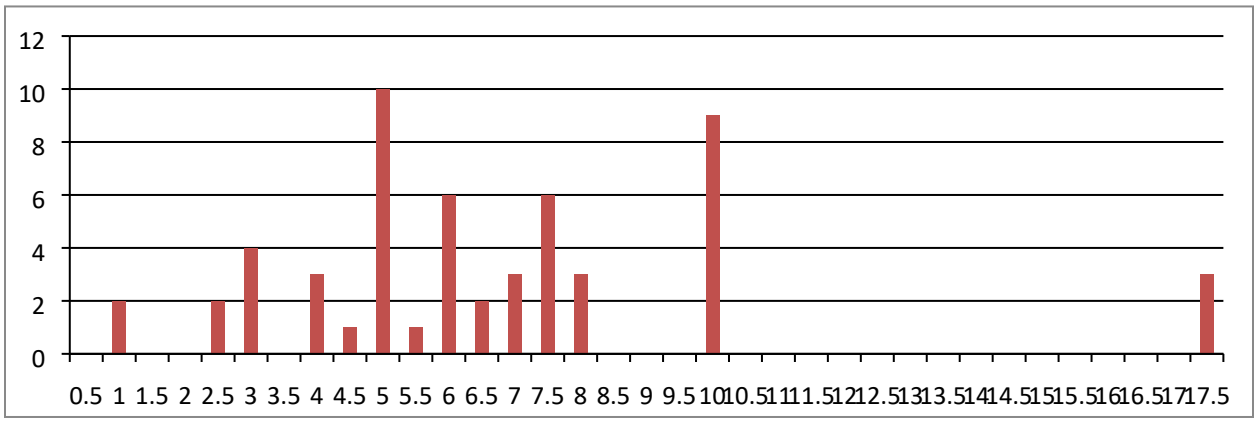
The table above shows the trended PML curve with Catastrophe LAE for the North Carolina Rate Bureau portfolio, along with the selected reinsurance program.

North Carolina Rate Bureau
Support for Selected Reinsurance Rates-On-Line

Reinsurance Layer	Technical Pricing	Loss-On-Line	Straight Average	Selected
840M xs 1.60B	3.22	3.16	3.19	3.19
450M xs 1.15B	4.48	4.66	4.57	4.57
430M xs 720M	6.26	6.53	6.39	6.39
320M xs 400M	9.82	9.49	9.65	9.65
220M xs 180M	17.22	14.05	15.65	15.11

The table above shows indicated rates-on-line for the filing's reinsurance structure. We have selected a straight average of the more rigorous Technical Pricing approach and the more current Loss-On-Line approach except for the bottom layer where we assigned 2/3 weight to the lower Loss-On-Line estimate.

North Carolina Rate Bureau
Support for Selected Catastrophe LAE Factor



This chart shows Catastrophe LAE factors applied to modeled catastrophe event losses in AM Best SRQ Submissions by Aon Benfield clients in 2016.

- Factors were rounded to the nearest 0.5
- A weighted average was used where factors varied by peril
- Multiple factors were counted where factors varied by company within a group
- Reflects all clients that included a provision for LAE

The mean factor is 6.8, the median is 6.0, and the mode is 5.0.

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
220M xs 180M

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Internal Correlated Std Dev	External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		96.84%	95.38%	99.01%	100.00%	96.06%	34,299,721	16,640,351	17,659,370
HU	110	22.83%	22.27%	20.80%	26.95%	22.47%	8,024,914	3,923,406	4,101,508
HU	120	25.98%	25.82%	28.22%	24.23%	25.93%	9,259,448	4,464,260	4,795,187
HU	130	2.30%	2.25%	2.16%	2.68%	2.27%	812,033	395,745	416,287
HU	140	17.94%	17.75%	18.87%	16.05%	17.73%	6,330,389	3,082,378	3,248,011
HU	150	4.37%	4.29%	4.22%	4.45%	4.30%	1,533,677	750,769	782,908
HU	160	5.15%	5.16%	5.89%	4.56%	5.18%	1,850,742	884,177	966,565
HU	170	0.17%	0.16%	0.15%	0.20%	0.17%	59,339	29,204	30,135
HU	180	2.54%	2.52%	2.63%	2.50%	2.53%	903,741	436,885	466,856
HU	190	1.25%	1.25%	1.39%	1.16%	1.26%	448,794	214,849	233,945
HU	200	0.83%	0.83%	0.95%	0.85%	0.85%	302,285	143,373	158,912
HU	210	0.55%	0.54%	0.56%	0.56%	0.55%	195,103	94,203	100,900
HU	220	2.49%	2.46%	2.83%	2.73%	2.52%	898,749	427,668	471,081
HU	230	1.41%	1.39%	1.53%	1.55%	1.41%	504,810	242,699	262,111
HU	240	1.45%	1.43%	1.48%	1.54%	1.44%	513,531	248,871	264,659
HU	250	0.96%	0.94%	1.05%	1.11%	0.96%	344,053	164,978	179,075
HU	260	0.32%	0.31%	0.30%	0.35%	0.31%	110,459	54,446	56,013
HU	270	1.62%	1.58%	1.71%	1.80%	1.61%	574,012	278,079	295,933
HU	280	0.26%	0.25%	0.26%	0.30%	0.25%	90,245	44,163	46,082
HU	290	0.41%	0.40%	0.45%	0.50%	0.41%	147,678	70,978	76,701
HU	300	0.27%	0.26%	0.27%	0.36%	0.27%	95,631	46,466	49,165
HU	310	1.12%	1.07%	1.11%	1.41%	1.10%	391,778	191,928	199,850
HU	320	0.59%	0.56%	0.57%	0.82%	0.58%	207,666	101,861	105,805
HU	330	0.03%	0.03%	0.03%	0.04%	0.03%	11,385	5,660	5,725
HU	340	1.25%	1.17%	1.06%	1.89%	1.21%	433,784	214,203	219,581
HU	350	0.33%	0.30%	0.24%	0.57%	0.31%	112,063	56,231	55,832
HU	360	0.37%	0.33%	0.25%	0.69%	0.35%	123,826	62,828	60,998
HU	370	0.02%	0.01%	0.01%	0.03%	0.01%	5,334	2,764	2,570
HU	380	0.03%	0.02%	0.01%	0.07%	0.02%	8,412	4,315	4,097
HU	390	0.02%	0.01%	0.01%	0.05%	0.02%	5,841	2,962	2,879
OW Total		2.89%	4.30%	0.78%	0.00%	3.66%	1,305,901	497,034	808,867
WT Total		0.27%	0.32%	0.21%	0.00%	0.28%	101,502	46,354	55,148
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	35,707,125	17,183,739	18,523,385

1. Weights applied to each distribution:

83.38%	9.33%	7.29%

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
220M xs 180M

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Allocation Weight Based on: Internal Correlated Std Dev	Allocation Weight Based on: External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		96.84%	95.38%	99.01%	100.00%	96.06%	34,299,721	16,640,351	17,659,370
OW Total		2.89%	4.30%	0.78%	0.00%	3.66%	1,305,901	497,034	808,867
OW	110	0.23%	0.32%	0.11%	0.00%	0.28%	100,268	39,742	60,526
OW	120	0.17%	0.26%	0.05%	0.00%	0.22%	79,961	29,881	50,080
OW	130	0.01%	0.02%	0.00%	0.00%	0.02%	6,093	1,842	4,251
OW	140	0.19%	0.29%	0.06%	0.00%	0.25%	87,993	33,351	54,642
OW	150	0.13%	0.19%	0.02%	0.00%	0.16%	56,699	22,688	34,012
OW	160	0.18%	0.24%	0.11%	0.00%	0.21%	76,119	30,160	45,959
OW	170	0.00%	0.01%	0.00%	0.00%	0.00%	1,666	473	1,192
OW	180	0.09%	0.14%	0.02%	0.00%	0.12%	41,564	16,093	25,471
OW	190	0.02%	0.03%	0.00%	0.00%	0.02%	8,232	2,676	5,556
OW	200	0.01%	0.01%	0.00%	0.00%	0.01%	4,007	1,144	2,863
OW	210	0.02%	0.03%	0.00%	0.00%	0.02%	8,112	2,748	5,363
OW	220	0.28%	0.39%	0.09%	0.00%	0.34%	119,790	48,017	71,774
OW	230	0.02%	0.04%	0.00%	0.00%	0.04%	12,765	4,156	8,609
OW	240	0.04%	0.07%	0.01%	0.00%	0.06%	20,480	6,486	13,994
OW	250	0.09%	0.14%	0.03%	0.00%	0.12%	41,517	16,135	25,382
OW	260	0.01%	0.02%	0.00%	0.00%	0.02%	6,398	1,992	4,406
OW	270	0.19%	0.29%	0.04%	0.00%	0.25%	88,714	33,181	55,533
OW	280	0.03%	0.04%	0.00%	0.00%	0.04%	13,159	4,648	8,510
OW	290	0.04%	0.06%	0.01%	0.00%	0.05%	17,628	6,345	11,283
OW	300	0.01%	0.02%	0.00%	0.00%	0.02%	6,830	2,025	4,805
OW	310	0.25%	0.38%	0.05%	0.00%	0.32%	113,170	42,443	70,726
OW	320	0.10%	0.16%	0.02%	0.00%	0.13%	47,860	17,055	30,805
OW	330	0.00%	0.01%	0.00%	0.00%	0.00%	1,628	519	1,109
OW	340	0.44%	0.64%	0.10%	0.00%	0.54%	193,042	75,940	117,101
OW	350	0.09%	0.14%	0.02%	0.00%	0.12%	42,561	15,453	27,108
OW	360	0.21%	0.31%	0.04%	0.00%	0.26%	94,011	36,732	57,279
OW	370	0.00%	0.01%	0.00%	0.00%	0.01%	2,415	714	1,701
OW	380	0.01%	0.02%	0.00%	0.00%	0.02%	7,106	2,326	4,780
OW	390	0.01%	0.02%	0.00%	0.00%	0.02%	6,114	2,069	4,045
WT Total		0.27%	0.32%	0.21%	0.00%	0.28%	101,502	46,354	55,148
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	35,707,125	17,183,739	18,523,385

1. Weights applied to each distribution:

83.38%	9.33%	7.29%

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
320M xs 400M

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Allocation Weight Based on: Internal Correlated Std Dev	Allocation Weight Based on: External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		99.10%	98.74%	99.58%	100.00%	99.02%	31,741,616	12,434,042	19,307,575
HU	110	20.06%	19.74%	18.89%	23.91%	20.06%	6,429,184	2,516,780	3,912,404
HU	120	28.05%	28.15%	29.48%	26.09%	28.15%	9,022,876	3,519,547	5,503,330
HU	130	2.11%	2.07%	2.03%	2.50%	2.11%	677,692	264,423	413,269
HU	140	19.39%	19.38%	19.61%	17.17%	19.17%	6,145,684	2,432,489	3,713,195
HU	150	4.33%	4.29%	4.16%	4.54%	4.29%	1,376,170	543,598	832,572
HU	160	5.69%	5.78%	6.23%	5.03%	5.78%	1,851,526	713,784	1,137,742
HU	170	0.16%	0.16%	0.15%	0.20%	0.16%	51,949	20,642	31,307
HU	180	2.68%	2.69%	2.66%	2.62%	2.68%	858,856	335,975	522,880
HU	190	1.37%	1.39%	1.44%	1.26%	1.38%	442,726	171,539	271,187
HU	200	0.91%	0.93%	0.97%	0.89%	0.93%	298,555	114,439	184,116
HU	210	0.58%	0.58%	0.57%	0.59%	0.58%	186,910	73,083	113,827
HU	220	2.77%	2.79%	2.93%	2.84%	2.82%	903,314	347,063	556,251
HU	230	1.56%	1.55%	1.57%	1.58%	1.56%	499,518	195,167	304,352
HU	240	1.55%	1.55%	1.50%	1.60%	1.54%	495,037	194,749	300,288
HU	250	1.05%	1.05%	1.08%	1.13%	1.06%	341,395	132,363	209,033
HU	260	0.34%	0.33%	0.30%	0.36%	0.33%	105,610	42,593	63,016
HU	270	1.79%	1.77%	1.75%	1.89%	1.78%	570,449	224,373	346,076
HU	280	0.29%	0.28%	0.27%	0.31%	0.28%	89,813	35,829	53,983
HU	290	0.45%	0.45%	0.46%	0.50%	0.46%	146,760	56,984	89,776
HU	300	0.28%	0.27%	0.27%	0.34%	0.28%	89,990	35,206	54,783
HU	310	1.21%	1.17%	1.15%	1.38%	1.19%	381,642	151,509	230,133
HU	320	0.61%	0.59%	0.58%	0.75%	0.60%	193,645	76,673	116,973
HU	330	0.03%	0.03%	0.03%	0.04%	0.03%	10,417	4,231	6,186
HU	340	1.18%	1.13%	1.03%	1.57%	1.16%	371,765	148,008	223,758
HU	350	0.29%	0.27%	0.22%	0.41%	0.28%	88,892	36,391	52,501
HU	360	0.33%	0.30%	0.24%	0.43%	0.30%	97,704	40,809	56,895
HU	370	0.01%	0.01%	0.01%	0.02%	0.01%	4,174	1,807	2,367
HU	380	0.02%	0.02%	0.01%	0.03%	0.02%	5,710	2,431	3,278
HU	390	0.01%	0.01%	0.01%	0.02%	0.01%	3,654	1,556	2,098
OW Total		0.81%	1.15%	0.32%	0.00%	0.88%	282,217	101,562	180,655
WT Total		0.09%	0.12%	0.10%	0.00%	0.10%	32,729	11,379	21,350
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	32,056,562	12,546,982	19,509,580

1. Weights applied to each distribution:

72.16%	16.82%	11.03%

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
430M xs 720M

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Internal Correlated Std Dev	External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		99.70%	99.60%	99.88%	100.00%	99.73%	27,950,153	8,690,653	19,259,500
HU	110	17.25%	16.87%	17.13%	21.25%	17.60%	4,931,799	1,503,318	3,428,480
HU	120	29.92%	30.04%	30.71%	27.88%	29.90%	8,378,596	2,608,464	5,770,131
HU	130	1.87%	1.83%	1.87%	2.30%	1.91%	535,235	162,574	372,661
HU	140	20.54%	20.62%	20.29%	18.26%	20.18%	5,654,449	1,790,386	3,864,064
HU	150	4.10%	4.07%	4.01%	4.43%	4.11%	1,150,759	357,648	793,111
HU	160	6.07%	6.22%	6.51%	5.40%	6.18%	1,730,915	529,164	1,201,751
HU	170	0.15%	0.15%	0.14%	0.19%	0.15%	42,597	13,356	29,240
HU	180	2.71%	2.73%	2.68%	2.70%	2.71%	759,931	236,246	523,685
HU	190	1.44%	1.46%	1.48%	1.33%	1.45%	405,462	125,215	280,247
HU	200	0.96%	0.98%	0.99%	0.92%	0.98%	273,500	84,016	189,484
HU	210	0.59%	0.60%	0.58%	0.61%	0.59%	166,327	51,699	114,628
HU	220	2.95%	3.00%	3.01%	2.91%	2.99%	837,985	257,382	580,603
HU	230	1.64%	1.65%	1.59%	1.59%	1.62%	455,249	142,897	312,352
HU	240	1.59%	1.59%	1.52%	1.63%	1.57%	441,233	138,605	302,628
HU	250	1.11%	1.12%	1.09%	1.13%	1.11%	311,661	96,543	215,118
HU	260	0.34%	0.34%	0.30%	0.36%	0.33%	92,824	30,039	62,786
HU	270	1.88%	1.87%	1.78%	1.94%	1.86%	520,127	163,607	356,520
HU	280	0.30%	0.30%	0.27%	0.31%	0.29%	81,921	26,287	55,634
HU	290	0.48%	0.48%	0.47%	0.50%	0.48%	134,030	41,530	92,500
HU	300	0.28%	0.27%	0.27%	0.31%	0.28%	77,642	23,992	53,650
HU	310	1.25%	1.22%	1.15%	1.34%	1.22%	342,550	108,575	233,975
HU	320	0.60%	0.59%	0.57%	0.68%	0.60%	168,087	52,645	115,442
HU	330	0.03%	0.03%	0.03%	0.04%	0.03%	8,802	2,866	5,936
HU	340	1.07%	1.04%	0.98%	1.29%	1.06%	297,474	93,185	204,288
HU	350	0.25%	0.23%	0.20%	0.30%	0.24%	66,218	21,646	44,572
HU	360	0.29%	0.27%	0.22%	0.34%	0.27%	75,122	25,370	49,752
HU	370	0.01%	0.01%	0.01%	0.01%	0.01%	3,258	1,148	2,110
HU	380	0.02%	0.01%	0.01%	0.02%	0.01%	4,058	1,419	2,639
HU	390	0.01%	0.01%	0.01%	0.01%	0.01%	2,344	831	1,514
OW Total		0.28%	0.37%	0.10%	0.00%	0.24%	67,736	24,138	43,598
WT Total		0.02%	0.03%	0.02%	0.00%	0.02%	6,866	1,978	4,889
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	28,024,755	8,716,768	19,307,987

1. Weights applied to each distribution:

58.45%	26.53%	15.02%

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
450M xs 1.15B

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Internal Correlated Std Dev	External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		99.98%	99.97%	99.99%	100.00%	99.98%	20,788,998	5,041,067	15,747,931
HU	110	14.60%	14.05%	15.22%	19.03%	15.37%	3,196,876	736,319	2,460,557
HU	120	31.37%	31.53%	31.66%	29.23%	31.16%	6,479,680	1,581,900	4,897,780
HU	130	1.65%	1.60%	1.72%	2.11%	1.74%	361,056	83,134	277,922
HU	140	21.44%	21.68%	20.93%	19.18%	20.95%	4,356,987	1,081,244	3,275,743
HU	150	3.86%	3.84%	3.86%	4.22%	3.91%	813,835	194,421	619,414
HU	160	6.39%	6.62%	6.77%	5.66%	6.50%	1,351,282	322,448	1,028,834
HU	170	0.14%	0.13%	0.13%	0.17%	0.14%	29,272	7,032	22,239
HU	180	2.70%	2.73%	2.69%	2.68%	2.70%	561,955	135,937	426,019
HU	190	1.49%	1.53%	1.51%	1.36%	1.49%	310,264	75,039	235,225
HU	200	1.00%	1.02%	1.01%	0.93%	1.00%	207,828	50,574	157,254
HU	210	0.60%	0.60%	0.59%	0.60%	0.60%	124,022	30,031	93,991
HU	220	3.13%	3.17%	3.12%	2.97%	3.12%	647,858	157,596	490,262
HU	230	1.73%	1.73%	1.64%	1.62%	1.68%	349,150	87,313	261,836
HU	240	1.61%	1.61%	1.54%	1.61%	1.59%	329,656	81,194	248,462
HU	250	1.18%	1.18%	1.14%	1.15%	1.16%	240,717	59,265	181,452
HU	260	0.35%	0.34%	0.31%	0.36%	0.33%	69,336	17,670	51,666
HU	270	1.97%	1.96%	1.85%	1.96%	1.92%	399,630	99,176	300,454
HU	280	0.32%	0.32%	0.28%	0.32%	0.31%	63,616	16,242	47,374
HU	290	0.51%	0.51%	0.49%	0.52%	0.50%	104,394	25,737	78,657
HU	300	0.29%	0.28%	0.28%	0.31%	0.29%	59,506	14,586	44,920
HU	310	1.33%	1.30%	1.20%	1.39%	1.28%	266,457	67,010	199,447
HU	320	0.64%	0.63%	0.60%	0.69%	0.63%	130,370	32,283	98,087
HU	330	0.03%	0.03%	0.03%	0.04%	0.03%	6,736	1,749	4,988
HU	340	1.09%	1.06%	0.99%	1.25%	1.07%	221,839	54,993	166,846
HU	350	0.24%	0.22%	0.19%	0.27%	0.22%	46,201	11,915	34,286
HU	360	0.29%	0.27%	0.21%	0.32%	0.26%	53,988	14,465	39,523
HU	370	0.01%	0.01%	0.01%	0.01%	0.01%	2,425	677	1,748
HU	380	0.01%	0.01%	0.01%	0.02%	0.01%	2,658	730	1,928
HU	390	0.01%	0.01%	0.01%	0.01%	0.01%	1,401	386	1,016
OW Total		0.02%	0.03%	0.01%	0.00%	0.02%	3,591	1,152	2,439
WT Total		0.00%	0.00%	0.00%	0.00%	0.00%	313	82	231
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	20,792,902	5,042,300	15,750,602

1. Weights applied to each distribution:

45.53%	36.44%	18.03%

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0
840M xs 1.6B

Peril	Territory	Modeled Expected Losses	Allocation Weight Based on: Weighted Expected Losses	Allocation Weight Based on: Internal Correlated Std Dev	Allocation Weight Based on: External Correlated Std Dev	Weighted Average[1]	Allocated Premium	Expected Recoveries	Allocated Margin
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HU Total		100.00%	100.00%	100.00%	100.00%	100.00%	26,948,340	4,816,603	22,131,737
HU	110	11.61%	10.95%	13.11%	17.24%	13.27%	3,575,056	559,332	3,015,724
HU	120	32.77%	32.92%	32.55%	29.97%	32.15%	8,663,231	1,578,177	7,085,054
HU	130	1.41%	1.35%	1.56%	1.96%	1.57%	424,250	68,094	356,156
HU	140	22.52%	22.82%	21.84%	20.11%	21.80%	5,874,578	1,084,713	4,789,865
HU	150	3.54%	3.52%	3.69%	4.01%	3.70%	997,090	170,662	826,427
HU	160	6.80%	7.04%	7.04%	6.00%	6.83%	1,840,715	327,541	1,513,174
HU	170	0.12%	0.12%	0.13%	0.15%	0.13%	34,655	5,871	28,784
HU	180	2.65%	2.68%	2.67%	2.64%	2.67%	719,616	127,547	592,068
HU	190	1.55%	1.59%	1.56%	1.41%	1.54%	414,188	74,543	339,645
HU	200	1.04%	1.07%	1.02%	0.90%	1.01%	272,965	50,262	222,703
HU	210	0.59%	0.59%	0.59%	0.59%	0.59%	159,340	28,369	130,971
HU	220	3.34%	3.38%	3.25%	3.05%	3.25%	876,030	161,087	714,943
HU	230	1.80%	1.82%	1.68%	1.59%	1.70%	459,224	86,710	372,514
HU	240	1.61%	1.62%	1.55%	1.57%	1.58%	424,869	77,592	347,277
HU	250	1.24%	1.24%	1.17%	1.17%	1.19%	321,315	59,874	261,441
HU	260	0.35%	0.34%	0.31%	0.35%	0.33%	88,847	16,884	71,963
HU	270	2.05%	2.05%	1.91%	2.00%	1.97%	530,829	98,668	432,161
HU	280	0.34%	0.33%	0.29%	0.34%	0.31%	84,628	16,298	68,330
HU	290	0.54%	0.53%	0.50%	0.54%	0.52%	139,613	26,118	113,495
HU	300	0.30%	0.30%	0.28%	0.31%	0.29%	78,653	14,613	64,040
HU	310	1.40%	1.37%	1.22%	1.46%	1.31%	353,860	67,306	286,555
HU	320	0.69%	0.67%	0.61%	0.72%	0.65%	175,519	33,032	142,487
HU	330	0.04%	0.04%	0.03%	0.04%	0.03%	9,012	1,756	7,256
HU	340	1.12%	1.10%	0.99%	1.21%	1.07%	288,295	53,867	234,428
HU	350	0.24%	0.23%	0.20%	0.27%	0.22%	60,376	11,541	48,835
HU	360	0.30%	0.29%	0.23%	0.34%	0.27%	72,574	14,313	58,261
HU	370	0.01%	0.01%	0.01%	0.02%	0.01%	3,335	676	2,659
HU	380	0.02%	0.01%	0.01%	0.02%	0.01%	3,664	739	2,925
HU	390	0.01%	0.01%	0.01%	0.01%	0.01%	2,014	418	1,596
Grand Total		100.00%	100.00%	100.00%	100.00%	100.00%	26,948,340	4,816,603	22,131,737

1. Weights applied to each distribution:

31.23%	48.64%	20.13%	

North Carolina Rate Bureau
Reinsurance Cost Allocation
CY 2018
Dwelling
AIR v5.0 / RMS v17.0

Territory	Reinsurance Margin
110	17,046,782
120	28,114,726
130	1,841,752
140	18,951,423
150	3,893,473
160	5,930,132
170	143,251
180	2,560,053
190	1,366,594
200	915,861
210	560,785
220	2,924,701
230	1,522,918
240	1,480,526
250	1,077,820
260	311,073
270	1,795,891
280	282,015
290	465,168
300	273,175
310	1,242,927
320	622,194
330	31,956
340	1,203,598
350	276,352
360	338,335
370	13,945
380	21,387
390	14,477
Total	95,223,290

PREFILED TESTIMONY
OF
PAUL D. ANDERSON

2018 DWELLING INSURANCE FILING BY THE NORTH CAROLINA RATE BUREAU

Q. Please state your name and business address.

A. My name is Paul D. Anderson. My business address is 15800 West Bluemound Road, Brookfield, WI 53005.

Q. By whom are you employed?

A. I am employed by Milliman, Inc. (Milliman) and have been employed by Milliman since February 1, 2007.

Q. What is your educational background?

A. I received a Bachelor of Science in Actuarial Science from Drake University in Des Moines, Iowa in 1993.

Q. Do you have any additional certifications or qualifications?

A. Yes. I have been a Fellow of the Casualty Actuarial Society since 2002. Since then, I have participated on several committees of the organization. I was on the Examination Committee of the Casualty Actuarial Society between 2004 and 2006. I served on the Volunteer Support Task Force from February 2012 until April 2013. I have been a member of the Volunteer Resources Committee since April 2013 and a member of the Vehicle Technology and Impact on Loss Trends Planning Committee since October 2017. I have also been a member of the American Academy of Actuaries since 2002, and meet all of the continuing education requirements of that organization as well as those of the Casualty Actuarial Society.

Q. What is your employment background?

A. I was employed by Allstate Insurance Company from June 1993 until January 2007. While at Allstate, I held various actuarial roles. I began my career as an Auto Pricing Analyst and over time, I assumed increasing responsibility in various departments that included Property Pricing, Auto Pricing, Property Research, and Auto Research. On the pricing teams, I assisted in developing rates for property and auto insurance products in most states across the country. On the research teams, I assisted in developing new property and auto risk classification plans to be implemented by Allstate's pricing teams. From 2006 until January 2007, I

served as a Senior Manager for Allstate's Eastern region, which included assisting in the oversight of the pricing strategies for approximately half the country, including North Carolina.

In February 2007 I began my career at Milliman. Since 2007 I have completed, managed, or overseen numerous property and auto pricing analyses for a variety of clients. My clients have included small single-state insurance companies, industry-leading national insurance companies, government entities, the North Carolina Rate Bureau, and other entities with similar coastal property exposure in states such as Florida, Hawaii, and Texas. These client assignments have included such projects as pricing analyses to evaluate overall rate adequacy, predictive modeling assignments to develop new risk classification plans, and analyses of catastrophe losses to evaluate the adequacy and allocation of property premiums corresponding to catastrophe risk.

Q. What is Milliman?

A. Milliman is among the world's largest independent actuarial and consulting firms. Milliman was founded in Seattle in 1947 as Milliman & Robertson and today has offices in principal cities worldwide, covering markets in North America, Latin America, Europe, Asia and the Pacific, the Middle East, and Africa. Milliman employs more than 3,400 people, including actuaries and specialists ranging from clinicians to economists. The firm has consulting practices in employee benefits, financial services, healthcare, life insurance, and property and casualty insurance. Milliman serves the full spectrum of business, education, financial, governmental, union, and nonprofit organizations.

Q. What are your current responsibilities at Milliman?

A. I am responsible for managing and overseeing the personal lines and insurance-related predictive analytics portion of Milliman's Milwaukee Casualty practice. The personal lines and predictive analytics team conducts a variety of property and auto pricing and predictive modeling assignments, primarily for insurance companies. Over the last four years, we have completed property analyses for nearly every state in the country, including North Carolina.

Q. Were you engaged to provide actuarial services to the North Carolina Rate Bureau (the Rate Bureau) in relation to its 2018 dwelling rate filing?

A. Yes, I was.

Q. What was the scope of that engagement?

A. Milliman was engaged for several aspects of the 2018 dwelling rate filing. Dr. David Appel of Milliman's New York office was engaged to review the Underwriting Profit provision, the Net Cost of Reinsurance provision, and the Compensation for

Assessment Risk provision in this filing. My role was to conduct an independent review and provide feedback on the actuarial analyses underlying the filing. In this role, I participated in many of the discussions in which ISO presented preliminary data to the Rate Bureau. In addition, my role also included participating in the Rate Bureau's Property Rating Subcommittee meetings in which the 2018 dwelling filing was discussed. During these discussions, I offered feedback and insights to assist in the subcommittee's selections and decisions related to this filing.

Q. Is your firm being compensated for this engagement?

A. Yes, it is.

Q. Is that compensation in any way contingent on the provision of favorable testimony in support of the proposed filing?

A. No, it is not.

Q. Have you completed your review of the 2018 dwelling rate 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 hindered your complete review?

A. No, I was provided all the data and information that were necessary and I had adequate time for a complete review. My review was not limited in any way.

Q. What is the overall indicated change in dwelling rates in this filing?

A. This filing shows the need for an overall 38.9% statewide average rate increase. This includes a -20.8% change to fire rates and a 71.3% change to extended coverage rates.

Q. Please describe the overall ratemaking methodology that underlies the filing.

A. The approach in this filing is generally consistent with prior dwelling filings submitted by the Rate Bureau. Consistent with the *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* as published by the Casualty Actuarial Society, the indicated rates reflect the expected costs associated with insuring dwelling policies. These expected costs include claims, claim settlement expenses, operational and administrative expenses, and the cost of capital.

The statewide rate-level indications for dwelling policies are developed based on a loss cost methodology (instead of a loss ratio methodology). The indicated rate-level change is calculated for each segment by comparing the required base rate

per policy to the current base rate. The required base rate per policy is calculated by first projecting the losses and loss adjustment expenses for the policy period for which the filed rates are expected to be in effect. For extended coverage, losses are projected excluding historical hurricane losses. In addition to the exclusion of hurricane losses, the projected losses for extended coverage are adjusted to remove excess wind losses and an excess factor is applied based on an average of the excess wind losses over more than 55 years of historical experience. Base class loss costs are calculated by dividing the adjusted incurred losses and loss adjustment expenses for each historical accident year by the corresponding earned house years and average rating factors. The base class loss costs by year are weighted together to develop a weighted trended base class loss cost. For the extended coverage portion of the filing, a modeled base class loss cost is also developed and added to the weighted trended base class loss cost to determine the total base class loss cost.

Following the development of the base class loss cost, a per-policy fixed expense provision and other expected underwriting expenses associated with issuing dwelling insurance policies are incorporated to determine the required base rate per policy. These expected underwriting expenses include provisions for underwriting profit, contingencies, dividends, compensation for assessment risk, the net reinsurance cost per policy, and deviations. As mentioned above, the required base rate per policy is compared to the current average base rate to develop the overall statewide indicated rate-level change. This comparison of the required and current base rates is consistent with the *Statement of Principles* referenced above, is commonly used throughout the industry, and as such, is an actuarially sound method of developing an indicated rate-level change.

Q. Are there any changes in the ratemaking methodology compared to prior filings?

A. This filing is very similar to the 2016 dwelling filing, which was withdrawn due to some data reporting problems. Although this filing is generally consistent with filings prior to the 2016 dwelling filing, there are several components of this filing that rely on different approaches as compared to those prior dwelling filings. These revised approaches, which will be discussed in more detail later, include the retention of Aon Benfield to blend two hurricane models to derive the provisions related to expected hurricane losses and to calculate the net cost of reinsurance. These changes impact the modeled base class loss cost, the compensation for assessment risk per policy, and the net cost of reinsurance per policy.

Q. How are the expected losses determined?

A. This filing uses five years of historical loss experience including accident years ending December 31, 2011 through December 31, 2015 to determine expected losses other than hurricane losses. Using five years of experience is consistent with North Carolina statutes and prior dwelling fire and extended coverage rate

filings. It is also consistent with generally accepted ratemaking practices because the use of five years of historical experience balances stability of the overall rate level with responsiveness to the most recent conditions. Because severe weather-related events can cause volatility in the loss experience, hurricane losses and excess wind losses (for extended coverage only) have been removed from the base loss experience. Each of the five years of losses have been developed to ultimate amounts and have been adjusted to a common $500 deductible level. Losses are developed to ultimate because the final incurred losses for an accident year are often different than initial loss estimates due to late-reporting claims or as yet unknown settlement amounts on known claims.

After these initial adjustments, a provision for excess wind losses is applied to each accident year for extended coverage, and a provision for loss adjustment expenses is applied to each accident year for all dwelling forms. The excess loss factor of 1.055 for the extended coverage section of the filing is determined using ISO's standard excess wind procedure. This procedure evaluates historical non-hurricane wind experience back to 1950 to develop a ratio of the long-term average excess loss ratio to the long-term average normal loss ratio.

Following these additional adjustments, in order to reflect the expected change in costs, the losses are trended from the midpoint of each experience period to the midpoint of the trend period. Similar to prior dwelling filings, external trend information is considered to select the loss trends. In reviewing external trends, the Corelogic Residential Index (formerly the Boeckh Residential Index) and the Modified Consumer Price Index are averaged together using an appropriate weight on each to develop the Current Cost Index. The weights used to combine the Corelogic Residential Index and the Modified Consumer Price Index are being updated in this filing based on the distribution of losses for Buildings and Contents supporting this filing. The Current Cost Index for each year is compared to the Current Cost Index for the trend period to determine Current Cost Factors for each accident year.

In addition to reflecting a loss trend, a premium trend is also determined by calculating Current Amount Factors for each accident year. The Current Amount Factors are developed by comparing the Average Policy Size Relativity for each year to the comparable relativity for the trend period. The ratio of the Current Cost Factor and the Current Amount Factor is calculated for each year in order to apply a net trend (i.e., the net difference between the loss trend and premium trend) to each year's adjusted incurred losses.

In my opinion, all of the selections referenced above, including the excess loss factor, the loss adjustment expense factors, the loss trend factors, and the premium trend factors, are reasonable and actuarially sound.

After adjusting the losses for each of the items mentioned above, each year's trended losses and loss adjustment expenses are divided by the earned house

years to determine the average trended loss cost. The average trended loss costs are multiplied by a Composite Projection Factor, which reflects the combined impact of a loss projection factor and premium projection factor. This Composite Projection Factor adjusts the loss costs to the policy period for which the filed rates are expected to be in effect. Those loss costs are converted to Trended Base Class Loss Costs by dividing by the Average Rating Factor applicable to each accident year. Finally, these base loss costs are weighted together to develop a Weighted Trended Base Loss Cost. The weights applied to each accident year differ between fire and extended coverage because there tends to be more variation in the extended coverage loss costs as compared to the fire loss costs. As a result, to avoid giving too much weight to an unusually high or low loss cost, an even distribution of weights is applied to the historical experience for extended coverage. In contrast to this, a distribution that assigns more weight to the more recent years is used for fire, since that segment typically has more stable base loss costs.

When trending losses and premiums in the rate-level indications supporting this filing, an assumed effective date is used. Much of the work for this rate review was done last year, and the assumed effective date underlying that work and continuing to underlie the calculations in this filing is June 1, 2018. For various reasons, including a recent delay to incorporate the new corporate tax law, the actual requested effective date in this filing is October 1, 2018.

In my opinion, the methodology used to develop average loss costs and the weights assigned to each of the dwelling policy forms are reasonable and are consistent with widely-used actuarial ratemaking practices.

Q. In the previous response, you mentioned a loss adjustment expense provision. How are the dwelling provisions for loss adjustment expense determined?

A. The allocated and unallocated loss adjustment expenses are included with non-hurricane losses by applying a trended loss adjustment expense factor. Using information received from the Rate Bureau's data call for expense experience, loss adjustment expenses are summarized for calendar years 2011 through 2015. Consistent with the prior dwelling filing, a three-year average is calculated after removing the highest and lowest ratio of expenses to losses. By excluding the highest and lowest ratios observed in the historical experience period, this methodology reduces the volatility in the average loss adjustment expense ratio that may result from variation in the underlying incurred losses from year to year. After the average loss adjustment expense ratio is calculated, it is adjusted to reflect the difference in the loss adjustment expense trend and the loss trend.

A separate provision for hurricane-related loss adjustment expenses is included in the modeled hurricane losses based on data and a recommendation provided by Aon Benfield.

Q. In your opinion, are the provisions for loss adjustment expenses reasonable?

A. Yes, the loss adjustment expense provisions are reasonable. It is common practice in the industry to use an average of historical experience to determine a loss adjustment expense provision, and it is reasonable to adjust that provision for expected differences in the loss adjustment expense trend and the loss trend.

Q. Is credibility considered in the rate-level indication?

A. Yes, credibility is considered. At the statewide level, based on the volume of data supporting the statewide rate-level indications, both fire and extended coverage are considered fully credible. The full credibility standards are 500,000 house years for fire and 330,000 house years for extended coverage. When the territorial rate-level indications are calculated, partial credibility is determined using the square root rule, which is a long-standing actuarial methodology used throughout the industry.

Q. How is hurricane exposure reflected in each policy form's rate-level indication?

A. Similar to the Rate Bureau's prior dwelling filings, this filing reflects hurricane exposure in the extended coverage section of the rate-level indication by using modeled hurricane losses rather than actual hurricane loss experience. Although there are actual hurricane losses in the experience period, the hurricane and excess wind losses have been removed from the base loss experience, as noted in my comments above. Actual hurricane losses have a significant amount of variability even when evaluating twenty or more years of historical loss experience in a state. As such, it is widely accepted by the property and casualty insurance industry that hurricane models provide the most reliable basis of determining anticipated average annual hurricane losses over an extended time period. Hurricane models can be used to simulate 100,000 or more years of events, which provides a broader perspective on potential insured losses as compared to only evaluating the last several decades of losses. This broader perspective provides a more reliable estimate of the average frequency of insured hurricane losses. Similarly, it provides a more reliable estimate of the frequency (and severity) of very rare, but very severe events that may not have occurred within the last 100 years of recorded history, but have the potential to occur during a 100,000 year window of time.

Q. How is the provision for expected hurricane losses different from that in dwelling rate filings prior to 2016?

A. The provision for average annual hurricane losses in this filing differs from the comparable provision in dwelling rate filings prior to 2016 in that expected

hurricane losses were developed through the use of hurricane models of two independent catastrophe modelers as compared to using only one model in those prior filings. It is my understanding that, in all Rate Bureau dwelling filings prior to 2016 containing a provision for modeled hurricane losses, the estimated hurricane losses were developed by AIR Worldwide (or its predecessor). In this filing, in addition to relying on AIR's hurricane model, the Rate Bureau also relied upon hurricane losses derived from the RMS (Risk Management Solutions) hurricane model. To facilitate the use of two hurricane models, the Rate Bureau retained Aon Benfield to run both models and to develop modeled hurricane losses using the blended results of these two models. I reviewed the exposure data provided as input to each model, and it is my opinion that the data was reasonable and consistent with other sections of this filing. I am also familiar with the assumptions selected as inputs to each model, and it is my opinion that the assumptions were applied consistently in both the AIR and RMS models such that the resulting output of both models are comparable. However, because Aon Benfield ran both models, I am relying on the work and opinions of Aon Benfield as it relates to specific details about the modeling process.

The Rate Bureau requested that Aon Benfield combine the results of the two hurricane models by averaging the results from each model. This approach of giving equal weight to each model is intuitive, easy to understand, and the most reasonable method of blending two hurricane models. This blending approach (i.e., averaging) is also a common practice among insurance companies that consider multiple hurricane models. Based on my review of the blended model results, it is my opinion that the resulting hurricane losses reflected in this filing are reasonable and can be relied upon for the various purposes for which modeled hurricane losses are used in this filing. Additionally, since both models are equally credible, it is also my opinion that assigning equal weight to each model is the most reliable blending method and the most actuarially sound manner to consider two hurricane models.

Q. What model versions and modeling assumptions were used to develop estimated hurricane losses?

A. The current AIR model is Touchstone v5.0 and the current RMS model is Risklink v17.0. To develop the expected hurricane losses, Aon Benfield relied on AIR's Standard event set and on RMS' Historical event set. These event sets were used instead of AIR's Warm Sea-Surface Temperature (WSST) event set and RMS' Medium-Term Rate event set. Although many primary insurance companies consider the WSST and Medium-Term Rate events sets when developing indicated rates in states other than North Carolina, the event sets selected for this filing are reasonable and actuarially sound.

Both the AIR and RMS models were run with aggregate demand surge included, which was identified as loss amplification in the RMS model. This standard procedure accounts for the expected additional cost for labor and materials after a

very large hurricane occurs. Historical experience shows that, when major catastrophic events occur, the increased demand for building materials, labor, temporary housing, and other basic necessities can exceed the supply of these same items, which consequently increases their cost. Running models with demand surge is consistent with the Rate Bureau's prior dwelling filing, and is a common practice by insurance companies that develop rates based on modeled hurricane losses. Although the demand surge component of each model was used in this filing, the storm surge component of each model was not used to develop hurricane losses.

Q. Were any other calculations applied to the hurricane losses derived from the models?

A. Yes. Before providing the blended hurricane losses, Aon Benfield trended the modeled hurricane losses and applied a hurricane-specific provision for loss adjustment expense. After Aon Benfield provided the trended modeled hurricane losses (including LAE), ISO calculated a Modeled Base Class Loss Cost for the extended coverage segment. The Modeled Base Class Loss Cost has been adjusted for LAE and trended in a consistent manner as the Weighted Trended Base Class Loss Costs.

Q. How are the provisions for Commission and Brokerage determined?

A. The provisions for Commission and Brokerage are determined based on the three-year average of the ratio of each segment's Commission and Brokerage expense relative to each segment's Written Premium including deviations. Deviations are included in the premium amounts underlying this calculation to be consistent with the actual calculation of Commission and Brokerage amounts paid by individual companies within the industry.

Q. In your opinion, are the provisions for Commission and Brokerage reasonable?

A. Yes, the Commission and Brokerage provisions are reasonable. It is common practice in the industry to use a three-year average to determine a Commission and Brokerage provision.

Q. How are the provisions for Taxes, Licenses, and Fees determined?

A. The provisions for Taxes, Licenses, and Fees are determined based on the three-year average of the ratio of each segment's Taxes, Licenses, and Fees expense relative to each segment's Written Premium including deviations. Deviations are included in the premium amounts underlying this calculation to be consistent with the actual calculation of Taxes, Licenses, and Fees paid by individual companies within the industry.

Q. In your opinion, are the provisions for Taxes, Licenses, and Fees reasonable?

A. Yes, the Taxes, Licenses, and Fees provisions are reasonable. It is common practice in the industry to use a three-year average to determine a Taxes, Licenses, and Fees provision.

Q. How are the provisions for Other Acquisition expense determined?

A. The provisions for Other Acquisition expense are determined based on the three-year average of the ratio of each segment's Other Acquisition expense relative to each segment's Earned Premium excluding deviations.

The three-year average provisions are then trended from the midpoint of the experience period to the midpoint of the trend period based on an expense trend derived from cost indices. Following this, the trended Other Acquisition expense provisions are added to the trended General Expense provisions and applied to the statewide average current base rates (adjusted for premium trend) to develop an average Fixed Expense per Policy for fire and for extended coverage.

Q. In your opinion, are the provisions for Other Acquisition expense reasonable?

A. Yes, the Other Acquisition expense provisions are reasonable. It is common practice in the industry to use a three-year average to determine an Other Acquisition expense provision, and to trend fixed expense provisions to account for inflation.

Q. How are the provisions for General Expense determined?

A. The provisions for General Expense are determined based on the three-year average of the ratio of each segment's General Expense relative to each segment's Earned Premium.

The three-year average provisions are then trended from the midpoint of the experience period to the midpoint of the trend period based on an expense trend derived from cost indices. As noted above, the trended General Expense provisions are added to the trended Other Acquisition expense provisions and applied to the statewide average current base rates (adjusted for premium trend) to develop an average Fixed Expense per policy for fire and for extended coverage.

Q. In your opinion, are the provisions for General Expense reasonable?

A. Yes, the General Expense provisions are reasonable. It is common practice in the industry to use a three-year average to determine a General Expense provision, and to trend fixed expense provisions to account for inflation.

Q. Is a provision for Policyholder Dividends included in the filing?

A. Yes, the Rate Bureau reviewed historical data and developed a provision for expected Policyholder Dividends. The Rate Bureau evaluated five years of historical experience and selected a provision for Policyholder Dividends to be 0.40% based on a five-year average ratio of the total Policyholder Dividends issued by dwelling insurers in North Carolina to the total Direct Written Premium of those same companies.

The Actuarial Standard of Practice (ASOP) No. 29 regarding *Expense Provisions in Property/Casualty Insurance Ratemaking* states the following:

> The *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* of the Casualty Actuarial Society (CAS) classifies policyholder dividends as an expense to operations. When the actuary determines that policyholder dividends are a reasonably expected expense and are associated with the risk transfer, the actuary may include a provision in the rate for the expected amount of policyholder dividends. In making this determination, the actuary should consider the following: the company's dividend payment history, its current dividend policy or practice, whether dividends are related to loss experience, the capitalization of the company, and other considerations affecting the payment of dividends.

As stated in ASOP NO. 29, Policyholder Dividends are classified as an operating expense. In addition to the above excerpt from the *Statement of Principles Regarding Property and Casualty Insurance Ratemaking*, the Statement also articulates that indicated rates should reflect the expected costs associated with issuing dwelling policies, including all operating expenses. As such, since Policyholder Dividends are classified as an operating expenses, it is consistent with the *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* and ASOP No. 29 to include a provision for Policyholder Dividends in the proposed rates reflected in this filing.

Q. In your opinion, is the provision for Policyholder Dividends reasonable?

A. Yes, the Policyholder Dividends provision is reasonable. It is reasonable and actuarially sound to calculate a five-year average ratio to determine a provision for Policyholder Dividends, and to treat this provision in a similar manner as a variable underwriting expense.

By reviewing five years of historical experience to determine a provision for Policyholder Dividends, the Rate Bureau is complying with the *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* by considering the dividend payment history and ensuring that the selected provision is a reasonably expected expense.

Q. Is a Contingency provision included in the filing?

A. Yes, the Rate Bureau is including a 1% Contingency provision in this filing. This is consistent with the prior dwelling rate filings submitted by the Rate Bureau.

In addition to being consistent with the prior Rate Bureau filings, the use of a Contingency provision is common within the property and casualty insurance industry. According the *Actuarial Standard of Practice No. 30: Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking,* "the actuary should include a contingency provision if the assumptions used in the ratemaking process produce cost estimates that are not expected to equal average actual costs, and if this difference cannot be eliminated by changes in other components of the ratemaking process." There are several reasons why expected cost estimates may not be equal to actual costs. Some of these reasons include adverse court decisions, extension of coverage for unforeseen or unintended exposures, regulatory delay or reduction in filed rate changes, and unexpected large losses not sufficiently recognized in the normal ratemaking process. Based on reasons such as those listed above, the Rate Bureau believes a Contingency provision is appropriate and necessary. It is my opinion that a 1% Contingency provision is reasonable, consistent with common actuarial practice, and appropriate based on fundamental actuarial principles.

Q. Are you providing expert testimony concerning the Underwriting Profit provision?

A. No, I am relying on the work and opinions of Dr. Vander Weide and Dr. Appel as to the Underwriting Profit provision. The scope of my analysis and testimony relates to other aspects of the proposed rate filing.

Q. Are you providing expert testimony concerning the Net Cost of Reinsurance provision?

A. No, I am relying on the work and opinion of Aon Benfield as to the Net Cost of Reinsurance provision. The scope of my analysis and testimony relates to other aspects of the proposed rate filing.

It is my understanding that, in Rate Bureau filings prior to the 2016 dwelling rate filing, Dr. Appel developed the Net Cost of Reinsurance provision. With this filing, Aon Benfield was engaged by the Rate Bureau to develop the Net Cost of Reinsurance provision based on their prominence with respect to the reinsurance

industry, their ability to access relevant data and experience from the reinsurance market, and their expertise with catastrophe-related issues.

Q. Are you providing expert testimony concerning the Compensation for Assessment Risk provision?

A. No, although I assisted Dr. Appel with some of the underlying calculations for that provision, I am relying on the work and opinions of Dr. David Appel as to the Compensation for Assessment Risk provision. The scope of my analysis and testimony relates to other aspects of the proposed rate filing.

Q. Is a provision for Deviations included in the filing?

A. No, the Rate Bureau reviewed historical data and considered whether to apply a provision for Deviations, but elected not to include one in this filing.

Q. Does the filing review the rate-level adequacy by class?

A. Yes. With this filing, the Rate Bureau developed indicated rate-level changes by class (i.e., Buildings or Contents) using a similar methodology as the statewide indication. A base loss cost is calculated for each class using the historical loss experience. In addition, a credibility value is assigned to each class based on the number of house years underlying each loss cost. As mentioned above, the full credibility standards are 500,000 house years for the fire section and 330,000 house years for the extended coverage section. Using the credibility for each class, a Credibility-Weighted Base Loss Cost is determined by class. Additional calculations are applied to each class to reflect expenses, dividends, and reinsurance in a similar manner as applied at a statewide level. The result of these calculations is an Indicated Rate Change by class.

In my opinion, the methodology used to develop the indicated rate-level change by class is reasonable and is consistent with widely-used actuarial ratemaking practices.

Q. Does the filing review the rate-level adequacy by territory?

A. Yes. With this filing, the Rate Bureau is proposing to update the territory definitions for dwelling territories to be consistent with the current homeowners territory definitions. Based on the new territory definitions, indicated rate-level changes by territory are calculated using a similar methodology as the statewide indication. A base loss cost is calculated for each territory using the historical loss experience. In addition, a credibility value is assigned to each territory based on the number of house years underlying each loss cost. As mentioned above, the full credibility standards are 500,000 house years for the fire section and 330,000 house years for the extended coverage section. Using the credibility for each territory, a Credibility-Weighted Base Loss Cost is determined by territory. Additional

calculations are applied to each territory to reflect expenses, dividends, and reinsurance in a similar manner as applied at a statewide level. The result of these calculations is an Indicated Rate-Level Change by territory.

In my opinion, the methodology used to develop the indicated rate-level change by territory is reasonable and is consistent with widely-used actuarial ratemaking practices.

Q. Does the filing review the wind exclusion credits and wind mitigation credits?

A. Yes. Based on the indicated rates by territory (for Territories 110 to 160) and by class that are being proposed with this filing, the wind exclusion credits and wind mitigation credits are being updated in a corresponding manner. Using the underlying formula for the statewide rate-level indication, an adjustment is made to the appropriate components of the indication formula to reflect the non-wind losses as a percent of the total losses. The indicated non-wind rate is subtracted from the indicated overall rate to determine the indicated wind exclusion credit for each territory. For those territories where the proposed rate is less than the indicated rate, the wind exclusion credit is similarly reduced such that the resulting non-wind rate remains consistent with the indicated non-wind rate. The wind mitigation credits for Territories 110 to 160 are being revised in a manner proportional to the wind exclusion credits.

In my opinion, the methodology used to develop the revised wind exclusion credits and wind mitigation credits is reasonable and is consistent with widely-used actuarial ratemaking practices.

Q. What is the difference between the <u>indicated</u> rate level and the <u>filed</u> rate level?

A. The indicated rate level is the actuarially sound and correct rate level for each territory, each section, and each class. It determines the indicated rate change by territory that is needed to sufficiently cover the expected losses and expenses while still providing a fair and reasonable profit. The indicated rate level is also the rate level that complies with the statutory requirement that insurance rates not be excessive, inadequate, or unfairly discriminatory.

For extended coverage, the statewide indicated rate-level change is 71.3%. Due to differences by territory in historical loss experience, modeled hurricane losses, and other expenses, the indicated change by territory varies throughout the state. For many of the western territories, the indicated change is less than 71.3%, but for several of the territories closer to the coast, the indicated change is greater than 71.3%. The indicated rate-level change by territory is further divided into an indicated Buildings rate-level change and an indicated Contents rate-level change based on the indicated rate change by class (discussed above) relative to the total

indicated rate change. For extended coverage, the statewide indicated Contents rate-level change is significantly lower than the statewide indicated Buildings rate-level change. As such, the indicated Contents rate-level change for each territory is also significantly lower than the corresponding indicated Buildings rate-level change.

In contrast to extended coverage, the statewide indicated rate-level change for fire is -20.8%. Similar to the extended coverage segment, the indicated change by territory varies across the state, but the variation is less significant and all territories except one have an indicated fire change that is negative (i.e., an indicated rate decrease). Also similar to the extended coverage segment, the indicated rate-level change by territory is further divided by class such that the indicated Contents rate-level changes are lower than the indicated Buildings rate-level changes in each territory. When the indicated rate changes for fire and extended coverage are combined, the total statewide indicated dwelling rate-level change is 38.9% and a few territories have a combined rate-level change in excess of 50%.

In order to mitigate the impact of these indicated rate changes on policyholders, the Rate Bureau has filed rates that reflect a cap on the combined dwelling rate change by territory within each class. The filing implements the full indicated rate changes by territory for fire. However, the filing caps the rate changes by territory and by class for extended coverage such that the combined dwelling rate change for each territory within each class does not exceed 35%. This capping results in an overall statewide rate-level change of 18.9% instead of the indicated rate-level change of 38.9%.

In my opinion, the Rate Bureau's selected cap of 35% per territory is reasonable and is an effective strategy to mitigate the impact of this filing on those territories with the highest indicated rate changes. However, for those territories that are impacted by the cap (i.e., their indicated rate changes are greater than 35%), it should be noted that the proposed rates in those territories will continue to be inadequate.

Q. I understand that you are not providing an opinion concerning the Underwriting Profit (Profit) provision, the Net Cost of Reinsurance (NCOR) provision, or the Compensation for Assessment Risk (CAR) provision. If I ask you to assume that the provisions for Profit, NCOR, and CAR are reasonable and actuarially sound, then in your opinion, is the overall rate-level indication shown in the dwelling filing by the North Carolina Rate Bureau reasonable?

A. Yes, if I assume that the provisions for Profit, NCOR, and CAR are reasonable, then in my opinion, the overall dwelling rate-level indication shown by the Rate Bureau, and the rate-level indications for each segment and each class, are reasonable and actuarially sound.

Q. Again, assuming that the provisions for Profit, NCOR, and CAR are reasonable, do you have an opinion whether the proposed rates, as capped in the filing, reasonably provide for the expected costs for dwelling insurance in North Carolina?

A. If I assume that the provisions for Profit, NCOR, and CAR are reasonable, then in my opinion, the proposed rates in this filing reasonably reflect the expected costs for dwelling insurance. However, in those territories where the Rate Bureau has capped the rates in this filing to mitigate the impact on affected policyholders, the proposed rates do not reflect all expected costs. The expected costs that can be quantified by the difference between a territory's indicated rate change and its capped rate change are not being reflected in the proposed rates.

Q. Assuming that the provisions for Profit, NCOR, and CAR are reasonable, in your opinion, are the proposed dwelling rates not excessive, inadequate, or unfairly discriminatory?

A. If I assume that the provisions for Profit, NCOR, and CAR are reasonable, then in my opinion, the proposed dwelling rates in this filing are not excessive or unfairly discriminatory. Similarly, the rates in those territories unaffected by the proposed cap are not inadequate; however, in those territories where the Rate Bureau is proposing to cap the effect of this filing, the proposed rates continue to be inadequate by the difference between the indicated rate change and the capped rate change.

Q. Does this conclude your testimony?

A. Yes, it does.

PREFILED TESTIMONY
OF
JAMES H. VANDER WEIDE

2018 DWELLING INSURANCE 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 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 27705.

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, Professor, and Research Professor. I have published research in the areas of finance and economics and taught courses in these fields at Duke for more than thirty-five years. I am now retired from my teaching duties at Duke.

I have taught courses in corporate finance, investment management, and management of financial institutions. I also taught a graduate seminar on the 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 have also taught 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 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 and practice, I have participated in more than five hundred regulatory and legal proceedings before the U.S. Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the National Energy Board (Canada), the public utility commissions of forty-five states and four Canadian provinces, the insurance commissions of five states, the Iowa State Board of Tax Review, the National Association of Securities Dealers, and the North Carolina Property Tax Commission. In addition, I have prepared expert testimony in proceedings before the U.S. Tax Court, the U.S. District Court for the District of Nebraska; the U.S. District Court for the District of New Hampshire; the U.S. District Court for the District of Northern Illinois; the U.S. District Court for the Eastern District of North Carolina; the Montana Second Judicial District Court, Silver Bow County; the U.S. District Court for the Northern District of California; the Superior Court, North Carolina; the U.S. Bankruptcy Court for the Southern District of West Virginia; the

U. S. District Court for the Eastern District of Michigan; and the Supreme Court of the State of New York.

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 dwelling 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 DWELLING 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 8.8 percent to 12.1 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 DWELLING INSURANCE IN NORTH CAROLINA?

A. I used two generally accepted methods to estimate the cost of equity: (1) the Discounted Cash Flow (DCF) Model, and (2) 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

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

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.

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

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

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 DCF Model is provided in Exhibit RB-17. 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 10 in Exhibit RB-17. 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 DWELLING 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 dwelling 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 only include companies which pay a quarterly dividend, have not lowered their dividends, and have a positive five-year earnings growth forecast 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-15.

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 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-16.

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 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 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 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 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 2017. These high and low stock prices are 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, the underwriter's offer price is set below the most recent closing price before the public offering in order to reduce the risk that the underwriters will be unable to sell the entire offering at the offer price. The difference between the offer price and the recent closing price is generally in the range two percent to three percent. Thus, the total flotation cost, including both issuance expense and underwriter discount, could range anywhere from five percent to eight percent of the proceeds of an equity issue. 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 is a conservative estimate that should 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-15 and RB-16, the average DCF cost of equity capital for my group of Value Line property/casualty companies is 12.1 percent; and for the S&P 500 companies, 12.0 percent.

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

A. On the basis of my DCF analysis, I would conclude that for companies writing dwelling insurance in North Carolina the cost of equity is approximately 12.0 percent.

Q. YOU NOTE THAT THE SECOND METHOD YOU USE TO ESTIMATE THE COST OF EQUITY CAPITAL FOR COMPANIES WRITING DWELLING 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 ninety-one 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 use the S&P 500 stock portfolio; and for bonds, I use Moody's A-rated utility bonds. The resulting annual returns on the stock and bond portfolios purchased in each year from 1926 through 2016 are shown on Exhibit RB-18. The difference between the stock return and the bond return over that period of time on an arithmetic average basis is 4.66 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 at least

4.66 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 2017 range from 4.1 percent to 4.2 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 4.16 percent. Adding a 4.66 percentage point risk premium to the 4.16 percent expected yield on A-rated utility bonds, I obtain an expected return on equity of 8.8 percent.

Q. ARE THERE REASONS TO BELIEVE THAT THE RESULT OF YOUR EX POST RISK PREMIUM ANALYSIS MAY UNDERESTIMATE THE COST OF EQUITY AT THIS TIME?

A. Yes. The ex post risk premium model may produce an unrealistically low result because the model result is highly sensitive to the estimate of the bond yield. At this time, bond yields are unusually low, reflecting policy decisions of the U.S. government and the U.S. Federal Reserve Bank to keep interest rates low in order to stimulate the economy. Since the ex post risk premium cost of equity result is the sum of the risk premium and the bond yield, the use of an unusually low bond yield in the model may cause the ex post risk premium model result to underestimate the cost of equity. Because the cost of equity is a forward-looking concept, it would be reasonable to apply the ex post risk premium model using a forecast of the expected bond yield, rather than a recent bond yield. Because bond yields are expected to increase over the next several years, the use of a

forecasted bond yield would produce a significantly higher ex post risk premium estimate of the cost of equity. Thus, I consider my ex post risk premium model result to be conservative.

Q. BASED ON YOUR ANALYSES, WHAT IS YOUR OPINION AS TO THE COST OF CAPITAL FOR THE AVERAGE INSURANCE COMPANY WRITING DWELLING 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 dwelling insurance in North Carolina is in the range 8.8 percent to 12.1 percent.

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

	COMPANY	MOST RECENT QUARTERLY DIVIDEND (d_0)	STOCK PRICE (P_0)	FORECAST OF FUTURE EARNINGS GROWTH	DCF MODEL RESULT
1	Allstate Corp.	0.370	82.096	15.47%	17.7%
2	Amer. Financial Group	0.313	96.342	8.00%	9.4%
3	AmTrust Financial Svcs.	0.170	17.442	10.25%	14.9%
4	Chubb Ltd.	0.690	138.406	4.82%	7.1%
5	CNA Fin'l	0.250	44.399	6.55%	9.2%
6	Erie Indemnity	0.783	121.032	10.00%	13.0%
7	Old Republic	0.190	20.258	10.00%	14.5%
8	RLI Corp.	0.200	56.801	9.80%	11.5%
9	Selective Ins. Group	0.160	48.792	10.00%	11.6%
10	Average				12.1%

Note:[1]

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 2017 per Thomson Reuters.
FC	=	Flotation costs.
g	=	I/B/E/S forecast of future earnings growth May 2017.
k	=	Cost of equity using the quarterly version of the DCF Model and a five percent allowance for flotation costs as shown by the formula below:

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

[1] At May 2017, because of the wide range of DCF model results for property/casualty insurance companies, I have conservatively eliminated DCF model results that were greater or less than the mean result by one standard deviation. If I were to have included all available DCF model results, the average would have been 13.2 percent.

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

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
1	3M	194.21	4.70	9.33%	12.1%
2	ABBOTT LABORATORIES	44.28	1.06	11.22%	14.0%
3	ABBVIE	65.23	2.56	14.45%	19.3%
4	ACCENTURE CLASS A	120.84	2.42	9.42%	11.7%
5	ACTIVISION BLIZZARD	51.45	0.30	18.22%	18.9%
6	ADV.AUTO PARTS	145.87	0.24	12.24%	12.4%
7	AETNA	134.03	2.00	11.97%	13.7%
8	AFFILIATED MANAGERS	160.93	0.80	14.08%	14.7%
9	AFLAC	73.52	1.72	7.07%	9.7%
10	AGILENT TECHS.	54.94	0.53	10.43%	11.6%
11	ALLERGAN	237.35	2.80	12.38%	13.8%
12	ALLIANCE DATA SYSTEMS	247.48	2.08	12.29%	13.3%
13	ALTRIA GROUP	72.79	2.44	7.87%	11.7%
14	AMER.ELEC.PWR.	67.81	2.36	2.38%	6.2%
15	AMERICAN EXPRESS	78.53	1.28	7.29%	9.1%
16	AMERICAN WATER WORKS	77.74	1.66	7.70%	10.1%
17	AMERIPRISE FINL.	127.36	3.32	14.87%	18.1%
18	AMERISOURCEBERGEN	86.59	1.46	8.84%	10.8%
19	AMETEK	56.10	0.36	10.83%	11.6%
20	AMGEN	164.96	4.60	5.45%	8.6%
21	ANTHEM	172.96	2.60	11.42%	13.2%
22	AON CLASS A	120.73	1.44	6.81%	8.2%
23	APPLE	144.67	2.52	11.07%	13.1%
24	ARTHUR J GALLAGHER	56.28	1.56	11.01%	14.3%
25	AT&T	40.40	1.96	7.90%	13.5%
26	AUTOMATIC DATA PROC.	102.11	2.28	11.39%	14.0%
27	AVERY DENNISON	81.71	1.80	11.11%	13.7%
28	BALL	37.89	0.20	11.16%	11.8%
29	BANK OF AMERICA	23.50	0.30	10.48%	12.0%
30	BAXTER INTL.	54.31	0.64	12.97%	14.4%
31	BB&T	44.32	1.20	5.58%	8.6%
32	BECTON DICKINSON	182.90	2.92	9.90%	11.8%
33	BED BATH & BEYOND	38.32	0.60	6.33%	8.1%
34	BEST BUY	50.60	1.36	11.38%	14.6%
35	BLACKROCK	387.00	10.00	12.60%	15.7%
36	BOEING	180.60	5.68	16.04%	19.9%
37	BORGWARNER	41.35	0.56	8.05%	9.6%

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
38	BRISTOL MYERS SQUIBB	55.28	1.56	9.19%	12.5%
39	C R BARD	277.74	1.04	11.46%	11.9%
40	CAMPBELL SOUP	57.33	1.40	4.55%	7.3%
41	CAPITAL ONE FINL.	84.05	1.60	8.32%	10.5%
42	CARDINAL HEALTH	77.53	1.85	4.90%	7.6%
43	CARNIVAL	59.87	1.60	13.46%	16.7%
44	CBS 'B'	66.31	0.72	16.51%	17.8%
45	CENTERPOINT EN.	27.83	1.07	5.89%	10.2%
46	CH ROBINSON WWD.	74.64	1.80	6.85%	9.6%
47	CHARLES SCHWAB	39.64	0.32	19.49%	20.5%
48	CHURCH & DWIGHT CO.	50.12	0.76	8.24%	10.0%
49	CIGNA	154.11	0.04	13.32%	13.4%
50	CISCO SYSTEMS	33.28	1.16	10.29%	14.4%
51	CITIGROUP	59.88	0.64	6.83%	8.0%
52	CITIZENS FINANCIAL GROUP	35.77	0.56	16.72%	18.7%
53	CLOROX	134.53	3.36	6.93%	9.8%
54	CMS ENERGY	45.30	1.33	7.52%	10.9%
55	COACH	40.78	1.35	10.94%	14.9%
56	COCA COLA	43.22	1.48	4.83%	8.7%
57	COGNIZANT TECH.SLTN.'A'	60.43	0.60	12.80%	14.0%
58	COLGATE-PALM.	73.27	1.60	8.57%	11.1%
59	COMCAST 'A'	38.65	0.63	11.95%	13.9%
60	CONSOLIDATED EDISON	78.83	2.76	3.97%	7.9%
61	CONSTELLATION BRANDS 'A'	169.14	2.08	15.96%	17.5%
62	CORNING	28.10	0.62	9.36%	11.9%
63	COSTCO WHOLESALE	173.24	2.00	9.98%	11.3%
64	CSX	49.44	0.80	14.48%	16.4%
65	CUMMINS	152.28	4.10	10.48%	13.6%
66	CVS HEALTH	79.62	2.00	7.89%	10.8%
67	D R HORTON	33.18	0.40	11.17%	12.6%
68	DANAHER	84.77	0.56	8.70%	9.5%
69	DARDEN RESTAURANTS	83.41	2.24	11.72%	14.9%
70	DELPHI AUTOMOTIVE	79.94	1.16	12.73%	14.5%
71	DENTSPLY SIRONA	63.12	0.35	8.19%	8.8%
72	DISCOVER FINANCIAL SVS.	64.95	1.20	8.43%	10.6%
73	DOLLAR GENERAL	71.47	1.04	6.77%	8.4%
74	DOMINION ENERGY	77.73	3.02	3.96%	8.3%
75	DOVER	79.92	1.76	12.77%	15.4%
76	DOW CHEMICAL	62.61	1.84	6.96%	10.3%
77	DR PEPPER SNAPPLE GROUP	94.22	2.32	8.73%	11.6%

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
78	DTE ENERGY	103.73	3.30	4.58%	8.1%
79	DUKE ENERGY	82.68	3.42	2.55%	7.1%
80	E I DU PONT DE NEMOURS	79.50	1.52	8.06%	10.3%
81	EATON	75.16	2.40	10.36%	14.1%
82	ECOLAB	126.79	1.48	11.91%	13.3%
83	EDISON INTL.	79.70	2.17	4.11%	7.1%
84	ELI LILLY	82.35	2.08	12.33%	15.3%
85	EMERSON ELECTRIC	59.25	1.92	8.10%	11.8%
86	EQUIFAX	135.53	1.56	11.00%	12.4%
87	ESTEE LAUDER COS.'A'	87.11	1.36	9.66%	11.5%
88	EVERSOURCE ENERGY	59.45	1.90	5.99%	9.6%
89	EXELON	35.45	1.31	2.40%	6.4%
90	FEDEX	191.15	1.60	11.72%	12.7%
91	FIDELITY NAT.INFO.SVS.	82.25	1.16	12.48%	14.2%
92	FMC	70.33	0.66	13.10%	14.2%
93	FOOT LOCKER	72.33	1.24	8.88%	10.9%
94	FORTIVE	61.06	0.28	8.47%	9.0%
95	GAP	24.34	0.92	6.71%	11.0%
96	GENERAL DYNAMICS	192.32	3.36	7.59%	9.6%
97	GENERAL ELECTRIC	29.26	0.96	12.28%	16.2%
98	GENERAL MILLS	117.36	1.92	6.21%	8.1%
99	GLOBAL PAYMENTS	81.81	0.05	17.59%	17.7%
100	GOLDMAN SACHS GP.	226.76	3.00	12.24%	13.8%
101	HANESBRANDS	21.04	0.60	10.27%	13.6%
102	HARLEY-DAVIDSON	58.04	1.46	9.23%	12.2%
103	HERSHEY	109.34	2.47	8.22%	10.8%
104	HOME DEPOT	152.03	3.56	11.75%	14.5%
105	HONEYWELL INTL.	128.52	2.66	7.42%	9.8%
106	HORMEL FOODS	34.56	0.68	9.88%	12.2%
107	HP	18.15	0.53	5.21%	8.5%
108	HUMANA	218.13	1.60	12.98%	13.9%
109	HUNT JB TRANSPORT SVS.	90.80	0.92	12.15%	13.4%
110	HUNTINGTON BCSH.	13.12	0.32	10.56%	13.4%
111	ILLINOIS TOOL WORKS	135.60	2.60	9.11%	11.3%
112	INGERSOLL-RAND	84.38	1.60	10.64%	12.9%
113	INTEL	35.98	1.09	8.36%	11.9%
114	INTERCONTINENTAL EX.	59.81	0.80	12.98%	14.6%
115	INTERNATIONAL BUS.MCHS.	166.80	6.00	2.56%	6.5%
116	INTERNATIONAL PAPER	52.31	1.85	10.72%	14.9%
117	INTL.FLAVORS & FRAG.	133.28	2.56	7.36%	9.5%

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
118	INVESCO	31.61	1.16	10.36%	14.7%
119	J M SMUCKER	130.56	3.00	4.91%	7.5%
120	JACOBS ENGR.	54.33	0.60	8.10%	9.4%
121	JOHNSON & JOHNSON	124.88	3.36	6.45%	9.5%
122	JOHNSON CONTROLS INTL.	41.90	1.00	13.43%	16.3%
123	JP MORGAN CHASE & CO.	87.07	2.00	6.76%	9.4%
124	JUNIPER NETWORKS	29.01	0.40	12.12%	13.8%
125	KANSAS CITY SOUTHERN	89.04	1.32	11.65%	13.4%
126	KELLOGG	72.26	2.08	5.67%	8.9%
127	KEYCORP	18.07	0.38	10.32%	12.8%
128	KIMBERLY-CLARK	130.82	3.88	6.07%	9.4%
129	KOHL'S	39.36	2.20	5.33%	11.7%
130	KRAFT HEINZ	91.18	2.40	13.20%	16.4%
131	KROGER	29.93	0.48	6.12%	7.9%
132	L BRANDS	49.60	2.40	5.81%	11.3%
133	L3 TECHNOLOGIES	167.86	3.00	6.50%	8.5%
134	LENNAR 'A'	51.41	0.16	8.21%	8.6%
135	LINCOLN NATIONAL	66.24	1.16	8.62%	10.6%
136	LOCKHEED MARTIN	271.93	7.28	5.79%	8.8%
137	LOWE'S COMPANIES	82.57	1.64	15.60%	18.0%
138	M&T BANK	158.23	3.00	8.13%	10.3%
139	MARATHON PETROLEUM	50.52	1.44	12.93%	16.4%
140	MARRIOTT INTL.'A'	95.00	1.32	13.77%	15.4%
141	MARSH & MCLENNAN	74.30	1.50	10.23%	12.6%
142	MASCO	35.38	0.40	16.17%	17.6%
143	MASTERCARD	115.09	0.88	15.01%	15.9%
144	MCCORMICK & COMPANY NV.	100.32	1.88	8.50%	10.7%
145	MCDONALDS	136.66	3.76	9.16%	12.4%
146	MEDTRONIC	82.50	1.72	7.37%	9.7%
147	MERCK & COMPANY	63.87	1.88	6.02%	9.3%
148	METLIFE	52.08	1.60	10.61%	14.2%
149	MICROSOFT	66.95	1.56	9.35%	12.1%
150	MONDELEZ INTERNATIONAL CL.A	44.51	0.76	10.11%	12.1%
151	MOODY'S	114.49	1.52	10.31%	11.9%
152	MORGAN STANLEY	42.87	1.40	14.16%	18.1%
153	NASDAQ	69.18	1.52	9.37%	11.9%
154	NETAPP	41.00	0.80	16.64%	19.1%
155	NEWELL BRANDS	48.41	0.92	10.45%	12.7%
156	NEXTERA ENERGY	132.85	3.93	6.70%	10.1%
157	NIELSEN	40.96	1.36	7.95%	11.8%

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
158	NIKE 'B'	55.04	0.72	11.07%	12.6%
159	NISOURCE	24.22	0.70	8.36%	11.7%
160	NORFOLK SOUTHERN	116.87	2.44	12.14%	14.6%
161	NORTHROP GRUMMAN	244.97	4.00	7.42%	9.3%
162	NVIDIA	109.94	0.56	12.19%	12.8%
163	OMNICOM GROUP	84.10	2.20	7.85%	10.9%
164	ORACLE	44.57	0.76	8.57%	10.5%
165	PARKER-HANNIFIN	157.73	2.64	13.11%	15.1%
166	PATTERSON COMPANIES	44.32	1.04	7.23%	9.9%
167	PAYCHEX	59.24	1.84	8.22%	11.8%
168	PEPSICO	112.83	3.22	6.41%	9.6%
169	PERKINELMER	58.52	0.28	9.87%	10.4%
170	PFIZER	33.74	1.28	5.64%	9.9%
171	PG&E	66.76	2.12	4.20%	7.7%
172	PHILIP MORRIS INTL.	113.10	4.16	10.98%	15.3%
173	PINNACLE WEST CAP.	84.46	2.62	6.05%	9.6%
174	PNC FINL.SVS.GP.	120.94	2.20	8.58%	10.7%
175	PPG INDUSTRIES	107.98	1.60	9.54%	11.3%
176	PPL	37.75	1.58	2.44%	7.0%
177	PRAXAIR	122.66	3.15	7.13%	10.1%
178	PRINCIPAL FINL.GP.	62.97	1.84	8.43%	11.8%
179	PROCTER & GAMBLE	88.96	2.76	5.97%	9.5%
180	PVH	100.30	0.15	6.92%	7.1%
181	QUEST DIAGNOSTICS	102.42	1.80	8.17%	10.2%
182	RAYTHEON 'B'	155.48	3.19	9.02%	11.4%
183	REPUBLIC SVS.'A'	62.74	1.28	10.40%	12.8%
184	REYNOLDS AMERICAN	63.80	2.04	9.97%	13.7%
185	ROBERT HALF INTL.	47.21	0.96	8.20%	10.5%
186	ROCKWELL AUTOMATION	155.34	3.04	8.87%	11.1%
187	ROCKWELL COLLINS	101.57	1.32	10.60%	12.1%
188	ROSS STORES	64.64	0.64	10.69%	11.8%
189	S&P GLOBAL	133.63	1.64	12.35%	13.8%
190	SCRIPPS NETWORKS INTACT. 'A'	75.36	1.20	11.13%	13.0%
191	SEMPRA EN.	111.64	3.29	9.90%	13.3%
192	SHERWIN-WILLIAMS	322.16	3.40	10.97%	12.2%
193	SKYWORKS SOLUTIONS	100.01	1.12	16.47%	17.8%
194	SOUTHERN	50.06	2.32	3.84%	9.0%
195	SOUTHWEST AIRLINES	56.48	0.50	11.47%	12.5%
196	STARBUCKS	59.09	1.00	15.33%	17.4%
197	STRYKER	134.07	1.70	9.70%	11.2%

	COMPANY	STOCK PRICE (P_0)	D_0	FORECAST OF FUTURE EARNINGS GROWTH	MODEL RESULT
198	SUNTRUST BANKS	56.21	1.04	4.37%	6.4%
199	SYNCHRONY FINANCIAL	31.12	0.52	8.80%	10.7%
200	SYSCO	53.07	1.32	12.16%	15.1%
201	T ROWE PRICE GROUP	70.02	2.28	9.36%	13.2%
202	TEXAS INSTRUMENTS	80.25	2.00	10.13%	13.0%
203	TEXTRON	47.13	0.08	7.92%	8.1%
204	THERMO FISHER SCIENTIFIC	162.48	0.60	10.65%	11.1%
205	TIFFANY & CO	91.63	2.00	7.62%	10.1%
206	TIME WARNER	98.46	1.61	11.11%	13.0%
207	TJX	77.71	1.25	10.76%	12.6%
208	TORCHMARK	76.52	0.60	7.09%	8.0%
209	TOTAL SYSTEM SERVICES	55.61	0.40	11.61%	12.5%
210	TRACTOR SUPPLY	64.91	1.08	13.46%	15.5%
211	TWENTY-FIRST CENTURY FOX CL.A	30.44	0.36	11.74%	13.1%
212	TWENTY-FIRST CENTURY FOX CL.B	30.44	0.36	11.74%	13.1%
213	UNION PACIFIC	108.42	2.42	12.31%	15.0%
214	UNITED PARCEL SER.'B'	105.92	3.32	8.35%	12.0%
215	UNITED TECHNOLOGIES	115.52	2.64	6.62%	9.2%
216	UNITEDHEALTH GROUP	170.12	3.00	14.87%	17.0%
217	UNIVERSAL HEALTH SVS.'B'	121.44	0.40	8.64%	9.0%
218	UNUM GROUP	46.44	0.80	6.97%	8.9%
219	US BANCORP	52.12	1.12	5.27%	7.7%
220	V F	54.51	1.68	8.32%	11.9%
221	VERIZON COMMUNICATIONS	47.69	2.31	2.46%	7.8%
222	VIACOM 'B'	42.52	0.80	6.78%	8.9%
223	VISA 'A'	91.25	0.66	17.03%	17.9%
224	WAL MART STORES	73.91	2.04	5.50%	8.6%
225	WALT DISNEY	112.12	1.56	9.41%	11.0%
226	WASTE MANAGEMENT	72.60	1.70	10.41%	13.2%
227	WEC ENERGY GROUP	60.60	2.08	5.61%	9.5%
228	WELLS FARGO & CO	54.69	1.52	8.24%	11.4%
229	WESTERN UNION	19.79	0.70	5.68%	9.7%
230	WILLIS TOWERS WATSON	132.86	2.12	10.71%	12.6%
231	WW GRAINGER	211.97	5.12	6.20%	8.9%
232	XCEL ENERGY	44.99	1.44	5.32%	8.9%
233	XILINX	61.30	1.40	8.54%	11.2%
234	XYLEM	50.23	0.72	14.48%	16.2%
235	ZIMMER BIOMET HDG.	119.78	0.96	9.72%	10.6%
236	ZOETIS	55.83	0.42	12.88%	13.8%
237	Average				12.0%

Note: 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 vary from the mean by one standard deviation or more.

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 2017 per Thomson Reuters.
FC = Selling and flotation costs.
g = I/B/E/S forecast of future earnings growth May 2017.
k = Cost of equity using the quarterly version of the DCF Model and a five percent allowance for flotation 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:

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

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 the required return, *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 time *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:

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

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 x 2^2, 3 x 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:

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

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

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

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

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

Solving for S_n, we obtain:

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

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:

$$S = \frac{a}{1 - r} \qquad \textbf{(5)}$$

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

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

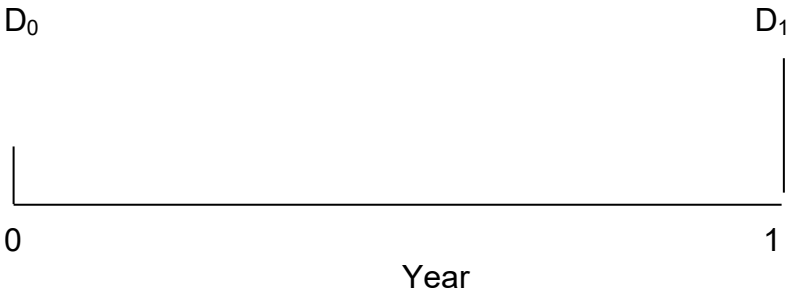
as we suggested earlier.

Quarterly DCF Model

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

Figure 1

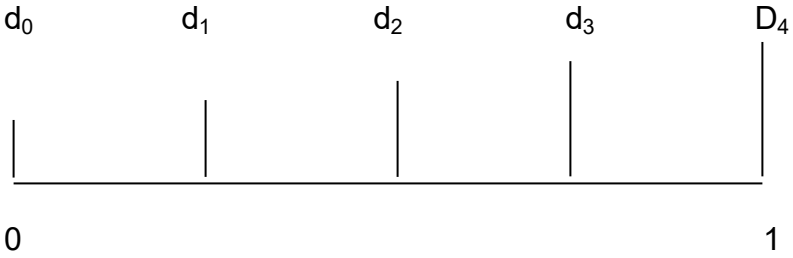
Annual DCF Model



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

Figure 2

Quarterly DCF Model (Constant Growth Version)



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

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

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:

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

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:

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

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

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

An Alternative Quarterly DCF Model

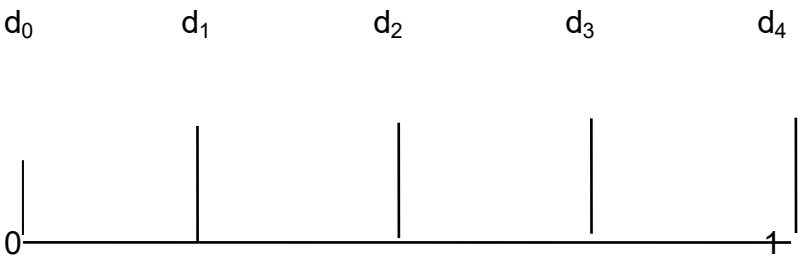
Although the constant growth Quarterly DCF Model [equation (8)] allows for the quarterly timing of dividend payments, it does require the assumption that the firm increases its dividend payments each quarter. Since this assumption is difficult for some analysts to accept, we now discuss a second Quarterly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

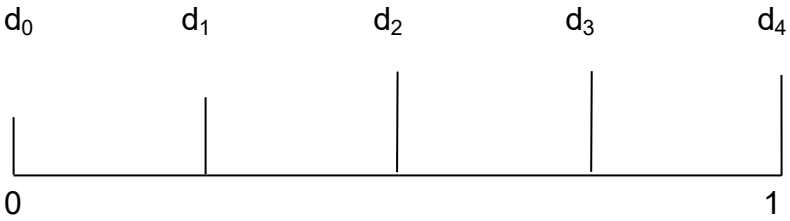
Case 1



Year

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

Case 2



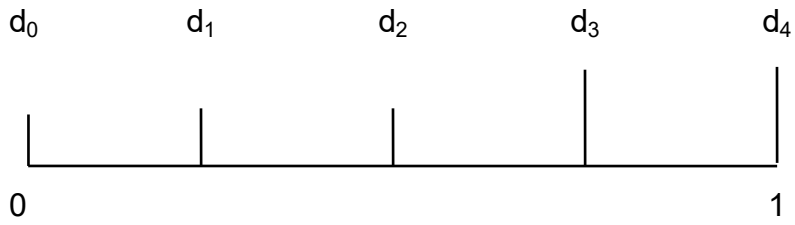
Year

$d_1 = d_0$

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

Figure 3 (continued)

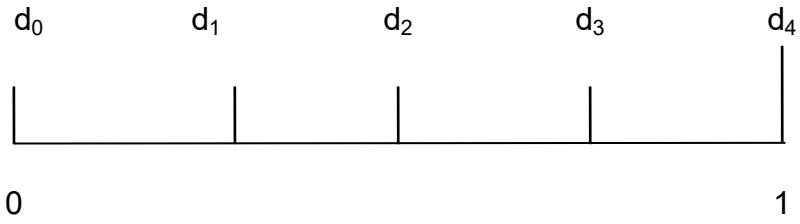
Case 3



$d_1 = d_2 = d_0$

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

Case 4



$d_1 = d_2 = d_3 = d_0$

$d_4 = d_0(1+g)$

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 1926-2016

LINE NO.	YEAR	S&P 500 STOCK PRICE	STOCK DIVIDEND YIELD	STOCK RETURN	A-RATED BOND PRICE	BOND RATE OF RETURN	RISK PREMIUM
1	2017	2,275.12	0.0209		$96.13		
2	2016	1,918.60	0.0222	20.80%	$95.48	4.87%	15.93%
3	2015	2,028.18	0.0208	-3.32%	$107.65	-7.59%	4.26%
4	2014	1,822.36	0.0210	13.39%	$89.89	24.20%	-10.81%
5	2013	1,481.11	0.0220	25.24%	$97.45	-3.65%	28.89%
6	2012	1,300.58	0.0214	16.02%	$94.36	7.52%	8.50%
7	2011	1,282.62	0.0185	3.25%	$77.36	27.14%	-23.89%
8	2010	1,123.58	0.0203	16.18%	$75.02	8.44%	7.74%
9	2009	865.58	0.0310	32.91%	$68.43	15.48%	17.43%
10	2008	1,378.76	0.0206	-35.16%	$72.25	0.24%	-35.40%
11	2007	1,424.16	0.0181	-1.38%	$72.91	4.59%	-5.97%
12	2006	1,278.72	0.0183	13.20%	$75.25	2.20%	11.01%
13	2005	1,181.41	0.0177	10.01%	$74.91	5.80%	4.21%
14	2004	1,132.52	0.0162	5.94%	$70.87	11.34%	-5.40%
15	2003	895.84	0.0180	28.22%	$62.26	20.27%	7.95%
16	2002	1,140.21	0.0138	-20.05%	$57.44	15.35%	-35.40%
17	2001	1,335.63	0.0116	-13.47%	$56.40	8.93%	-22.40%
18	2000	1,425.59	0.0118	-5.13%	$52.60	14.82%	-19.95%
19	1999	1,248.77	0.0130	15.46%	$63.03	-10.20%	25.66%
20	1998	963.36	0.0162	31.25%	$62.43	7.38%	23.87%
21	1997	766.22	0.0195	27.68%	$56.62	17.32%	10.36%
22	1996	614.42	0.0231	27.02%	$60.91	-0.48%	27.49%
23	1995	465.25	0.0287	34.93%	$50.22	29.26%	5.68%
24	1994	472.99	0.0269	1.05%	$60.01	-9.65%	10.71%
25	1993	435.23	0.0288	11.56%	$53.13	20.48%	-8.93%
26	1992	416.08	0.0290	7.50%	$49.56	15.27%	-7.77%
27	1991	325.49	0.0382	31.65%	$44.84	19.44%	12.21%
28	1990	339.97	0.0341	-0.85%	$45.60	7.11%	-7.96%
29	1989	285.41	0.0364	22.76%	$43.06	15.18%	7.58%
30	1988	250.48	0.0366	17.61%	$40.10	17.36%	0.25%
31	1987	264.51	0.0317	-2.13%	$48.92	-9.84%	7.71%
32	1986	208.19	0.0390	30.95%	$39.98	32.36%	-1.41%
33	1985	171.61	0.0451	25.83%	$32.57	35.05%	-9.22%
34	1984	166.39	0.0427	7.41%	$31.49	16.12%	-8.72%
35	1983	144.27	0.0479	20.12%	$29.41	20.65%	-0.53%
36	1982	117.28	0.0595	28.96%	$24.48	36.48%	-7.51%
37	1981	132.97	0.0480	-7.00%	$29.37	-3.01%	-3.99%
38	1980	110.87	0.0541	25.34%	$34.69	-3.81%	29.16%
39	1979	99.71	0.0533	16.52%	$43.91	-11.89%	28.41%

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2016

LINE NO.	YEAR	S&P 500 STOCK PRICE	STOCK DIVIDEND YIELD	STOCK RETURN	A-RATED BOND PRICE	BOND RATE OF RETURN	RISK PREMIUM
40	1978	90.25	0.0532	15.80%	$49.09	-2.40%	18.20%
41	1977	103.80	0.0399	-9.06%	$50.95	4.20%	-13.27%
42	1976	96.86	0.0380	10.96%	$43.91	25.13%	-14.17%
43	1975	72.56	0.0507	38.56%	$41.76	14.75%	23.81%
44	1974	96.11	0.0364	-20.86%	$52.54	-12.91%	-7.96%
45	1973	118.40	0.0269	-16.14%	$58.51	-3.37%	-12.77%
46	1972	103.30	0.0296	17.58%	$56.47	10.69%	6.89%
47	1971	93.49	0.0332	13.81%	$53.93	12.13%	1.69%
48	1970	90.31	0.0356	7.08%	$50.46	14.81%	-7.73%
49	1969	102.00	0.0306	-8.40%	$62.43	-12.76%	4.36%
50	1968	95.04	0.0313	10.45%	$66.97	-0.81%	11.26%
51	1967	84.45	0.0351	16.05%	$78.69	-9.81%	25.86%
52	1966	93.32	0.0302	-6.48%	$86.57	-4.48%	-2.00%
53	1965	86.12	0.0299	11.35%	$91.40	-0.91%	12.26%
54	1964	76.45	0.0305	15.70%	$92.01	3.68%	12.02%
55	1963	65.06	0.0331	20.82%	$93.56	2.61%	18.20%
56	1962	69.07	0.0297	-2.84%	$89.60	8.89%	-11.73%
57	1961	59.72	0.0328	18.94%	$89.74	4.29%	14.64%
58	1960	58.03	0.0327	6.18%	$84.36	11.13%	-4.95%
59	1959	55.62	0.0324	7.57%	$91.55	-3.49%	11.06%
60	1958	41.12	0.0448	39.74%	$101.22	-5.60%	45.35%
61	1957	45.43	0.0431	-5.18%	$100.70	4.49%	-9.67%
62	1956	44.15	0.0424	7.14%	$113.00	-7.35%	14.49%
63	1955	35.60	0.0438	28.40%	$116.77	0.20%	28.20%
64	1954	25.46	0.0569	45.52%	$112.79	7.07%	38.45%
65	1953	26.18	0.0545	2.70%	$114.24	2.24%	0.46%
66	1952	24.19	0.0582	14.05%	$113.41	4.26%	9.79%
67	1951	21.21	0.0634	20.39%	$123.44	-4.89%	25.28%
68	1950	16.88	0.0665	32.30%	$125.08	1.89%	30.41%
69	1949	15.36	0.0620	16.10%	$119.82	7.72%	8.37%
70	1948	14.83	0.0571	9.28%	$118.50	4.49%	4.79%
71	1947	15.21	0.0449	1.99%	$126.02	-2.79%	4.79%
72	1946	18.02	0.0356	-12.03%	$126.74	2.59%	-14.63%
73	1945	13.49	0.0460	38.18%	$119.82	9.11%	29.07%
74	1944	11.85	0.0495	18.79%	$119.82	3.34%	15.45%
75	1943	10.09	0.0554	22.98%	$118.50	4.49%	18.49%
76	1942	8.93	0.0788	20.87%	$117.63	4.14%	16.73%
77	1941	10.55	0.0638	-8.98%	$116.34	4.55%	-13.52%
78	1940	12.30	0.0458	-9.65%	$112.39	7.08%	-16.73%

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2016

LINE NO.	YEAR	S&P 500 STOCK PRICE	STOCK DIVIDEND YIELD	STOCK RETURN	A-RATED BOND PRICE	BOND RATE OF RETURN	RISK PREMIUM
79	1939	12.50	0.0349	1.89%	$105.75	10.05%	-8.16%
80	1938	11.31	0.0784	18.36%	$99.83	9.94%	8.42%
81	1937	17.59	0.0434	-31.36%	$103.18	0.63%	-31.99%
82	1936	13.76	0.0327	31.10%	$96.46	11.12%	19.99%
83	1935	9.26	0.0424	52.84%	$82.23	22.17%	30.66%
84	1934	10.54	0.0336	-8.78%	$66.78	29.13%	-37.91%
85	1933	7.09	0.0542	54.08%	$79.55	-11.03%	65.11%
86	1932	8.30	0.0822	-6.36%	$70.67	18.23%	-24.59%
87	1931	15.98	0.0550	-42.56%	$84.49	-11.63%	-30.93%
88	1930	21.71	0.0438	-22.01%	$81.19	8.99%	-31.00%
89	1929	24.86	0.0336	-9.31%	$83.95	1.48%	-10.79%
90	1928	17.53	0.0431	46.12%	$86.71	1.43%	44.69%
91	1927	13.40	0.0502	35.84%	$83.28	8.92%	26.92%
92	1926	12.65	0.0446	10.39%	$80.81	8.01%	2.38%
93	Average 1926 - 2016			11.43%		6.77%	4.66%

Note: See Page 4 for an explanation of how stock and bond returns are derived and the source of the data presented.

COMPARATIVE RETURNS ON S&P 500 STOCKS
AND MOODY'S A-RATED UTILITY BONDS 1926-2016

RISK PREMIUM APPROACH

SOURCE OF DATA

Stock price and yield information is obtained from Standard & Poor's Security Price publication. 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 thirty 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 the ex post risk premium schedule are the January values of the respective indices.

Calculation of Stock and Bond Returns

Sample calculation of "Stock Return" column:

$$\text{StockReturn}(2016) = \left[\frac{\text{StockPrice}(2017) - \text{StockPrice}(2016) + \text{Dividend}(2016)}{\text{StockPrice}(2016)} \right]$$

where Dividend (2016) = Stock Price (2016) x Stock Div. Yield (2016)

Sample calculation of "Bond Return" column:

$$\text{Bond Return}(2016) = \left[\frac{\text{Bond Price}(2017) - \text{Bond Price}(2016) + \text{Interest}\ (2016)}{\text{Bond Price}(2016)} \right]$$

where Interest = $4.00.

Exhibit RB-19

PREFILED TESTIMONY
OF
DAVID APPEL

2018 DWELLING INSURANCE RATE FILING
BY THE NORTH CAROLINA RATE BUREAU

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 a Senior Consultant with the firm of Milliman, Inc.

Q. What is Milliman, Inc?

A. Milliman (formerly Milliman & Robertson) is one of the nation's largest independently owned firms of actuaries and consultants. The company has more than 3400 employees, and operates offices in over 60 cities in the U.S., Europe, Asia, Africa, Australia 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.

Q. Please describe your educational and employment history.

A. A complete statement of my educational, employment and academic credentials is included as Exhibit RB-20 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 1980, I was an instructor in economics at Rutgers University. For the following nine years, I was employed 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 ultimately became Vice President for Research in 1985. In 1989, I joined Milliman, where I founded the economics consulting practice for the firm.

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 have twice been a member of the Board of Directors of the American Risk and Insurance Association, the leading learned society of insurance academics. For many years I was a member of the editorial board of the Journal of Insurance Regulation, the official research publication of the National Association of Insurance Commissioners, and I acted as a peer referee for a number of scholarly journals in economics and insurance. 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. 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-20 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, the leading association of insurance academicians. I have also been an elected fellow of the National Academy of Social Insurance, a member of the panel of neutrals of the American Arbitration Association, and a certified arbitrator and umpire of ARIAS, the world's leading insurance and reinsurance arbitration society.

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

A. Yes. I have testified on many occasions in such proceedings during my career, including numerous occasions in North Carolina. A complete list is contained in Exhibit RB-20 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 has tended to focus on matters relating to the cost of capital and the returns

expected from the underwriting profit provisions selected for use in the rates. However, in property rate filings, I have had substantial involvement in issues relating to catastrophe risk and the net cost of reinsurance, hence my testimony has addressed these issues as well.

Q. Have you been retained by the North Carolina Rate Bureau as a consultant in this rate case?

A. Yes. I have been asked to consider the following specific matters in connection with this case:

1. Whether Dr. Vander Weide's analysis provides a reasonable estimate of the cost of capital.

2. Whether other factors – notably interest rate sensitivity and the small firm size typical of dwelling insurers in North Carolina – create additional sources of risk which affect insurers' cost of capital.

3. How the expected costs of reinsurance should be developed and incorporated into the dwelling extended coverage insurance rates filed by the Rate Bureau and how those costs should be apportioned to regions within the state.

4. How dwelling insurers in North Carolina should be compensated for bearing the risk to their capital associated with exposure to assessments by the North Carolina Insurance Underwriting Association (commonly called the "Beach Plan") and the FAIR Plan (hereinafter referred to jointly as the "Beach/Fair Plans").

5. The returns insurers would expect to earn from underwriting dwelling insurance in North Carolina, given that the filed underwriting profit provision is realized.

I have performed various studies and analyses on these matters.

Q. Before summarizing the conclusions of your analysis, I noticed that a number of issues the Rate Bureau asked you to address refer to dwelling insurance generally – meaning both dwelling fire and extended coverage - while one refers solely to dwelling extended coverage insurance. Can you please explain?

A. Yes. This rate filing pertains to both dwelling fire insurance and dwelling extended coverage (sometimes called "EC") insurance. However, fire and extended coverage cover different perils – as indicated by the name, fire covers solely the fire (and lightning) peril, while extended coverage covers a variety of other perils, most notably wind. Since North Carolina is a hurricane exposed state, the

insurance that covers the wind peril has substantially different risk characteristics than lines without such exposure. These different risk characteristics demand that fire and extended coverage be treated differently in certain aspects of the ratemaking exercise.

In this rate filing, the specific areas that relate solely to the catastrophe prone extended coverage insurance are the inclusion of the net cost of reinsurance in the rates, and the allocation of that cost to different regions within the state. In these areas only dwelling extended coverage is affected, hence in those sections of the testimony I refer to dwelling extended coverage only. It is also true however, that the occurrence of catastrophes occasions an additional cost in North Carolina, due to the possibility that insurers will be assessed for deficits in the state's Beach and Fair plans. Although these deficits would occur because of the occurrence of hurricanes, the deficits will be assessed on all insurers in the state, proportional to their property insurance premiums in North Carolina. Since insurers are liable for assessments related to the fire insurance premiums written in the state, it is necessary to include a provision in the fire rates (along with the extended coverage rates) to cover these expected costs.

Aside from these specific areas, the remainder of my testimony pertains to both dwelling fire and dwelling extended coverage insurance.

Q. Can you please summarize the conclusions you have reached in regard to the matters noted above?

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, which rely on the two most widely recognized models used for this purpose, and find them to be reasonable. However, 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. I believe that investors in the property-casualty insurance industry, and particularly in the lines of business at issue in this rate hearing, are subject to an above average degree of risk, and therefore 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 also considered the impact of two factors on the risk and required return for insurers – interest rate sensitivity and firm size. These factors affect the required return for insurers generally, regardless of the line of business. As regards interest rate sensitivity, because of the high degree of financial leverage and the substantial share of medium and long term bonds in insurer asset portfolios, insurers are particularly subject to interest rate

risk that cannot be diversified away. Based on my previous analyses, I have found that investors must be compensated for this risk in the form of an additional risk premium above that required for the average security. As regards firm size, I have on many occasions studied the size distribution of insurers in North Carolina and found that the firms providing insurance coverage in the state tend to be smaller than those used in Dr. Vander Weide's cost of capital analysis. Since there is conclusive evidence that, over the long run, smaller firms have earned higher returns, this finding must be considered evidence that investors expect higher returns from small firms.

These analyses provide support for my opinion that Dr. Vander Weide's cost of capital estimates should be viewed as a conservative estimate of the return to which insurers are entitled.

3. In addition to these risk factors, I also note that the dwelling extended coverage insurance at issue in this case is subject to significant catastrophe risk, which is not adequately reflected in Dr. Vander Weide's cost of capital estimates. This is yet another factor supporting my opinion that Dr. Vander Weide's cost of capital estimates should be viewed as conservative.

4. I have considered the differential risk associated with underwriting dwelling extended coverage insurance in different regions within North Carolina, and have concluded that the risk due to catastrophe exposure is substantially greater in and around the coastal regions of the state. Because of this risk insurers purchase reinsurance, and as a result incur significant costs. I have concluded that a provision must be included in the rates to cover the cost of a catastrophe reinsurance program typical of the programs purchased by insurers in hurricane prone regions such as North Carolina. Furthermore, I believe that it is appropriate to apportion this provision across territories within the state, proportional to the relative risk by territory.

5. In addition to the risks attendant to the dwelling fire and extended coverage coverage directly written by insurers in North Carolina, there is substantial additional risk to insurers attributable to the exposures insured in the Beach/Fair Plans. This risk is associated with the potential for assessments that can be imposed on insurers in the state, should the Beach/Fair Plans incur a deficit arising from their insurance operations. Since insurers must be compensated for bearing such risk, I have developed a procedure to incorporate a provision in the rates that compensates insurers in the state for bearing this risk.

6. In order to test the underwriting profit provisions selected and filed by the Rate Bureau, I have estimated the returns insurers would expect to earn from North Carolina dwelling fire and extended coverage insurance assuming the filed underwriting profit provision is fully earned, and

assuming all of the other assumptions embedded in the rate calculations actually materialize. 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 refer to the return including investment income on surplus as the total return.) I have done this to demonstrate that, if the filed underwriting profit provisions are 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.

7. I am aware that the North Carolina Rate Bureau has chosen to cap certain territorial rate increases in order to ameliorate the impact on policyholders of the large indicated rate increases in those territories, and to obtain approval of the filing by the Commissioner of Insurance. The effect of that capping is to lower the requested rate change below the indicated rate change in the filing. In fact, while the indicated rate increase is 38.9%, the result of the territorial capping is to reduce the requested overall rate change to 18.9%. Assuming the losses and expenses projected in the filing actually materialize, the further result of that capping is that insurers will not collect sufficient revenue to produce the 8.5% underwriting profit selected and filed by the Rate Bureau; instead, the underwriting profit, and resulting rate of return, will fall short of the values I have estimated in the pro forma return calculations in the filing.

8. Based on my calculations, the selected underwriting profit provisions generate statutory returns on net worth of 7.6% for dwelling fire and 6.4% for dwelling extended coverage in North Carolina. In addition, the total return on net worth (i.e., including investment income on surplus) is 10.3% for dwelling fire and 9.5% for dwelling extended coverage. Since these returns, even those that include investment income on surplus funds, are within or below Dr. Vander Weide's range for the fair rate of return, I conclude that the underwriting profit provisions are clearly not excessive. In addition, given the territorial capping noted above and assuming the losses and expenses projected in the filing actually materialize, the expected underwriting profit provision will be significantly less than the selected values. As a consequence, insurers would expect returns well below the lower bound for the range of fair returns. I would also note that the US Congress recently passed significant tax law changes which, among other provisions, reduced the maximum corporate income tax rate from 35% to 21%. I have incorporated that change into the rate of return model that produces the estimated returns on net worth reported above.

II. COST OF CAPITAL REVIEW

Q. You said your first assignment was to review 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 upon which Dr. Vander Weide relies 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 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 fair rate of return in this case?

A. Dr. Vander Weide has concluded that the fair rate of return for insurers is in the range of 8.8% to 12.1% 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 the property casualty industry is considerably above average with respect to the volatility of the returns that it provides to investors. This higher volatility of returns makes the property-casualty industry an investment of above average risk.

2. Since investors require higher returns from smaller firms, and since the firms in Dr. Vander Weide's cost of capital analysis are significantly larger than the average property-casualty insurer in North Carolina, his approach tends to underestimate the true cost of capital for North Carolina dwelling insurers.

III. ADDITIONAL FACTORS AFFECTING RISK

Q. Your comments suggest that Dr. Vander Weide's cost of capital may be understated for insurers writing dwelling insurance in North Carolina. Can you please elaborate on this?

A. Certainly. As mentioned in the summary, 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 dwelling insurance 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.

In addition to these factors (which affect risk and required returns for all lines of insurance), for the lines of coverage at issue in this case, the exposure to catastrophic losses associated with hurricanes in North Carolina contributes to additional risk that is otherwise not reflected in standard cost of capital analyses. As with interest rate risk and small firm size, this additional risk requires compensation in the market, beyond that implied by the analyses conducted by Dr. Vander Weide. I will discuss these issues briefly below.

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, bond 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. This is a risk separate and apart from the market risk investors face.

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

A. In general, risk that is not diversifiable is known as systematic risk, or market risk. Systematic risk stems from events that take place on an economy-wide basis. Investors can only diversify away risks that have offsetting factors somewhere else in the economy. For instance, if one company has a bad year due to reasons specific to it alone, it is highly likely that another company will have a good year which will offset the bad performance. That sort of risk is diversifiable. However, the risk associated with events that take place economy-wide without offsetting factors is not diversifiable. It is this risk that is referred to as systematic risk or market risk.

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 in the past I have conducted a number of studies designed specifically to address this issue. The principal conclusions of those studies is that 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. I believe that there are three main reasons for this conclusion.

First, as noted, 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 the 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, historically, 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 deciles of stocks listed on the principal U.S. stock exchanges have outperformed the market as a whole by approximately 4.5 percentage points over the period 1926 to 2015, 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 dwelling insurance in North Carolina.

These facts suggest that the cost of capital for insurers writing dwelling 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 Dr. Vander Weide has presented is conservative.

Q. You also mentioned the impact of catastrophe risk on the cost of capital. Can you please discuss that briefly?

A. Yes. The potential for catastrophic losses from hurricanes produces additional risk to insurers beyond that captured in traditional cost of capital models relied upon by Dr. Vander Weide. For one thing, the estimated cost of capital for the insurers in Dr. Vander Weide's sample reflects the risk of the average activity for those

insurers, not the risk related to catastrophe exposures (as is relevant in this case). Since catastrophe exposed lines of business are significantly riskier than average, the cost of capital for those lines is higher as well.

In addition, as respects Dr. Vander Weide's risk premium model, since the occurrence of hurricanes is generally uncorrelated with the market, the losses associated with such events would not be captured in the estimated betas of insurers, and hence those values would tend to understate the risk associated with these lines of insurance. Because the betas for insurers indicate they are of average risk, but those values do not incorporate the risk from extreme events like hurricanes, they understate the true risk to which insurers are subject.

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, are relatively small when compared with the broad cross section of publicly traded firms in the U.S. economy, and are subject to risk from catastrophic events. Since each of 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. NET COST OF REINSURANCE

Q. In your summary, you said you considered how the net cost of reinsurance should be included in dwelling rates in North Carolina, and how the profit in the rates should be allocated proportional to risk. Can you please discuss your evaluation of these issues?

A. Yes. I have previously addressed these issues in homeowners, mobile homeowners and dwelling rate filings in North Carolina, where I have recommended that the indicated rates be developed to include the net cost of reinsurance. I will briefly outline the problem and then discuss each of the issues separately.

To begin with, dwelling extended coverage is one of several types of coverage that is subject to the potential for catastrophic loss. In such coverages (homeowners, earthquake, allied lines and other property coverages), individual catastrophic events can result in enormous losses, far in excess of what the typical insurer could bear. Thus, in these lines of business, insurers routinely purchase reinsurance to manage their exposure to extreme events, and it is appropriate to provide for the

cost of this reinsurance in setting rates for these lines of insurance. Since ratemaking is often done on a direct basis, as compared to a net of reinsurance basis, an explicit adjustment must be made to provide for the cost of reinsurance.

Second, the exposure to catastrophic loss varies substantially by territory within North Carolina. It is well known that the coastal counties in the state are subject to severe exposure to the hurricane peril, while the interior regions to the west are subject to considerably less exposure. Since the need for reinsurance is a function of the degree of catastrophe exposure, the cost of reinsurance should reflect such territorial differences as exist within the state. Accordingly, in considering the cost of reinsurance in primary rates, the statewide cost should be allocated across territories, proportional to risk.

Q. You mentioned that direct ratemaking does not include the cost of reinsurance. Can you please explain?

A. Yes. Direct ratemaking is an approach that is sometimes used when making insurance rates on an industrywide basis (where the terminology “direct” refers to an analysis done without consideration of reinsurance). While this approach is reasonable for some lines of insurance (such as auto insurance), it fails to reflect the market realities associated with writing property insurance in catastrophe prone environments such as North Carolina. In these environments, primary insurers are required to purchase reinsurance to manage their exposure to catastrophe risks, and such reinsurance comes at a substantial net cost.

Q. Why does reinsurance come at a substantial net cost?

A. Reinsurers generally cover the riskiest portion of the insurance loss distribution – the events that occur only rarely but impose extremely high costs. In order to provide a credible promise to pay claims resulting from extreme events, reinsurers carry substantially more capital per unit of exposure than primary insurers. This capital has a cost, which is included in the reinsurance premiums paid by primary insurers in the market. Since basic economic and actuarial principles require all costs of the risk transfer to be included in the price of insurance, and since reinsurance is required to efficiently manage catastrophe risk, its net cost should be included in the rates charged for property insurance.

Q. How has the North Carolina Rate Bureau (NCRB) addressed the issue of reinsurance in previous property insurance rate filings?

A. For many years, the NCRB has included a provision for the net cost of reinsurance (NCOR) in property insurance rate filings. That provision was based on a procedure I developed which estimated the net cost of reinsurance as an expense

to be included in the direct property insurance rates in North Carolina. (By net cost of reinsurance, I mean the expense and profit components of the reinsurance rate, since the loss costs are already included in the calculation of the direct premium.) This procedure is conceptually identical to that employed in Florida, where insurers make rates using direct losses and expenses, but then add in a provision which covers the cost (to the primary insurer) of the reinsurer's profit and expense.

Q. Can you please describe the analysis you conducted to estimate the NCOR in previous rate filings?

A. Yes. To estimate the NCOR, I adopted the standard ratemaking assumption used in North Carolina – i.e., that there is a single aggregate company that is the composite of all entities writing dwelling insurance in the state. I then assumed that this company maintained a reinsurance program that is typical of property insurers writing in North Carolina, and based on the program assumptions and the modeled hurricane losses, I estimated a "competitive market" reinsurance premium. This was an estimate of the amount reinsurers would charge to provide the single aggregate company in North Carolina with reinsurance coverage consistent with the assumptions I made regarding the nature of the reinsurance program.

Q. Has the NCRB adopted the same procedure in this case?

A. No. In the most recent Homeowners insurance rate decision in North Carolina, the Commissioner gave no weight to my testimony on this issue, despite the fact that I have spent more than a decade developing and refining the analysis of the reinsurance cost to be included in primary property insurance rates. Therefore, for this filing the NCRB has retained Aon Benfield, the world's largest reinsurance broker, to provide the estimate of the NCOR for use in the current filing. This is a change I strongly support: if the Commissioner's concerns regarding the estimate of NCOR had to do with the experience of the analyst, those concerns are eliminated by the use of Aon Benfield for this purpose. There can be no doubt that the individuals responsible for managing the property catastrophe reinsurance function at the world's largest reinsurance broker are, or are among, the people best positioned to observe what actually occurs in the reinsurance marketplace and to estimate an appropriate provision for reinsurance in this case.

Q. Although Aon Benfield is providing the estimate of the NCOR for use in this filing, is it true that the NCRB requested you to update your own NCOR analysis for the filing as well?

A. Yes; I believe the NCRB wanted to compare the results of my methodology to those produced by Aon Benfield (which are based on methods and data that are

different than the ones I used in the past). To do so I estimated the NCOR using the exact same methodology I relied upon in the past, but with several changes in assumptions and data sources so as to be consistent with the reinsurance analysis proposed by Aon Benfield. (In order to make an "apples to apples" comparison between my results and Aon Benfield's, both our estimates must be based on the same reinsurance program assumptions and the same underlying modeled loss data.) In my opinion this makes perfect sense –Aon Benfield is in the market on a daily basis, placing property catastrophe reinsurance on behalf of scores of clients, and hence can be relied upon to have the most accurate current information regarding the types of reinsurance purchased and the current market prices for that coverage.

The specific changes in assumptions that I made, to be consistent with Aon Benfield, were as follows:

- Previously, I assumed an attachment point equal to the one in ten year loss event (i.e., the 90th percentile of the statewide loss distribution), and an exhaustion point equal to the one in a hundred year event (the 99th percentile of the statewide loss distribution). Based on Aon Benfield's input, those assumptions were changed to a lower attachment point ($180 million, or approximately a 1 in 8 year event) and a higher exhaustion point ($2.44 billion, or approximately 1 in 231 year event).

- In the past I assumed a 5% co-participation in the reinsured layer. (Co-participation refers to a provision where the primary insurers share a specified percentage of the reinsured loss). Based on Aon Benfield's input, that was changed to a 0% co-participation.

- In the most recent several property filings I assumed a reinsurer required return on equity of 11%, which was roughly the midpoint of the cost of capital range provided by Dr. Vander Weide. Given that Dr. Vander Weide's range had declined somewhat (the midpoint is now 10.4%), and based on Aon Benfield's view that reinsurer capital costs are relatively low in the market today, I reduced the required return to 10%.

- In all previous filings, modeled hurricane losses, and all the analyses derived therefrom, were based solely on the AIR model. Consistent with a decision by the Rate Bureau and legislation that has recently become effective in North Carolina, in this case Aon Benfield has provided and blended modeled results from two modelers, AIR and RMS.

- In the past, the net cost of reinsurance was based on losses from the hurricane peril only. In this case the net cost of reinsurance was based on losses from all reinsured perils, consistent with the manner in which reinsurance is purchased in the market.

- In the past, the modeled losses I used included a loss adjustment expense (LAE) provision based on all losses, but based on Aon Benfield's input the modeled losses I used this year included an LAE provision of 6%.

Given the parameters of the reinsurance program described above, and the AIR and RMS loss distributions, I determined the amount of losses that would be subject to reinsurance coverage as a share of the total hurricane losses in the state. Based on the projected reinsured losses, I then developed a "competitive market" reinsurance premium, following a series of steps that are described below. Before describing the individual steps in that process, however, I should note two considerations in connection with the use of the hurricane models in this filing.

First, in developing the hurricane loss estimates for use in this filing, Aon Benfield ran two alternative versions of the AIR and RMS models. The first versions rely on the full 100+ year history of hurricane activity as the basis for projected hurricane frequency and severity, and are known as the Historical (HIST) RMS model, or the Standard (STD) AIR model. The alternative versions adopt different views regarding hurricane frequency and severity. RMS's model, known as the Medium Term Rate (MTR) model, provides estimates based on expected environmental conditions in the near future, while AIR's model, known as the Warm Sea Surface Temperature (WSST) model, provides estimates which reflect the known cyclicality of hurricane activity and the higher frequency and severity of hurricanes in periods of warmer sea surface temperatures.

When calculating the base rates for this filing, the NCRB relied upon the HIST/STD versions of the two models to estimate the level of hurricane losses to be included in the rates. However, reinsurers today rely on the alternative models described above when setting the market price for reinsurance. Therefore, it is appropriate, when estimating a provision for NCOR in this filing, to rely on the MTR/WSST versions of the two models to develop loss estimates in this portion of my analysis.

Second, I also note that, when projecting losses using either model, the estimates reflect the phenomenon of "demand surge." Demand surge refers to the fact that, subsequent to the occurrence of a large natural catastrophe, the prices of labor and materials required to repair or replace damaged property tend to increase because of the surge in demand for such resources. As an economist, this is exactly what I would expect given the underlying dynamics of supply and demand; with resources (particularly labor) that are relatively fixed in supply in the short run, a rapid increase in demand is expected to increase prices. This phenomenon has been observed following natural disasters such as Hurricane Andrew, the Northridge earthquake, Hurricane Katrina and the like. In estimating the damages attributable to catastrophic events, it is appropriate to include all factors that affect the level of expected losses, including, of course, factors that affect the price of the resources required to respond to those events.

Given the reinsurance program described above and the RMS/AIR loss distributions, I then determined the amount of losses that would be subject to reinsurance coverage, as a share of the total hurricane losses in the state. Based on the projected reinsured losses, I then developed a "competitive market" reinsurance premium, as follows:

- I loaded the reinsured loss for loss adjustment expense (LAE), using an assumption, provided by Aon Benfield, that LAE is typically 6% of incurred loss for hurricanes.

- I then loaded the incurred losses and LAE for assumed reinsurer expenses, using an expense factor which results in a reinsurer expense provision equal to 16.2% of premium.

- I assumed the reinsurer set an underwriting profit provision that would yield a return on net worth, after consideration of all investment income, of 10.0%. I determined the reinsurer's net worth such that the reinsurer premium to surplus ratio would be .30, a selected value that approximates the historical average ratio for professional reinsurers from Best's Aggregates and Averages over the past several years.

Having determined the reinsurance premium that a competitive reinsurance market would produce under the assumptions described above, I then subtracted expected losses and LAE from the premium to leave the net cost of reinsurance of $107,960,460.

Q. Are the results of your calculations shown in an exhibit?

A. Yes. Exhibit RB-21 shows the calculations giving rise to the estimated net cost of reinsurance of $107,960,460. This exhibit shows the derivation of the reinsurance premium, based on the portion of catastrophe losses that are covered by reinsurance, and the reinsurer's capitalization and required return. The end result of that calculation is the net cost of reinsurance, in dollars. To be explicit, the net cost of reinsurance is the total reinsurance premium less the amount of hurricane losses and LAE that are recovered from the reinsurer but already included in the base rate. The amounts recovered from the reinsurer that are already in the base rates must be subtracted, to assure that those costs are not double counted when setting the statewide premiums for property insurance.

Q. In your opinion, it is appropriate to include the net cost of reinsurance in property insurance rates in North Carolina?

A. Yes. Insurers in North Carolina incur a substantial cost for bearing the risk of catastrophe exposed property insurance in the state. The market cost of bearing that risk (whether the risk is retained by the insurer or transferred to a reinsurer)

must be included in the rates. Since this is a legitimate cost of the risk transfer inherent in the purchase of property insurance, it should properly be included in the rates.

Q. How do your estimates of the NCOR compare with those of Aon Benfield?

A. Our estimates are relatively close, despite the fact that we used fundamentally different methodologies for estimating the NCOR. This gives me confidence that the methodology I developed for pricing reinsurance more than a decade ago is reasonable and produces accurate results.

Q. In previous property rate cases, you allocated the net cost of reinsurance across regions in the state proportional to risk. Did you perform a similar analysis in this case?

A. No, I did not. Since the need for reinsurance arises from catastrophe exposure, which varies dramatically across the state of North Carolina, regional differences in risk should be taken into account when determining the allocation of reinsurance costs within the state. In previous years the appropriate committees at the NCRB determined that the NCOR should be allocated proportional to risk, but decided to use a regional allocation process, where the NCOR was allocated to 3 (or in the most recent case 4) distinct regions in the state. This year the NCRB determined that it would be appropriate to allocate the NCOR at the same level of granularity as the other cost elements in the filing, and hence it requested Aon Benfield to provide the NCOR at the territorial rather than the regional (or zone) level.

Q. In your opinion, is it appropriate to allocate reinsurance costs proportional to risk?

A. Yes. It is both intuitively and empirically obvious that the relative risk of property insurance varies geographically in North Carolina. As such, the cost for bearing that risk should be allocated proportional to the measurement of risk. Aon Benfield's process of allocating the NCOR to territory is consistent with the objective of producing rates that are fair, reasonable and not unfairly discriminatory across policyholders.

Q. Does this methodology result in a higher overall cost than would have been the case without the allocations?

A. No, it does not; the allocation method itself is simply a manner in which to spread the costs across policyholders in a non-discriminatory manner consistent with risk. Thus, it does not impose any additional costs on North Carolina policyholders in

the aggregate; rather it simply apportions the costs in a manner that is consistent with the risks different policyholders impose.

Q. In previous property insurance filings you have recommended regional allocations of profit and contingencies in addition to the allocation of NCOR. Have you done so in this case?

A. No. In order to minimize areas of dispute between the NCRB and the North Carolina DOI, the appropriate committees at the Bureau decided for this filing to use the traditional approach of setting a single underwriting profit factor that applies uniformly throughout the state. Therefore I was not asked to perform any analyses to allocate profit or contingencies to region or territory.

V. COMPENSATION FOR RISK OF ASSESSMENTS FROM BEACH/FAIR PLANS

Q. You said earlier that you also considered the risks faced by insurers in North Carolina associated with the exposures insured in the Beach/Fair Plans. Can you please explain this issue?

A. Yes. In addition to the risks attendant to the property insurance directly written by insurers in North Carolina, there is substantial additional risk to insurers attributable to the exposures insured in the Beach/Fair Plans.

The Beach/Fair Plans serve as the so-called “residual market” for residential property insurance in the state. Residual markets exist to provide access to insurance coverage for policyholders who cannot obtain such coverage from insurers in the voluntary market. In states which have significant exposure to catastrophes, property insurance residual markets often grow to represent a very sizable portion of the total insured risk in the exposed regions of the state. This has been the experience in North Carolina; the Beach Plan has become the predominant writer of dwelling insurance in the 18 coastal counties that it covers.

The Beach/Fair Plans provide either wind only or full residential property insurance coverage to North Carolina policyholders. The Plans use the premium from those policies to fund the future losses and expenses attributable to the coverages they write (including the purchase of reinsurance, issuance of catastrophe bonds and the like). The Beach/Fair Plans can accumulate surplus and that surplus is available to pay losses in the event that the losses exceed collected premiums plus investment income. However, if their surplus is exhausted, then additional losses (up to a $1 billion limit for the Beach Plan but unlimited for the Fair Plan) are passed through to all insurers in the state in the form of assessments based upon each insurer’s total property writings in North Carolina. (Beyond the $1 billion limit, and any applicable reinsurance, additional losses in the Beach Plan are

passed through directly to policyholders statewide.) Even if an insurer does not write property insurance in North Carolina's beach and coastal areas, it is nevertheless subject to any assessment by the Beach/Fair Plans due to its writings in other areas of North Carolina.

This risk of assessment has increased dramatically due to the growth in the Beach Plan in recent years. This growth in the Beach Plan is attributable to numerous factors, including the legislative expansion of the Beach Plan territory, the legislative addition of homeowners coverage to the coverages available in the Beach Plan, the increase in the number and value of insured properties in the beach and coastal areas of North Carolina, and most importantly, the inadequacy of primary property insurance rates in the state.

This risk of assessment is real and substantial, and insurers must be compensated for this additional risk to their capital. To address this situation, I have developed a procedure to incorporate a provision in the rates that compensates insurers for this risk.

Q. Can you please explain the procedure you developed?

A. Yes. The model I developed for this purpose involves two steps; the first is to quantify the magnitude of the exposure itself, and the second is to determine the fair compensation to be paid to insurers for bearing that risk.

To quantify the magnitude of the exposure, it was necessary to estimate the expected value of the assessments on insurers that arise because of catastrophic losses in the Beach/Fair Plans. Since assessments on insurers arise only after the plans have exhausted other resources available to pay losses, I needed to determine both the probability of that occurring as well as the amount by which the losses exceeded those other resources. Therefore, I obtained information from the Beach and Fair Plans regarding the reinsurance program in place for the 2017 storm season, along with assumptions of each plan's accumulated surplus available for the season as well – i.e., the "other resources" that would be available to pay for hurricane losses during the 2017 storm season. I then obtained the AIR/RMS hurricane model runs used by the Beach/Fair Plans, and for each iteration of the models I determined the amount of losses that would be covered by reinsurance and the remaining losses that would have to be funded either from the plans' accumulated surplus, through assessments on property insurers in the state, or ultimately through assessments on North Carolina property insurance policyholders. I then subtracted the accumulated surplus of the plans from the losses remaining after reinsurance, limited the assessable losses due to Beach Plan exposures to $1 billion, and calculated the average assessment on property insurers across all iterations of the models (which is the expected value of the losses that would have to be funded through assessments on North Carolina property insurers).

As noted, this is a measure of the magnitude of the exposure – i.e., it represents the risk to insurers' capital associated with the exposure to Beach/Fair Plans assessments. The next step is to develop a method of measuring the fair compensation to insurers for bearing this risk.

Q. Can you please explain how you measured the compensation for bearing this risk?

A. Yes. To measure the fair compensation for bearing this risk, I relied on data regarding the market price of catastrophe risk, taken from the market for insurance linked securities. Insurance linked securities (ILS) are securities (bonds, warrants and the like) that have conditional payoffs that are virtually identical to reinsurance. Investors purchase such securities at significant yield premiums to risk free bonds, because they are exposed to loss of principal and interest if certain "insured events" occur.

Q. Can you explain how such securities work in practice?

A. Certainly. As an example, consider an insurer that issues $100 million of a bond with a provision that, for every dollar of loss from an Atlantic hurricane in excess of $1 billion, one dollar of the bond would not have to be repaid. Since the investor in that bond would effectively be paying for up to $100 million of hurricane losses, such a security would be the functional equivalent of a reinsurance contract that provides $100 million in coverage excess of a $1 billion attachment point.

Now, with respect to the interest to be paid by the insurer on this bond, assume investors demand a premium of 10% in excess of the risk free rate in order to purchase such a security (because of the high degree of risk associated with the potential loss of principal and interest). This risk premium implies that the insurer would have to pay $10 million in interest in excess of the risk free rate to induce investors to purchase such securities, which is equivalent to paying a premium of $10 million for $100 million of reinsurance. This kind of information can be very illuminating in connection with evaluating the risk premiums required to bear catastrophe risk.

Q. What kind of information is available in these markets that can help you to assess the fair compensation for bearing catastrophe risk?

A. Markets for ILS have been growing in recent years, as they provide a financially efficient method of transferring risk. While smaller than reinsurance markets, they can provide extremely useful data about the cost of risk, because they reflect estimates of the pure cost of risk transfer, unencumbered by insurance specific

issues (such as expenses, capital requirements, required returns, regulation and the like).

Lane Financial, LLC is a firm that specializes in and is the most prominent analyst of insurance linked securities. In April of each year, Lane publishes a data base that accumulates a variety of useful information that can help to evaluate the fair compensation for bearing catastrophe risk. For each ILS in the market, Lane publishes the following data: the yield on the security; the excess return over LIBOR (the risk free rate); the probability that the security will suffer a loss; and the expected value (or average) loss anticipated on the security. These data provide the foundation for my analysis of the proper compensation for bearing the risk of Beach/Fair Plans assessments.

Q. How are these data used to determine the compensation for assessment risk?

A. Before describing the mechanics of the analysis, I first define several terms that will prove useful in this discussion. The "*yield spread*" is simply the difference between the yield on the particular ILS and LIBOR. (LIBOR, or the London Interbank Offered Rate, is one traditional measure of the risk free rate in finance.) For example, in the case I cited above (where a $100 million bond had a provision that, for every dollar of hurricane loss in excess of $1 billion, one dollar of the bond would not have to be repaid) investors demanded a premium of 10% in excess of the risk free rate. In that case, the yield spread was 10% (or 1000 basis points), which implies that the insurer would have to pay $10 million in interest in excess of the risk free rate to induce investors to purchase such securities.

Now assume that the expected distribution of hurricane losses is such that this security had an average annual loss of $1 million, meaning that, based on the probability and amount of hurricane losses of varying sizes, an investor would anticipate having an average loss of $1 million per year. This is termed the "*expected loss*." Since the investor in this example receives compensation of $10 million in excess of the risk free rate for bearing the risk of loss, the "expected profit" to the investor is $9 million (the yield in excess of the risk free rate minus the expected losses).

Finally, I define a term known as the "*profit multiple*," which is the ratio of expected profit to expected loss – in this case $9 million divided by $1 million, or a profit multiple of 9.0. The profit multiple provides an estimate of the compensation investors require to bear catastrophe risk, insofar as it tells us what returns investors require in order to take on the risk of loss from a catastrophic event. One particularly important feature of this variable is that it is a measure of compensation per dollar of expected loss; given the Beach/Fair Plan assessments to which insurers are exposed, the profit multiple can be used to develop an estimate of the fair compensation for bearing such risk. This is the measure of risk I rely upon in

evaluating the fair compensation for property insurers whose capital is exposed to Beach/Fair Plans assessments.

Q. Before you explain exactly how you used this information, is it true that all ILS have yield spreads that are 10.0 times, or profit multiples that are 9.0 times, their expected loss?

A. No. This value fluctuates depending on the risk characteristics of the particular securities in question. In my example there was a bond with an attachment point of $1 billion and an expected loss of $1 million, but each of the securities traded in capital markets has different attachment points and amounts of coverage, and different probabilities and amounts of expected loss. As you would expect, those securities that have more volatile exposures have larger risk premiums relative to expected loss than those with less volatility.

Q. Generally speaking, which securities are more volatile, and hence have higher risk premiums and profit multiples?

A. For exposures such as these, securities that have "higher" attachment points – meaning those which have a lower probability of incurring a loss – have greater volatility and larger risk premiums. While it is true that such securities have a lower probability of incurring a loss, it is also the case that the variability of the losses on such securities is greater than those with a higher probability of incurring a loss (i.e., those that attach at lower points on the loss distribution). As a result, ILS's with very low probabilities of attachment will have the highest risk premiums and profit multiples.

Q. How do you use the data on ILS's to develop the fair compensation to insurers for bearing the risk of Beach/Fair Plans assessments?

A. First, to get a more precise estimate of the risk premia in capital markets, I compiled the data on profit multiples for all ILS's issued on U.S. catastrophe exposures in the last eight years. However, as I mentioned earlier, each ILS has a different profit multiple based on its specific risk characteristics. Therefore, to determine the profit multiples that are appropriate for the risks imposed by the Beach/Fair Plans exposures, I fit a curve which relates the profit multiple on each bond to the probability of loss occurring on that bond. This curve permits the measurement of profit multiples at any probability level

Next, I obtained information from the Beach/Fair Plans on the distribution of hurricane losses, based on the AIR and RMS hurricane model runs using the most current exposures for the plans. For each iteration of the models, I estimated the hurricane losses that would be ceded to reinsurers (using the actual reinsurance

purchased by the Plans) and the amount of those losses that would be retained by the Beach/Fair Plans. Based on this analysis I was able to determine the expected value of hurricane losses retained by the Beach/Fair Plans, as well as the distribution of those losses within the various probability layers.

Finally, to determine the fair compensation for bearing this risk, I determined the amount of losses that would exceed the Beach/Fair Plans' capacity, and thus would be assessed to voluntary insurers in the state. For each dollar of such assessments, I multiplied the expected loss by the appropriate profit multiple (given the probability interval in which the losses reside). The product of the expected losses by interval or layer and the appropriate profit multiple for the layer represents the fair compensation insurers should receive for bearing such risk.

Q. Have you developed any exhibits that provide the details of these calculations?

A. Yes. Exhibit RB-22 contains ten pages of information required to develop the fair compensation for bearing Beach and Fair Plan assessment risk.

Pages 1 and 6 of Exhibit RB-22 show a summary of the Beach and Fair Plans' reinsurance programs, including the various layers of reinsurance purchased and the coverage levels within those layers. Although the Beach and Fair Plan are separate legal entities, in previous years they purchased reinsurance contracts that covered the combined loss of both entities. This year the two Plans purchased separate reinsurance contracts.

Page 2 shows the curve I fit to the ILS profit multiples based on all ILS issued since 2009, and the equation of the fitted curve that is used to determine the profit multiples for each layer to which insurer capital is exposed.

Pages 3 and 7 display the profit multiples calculated for each layer of the Beach and Fair Plan's loss distribution, based on the equation on page 2. In order to determine the fair compensation to voluntary insurers for bearing the risk of assessments, I need to determine which layers contain losses that will be funded by such assessments, and the appropriate compensation per dollar of expected loss within those layers. The profit multiples are the appropriate compensation per dollar of expected loss in each layer.

Pages 4 and 8 illustrate how potential losses for the Beach Plan Residential Account and Fair Plan are funded. (The Beach Plan determines losses and assesses voluntary insurers separately for each account, while the Fair Plan has only one account.) The Beach Plan can assess voluntary insurers a maximum of $1 billion for any deficits resulting from a single calendar year across all accounts, while the Fair Plan assessments are unlimited. Any amounts needed to pay claims in excess of the assessable amounts are to be collected through surcharges to property insurance policyholders statewide.

The mechanics of the funding analysis are as follows. First, for each iteration of the models, losses are segregated into loss layers separately by account (Beach Plan Residential, Beach Plan Commercial, and Fair Plan). Then, the losses by layer for each account are disaggregated based on the source of funding for those losses - Beach/Fair Plans surplus, the next $1 billion of Beach Plan losses to be covered by assessments on voluntary insurers, private reinsurance and ultimately any additional amounts in the Beach Plan to be covered by surcharges on property policyholders' premiums. Finally, the losses associated with each event are then accumulated in these categories for each of the loss layers. (Although I apply the reinsurance contracts and the $1 billion limit to commercial losses, no expected commercial hurricane losses are included in my calculations of the fair compensation for exposure to assessments for residential lines of business.)

While pages 4 and 8 illustrate the funding of potential losses within each layer, the purpose of this analysis is to determine the fair compensation for the risk of assessments on private insurers. As such, the analysis must take into account the probability of losses occurring within each layer and calculate the expected value (or annual average) loss that will be borne by private insurers. Pages 5 and 9 of RB-22 provides that analysis; they show the expected value of the losses that would be covered by the Beach Plan Residential and Fair Plan accounts, and the annual average amount of those losses that would be assessed to private insurers. In addition, these pages display the profit multiples associated with each layer of the loss distribution, and the product of the indicated profit multiple times the expected losses within the layer. The sum of those values is the indicated compensation for assessment risk for each account. (For example, the total cost of providing reinsurance to the Beach Plan Residential Account is $69.40 million.)

The final step in this calculation is to determine the appropriate provision to be included in the rates to compensate insurers for the risk of Beach and Fair Plans assessments. This provision, expressed as a percent of premium, is developed on page 10 of Exhibit RB-22. (I note that these calculations reflect only the residential portion of the Plans' deficits.) Since assessments for Beach/Fair Plans losses are applied to all property insurance lines in the state, the bottom table on Exhibit RB-22, page 10 shows the development of a charge that will produce an amount of revenue equal to the total required compensation of $113.81 million. As shown therein, that charge amounts to 3.8% of total property insurance premium in the state.

Q. In your opinion, is it appropriate to include the 3.8% compensation for assessment risk provision in property insurance rates in North Carolina?

A. Yes, not only is it appropriate, it is necessary in order that the rates are fair and reasonable to insurers. Since insurers are exposed to the risk of Beach/Fair Plans assessments as a result of writing voluntary market property insurance in the state,

they are entitled to receive fair compensation for bearing that risk. The model I have developed relies on a well established and widely accepted measure of compensation to determine a provision that will fairly compensate insurers for bearing this additional risk to their capital.

VI. PROJECTED RETURN ATTRIBUTABLE TO INSURANCE OPERATIONS

Q. Earlier you said that you had calculated the statutory return insurers would expect from underwriting dwelling insurance in North Carolina. Have you conducted such an analysis?

A. Yes, I have. I developed a model using traditional insurance profitability analyses and have calculated the 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 Exhibits RB-23 and 24 filed with this testimony.

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

A. I use this term to indicate that the rate of return presented in these exhibits 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 exhibits will prevail. However, to the extent that these assumptions are not realized, the rate of return will differ from that calculated in the exhibits.

Q. Do you have any reason to believe that the target underwriting profit of 8.5% included in this filing will not be realized during the period the upcoming dwelling insurance rates will be in effect?

A. Yes. It is obvious that, if the projections of losses and expenses in the filing are correct, insurers must obtain a rate increase of 38.9% in order to achieve the targeted underwriting profit of 8.5%. However, the rate increase actually filed by the NCRB is considerably lower than that, due to the capping of rate increases in certain territories. In fact, the impact of capping is to reduce the overall increase from 38.9% to 18.9%, the amount that was actually requested by the Bureau. If the 18.9% rate increase is approved in its entirety, and the remaining assumptions in the filing materialize as projected, then the realized underwriting profit will be significantly less than the 8.5% target in the filing. Clearly, if the underwriting profit is lower, then insurer returns will be lower as well.

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

A. Yes. The model really consists of a single page that calculates the rate of return on equity attributable to undertaking the insurance activity. It sets forth estimates of income derived from underwriting, installment fees and investment of reserves 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 installment fee income.

Q. Can you now please describe the principal elements of the rate of return analysis?

A. Yes.

1. Underwriting profit is the difference between earned premiums and projected incurred losses and expenses. This provision was selected by the appropriate committees of the Rate Bureau.

2. Installment fee income is projected based on historical installment revenues, taking into consideration the most recent information on the installment fee program.

3. Taxes are calculated assuming that the provisions of the Internal Revenue Code apply to both the underwriting and investment income earned by insurers. That is, a corporate tax rate of 21% (the new rate after the recent tax law changes) applies to statutory underwriting plus installment fee income, and an additional tax liability applies due to the reserve discounting and revenue offset provisions that are applicable to property casualty insurers. In addition, the 21% tax rate applies to investment income, but the exclusions and preferences that apply to the various classes of investment income are assumed to continue, as is the proration provision that applies to tax exempt investment income.

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). The investment yield rate 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. The investible funds in this calculation are estimated using the well known ISO State-X model, with one modification as described below.

Q. In previous testimony in North Carolina, you identified certain changes you made to the traditional rate of return analysis that is performed using this model. Did you continue these changes for this year's filing?

A. Yes. I removed the reduction of investible funds by the amount of agents' balances from the ISO State-X calculation. However, it continues to be true that the funds represented by agents' balances are not available for investment by insurers. Therefore, in the rate of return calculation, the investment income from this modified State-X calculation is reduced by the investment income attributable to agents' balances. This calculation recognizes (1) that the majority of agents' balances represent premiums not yet paid by insureds because of installment payment plans, and hence is unavailable for investment and (2) that for the small minority of agents' balances that is premiums collected by agents but not yet remitted to the companies, the investment income on that premium is additional compensation to the agents and a cost to the companies as part of the insurance transaction.

In addition, I adjusted the trended loss, LAE and fixed expense ratios to reflect the proposed rate change. That is to say, I have divided the trended loss and expense ratios at present rates by one plus the proposed rate change to reflect the change in these ratios that occur when rates are changed.

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

A. Yes. The issue of how the 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.

As part of the process of preparing a property insurance rate filing, the Property Rating Sub-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 after considering 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, 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. Of course, if the committee is not satisfied with the range of values I propose, I provide the returns associated with alternative values proposed by the committee. Ultimately, for this filing, the committee selected values of 8.5% for each line.

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, despite what has been suggested in the past by DOI witnesses, 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 Actuarial Standard of Practice #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. 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 was asked by the Rate Bureau to compute the average of what are known as the "embedded" and "current" yields, where each was based on the actual asset portfolios insurers currently hold. There has been a long-standing debate regarding the choice between embedded and current yields in insurance profitability calculations. Since the Commissioner himself adopted an approach of averaging the embedded and current yields in his 1994 automobile decision (and in his decision in the 1996 case, he selected a yield which approximated the yield obtained from this approach), the Rate Bureau has chosen to follow that methodology since that time.

To estimate the embedded yield, I calculated the ratio of investment income divided by 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 also relied on information which reflects the actual degree of leverage for insurers writing dwelling fire and extended coverage insurance in North Carolina. The premium to surplus ratio I used is the ten year average premium to surplus ratio for the top 30 company groups which wrote dwelling insurance in North Carolina in each of those years.

Q. Can you please provide the results of your calculations regarding the projected rate of return to the insurance transaction if your underlying assumptions are realized?

A. Yes. I estimate that insurers in North Carolina should expect to earn statutory returns on net worth of 7.6% for dwelling fire insurance and 6.4% for dwelling extended coverage insurance in North Carolina. In addition, the total return on net worth (i.e., including investment income on surplus) is 10.3% for dwelling fire and 9.5% for dwelling extended coverage. While the statutory returns are well below the lower bound of Dr. Vander Weide's range for the cost of capital, the total return falls within (albeit below the midpoint of) that range.

Q. Are there any factors that might impact the realization of these projected returns?

A. Yes. In order for the aggregate industry to achieve the returns projected in these exhibits, every assumption in the model must be realized exactly, and the industry must receive the full indicated 38.9% rate increase. I have already mentioned one prominent reason why the projected returns will not be realized; the rate increase has been capped in various territories, such that the requested overall increase is only 18.9% (compared to the indicated 38.9%). If the other assumptions in the model are realized, the impact of this capping is to reduce the expected underwriting profit well below 8.5% and to reduce the statutory return on net worth and the expected total return on net worth well below the lower bound of Dr. Vander Weide's range for the cost of capital.

In addition to the capping, and even if every other projection in the filing is exactly realized, the industry will still not realize these projected returns because the filing does not reflect the current surplus position of the aggregate industry. For the sake of stability in the ratemaking process, the premium to surplus ratios used in my calculations are based on long term historical data. The most recent data show that the aggregate industry writing dwelling insurance in North Carolina has more surplus in relation to premiums that the historical averages used in my calculations. Therefore, even if all other assumptions were realized exactly, the calculated rate of return would overstate the returns the aggregate industry would reasonably expect.

VII. CONCLUSION

Q. Based on the studies and analyses you have performed, have you come to any conclusions regarding the provisions for underwriting profit provision, net cost of reinsurance, and compensation for assessment risk that have been filed by the Rate Bureau as part of the filing 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 projected and expected returns, I believe that the underwriting profit provisions selected by the Rate Bureau and used in determining the indicated rate level changes comply with North Carolina law and are not excessive. Furthermore, given the territorial capping of the filed rate level changes, the underwriting profit and returns *expected* to be realized by insurers will be substantially lower than those indicated, and hence will also not be excessive. In addition, based on my analyses of the cost of reinsurance and the required compensation for the risk of Beach/Fair Plans assessments, I believe that the filed provisions for the net cost of reinsurance and the required compensation for assessment risk are both reasonable and not excessive. Finally, assuming that the actuarial estimates in the filing are reasonable, it is my opinion that including the filed underwriting profit provisions,

net cost of reinsurance provision, and compensation for assessment risk provision would produce rates that are just, reasonable and not excessive, inadequate or unfairly discriminatory.

Q. Does this conclude your testimony?

A. Yes, it does.

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1989 to present	**MILLIMAN, INC.**
2017	Senior Consultant
1989 to 2016	Principal & Director - Economics Consulting Responsible for the formation, development and management of a national consulting practice in insurance economics.
1980 to 1989	**NATIONAL COUNCIL ON COMPENSATION INSURANCE** Economic and Social Research Division
1985 to 1989	Vice President
1983	Assistant Vice President Responsible for all economic and social research of NCCI
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
1981-93	Teach variety of graduate courses including: Microeconomic Theory, Industrial Organization, Public Finance
1978-80	Instructor, Department of Economics, New Brunswick, New Jersey
1976-78	Adjunct Instructor, Department of Economics, Newark, New Jersey

EDUCATION:

1980	Ph.D., Economics, Rutgers University
1976	M.A., Economics, Rutgers University
1972	B.A., Economics, Brooklyn College, CUNY
	Fellow: National Academy of Social Insurance

PAPERS AND PUBLICATIONS

"Comment on Jaffee and Russell" in Deregulating Property-Liability Insurance, J. David Cummins, Editor, Brookings Institution Press, Washington, DC, 2002

"Dynamic Financial Analysis of a Workers Compensation Insurer", CAS Call Papers Program, 1997 (with Susan Witcraft and Mark Mulvaney)

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"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)

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"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

Huntington Beach, California, March 11, 2013
CAS RPM Seminar
"Risk Loads for Property Catastrophe Covers: Primary and Reinsurer Perspectives"

Huntington Beach, California, March 11, 2013
CAS RPM Seminar
"The Actuary as Expert Witness"

Philadelphia, Pennsylvania, March 20, 2012
CAS Ratemaking Seminar
"How Reinsurers Consider Risk Loads and Cost of Capital for Property Cat Covers"

Chicago, IL , March 17, 2010
CAS Ratemaking Seminar
"Logic, Fallacies and Paradoxes in Risk/Profit Loading in Ratemaking: A Socratic Dialogue"

Chicago, IL , March 16, 2010
CAS Ratemaking Seminar
"Quantifying Risk Loads for Property Catastrophe Exposure"

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 Conference
"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"

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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

Utica, New York, July 6, 2016
Village of Ilion, et.al., v. County of Herkimer, et.al.

San Francisco, California, November 19, 2015
State Farm General Homeowners Insurance Rate Hearing

Tallahassee, Florida, October 21, 2015
NCCI Workers Compensation Insurance Rate Hearing

Raleigh, North Carolina, October 27, 2014
Homeowners Insurance Rate Hearing

Tallahassee, Florida, October 14, 2014
NCCI Workers Compensation Insurance Rate Hearing

New York, NY, June 24, 2014
Omar Tigbao and Dorothy Tigbao, *et. al.,*v. QBE Financial Institutions Risk Services, Deposition

New York, NY, March 7, 2014
Thrift Development Corporation v. American International Group, et. al., Deposition

New York, New York, January 28, 2014
Cheryl Hall, *et. al.* v. Bank of America, N.A., *et. al.*, Deposition

Santa Fe, New Mexico, November 7, 2013
Biennial Title Insurance Rate Hearing

Tallahassee, Florida, October 1, 2013
NCCI Workers Compensation Insurance Rate Hearing

New York, New York, July 10, 2013
Larry Arnett and Ronda Arnett, *et. al.* v. Bank of America, N.A., *et. al.*, Deposition

Austin, Texas, April 25, 2013
State Farm Lloyds Homeowners Rate Hearing

Tallahassee, Florida, October 4, 2012
NCCI Workers Compensation Insurance Rate Hearing

Boston, Massachusetts, May 14, 2012
Massachusetts Workers Compensation Rate Hearing

New York, New York, February 17, 2012
Temporary Services, Inc. *et. al.* v. American International Group, *et. al.*, Deposition

San Francisco, California, January 19, 2012
Mercury Insurance Company Homeowners Insurance Rate Hearing

Santa Fe, New Mexico, November 16, 2011
Biennial Title Insurance Rate Hearing

Tallahassee, Florida, October 11, 2011
NCCI Workers Compensation Insurance Rate Hearing

Tampa, Florida, September 13, 2011
Citizens Property Insurance Corporation Homeowners Insurance Hearing

Raleigh, North Carolina, July 25, 2011
Dwelling Fire and Extended Coverage Insurance Rate Hearing

Tallahassee, Florida, October 6, 2010
NCCI Workers Compensation Insurance Rate Hearing

Irvine, CA, April 21, 2010
Eastwood Insurance Services, Inc. *et. al*., vs. Titan Auto Insurance of NM, *et. al.* Deposition

San Francisco, California, March 9, 2010
Century National Insurance Company Proposition 103 Rollback Hearing

Santa Fe, New Mexico, November 18, 2009
Annual Title Insurance Rate Hearing

Tallahassee, Florida, October 29, 2009
NCCI Workers Compensation Insurance Rate Hearing

Austin, Texas, September 14, 2009
Biennial Title Insurance Rate Hearing

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
Georgia Hensley, *et. al*., vs. Computer Sciences Corp. *et. al*., 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

EXHIBIT RB-21

NORTH CAROLINA RATE BUREAU

Calculation of Reinsurance Cost
Statewide Total
Reinsurer Amounts

		All Peril
(1)	Modeled Losses and ALAE	128,540,749
(2)	Percent Reinsured	0.466
(3)	Reinsured Losses and Loss Expenses [(1) x (2)]	59,856,305
	a. Losses& ALAE Included in Base Rate	48,363,136
	b. Additional WSST/MTR Losses & ALAE	11,493,169
(4)	Reinsurance Expense Factor	0.70
(5)	Reinsurance Loss+Expenses [(3) / (4)]	85,509,007
(6)	Reinsurance Premium to Surplus Ratio	0.30
(7)	Reinsurer Underwriting Return Percent of Surplus	13.6%
(8)	Reinsurer Underwriting Return Percent of Premium[(7) / (6)]	45.3%
(9)	Reinsurance Premium [(5) / (1.000-(8))]	156,323,596
(10)	Reinsurance Expense Cost [(5)-(3)]	25,652,702
(11)	Cost of Reinsurer Capital [(9) - (3a) - (10)]	82,307,758
(12)	Reinsurer Expenses plus Cost of Reinsurer Capital [(10) + (11)]	107,960,460

Notes:

(1), (2), (3) from Simulation.
(2) Assumes hurricane losses reinsured from $180 million to $2,440 million.
(4) Judgment based on Professional Reinsurers Expenses.
(6) Milliman Analysis.
(7) Underwriting return that produces reasonable after-tax return on surplus.

NCIUA - North Carolina Beach Plan

Summary of 2017 Catastrophe Reinsurance

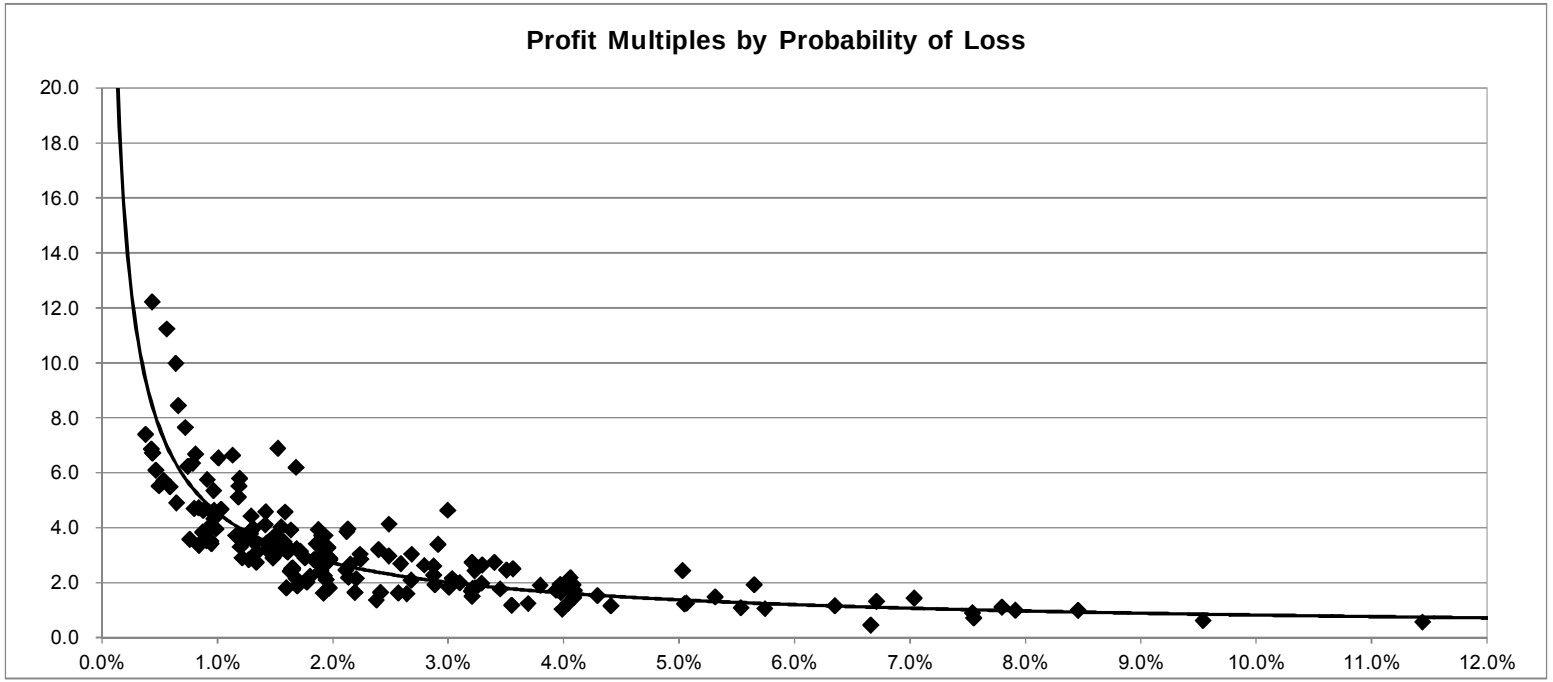
Contract [1]	Attachment Point ($ Millions)	Exhaustion Point ($ Millions)	Coverage	Reinstatement
Reinsurance Layers:				
Layer 1	2,300.0	2,478.0	100.0%	No
Layer 2	2,478.0	2,728.0	100.0%	No
Layer 3	2,728.0	3,060.0	100.0%	No

Notes: The above reinsurance covers aggregate loss for all accounts combined (Residential & Commercial).

(1) Reinsurance provides Annual Aggregate coverage.

NCIUA - North Carolina Beach Plan

Catastrophe Bond Profit Multiples



Source: Lane Financial LLC, Annual Securitization Reviews.

Notes: Based on near-term cat bonds issued from January 2009 to March 2017.
Includes all U.S. bonds with a probability of loss between 0.05% and 20.0%; excludes bonds with no stated profit multiples.

Equation of the fitted curve: $y = 0.14825 x^{-0.74315}$

Equation to determine average Profit Multiple over specific interval: $\text{Avg PM} = \int_a^b 0.14825 x^{-0.74315} dx / (b-a)$

NCIUA - North Carolina Beach Plan

Catastrophe Bond Profit Multiples

Annual Aggregate Layer [1]	Total Beach Plan Layer Attachment	Total Beach Plan Layer Exhaustion [2]	Attachment Probability	Exhaustion Probability	Profit Multiple
$0 to 2,300	$0.0	$2,300.0	46.91%	2.47%	0.57
$0 to 1,500	*0.0*	*1,500.0*	*46.91%*	*4.01%*	*0.52*
$1,500 to 2,300	*1,500.0*	*2,300.0*	*4.01%*	*2.47%*	*1.92*
$2,300 to 2,478	2,300.0	*2,478.0*	*2.47%*	*2.25%*	2.40
$2,478 to 2,728	2,478.0	*2,728.0*	*2.25%*	*1.98%*	2.60
$2,728 to 3,060	2,728.0	*3,060.0*	*1.98%*	*1.72%*	2.88
$3,060 & Higher	3,060.0	*55,042.1*	*1.72%*	0.0005%	10.38

(1) The first layer (up to $1.5 billion) was selected to be equal to an event impacting the entire Beach Plan that would exhaust the BP-Residential surplus as of March 31, 2017 ($1.28 billion).

(2) The Layer Exhaustion for the highest layer was selected to be equal to the greatest annual amount of modeled hurricane losses after blending. 100,000 years of AIR and RMS modeled losses.

NCIUA - North Carolina Beach Plan
Residential Accounts Only

Illustration of How Hurricane Losses are Funded
Voluntary Market Assessments Limited to $1 Billion on All Beach Plan Accounts Combined
($ in Millions)

	Total Beach Plan			Beach Plan:	Hurricane Losses Funded by:			
Annual Aggregate Layer	Layer Attachment	Layer Exhaustion	Total Losses in Layer	Residential Portion	Beach Plan Surplus	Private Reinsurance	Assessments on Member Companies [1]	Policyholder Surcharges
$0 to 1,500	$0.0	$1,500.0	$1,500.0	$1,278.5	$1,278.5	-	-	-
$1,500 to 2,300	1,500.0	2,300.0	800.0	674.9	-	-	$674.9	-
$2,300 to 2,478	2,300.0	2,478.0	178.0	149.8	-	$149.8	-	-
$2,478 to 2,728	2,478.0	2,728.0	250.0	210.5	-	210.5	-	-
$2,728 to 3,060	2,728.0	3,060.0	332.0	279.9	-	279.9	-	-
$3,060 & Higher	3,060.0	55,042.1	51,982.1	35,448.4	-	-	215.5	$35,232.9
TOTAL					$1,278.5	$640.2	$890.4	$35,232.9

(1) Total losses paid by Member Companies ($890.4 M) reflects the Residential portion of the $1 Billion Beach Plan assessment on the total Voluntary Market.

NCIUA - North Carolina Beach Plan
Residential Accounts Only

Determination of the Cost of Reinsurance Provided to the NCIUA by the Voluntary Market
Voluntary Market Assessments Limited to $1 Billion on All Beach Plan Accounts Combined
($ in Millions)

Annual Aggregate Layer	Beach Plan: Residential Losses in Layer	Assessments Paid by Member Companies [1]	Expected Losses [2] Total	Expected Losses [2] Exposed [3]	Indicated Profit Multiple [4]	Cost of Providing Reinsurance [5]
$0 to 1,500	$1,278.5	-	$127.23	-	0.52	-
$1,500 to 2,300	674.9	$674.9	20.83	$20.83	1.92	$40.00
$2,300 to 2,478	149.8	-	3.55	-	2.40	-
$2,478 to 2,728	210.5	-	4.47	-	2.60	-
$2,728 to 3,060	279.9	-	5.20	-	2.88	-
$3,060 & Higher	35,448.4	215.5	46.56	2.83	10.38	29.41
TOTAL		$890.4	$207.83	$23.66		$69.40

(1) See Compensation for Assessment Risk Exhibits, Page 4.
(2) From AIR & RMS hurricane models.
(3) Expected loss subject to Beach Plan assessments of Voluntary Market.
(4) See Compensation for Assessment Risk Exhibits, Page 3.
(5) = Exposed Expected Losses x Profit Multiple (from Cat Bond data).

NCJUA - North Carolina Fair Plan

Summary of 2017 Catastrophe Reinsurance

Contract [1]	Attachment Point ($ Millions)	Exhaustion Point ($ Millions)	Coverage	Reinstatement
Reinsurance Layers:				
Layer 1	$110.0	$220.0	100.0%	No

Notes: The above reinsurance covers aggregate losses for all Fair Plan accounts combined (Residential & Commercial).

(1) Reinsurance provides Annual Aggregate coverage.

NCJUA - North Carolina Fair Plan

Catastrophe Bond Profit Multiples

Annual Aggregate Layer [1]	Total Fair Plan Layer Attachment	Total Fair Plan Layer Exhaustion [2]	Attachment Probability	Exhaustion Probability	Profit Multiple
$0 to 110	$0.0	$110.0	47.25%	6.19%	0.47
$0 to 30.5	*0.0*	*30.5*	*47.25%*	*14.13%*	*0.38*
$30.5 to 110	*30.5*	*110.0*	*14.13%*	*6.19%*	*0.84*
$110 to 220	110.0	*220.0*	6.19%	3.04%	1.50
$220 & Higher	220.0	5,497.4	3.04%	0.0005%	6.91

(1) The first layer was selected to be equal to the FAIR Plan's surplus as of March 31, 2017 ($30.5 million).

(2) The Layer Exhaustion for the highest layer was selected to be equal to the greatest annual amount of modeled hurricane losses after blending 100,000 years of AIR and RMS modeled losses.

NCJUA - North Carolina Fair Plan
Residential & Commercial Accounts

Illustration of How Hurricane Losses are Funded
Reflecting Unlimited Industry Exposure to Fair Plan Assessments
($ in Millions)

	Total Fair Plan			Hurricane Losses Funded by:		
Annual Aggregate Layer	Layer Attachment	Layer Exhaustion	Total Losses in Layer	Fair Plan Surplus	Private Reinsurance	Assessments on Member Companies
$0 to 30.5	$0.0	$30.5	$30.5	$30.5	-	-
$30.5 to 110	30.5	110.0	79.5	-	-	$79.5
$110 to 220	110.0	220.0	110.0	-	$110.0	-
$220 & Higher	220.0	5,497.4	5,277.4	-	-	$5,277.4
TOTAL				$30.5	$110.0	$5,356.9

NCJUA - North Carolina Fair Plan
Residential & Commercial Accounts

Determination of the Cost of Reinsurance Provided to the NCJUA by the Voluntary Market
Reflecting Unlimited Industry Exposure to Fair Plan Assessments
($ in Millions)

Annual Aggregate Layer	Total Fair Plan Losses in Layer	Assessments Paid by Member Companies [1]	Expected Losses [2] Total	Expected Losses [2] Exposed [3]	Indicated Profit Multiple [4]	Cost of Providing Reinsurance [5]
$0 to 30.5	$30.5	-	$6.11	-	0.38	-
$30.5 to 110	79.5	$79.5	7.31	$7.31	0.84	$6.14
$110 to 220	110.0	-	4.76	-	1.50	-
$220 & Higher	5,277.4	5,277.4	8.29	8.29	6.91	57.29
TOTAL		$5,356.9	$26.47	$15.61		$63.44

(1) See Compensation for Assessment Risk Exhibits, Page 8.
(2) From AIR & RMS hurricane models.
(3) Expected loss subject to Fair Plan assessments of Voluntary Market.
(4) See Compensation for Assessment Risk Exhibits, Page 7.
(5) = Exposed Expected Losses x Profit Multiple (from Cat Bond data).

NCIUA & NCJUA - North Carolina Beach Plan & Fair Plan
Residential Accounts Only

Determination of the Compensation for Bearing the Risk of Beach Plan & Fair Plan Assessments
($ in Millions)

(1) Cost of Reinsurance Provided by the Voluntary Market to the Residential Accounts in the NCIUA (Beach Plan):	$69.40
(2) Cost of Reinsurance Provided by the Voluntary Market to the NCJUA (Fair Plan):	$63.44
(3) Residential Premium as % of Total Fair Plan Assessment Base:	70%
(4) Cost of Reinsurance Provided by the Voluntary Market to the Residential Accounts in the NCJUA (Fair Plan):	$44.40
(5) Total Cost of Reinsurance Provided by the Voluntary Market to the Residential Accounts in the NCIUA & NCJUA:	$113.81

	(6)	(7) = (6) / Total (6)	(8) = (5) x (7)	(9) = (8) / (6)
Policy Form	Estimated 2017 Industry Written Premium @ Manual Rates	% of Total Industry Premium	Allocated Compensation for Risk of Assessment	Compensation for Assessment Risk as % of 2017 Manual Premium
Homeowners	$2,534.0	84.2%	$95.79	3.8%
Dwelling Fire & EC	322.6	10.7%	12.20	3.8%
MobileHome	153.9	5.1%	5.82	3.8%
Total	$3,010.5	100.0%	$113.81	3.8%

(1) From Compensation for Assessment Risk Exhibits, Page 5.

(2) From Compensation for Assessment Risk Exhibits, Page 9.

(4) = (2) x (3)

(5) = (1) + (4)

(6) 2016 Industry Premium includes NCIUA and NCJUA.

NCRB - PRO FORMA STATUTORY RETURN

DWELLING INSURANCE - FIRE

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	58.31%		
Commission & Brokerage	11.20%		
General Expense	6.12%		
Other Acquisition Expense	8.37%		
Taxes, Licenses and Fees	2.90%		
Policyholder Dividends	0.40%		
Compensation for Assessment Risk	4.20%		
2. Pro-Forma Underwriting Profit	8.50%		
3. Installment Fee Income	0.62%		
4. Regular tax		1.92%	
5. Additional tax due to TRA		0.04%	
6. Return from Underwriting (post-tax)			7.17%
7. Investment Gain on Insurance Transaction	3.07%		
Less Investment Income on Agents Balances	0.64%		
Net Investment Gain on Insurance Transaction	2.43%	0.38%	2.05%
8. Statutory Return as a % of Premium (post-tax)			9.22%
9. Premium-to-Net Worth Ratio			0.825
10. Statutory Return as a % of Net Worth (post-tax)			7.61%

Note: Lines (1) to (8) are all expressed as a % of premium.

Assumptions

(a) UW Tax Rate =	21.00%
(b) Inv. Income Tax Rate =	15.46%
(c) Inv. Yield =	3.40%
(d) P/S Ratio =	0.95
(e) NW/S Ratio =	1.15
(f) Installment Fee Income=	0.62%
(g) Additional TRA tax=	0.04%

NOTES TO EXHIBIT RB-23, Page 1

1. The expense provisions are those used on page C-1 of Exhibit RB-1, as adjusted for the proposed rate change.

2. Selected by Rate Bureau.

3. See assumption (f) below.

4. [(2)+(3)] x (a).

5. See assumption (g) below.

6. (2) + (3) - [(4) + (5)].

7. Pages 7-10. Investment income on agents' balances equals 0.189 x 1.022 x (c), where 0.189 is agents' balances for premiums due less than 90 days and 1.022 is the factor to include the effects of agents' balances uncollected premiums overdue for more than 90 days.

8. (6) + (7).

9. (d)/(e).

10. (8) x (9).

ASSUMPTIONS

(a) Internal Revenue Code.

(b) See RB-23, pp. 11-13; 1-avg post-tax yield/avg pre-tax yield.

(c) See RB-23, pp. 11-13; average of current and embedded yields.

(d) See RB-23, p. 14

(e) See RB-23, p. 15.

(f) See RB-23, p. 3.

(g) See RB-23, pp. 4-6

NCRB - PRO FORMA STATUTORY RETURN
ADJUSTED TO INCLUDE INVESTMENT INCOME ON SURPLUS
DWELLING INSURANCE - FIRE

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	58.31%		
Commission & Brokerage	11.20%		
General Expense	6.12%		
Other Acquisition Expense	8.37%		
Taxes, Licenses and Fees	2.90%		
Policyholder Dividends	0.40%		
Compensation for Assessment Risk	4.20%		
2. Pro-Forma Underwriting Profit	8.50%		
3. Installment Fee Income	0.62%		
4. Regular tax		1.92%	
5. Additional tax due to TRA		0.04%	
6. Return from Underwriting (post-tax)			7.17%
7. Investment Gain on Insurance Transaction	3.07%		
Less Investment Income on Agents Balances	0.64%		
Net Investment Gain on Insurance Transaction	2.43%	0.38%	2.05%
8. Investment Gain on Surplus (Including Prepaid Expense Adjustment)	3.92%	0.61%	3.31%
9. Total Return as a % of Premium (post-tax)			12.53%
10. Premium-to-Net Worth Ratio			0.825
11. Total Return as a % of Net Worth (post-tax)			10.34%

Note: Lines (1) to (9) are all expressed as a % of premium.

Assumptions

(a) UW Tax Rate =	21.00%
(b) Inv. Income Tax Rate =	15.46%
(c) Inv. Yield =	3.40%
(d) P/S Ratio =	0.95
(e) NW/S Ratio =	1.15
(f) Installment Fee Income=	0.62%
(g) Additional TRA tax=	0.04%

NOTES TO EXHIBIT RB-23, Page 1A

1. The expense provisions are those used on page C-1 of Exhibit RB-1, as adjusted for the proposed rate change.

2. Selected by Rate Bureau.

3. See assumption (f) below.

4. [(2)+(3)] x (a).

5. See assumption (g) below.

6. (2) + (3) - [(4) + (5)].

7. Pages 7-10. Investment income on agents' balances equals 0.189 x 1.022 x (c), where 0.189 is agents' balances for premiums due less than 90 days and 1.022 is the factor to include the effects of agents' balances o uncollected premiums overdue for more than 90 days.

8. (c) x [1/(d) + (0.2086 x 0.4902)], where 0.2086 is the prepaid expense ratio from page 7 and 0.4902 is the unearned premium reserve to premium ratio from page 7.

9. (6) + (7) + (8).

10. (d) / (e).

11. (9) x (10).

ASSUMPTIONS

(a) Internal Revenue Code.

(b) See RB-23, pp. 11-13; 1-avg post-tax yield/avg pre-tax yield.

(c) See RB-23, pp. 11-13; average of current and embedded yields.

(d) See RB-23, p. 14

(e) See RB-23, p. 15.

(f) See RB-23, p. 3.

(g) See RB-23, pp. 4-6

NORTH CAROLINA
DWELLING INSURANCE INSTALLMENT PAYMENT INCOME
(in thousands)

Year	Inst. Charges as a % of Prem.
2016	0.59%
2015	0.56%
2014	0.59%
2013	0.72%
2012	0.64%
Average	0.62%
Selected Value	0.62%

Source: NCRB

NORTH CAROLINA
DWELLING INSURANCE - FIRE

ESTIMATION OF TRA TAXABLE INCOME

1	Earned Premium (current year)	100.00%
2	UEPR (previous year)	48.49%
3	UEPR (current year)	49.37%
4	Increase = (3)-(2)	0.88%
5	20% of Increase = Taxable Income	0.18%
6	Tax Liability = (5)xtax rate	0.04%
7	Unpaid Losses (current year)	9.24%
8	Discounted unpaid losses (current year)	9.11%
9	Unpaid Losses (previous year)	9.08%
10	Discounted unpaid losses (previous year)	8.95%
11	Additional Income	0.00%
12	Tax Liability	0.00%
	Other Tax Liabilities	
13	UEP	0.04%
14	Discounting of Loss Reserves	0.00%
15	Total	0.04%

NORTH CAROLINA
DWELLING INSURANCE - FIRE
CALCULATION OF TAXABLE INCOME

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
AY Avg Acc Date	AY Pay Pattern	Percent Unpaid	Total Losses	Unpaid Losses	AY at current year enc	Discount Factor	Discounted Weight	AY at prior year end	Weight	Discount Factor	Discounted Weight
0.5	86.10%	13.90%	58.307	8.1	2016	0.985830	8.0				
1.5	98.40%	1.60%	57.263	0.9	2015	0.983512	0.9	2015	7.9596027	0.985830	7.8
2.5	99.70%	0.30%	56.238	0.2	2014	0.991704	0.2	2014	0.8998103	0.983512	0.9
3.5	99.90%	0.10%	55.231	0.1	2013	0.991704	0.1	2013	0.1656939	0.991704	0.2
4.5	100.00%	0.00%	54.243	0.0	2012	0.991704	0.0	2012	0.0542425	0.991704	0.1
5.5	100.00%	0.00%	53.271	0.0	2011	0.991704	0.0	2011	0	0.991704	0.0
6.5	100.00%	0.00%	52.318	0.0	2010	0.991704	0.0	2010	0	0.991704	0.0
7.5	100.00%	0.00%	51.381	0.0	2009	0.991704	0.0	2009	0	0.991704	0.0
8.5	100.00%	0.00%	50.461	0.0	2008	0.991704	0.0	2008	0	0.991704	0.0
9.5	100.00%	0.00%	49.558	0.0	2007	0.991704	0.0	2007	0	0.991704	0.0
10.5	100.00%	0.00%	48.671	0.0	2006	0.991704	0.0	2006	0	0.991704	0.0
11.5	100.00%	0.00%	47.799	0.0	2005	0.991704	0.0	2005	0	0.991704	0.0
12.5	100.00%	0.00%	46.943	0.0	2004	0.991704	0.0	2004	0	0.991704	0.0
13.5	100.00%	0.00%	46.103	0.0	2003	0.991704	0.0	2003	0	0.991704	0.0
14.5	100.00%	0.00%	45.278	0.0	2002	0.991704	0.0	2002	0	0.991704	0.0
15.5	100.00%	0.00%	44.467	0.0	2001	0.991704	0.0	2001	0	0.991704	0.0
16.5	100.00%	0.00%	43.671	0.0	2000	0.991704	0.0	2000	0	0.991704	0.0
17.5	100.00%	0.00%	42.889	0.0	1999	0.991704	0.0	1999	0	0.991704	0.0
18.5	100.00%	0.00%	42.121	0.0	1998	0.991704	0.0	1998	0	0.991704	0.0
19.5	100.00%	0.00%	41.367	0.0	1997	0.991704	0.0	1997	0	0.991704	0.0
20.5	100.00%	0.00%	40.627	0.0	1996	0.991704	0.0	1996	0	0.991704	0.0
21.5	100.00%	0.00%	39.899	0.0	1995	0.991704	0.0	1995	0	0.991704	0.0
22.5	100.00%	0.00%	39.185	0.0	1994	0.991704	0.0	1994	0	0.991704	0.0
23.5	100.00%	0.00%	38.483	0.0	1993	0.991704	0.0	1993	0	0.991704	0.0
24.5	100.00%	0.00%	37.794	0.0	1992	0.991704	0.0	1992	0	0.991704	0.0
25.5	100.00%	0.00%	37.118	0.0	1991	0.991704	0.0	1991	0	0.991704	0.0
26.5	100.00%	0.00%	36.453	0.0	1990	0.991704	0.0	1990	0	0.991704	0.0
27.5	100.00%	0.00%	35.801	0.0	1989	0.991704	0.0	1989	0	0.991704	0.0
28.5	100.00%	0.00%	35.160	0.0	1988	0.991704	0.0	1988	0	0.991704	0.0
29.5	100.00%	0.00%	34.530	0.0	1987	0.991704	0.0	1987	0	0.991704	0.0
30.5	100.00%	0.00%	33.912	0.0	1986	0.991704	0.0	1986	0	0.991704	0.0
31.5	100.00%	0.00%	33.305	0.0	1985	0.991704	0.0	1985	0	0.991704	0.0
32.5	100.00%	0.00%	32.709	0.0	1984	0.991704	0.0	1984	0	0.991704	0.0
33.5	100.00%	0.00%	32.123	0.0	1983	0.991704	0.0	1983	0	0.991704	0.0
34.5	100.00%	0.00%	31.548	0.0	1982	0.991704	0.0	1982	0	0.991704	0.0
35.5	100.00%	0.00%	30.983	0.0	1981	0.991704	0.0	1981	0	0.991704	0.0
36.5	100.00%	0.00%	30.428	0.0	1980	0.991704	0.0	1980	0	0.991704	0.0
37.5	100.00%	0.00%	29.884	0.0	1979	0.991704	0.0	1979	0	0.991704	0.0
38.5	100.00%	0.00%	29.349	0.0	1978	0.991704	0.0	1978	0	0.991704	0.0
39.5	100.00%	0.00%	28.823	0.0	1977	0.991704	0.0	1977	0	0.991704	0.0
40.5	100.00%	0.00%	28.307	0.0	1976	0.991704	0.0	1976	0	0.991704	0.0
41.5	100.00%	0.00%	27.800	0.0	1975	0.991704	0.0	1975	0	0.991704	0.0
42.5	100.00%	0.00%	27.303	0.0	1974	0.991704	0.0	1974	0	0.991704	0.0
43.5	100.00%	0.00%	26.814	0.0	1973	0.991704	0.0	1973	0	0.991704	0.0
44.5	100.00%	0.00%	26.334	0.0	1972	0.991704	0.0	1972	0	0.991704	0.0
45.5	100.00%	0.00%	25.862	0.0	1971	0.991704	0.0	1971	0	0.991704	0.0
46.5	100.00%	0.00%	25.399	0.0	1970	0.991704	0.0	1970	0	0.991704	0.0
47.5	100.00%	0.00%	24.945	0.0	1969	0.991704	0.0	1969	0	0.991704	0.0
48.5	100.00%	0.00%	24.498	0.0	1968	0.991704	0.0	1968	0	0.991704	0.0
49.5	100.00%	0.00%	24.060	0.0	1967	0.991704	0.0	1967	0	0.991704	0.0
50.5	100.00%	0.00%	23.629	0.0	1966	0.991704	0.0	1966	0	0.991704	0.0
51.5	100.00%	0.00%	23.206	0.0	1965	0.991704	0.0	1965	0	0.991704	0.0
52.5	100.00%	0.00%	22.790	0.0	1964	0.991704	0.0	1964	0	0.991704	0.0
53.5	100.00%	0.00%	22.382	0.0	1963	0.991704	0.0	1963	0	0.991704	0.0
54.5	100.00%	0.00%	21.982	0.0	1962	0.991704	0.0	1962	0	0.991704	0.0
55.5	100.00%	0.00%	21.588	0.0	1961	0.991704	0.0	1961	0	0.991704	0.0
56.5	100.00%	0.00%	21.202	0.0	1960	0.991704	0.0	1960	0	0.991704	0.0
57.5	100.00%	0.00%	20.822	0.0	1959	0.991704	0.0	1959	0	0.991704	0.0
58.5	100.00%	0.00%	20.449	0.0	1958	0.991704	0.0	1958	0	0.991704	0.0
59.5	100.00%	0.00%	20.083	0.0	1957	0.991704	0.0	1957	0	0.991704	0.0
60.5	100.00%	0.00%	19.724	0.0	1956	0.991704	0.0	1956	0	0.991704	0.0
61.5	100.00%	0.00%	19.370	0.0	1955	0.991704	0.0	1955	0	0.991704	0.0
62.5	100.00%	0.00%	19.024	0.0	1954	0.991704	0.0	1954	0	0.991704	0.0
63.5	100.00%	0.00%	18.683	0.0	1953	0.991704	0.0	1953	0	0.991704	0.0
64.5	100.00%	0.00%	18.349	0.0	1952	0.991704	0.0	1952	0	0.991704	0.0
65.5	100.00%	0.00%	18.020	0.0	1951	0.991704	0.0	1951	0	0.991704	0.0
66.5	100.00%		17.698	0.0	1950	0.991704	0.0	1950	0	0.991704	0.0
Sum				9.24	Sum		9.11	Sum			8.95

NOTES TO PAGES 4 AND 5

Page 4

1 Current year earned premium

2 Estimated prior year UEPR as percent of current year earned premium given assumed premium growth rate

3 Annual Statement, page 15, UEPR/Earned Premium for all companies writing this line of insurance in North Carolina.

4 Line (3) - line (2)

5 Line (4) x .20.

6 Line (5) x .35.

7 Unpaid current-year losses at year-end as a percent of premium. Sum of Page 5, Column (5).

8 Discounted unpaid current-year losses at year-end as a percent of premium. Sum of Page 5, Column (8).

9 Unpaid prior-year losses at year-end as a percent of premium. Sum of Page 5, Column (5) divided by (1+ assumed growth rate).

10 Discounted unpaid prior-year losses at year-end as a percent of premium. Sum of Page 5, Column (12).

11 Line (7) - Line (8) - [Line (9) - Line (10)]

12 Line (11) x .35

13 Line (6)

14 Line (12)

15 Line (13) + Line (14)

Page 5

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 assumed historical growth rate.

5 Column (3) x Column (4)

6 Accident Year at current year end

7 Discount factor per IRS Regulations.

8 Column (5) x Column (7)

9 Accident Year at prior year end

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
DWELLING INSURANCE - FIRE
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	49.02%	490,200
3. Deductions for prepaid expenses		
Commissions & Brokerage	11.20%	
Taxes, Licenses & Fees	2.42%	
One Half Other Acquisition Expense	4.19%	
One Half General Expense	3.06%	
Total	20.86%	
4. Deduction for Prepaid Expenses: (2) x (3)		102,273
5. Net UEPR Subject to Inv (4) - (2)		387,927
B. Loss and Loss Expense Reserves		
1. Direct Earned Premium		1,000,000
2. Expected Inc L & LAE to Premium Ratio	0.5831	583,072
3. Expected Mean L&LAE Reserve to Inc. L & LAE Ratio	0.882	514,395
C. Net PH Funds Subj to Inv (A5 + B3)		902,322
D. Average Rate of Return		3.40%
E. Investment Earnings from Net Reserves (D) x (E)		30,679
F. Average Rate of Return as a Percent of Direct Earned Premium (E) / (A1)		3.07%

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1

All calculations are displayed per $1,000,000 direct earned premiums.

Line A-2

The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/current year for all companies writing Dwelling insurance in North Carolina. These data are from page 15 of the Annual Statement.

1. Collected Earned Premium for Calendar Year ended 12/31/current year	223,334,819
2. Unearned Premium Reserve as of 12/31/prior year	108,709,303
3. Unearned Premium Reserve as of 12/31/current year	110,269,649
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	109,489,476
5. Ratio (4) ÷ (1)	0.4902

Line A-3

Deduction for prepaid expenses:

Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/current year.

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line B-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/current year.

Line B-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses for Dwelling insurance. This ratio is based on North Carolina companies' Page 15 annual statement data and has been adjusted to include loss adjustment expense reserves.

1	Incurred Losses for CY	2011	102,073,802
2	Incurred Losses for CY	2012	66,518,503
3	Incurred Losses for CY	2013	136,761,812
4	Incurred Losses for CY	2014	43,158,269
5	Incurred Losses for CY	2015	104,490,797
6	Loss Reserves as of 12/31	2010	64,594,784
7	Loss Reserves as of 12/31	2011	56,782,146
8	Loss Reserves as of 12/31	2012	44,814,079
9	Loss Reserves as of 12/31	2013	104,621,425
10	Loss Reserves as of 12/31	2014	34,562,766
11	Loss Reserves as of 12/31	2015	78,177,895
12	Mean Loss Reserve	2011	60,688,465
13	Mean Loss Reserve	2012	50,798,113
14	Mean Loss Reserve	2013	74,717,752
15	Mean Loss Reserve	2014	69,592,096
16	Mean Loss Reserve	2015	56,370,331
17	Loss Reserve Ratio	2011	0.595
18	Loss Reserve Ratio	2012	0.764
19	Loss Reserve Ratio	2013	0.546
20	Loss Reserve Ratio	2014	1.612
21	Loss Reserve Ratio	2015	0.539
22	Average Loss Reserve Ratio		0.811
23	Ratio of LAE Reserves to Loss Reserves		0.269
24	Ratio of Incurred LAE to Incurred Losses		0.167
25	Loss and LAE Reserve/Incurred Loss&LAE		0.882

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

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, plus the ten year average ratio of capital gains to invested assets (see page 12). 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 page 11).

Embedded Yield =	3.15% + 0.31% =	3.46%
Current Yield =		3.35%
Average =		3.40%

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	9.33%	1.57%	21.00%	1.24%
States & territories	9.81%	1.64%	5.25%	1.55%
Special revenue	19.16%	1.86%	5.25%	1.76%
Industrial	30.05%	2.30%	21.00%	1.82%
Preferred stock	0.97%	5.57%	9.98%	5.01%
Common stock	22.58%	9.42%	18.83%	7.65%
Mortgage Loans	0.87%	3.65%	21.00%	2.88%
Real estate	0.82%	4.83%	21.00%	3.82%
Cash & short-term invs.	6.39%	0.89%	21.00%	0.70%
Rate of Return Pre-Inv Exp	100.00%	3.66%	17.35%	3.03%
Investment Expenses		0.32%	21.00%	0.25%
Portfolio Rate of Return		**3.35%**	17.01%	**2.78%**

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, 2017 Valuation Yearbook
Ibbotson and Siegel, AREUEA Journal, 1984.
A.M. Best's Aggregates & Averages, 2016 edition.

PORTFOLIO YIELD AND TAX RATE
EMBEDDED YIELD

	Income	Tax Rate
Bonds		
Taxable	22,250,748	21.00%
Non-Taxable	11,053,798	5.25%
Stocks		
Taxable	7,417,662	9.98%
Non-Taxable	1,533,307	5.25%
Mortgage Loans	559,969	21.00%
Real Estate	1,696,990	21.00%
Contract Loans	730	21.00%
Cash / Short Term Inv.	176,203	21.00%
All Other	9,604,417	21.00%
Total	54,293,824	15.84%
Inv. Expenses	4,902,666	21.00%
Net Inv. Income	49,391,158	15.33%
Mean Invested Assets	1,567,611,077	
Inv. Inc. Yield Rate	3.15%	15.33%
Capital Gains (10 yr. avg) (% Of Inv. Assets)	0.31%	0.00%
Invest. Yield Rate (pre-tax)	**3.46%**	**13.96%**
Invest. Yield Rate (post-tax)	**2.98%**	

Source: Best's Aggregates and Averages, 2016 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
2006	1,217,432,187	3,587,228	0.29%
2007	1,297,478,130	9,031,778	0.70%
2008	1,288,393,875	(21,018,623)	-1.63%
2009	1,274,678,809	(8,079,575)	-0.63%
2010	1,330,998,082	8,100,143	0.61%
2011	1,366,568,026	7,563,305	0.55%
2012	1,350,656,619	9,035,405	0.67%
2013	1,423,600,934	12,163,890	0.85%
2014	1,543,882,475	12,093,078	0.78%
2015	1,567,611,077	9,887,732	0.63%
Total	13,661,300,212	42,364,361	0.31%

*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

New tax rates

NORTH CAROLINA
DWELLING INSURANCE

PREMIUM-TO-SURPLUS RATIOS

Year	Fire	Extended Coverage
2006	1.001	1.010
2007	0.948	0.967
2008	0.988	1.015
2009	0.950	0.938
2010	0.974	0.878
2011	1.174	1.006
2012	1.032	0.933
2013	0.854	0.860
2014	0.808	0.819
2015	0.790	0.800
Five-Year Average	0.932	0.884
Ten-Year Average	0.952	0.923

Notes:

1 Ratios based on net premium written.
2 From Best's Data Service and Best's Aggregate and Averages.
3 Top 30 groups each year.

NORTH CAROLINA DWELLING FIRE/EC INSURANCE
CALCULATION OF GAAP NET WORTH TO SURPLUS RATIO

	2011	2012	2013	2014	2015
Policyholder Surplus	553,794,328,471	587,061,063,988	653,380,281,255	675,233,591,461	674,150,481,028
+ Deferred Acquisition Costs	27,670,594,098	28,717,782,350	30,010,149,317	31,242,614,928	32,401,590,297
+ Non-Admitted DTA Provision	16,898,320,478	12,829,214,564	11,638,345,594	11,237,499,832	12,112,807,244
+ Non-admitted Assets (non-tax part)	34,839,553,748	36,238,971,886	33,348,888,924	33,563,586,431	40,260,421,135
+ Provision for Reinsurance	2,981,599,506	2,595,871,371	2,471,928,096	2,392,301,235	2,251,585,712
+ Provision for FASB 115(after-tax)	35,069,557,742	42,220,449,087	14,722,750,582	25,814,318,855	16,081,984,811
- Surplus Notes	(14,704,469,032)	(12,279,333,642)	(12,190,299,603)	(11,673,768,635)	(12,446,044,946)
GAAP-adjusted Net Worth	656,549,485,011	697,384,019,604	733,382,044,165	767,810,144,106	764,812,825,281
Ratio of GAAP Net Worth to Statutory Surplus	1.19	1.19	1.12	1.14	1.13
Five Year Average	1.15				

Source: ISO

NCRB - PRO FORMA STATUTORY RETURN

DWELLING INSURANCE - EXTENDED COVERAGE

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	43.17%		
Commission & Brokerage	9.80%		
General Expense	2.33%		
Other Acquisition Expense	3.85%		
Taxes, Licenses and Fees	2.70%		
Policyholder Dividends	0.40%		
Compensation for Assessment Risk	1.94%		
Net Cost of Reinsurance	27.31%		
2. Pro-Forma Underwriting Profit	8.50%		
3. Installment Fee Income	0.62%		
4. Regular tax		1.92%	
5. Additional tax due to TRA		0.06%	
6. Return from Underwriting (post-tax)			7.15%
7. Investment Gain on Insurance Transaction	1.54%		
Less Investment Income on Agents Balances	0.54%		
Net Investment Gain on Insurance Transaction	1.01%	0.16%	0.85%
8. Statutory Return as a % of Premium (post-tax)			8.00%
9. Premium-to-Net Worth Ratio			0.800
10. Statutory Return as a % of Net Worth (post-tax)			6.40%

Note: Lines (1) to (8) are all expressed as a % of premium.

Assumptions

(a) UW Tax Rate =	21.00%
(b) Inv. Income Tax Rate =	15.46%
(c) Inv. Yield =	3.40%
(d) P/S Ratio =	0.92
(e) NW/S Ratio =	1.15
(f) Installment Fee Income=	0.62%
(g) Additional TRA tax=	0.06%
(h) Net Cost of Reinsurance	27.31%

NOTES TO EXHIBIT RB-24, Page 1

1. The expense provisions are those used on page C-3 of Exhibit RB-1, as adjusted for the proposed rate change.

2. Selected by Rate Bureau.

3. See assumption (f) below.

4. [(2)+(3)] x (a).

5. See assumption (g) below.

6. (2) + (3) - [(4) + (5)].

7. Pages 7-10. Investment income on agents' balances equals 0.189 x 1.022 x (c), where 0.189 is agents' balances for premiums due less than 90 days and 1.022 is the factor to include the effects of agents' balances uncollected premiums overdue for more than 90 days.

8. (6) + (7).

9. (d)/(e).

10. (8) x (9).

ASSUMPTIONS

(a) Internal Revenue Code.

(b) See RB-24, pp. 11-13; 1-avg post-tax yield/avg pre-tax yield.

(c) See RB-24, pp. 11-13; average of current and embedded yields.

(d) See RB-24, p. 14

(e) See RB-24, p. 15.

(f) See RB-24, p. 3.

(g) See RB-24, pp. 4-6

(h) See prefiled testimony.

NCRB - PRO FORMA STATUTORY RETURN
ADJUSTED TO INCLUDE INVESTMENT INCOME ON SURPLUS
DWELLING INSURANCE - EXTENDED COVERAGE

	Pre-Tax	Tax Liability	Post-Tax
1. Premiums	100.00%		
Loss & Loss Adjustment Expense	43.17%		
Commission & Brokerage	9.80%		
General Expense	2.33%		
Other Acquisition Expense	3.85%		
Taxes, Licenses and Fees	2.70%		
Policyholder Dividends	0.40%		
Compensation for Assessment Risk	1.94%		
Net Cost of Reinsurance	27.31%		
2. Pro-Forma Underwriting Profit	8.50%		
3. Installment Fee Income	0.62%		
4. Regular tax		1.92%	
5. Additional tax due to TRA		0.06%	
6. Return from Underwriting (post-tax)			7.15%
7. Investment Gain on Insurance Transaction	1.54%		
Less Investment Income on Agents Balances	0.54%		
Net Investment Gain on Insurance Transaction	1.01%	0.16%	0.85%
8. Investment Gain on Surplus (Including Prepaid Expense Adjustment)	4.64%	0.72%	3.92%
9. Total Return as a % of Premium (post-tax)			11.92%
10. Premium-to-Net Worth Ratio			0.800
11. Total Return as a % of Net Worth (post-tax)			9.53%

Note: Lines (1) to (9) are all expressed as a % of premium.

Assumptions

(a) UW Tax Rate =	21.00%
(b) Inv. Income Tax Rate =	15.46%
(c) Inv. Yield =	3.40%
(d) P/S Ratio =	0.92
(e) NW/S Ratio =	1.15
(f) Installment Fee Income=	0.62%
(g) Additional TRA tax=	0.06%
(h) Net Cost of Reinsurance	27.31%

NOTES TO EXHIBIT RB-24, Page 1A

1. The expense provisions are those used on page C-3 of Exhibit RB-1, as adjusted for the proposed rate change.

2. Selected by Rate Bureau.

3. See assumption (f) below.

4. [(2)+(3)] x (a).

5. See assumption (g) below.

6. (2) + (3) - [(4) + (5)].

7. Pages 7-10. Investment income on agents' balances equals 0.189 x 1.022 x (c), where 0.189 is agents' balances for premiums due less than 90 days and 1.022 is the factor to include the effects of agents' balances o uncollected premiums overdue for more than 90 days.

8. (c) x [1/(d) + (0.5630 x 0.4976)], where 0.5630 is the prepaid expense ratio from page 7 and 0.4976 is the unearned premium reserve to premium ratio from page 7.

9. (6) + (7) + (8).

10. (d) / (e).

11. (9) x (10).

ASSUMPTIONS

(a) Internal Revenue Code.

(b) See RB-24, pp. 11-13; 1-avg post-tax yield/avg pre-tax yield.

(c) See RB-24, pp. 11-13; average of current and embedded yields.

(d) See RB-24, p. 14

(e) See RB-24, p. 15.

(f) See RB-24, p. 3.

(g) See RB-24, pp. 4-6

(h) See prefiled testimony.

NORTH CAROLINA
DWELLING INSURANCE INSTALLMENT PAYMENT INCOME
(in thousands)

Year	Inst. Charges as a % of Prem.
2016	0.59%
2015	0.56%
2014	0.59%
2013	0.72%
2012	0.64%
Average	0.62%
Selected Value	0.62%

Source: NCRB

NORTH CAROLINA
DWELLING INSURANCE - EXTENDED COVERAGE

ESTIMATION OF TRA TAXABLE INCOME

1	Earned Premium (current year)	100.00%
2	UEPR (previous year)	49.62%
3	UEPR (current year)	51.05%
4	Increase = (3)-(2)	1.43%
5	20% of Increase = Taxable Income	0.29%
6	Tax Liability = (5)xtax rate	0.06%
7	Unpaid Losses (current year)	4.35%
8	Discounted unpaid losses (current year)	4.28%
9	Unpaid Losses (previous year)	4.22%
10	Discounted unpaid losses (previous year)	4.16%
11	Additional Income	0.00%
12	Tax Liability	0.00%
	Other Tax Liabilities	
13	UEP	0.06%
14	Discounting of Loss Reserves	0.00%
15	Total	0.06%

NORTH CAROLINA
DWELLING INSURANCE - EXTENDED COVERAGE
CALCULATION OF TAXABLE INCOME

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
AY Avg Acc Date	AY Pay Pattern	Percent Unpaid	Total Losses	Unpaid Losses	AY at current year end	Discount Factor	Discounted Weight	AY at prior year end	Weight	Discount Factor	Discounted Weight
0.5	90.90%	9.10%	43.168	3.9	2016	0.985830	3.9				
1.5	99.10%	0.90%	41.955	0.4	2015	0.983512	0.4	2015	3.8178803	0.985830	3.8
2.5	99.90%	0.10%	40.776	0.0	2014	0.991704	0.0	2014	0.3669837	0.983512	0.4
3.5	100.00%	0.00%	39.630	0.0	2013	0.991704	0.0	2013	0.0396303	0.991704	0.0
4.5	100.00%	0.00%	38.517	0.0	2012	0.991704	0.0	2012	0	0.991704	0.0
5.5	100.00%	0.00%	37.435	0.0	2011	0.991704	0.0	2011	0	0.991704	0.0
6.5	100.00%	0.00%	36.383	0.0	2010	0.991704	0.0	2010	0	0.991704	0.0
7.5	100.00%	0.00%	35.361	0.0	2009	0.991704	0.0	2009	0	0.991704	0.0
8.5	100.00%	0.00%	34.367	0.0	2008	0.991704	0.0	2008	0	0.991704	0.0
9.5	100.00%	0.00%	33.402	0.0	2007	0.991704	0.0	2007	0	0.991704	0.0
10.5	100.00%	0.00%	32.463	0.0	2006	0.991704	0.0	2006	0	0.991704	0.0
11.5	100.00%	0.00%	31.551	0.0	2005	0.991704	0.0	2005	0	0.991704	0.0
12.5	100.00%	0.00%	30.665	0.0	2004	0.991704	0.0	2004	0	0.991704	0.0
13.5	100.00%	0.00%	29.803	0.0	2003	0.991704	0.0	2003	0	0.991704	0.0
14.5	100.00%	0.00%	28.966	0.0	2002	0.991704	0.0	2002	0	0.991704	0.0
15.5	100.00%	0.00%	28.152	0.0	2001	0.991704	0.0	2001	0	0.991704	0.0
16.5	100.00%	0.00%	27.361	0.0	2000	0.991704	0.0	2000	0	0.991704	0.0
17.5	100.00%	0.00%	26.592	0.0	1999	0.991704	0.0	1999	0	0.991704	0.0
18.5	100.00%	0.00%	25.845	0.0	1998	0.991704	0.0	1998	0	0.991704	0.0
19.5	100.00%	0.00%	25.119	0.0	1997	0.991704	0.0	1997	0	0.991704	0.0
20.5	100.00%	0.00%	24.413	0.0	1996	0.991704	0.0	1996	0	0.991704	0.0
21.5	100.00%	0.00%	23.727	0.0	1995	0.991704	0.0	1995	0	0.991704	0.0
22.5	100.00%	0.00%	23.061	0.0	1994	0.991704	0.0	1994	0	0.991704	0.0
23.5	100.00%	0.00%	22.413	0.0	1993	0.991704	0.0	1993	0	0.991704	0.0
24.5	100.00%	0.00%	21.783	0.0	1992	0.991704	0.0	1992	0	0.991704	0.0
25.5	100.00%	0.00%	21.171	0.0	1991	0.991704	0.0	1991	0	0.991704	0.0
26.5	100.00%	0.00%	20.576	0.0	1990	0.991704	0.0	1990	0	0.991704	0.0
27.5	100.00%	0.00%	19.998	0.0	1989	0.991704	0.0	1989	0	0.991704	0.0
28.5	100.00%	0.00%	19.436	0.0	1988	0.991704	0.0	1988	0	0.991704	0.0
29.5	100.00%	0.00%	18.890	0.0	1987	0.991704	0.0	1987	0	0.991704	0.0
30.5	100.00%	0.00%	18.359	0.0	1986	0.991704	0.0	1986	0	0.991704	0.0
31.5	100.00%	0.00%	17.844	0.0	1985	0.991704	0.0	1985	0	0.991704	0.0
32.5	100.00%	0.00%	17.342	0.0	1984	0.991704	0.0	1984	0	0.991704	0.0
33.5	100.00%	0.00%	16.855	0.0	1983	0.991704	0.0	1983	0	0.991704	0.0
34.5	100.00%	0.00%	16.381	0.0	1982	0.991704	0.0	1982	0	0.991704	0.0
35.5	100.00%	0.00%	15.921	0.0	1981	0.991704	0.0	1981	0	0.991704	0.0
36.5	100.00%	0.00%	15.474	0.0	1980	0.991704	0.0	1980	0	0.991704	0.0
37.5	100.00%	0.00%	15.039	0.0	1979	0.991704	0.0	1979	0	0.991704	0.0
38.5	100.00%	0.00%	14.617	0.0	1978	0.991704	0.0	1978	0	0.991704	0.0
39.5	100.00%	0.00%	14.206	0.0	1977	0.991704	0.0	1977	0	0.991704	0.0
40.5	100.00%	0.00%	13.807	0.0	1976	0.991704	0.0	1976	0	0.991704	0.0
41.5	100.00%	0.00%	13.419	0.0	1975	0.991704	0.0	1975	0	0.991704	0.0
42.5	100.00%	0.00%	13.042	0.0	1974	0.991704	0.0	1974	0	0.991704	0.0
43.5	100.00%	0.00%	12.675	0.0	1973	0.991704	0.0	1973	0	0.991704	0.0
44.5	100.00%	0.00%	12.319	0.0	1972	0.991704	0.0	1972	0	0.991704	0.0
45.5	100.00%	0.00%	11.973	0.0	1971	0.991704	0.0	1971	0	0.991704	0.0
46.5	100.00%	0.00%	11.637	0.0	1970	0.991704	0.0	1970	0	0.991704	0.0
47.5	100.00%	0.00%	11.310	0.0	1969	0.991704	0.0	1969	0	0.991704	0.0
48.5	100.00%	0.00%	10.992	0.0	1968	0.991704	0.0	1968	0	0.991704	0.0
49.5	100.00%	0.00%	10.683	0.0	1967	0.991704	0.0	1967	0	0.991704	0.0
50.5	100.00%	0.00%	10.383	0.0	1966	0.991704	0.0	1966	0	0.991704	0.0
51.5	100.00%	0.00%	10.091	0.0	1965	0.991704	0.0	1965	0	0.991704	0.0
52.5	100.00%	0.00%	9.808	0.0	1964	0.991704	0.0	1964	0	0.991704	0.0
53.5	100.00%	0.00%	9.532	0.0	1963	0.991704	0.0	1963	0	0.991704	0.0
54.5	100.00%	0.00%	9.264	0.0	1962	0.991704	0.0	1962	0	0.991704	0.0
55.5	100.00%	0.00%	9.004	0.0	1961	0.991704	0.0	1961	0	0.991704	0.0
56.5	100.00%	0.00%	8.751	0.0	1960	0.991704	0.0	1960	0	0.991704	0.0
57.5	100.00%	0.00%	8.505	0.0	1959	0.991704	0.0	1959	0	0.991704	0.0
58.5	100.00%	0.00%	8.266	0.0	1958	0.991704	0.0	1958	0	0.991704	0.0
59.5	100.00%	0.00%	8.034	0.0	1957	0.991704	0.0	1957	0	0.991704	0.0
60.5	100.00%	0.00%	7.808	0.0	1956	0.991704	0.0	1956	0	0.991704	0.0
61.5	100.00%	0.00%	7.589	0.0	1955	0.991704	0.0	1955	0	0.991704	0.0
62.5	100.00%	0.00%	7.376	0.0	1954	0.991704	0.0	1954	0	0.991704	0.0
63.5	100.00%	0.00%	7.169	0.0	1953	0.991704	0.0	1953	0	0.991704	0.0
64.5	100.00%	0.00%	6.967	0.0	1952	0.991704	0.0	1952	0	0.991704	0.0
65.5	100.00%	0.00%	6.771	0.0	1951	0.991704	0.0	1951	0	0.991704	0.0
66.5	100.00%		6.581	0.0	1950	0.991704	0.0	1950	0	0.991704	0.0
Sum				4.35	Sum		4.28	Sum			4.16

NOTES TO PAGES 4 AND 5

Page 4

1 Current year earned premium

2 Estimated prior year UEPR as percent of current year earned premium given assumed premium growth rate

3 Annual Statement, page 15, UEPR/Earned Premium for all companies writing this line of insurance in North Carolina.

4 Line (3) - line (2)

5 Line (4) x .20.

6 Line (5) x .35.

7 Unpaid current-year losses at year-end as a percent of premium. Sum of Page 5, Column (5).

8 Discounted unpaid current-year losses at year-end as a percent of premium. Sum of Page 5, Column (8).

9 Unpaid prior-year losses at year-end as a percent of premium. Sum of Page 5, Column (5) divided by (1+ assumed growth rate).

10 Discounted unpaid prior-year losses at year-end as a percent of premium. Sum of Page 5, Column (12).

11 Line (7) - Line (8) - [Line (9) - Line (10)]

12 Line (11) x .35

13 Line (6)

14 Line (12)

15 Line (13) + Line (14)

Page 5

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 assumed historical growth rate.

5 Column (3) x Column (4)

6 Accident Year at current year end

7 Discount factor per IRS Regulations.

8 Column (5) x Column (7)

9 Accident Year at prior year end

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
DWELLING INSURANCE - EXTENDED COVERAGE
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	49.76%	497,600
3. Deductions for prepaid expenses		
Commissions & Brokerage	9.80%	
Taxes, Licenses & Fees	2.25%	
One Half Other Acquisition Expense	1.92%	
One Half General Expense	1.17%	
Cost of Reinsurance	41.16%	
Total	56.30%	
4. Deduction for Prepaid Expenses: (2) x (3)		280,167
5. Net UEPR Subject to Inv (4) - (2)		217,433
B. Loss and Loss Expense Reserves		
1. Direct Earned Premium		1,000,000
2. Expected Inc L & LAE to Premium Ratio	0.4317	431,676
3. Expected Mean L&LAE Reserve to Inc. L & LAE Ratio	0.549	236,895
C. Net PH Funds Subj to Inv (A5 + B3)		454,328
D. Average Rate of Return		3.40%
E. Investment Earnings from Net Reserves (D) x (E)		15,447
F. Average Rate of Return as a Percent of Direct Earned Premium (E) / (A1)		1.54%

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line A-1
All calculations are displayed per $1,000,000 direct earned premiums.

Line A-2
The mean unearned premium reserve is determined by multiplying the direct earned premiums in line (1) by the ratio of the mean unearned premium reserve to the collected earned premium for calendar year ended 12/31/current year for all companies writing Dwelling insurance in North Carolina. These data are from page 15 of the Annual Statement.

1. Collected Earned Premium for Calendar Year ended 12/31/current year	226,811,458
2. Unearned Premium Reserve as of 12/31/prior year	109,909,322
3. Unearned Premium Reserve as of 12/31/current year	115,797,891
4. Mean Unearned Premium Reserve 1/2 [(2) + (3)]	112,853,607
5. Ratio (4) ÷ (1)	0.4976

Line A-3
Deduction for prepaid expenses:
Production costs and a large part of the other company expenses in connection with the writing and handling of Dwelling policies, exclusive of claim adjustment expenses, are incurred when the policy is written and before the premium is paid. The deduction for these expenses is determined from data provided by the NCRB for the year ended 12/31/current year.

ESTIMATED INVESTMENT EARNINGS ON UNEARNED PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

Line B-2

The expected loss and loss adjustment expense ratio reflects the expense provisions for the year ended 12/31/current year.

Line B-3

The mean loss reserve is determined by multiplying the incurred losses in line (2) by the North Carolina ratio of the mean loss reserves to the incurred losses for Dwelling insurance. This ratio is based on North Carolina companies' Page 15 annual statement data and has been adjusted to include loss adjustment expense reserves.

1	Incurred Losses for CY	2011	270,408,965
2	Incurred Losses for CY	2012	73,137,289
3	Incurred Losses for CY	2013	54,370,019
4	Incurred Losses for CY	2014	70,749,863
5	Incurred Losses for CY	2015	70,202,684
6	Loss Reserves as of 12/312010		25,925,811
7	Loss Reserves as of 12/312011		76,934,173
8	Loss Reserves as of 12/312012		38,555,719
9	Loss Reserves as of 12/312013		30,271,468
10	Loss Reserves as of 12/312014		32,119,812
11	Loss Reserves as of 12/312015		33,833,302
12	Mean Loss Reserve	2011	51,429,992
13	Mean Loss Reserve	2012	57,744,946
14	Mean Loss Reserve	2013	34,413,594
15	Mean Loss Reserve	2014	31,195,640
16	Mean Loss Reserve	2015	32,976,557
17	Loss Reserve Ratio	2011	0.190
18	Loss Reserve Ratio	2012	0.790
19	Loss Reserve Ratio	2013	0.633
20	Loss Reserve Ratio	2014	0.441
21	Loss Reserve Ratio	2015	0.470
22	Average Loss Reserve Ratio		0.505
23	Ratio of LAE Reserves to Loss Reserves		0.269
24	Ratio of Incurred LAE to Incurred Losses		0.167
25	Loss and LAE Reserve/Incurred Loss&LAE		0.549

ESTIMATED INVESTMENT EARNINGS ON UNEARNED
PREMIUM RESERVES AND ON LOSS RESERVES

EXPLANATORY NOTES

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, plus the ten year average ratio of capital gains to invested assets (see page 12). 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 page 11).

Embedded Yield =	3.15% + 0.31% =	3.46%
Current Yield =		3.35%
Average =		3.40%

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	9.33%	1.57%	21.00%	1.24%
States & territories	9.81%	1.64%	5.25%	1.55%
Special revenue	19.16%	1.86%	5.25%	1.76%
Industrial	30.05%	2.30%	21.00%	1.82%
Preferred stock	0.97%	5.57%	9.98%	5.01%
Common stock	22.58%	9.42%	18.83%	7.65%
Mortgage Loans	0.87%	3.65%	21.00%	2.88%
Real estate	0.82%	4.83%	21.00%	3.82%
Cash & short-term invs.	6.39%	0.89%	21.00%	0.70%
Rate of Return Pre-Inv Exp	100.00%	3.66%	17.35%	3.03%
Investment Expenses		0.32%	21.00%	0.25%
Portfolio Rate of Return		**3.35%**	17.01%	**2.78%**

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, 2017 Valuation Yearbook
Ibbotson and Siegel, AREUEA Journal, 1984.
A.M. Best's Aggregates & Averages, 2016 edition.

PORTFOLIO YIELD AND TAX RATE
EMBEDDED YIELD

	Income	Tax Rate
Bonds		
Taxable	22,250,748	21.00%
Non-Taxable	11,053,798	5.25%
Stocks		
Taxable	7,417,662	9.98%
Non-Taxable	1,533,307	5.25%
Mortgage Loans	559,969	21.00%
Real Estate	1,696,990	21.00%
Contract Loans	730	21.00%
Cash / Short Term Inv.	176,203	21.00%
All Other	9,604,417	21.00%
Total	54,293,824	15.84%
Inv. Expenses	4,902,666	21.00%
Net Inv. Income	49,391,158	15.33%
Mean Invested Assets	1,567,611,077	
Inv. Inc. Yield Rate	3.15%	15.33%
Capital Gains (10 yr. avg) (% Of Inv. Assets)	0.31%	0.00%
Invest. Yield Rate (pre-tax)	**3.46%**	**13.96%**
Invest. Yield Rate (post-tax)	**2.98%**	

Source: Best's Aggregates and Averages, 2016 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
2006	1,217,432,187	3,587,228	0.29%
2007	1,297,478,130	9,031,778	0.70%
2008	1,288,393,875	(21,018,623)	-1.63%
2009	1,274,678,809	(8,079,575)	-0.63%
2010	1,330,998,082	8,100,143	0.61%
2011	1,366,568,026	7,563,305	0.55%
2012	1,350,656,619	9,035,405	0.67%
2013	1,423,600,934	12,163,890	0.85%
2014	1,543,882,475	12,093,078	0.78%
2015	1,567,611,077	9,887,732	0.63%
Total	13,661,300,212	42,364,361	0.31%

*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

New tax rates

NORTH CAROLINA
DWELLING INSURANCE

PREMIUM-TO-SURPLUS RATIOS

Year	Fire	Extended Coverage
2006	1.001	1.010
2007	0.948	0.967
2008	0.988	1.015
2009	0.950	0.938
2010	0.974	0.878
2011	1.174	1.006
2012	1.032	0.933
2013	0.854	0.860
2014	0.808	0.819
2015	0.790	0.800
Five-Year Average	0.932	0.884
Ten-Year Average	0.952	0.923

Notes:

1 Ratios based on net premium written.
2 From Best's Data Service and Best's Aggregate and Averages.
3 Top 30 groups each year.

NORTH CAROLINA DWELLING FIRE/EC INSURANCE
CALCULATION OF GAAP NET WORTH TO SURPLUS RATIO

	2011	2012	2013	2014	2015
Policyholder Surplus	553,794,328,471	587,061,063,988	653,380,281,255	675,233,591,461	674,150,481,028
+ Deferred Acquisition Costs	27,670,594,098	28,717,782,350	30,010,149,317	31,242,614,928	32,401,590,297
+ Non-Admitted DTA Provision	16,898,320,478	12,829,214,564	11,638,345,594	11,237,499,832	12,112,807,244
+ Non-admitted Assets (non-tax part)	34,839,553,748	36,238,971,886	33,348,888,924	33,563,586,431	40,260,421,135
+ Provision for Reinsurance	2,981,599,506	2,595,871,371	2,471,928,096	2,392,301,235	2,251,585,712
+ Provision for FASB 115(after-tax)	35,069,557,742	42,220,449,087	14,722,750,582	25,814,318,855	16,081,984,811
- Surplus Notes	(14,704,469,032)	(12,279,333,642)	(12,190,299,603)	(11,673,768,635)	(12,446,044,946)
GAAP-adjusted Net Worth	656,549,485,011	697,384,019,604	733,382,044,165	767,810,144,106	764,812,825,281
Ratio of GAAP Net Worth to Statutory Surplus	1.19	1.19	1.12	1.14	1.13
Five Year Average	1.15				

Source: ISO