

**PENNSYLVANIA COMPENSATION RATING BUREAU**

---

**Summary of Material for Modification of Experience  
January 1, 2019 Loss Cost Revision**

**As Filed**

**PENNSYLVANIA LOSS COST FILING**

**EFFECTIVE DATE - January 1, 2019**

**INDEX**

**PART I - INDICATED LOSS COST CHANGE**

<b><u>Exhibit</u></b>	<b><u>Description</u></b>	<b><u>Page</u></b>
I	Indicated Change in Loss Cost Level	1
II	Employer Assessment Factor and Loss Assessment Load	2
III	Policy Year Ratios of Losses to Expected Losses	3
IV	Policy Year Premium On-Level Factors	13
V	Policy Year Development Factors	15
VI	Determination of Trend Factors	18

<b><u>Table</u></b>	<b><u>Description</u></b>	
I	Policy Year Data From Supplemental Call - Accumulated Standard Earned Premium	20
I-A	Adjusted Policy Year Data From Supplemental Call - Total Incurred Losses *	21
I-B	Adjusted Policy Year Data From Supplemental Call - Indemnity Incurred Losses *	22
I-C	Adjusted Policy Year Data From Supplemental Call - Medical Incurred Losses *	23
I-D	Adjusted Policy Year Data From Supplemental Call - Indemnity Paid Losses	24
I-E	Adjusted Policy Year Data From Supplemental Call - Medical Paid Losses	25

\* Incurred Losses exclude IBNR and Bulk Reserves.

Note: Table I reflects the adjustment of reported data to a Post-Act 44 and 57 basis and a Pre-HB 1846 basis.

**PART II - CLASSIFICATION RELATIVITY**

<b><u>Exhibit</u></b>	<b><u>Description</u></b>	
VII	Loss Cost Formulae	26

**PART III - EXPERIENCE RATING PLAN**

<b><u>Exhibit</u></b>	<b><u>Description</u></b>	
VIII	Collectible Premium Ratios	28
IX	Expected Loss Cost Factors	29
X	Retrospective Development Factors	30

## EXHIBIT I

### INDICATED CHANGE IN LOSS COSTS

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(1) Policy Year 2013 Ratio of Loss to Expected Loss	0.4877	0.5325	1.0202
(2) Policy Year 2014 Ratio of Loss to Expected Loss	0.4632	0.5158	0.9790
(3) Policy Year 2015 Ratio of Loss to Expected Loss	0.4457	0.4599	0.9056
(4) Average (Midpoint = 1/1/2015)	0.4655	0.5027	0.9682
(5) Policy Year 2013 Ratio Trended to 8/15/2019 +	0.4063	0.4664	0.8727
(6) Policy Year 2014 Ratio Trended to 8/15/2019 +	0.3986	0.4618	0.8604
(7) Policy Year 2015 Ratio Trended to 8/15/2019 +	0.3962	0.4217	0.8179
(8) Average at 8/15/2019	0.4004	0.4500	0.8504
(9a) House Bill 1846 Adjustment	1.0000	0.9908	
(9b) Protz Adjustment	1.1337	1.0000	
(10) Indicated Change in Loss Costs	0.4539	0.4459	0.8998 <b>-10.02%</b>

### CHANGES IN MANUAL LOSS COST LEVEL BY INDUSTRY GROUP

	<u>Mfg.</u>	<u>Cont.</u>	<u>Other</u>	<u>Total</u>
(11) Current Collectible Premium Ratio	1.0389	1.1238	0.9931	
(12) Anticipated Collectible Premium Ratio	1.0389	1.1238	0.9931	
(13) Final Indicated Change in Manual Loss Cost Level (10T) * (12) / (11)	0.8998	0.8998	0.8998	0.8998

+ Refer to pages 18 and 19

**EXHIBIT II**

**CALCULATION OF EMPLOYER ASSESSMENT FACTOR AND  
LOADING FOR LOSS BASED ASSESSMENTS**

<b>(1)</b>	2016 PCRB Member Paid Loss*	2,399,639,002
<b>(2)</b>	2017/2018 Fiscal Year Membership Assessment Amount	
	a. Administration Fund	62,001,117
	b. Subsequent Injury Fund	143,103
	c. Supersedeas Fund	12,985,783
	d. Uninsured Employers Guaranty Fund	2,422,583
	e. Total	<u>77,552,586</u>
<b>(3)</b>	2016 Employer Assessment Premium Base	3,559,252,270
<b>(4)</b>	2017/2018 Fiscal Year Membership Assessment Rate	
	a. Administration Fund (2a) / (3)	0.0174
	b. Subsequent Injury Fund (2b) / (3)	0.0000
	c. Supersedeas Fund (2c) / (3)	0.0036
	d. Uninsured Employers Guaranty Fund (2d) / (3)	0.0007
	e. Employer Assessment Factor (4a) + (4b) + (4c) + (4d)	<u>0.0217</u>
<b>(5)</b>	2017/2018 Fiscal Year Budget for the Office of Small Business Advocate	275,000
<b>(6)</b>	2017/2018 Fiscal Year Membership Assessment Rate for the Office of Small Business Advocate (5) / (1)	0.0001
<b>(7)</b>	Merit Rating Plan Increment Factor	0.0032
<b>(8)</b>	Certified Safety Committee Program Increment Factor	0.0106
<b>(9)</b>	Overall Adjustment for the Office of Small Business Advocate, Merit Rating Plan and Certified Safety Committee Program (6) + (7) + (8)	0.0139

\* Loss payments on deductible policies have been adjusted to a first dollar basis.

**EXHIBIT III - 1**

**POLICY YEAR LOSS RATIO 2015**

(1) Standard Earned Premium Reported (Table I)				1,503,595,937
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)				1.0086
(3) Expense Constant Removal Factor				1.0000
(4) PCCPAP On-Level Factor				1.0076
(5) Factor to Remove Loss Based Assessments				0.9853
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)				1,505,590,095
(7) Loss Cost Change to 04/1/18 Level				0.9732
(8) Expected Loss at Current Level (6) * (7)				1,465,240,280
<b>Losses - Paid-to-29th Method</b>				
	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>	
(9) Paid Losses Reported (Table I-D & I-E)	221,197,012	367,913,374	589,110,386	
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	3.2279	1.9387		
(11) Ultimate Incurred Losses (9) * (10)	714,001,835	713,273,658	1,427,275,493	
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(13) Adjusted Losses (11) * (12)	714,001,835	713,273,658	1,427,275,493	
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.4873	0.4868	0.9741	
<b>Losses - Incurred Method</b>				
(15) Incurred Losses Reported (Table I-B & I-C)	373,424,707	519,803,103	893,227,810	
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.5853	1.2204		
(17) Ultimate Incurred Losses (15) * (16)	591,990,188	634,367,707	1,226,357,895	
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(19) Adjusted Losses (17) * (18)	591,990,188	634,367,707	1,226,357,895	
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.4040	0.4329	0.8369	
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	652,996,012	673,820,683	1,326,816,695	
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.4457	0.4599	0.9056	
(23) Normalized Claim Frequency (Exhibit VI-2)	0.5354	0.5354		
(24) Severity Ratio * (22) / (23)	0.8325	0.8590	1.6915	

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 2**

**POLICY YEAR LOSS RATIO 2014**

(1) Standard Earned Premium Reported (Table I)				1,514,185,475
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)				0.9998
(3) Expense Constant Removal Factor				1.0000
(4) PCCPAP On-Level Factor				1.0066
(5) Factor to Remove Loss Based Assessments				0.9857
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)				1,502,082,861
(7) Loss Cost Change to 04/1/18 Level				0.9176
(8) Expected Loss at Current Level (6) * (7)				1,378,311,233
<b>Losses - Paid-to-29th Method</b>				
	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>	
(9) Paid Losses Reported (Table I-D & I-E)	396,818,028	498,912,493		895,730,521
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.7028	1.5472		
(11) Ultimate Incurred Losses (9) * (10)	675,701,738	771,917,409		1,447,619,147
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(13) Adjusted Losses (11) * (12)	675,701,738	771,917,409		1,447,619,147
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.4902	0.5600		1.0502
<b>Losses - Incurred Method</b>				
(15) Incurred Losses Reported (Table I-B & I-C)	518,849,297	574,201,260		1,093,050,557
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.1588	1.1318		
(17) Ultimate Incurred Losses (15) * (16)	601,242,565	649,880,986		1,251,123,551
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(19) Adjusted Losses (17) * (18)	601,242,565	649,880,986		1,251,123,551
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.4362	0.4715		0.9077
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	638,472,152	710,899,198		1,349,371,350
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.4632	0.5158		0.9790
(23) Normalized Claim Frequency (Exhibit VI-2)	0.5843	0.5843		
(24) Severity Ratio * (22) / (23)	0.7927	0.8828		1.6755

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 3**

**POLICY YEAR LOSS RATIO 2013**

(1) Standard Earned Premium Reported (Table I)				1,514,143,045
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)				0.9999
(3) Expense Constant Removal Factor				1.0000
(4) PCCPAP On-Level Factor				1.0067
(5) Factor to Remove Loss Based Assessments				0.9853
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)				1,501,730,585
(7) Loss Cost Change to 04/1/18 Level				0.8740
(8) Expected Loss at Current Level (6) * (7)				1,312,512,531
<b>Losses - Paid-to-29th Method</b>				
	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>	
(9) Paid Losses Reported (Table I-D & I-E)	495,922,555	513,348,455		1,009,271,010
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.3536	1.4426		
(11) Ultimate Incurred Losses (9) * (10)	671,280,770	740,556,481		1,411,837,251
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(13) Adjusted Losses (11) * (12)	671,280,770	740,556,481		1,411,837,251
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5114	0.5642		1.0756
<b>Losses - Incurred Method</b>				
(15) Incurred Losses Reported (Table I-B & I-C)	578,855,679	593,518,434		1,172,374,113
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0519	1.1074		
(17) Ultimate Incurred Losses (15) * (16)	608,898,289	657,262,314		1,266,160,603
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(19) Adjusted Losses (17) * (18)	608,898,289	657,262,314		1,266,160,603
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.4639	0.5008		0.9647
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	640,089,530	698,909,398		1,338,998,928
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.4877	0.5325		1.0202
(23) Normalized Claim Frequency (Exhibit VI-2)	0.6379	0.6379		
(24) Severity Ratio * (22) / (23)	0.7645	0.8347		1.5992

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 4**

**POLICY YEAR LOSS RATIO 2012**

(1) Standard Earned Premium Reported (Table I)			1,551,363,145
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0001
(3) Expense Constant Removal Factor			1.0000
(4) PCCPAP On-Level Factor			1.0067
(5) Factor to Remove Loss Based Assessments			0.9858
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,539,734,283
(7) Loss Cost Change to 04/1/18 Level			0.8343
(8) Expected Loss at Current Level (6) * (7)			1,284,600,312
<b>Losses - Paid-to-29th Method</b>	<b>Indemnity</b>	<b>Medical</b>	<b>Total</b>
(9) Paid Losses Reported (Table I-D & I-E)	513,335,088	503,768,010	1,017,103,098
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.2315	1.3934	
(11) Ultimate Incurred Losses (9) * (10)	632,172,161	701,950,345	1,334,122,506
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13) Adjusted Losses (11) * (12)	632,172,161	701,950,345	1,334,122,506
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.4921	0.5464	1.0385
<b>Losses - Incurred Method</b>			
(15) Incurred Losses Reported (Table I-B & I-C)	573,290,625	548,574,984	1,121,865,609
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0226	1.1090	
(17) Ultimate Incurred Losses (15) * (16)	586,246,993	608,369,657	1,194,616,650
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19) Adjusted Losses (17) * (18)	586,246,993	608,369,657	1,194,616,650
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.4564	0.4736	0.9300
<b>Losses - Average of Incurred and Paid-to-29th Method</b>			
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	609,209,577	655,160,001	1,264,369,578
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.4742	0.5100	0.9842
(23) Normalized Claim Frequency (Exhibit VI-2)	0.6525	0.6525	
(24) Severity Ratio * (22) / (23)	0.7267	0.7816	1.5083

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.



**EXHIBIT III - 5**

**POLICY YEAR LOSS RATIO 2011**

(1) Standard Earned Premium Reported (Table I)			1,654,496,659
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0002
(3) Expense Constant Removal Factor			1.0000
(4) PCCPAP On-Level Factor			1.0057
(5) Factor to Remove Loss Based Assessments			0.9862
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,641,293,286
(7) Loss Cost Change to 04/1/18 Level			0.8036
(8) Expected Loss at Current Level (6) * (7)			1,318,943,285
<b>Losses - Paid-to-29th Method</b>	<b>Indemnity</b>	<b>Medical</b>	<b>Total</b>
(9) Paid Losses Reported (Table I-D & I-E)	589,959,625	564,792,909	1,154,752,534
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.1793	1.3679	
(11) Ultimate Incurred Losses (9) * (10)	695,739,386	772,580,220	1,468,319,606
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13) Adjusted Losses (11) * (12)	695,739,386	772,580,220	1,468,319,606
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5275	0.5858	1.1133
<b>Losses - Incurred Method</b>			
(15) Incurred Losses Reported (Table I-B & I-C)	630,564,859	608,007,804	1,238,572,663
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0171	1.1011	
(17) Ultimate Incurred Losses (15) * (16)	641,347,518	669,477,393	1,310,824,911
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19) Adjusted Losses (17) * (18)	641,347,518	669,477,393	1,310,824,911
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.4863	0.5076	0.9939
<b>Losses - Average of Incurred and Paid-to-29th Method</b>			
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	668,543,452	721,028,807	1,389,572,259
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5069	0.5467	1.0536
(23) Normalized Claim Frequency (Exhibit VI-2)	0.6976	0.6976	
(24) Severity Ratio * (22) / (23)	0.7267	0.7837	1.5104

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 6****POLICY YEAR LOSS RATIO 2010**

(1)	Standard Earned Premium Reported (Table I)			1,604,539,407
(2)	Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0003
(3)	Expense Constant Removal Factor			1.0000
(4)	PCCPAP On-Level Factor			1.0055
(5)	Factor to Remove Loss Based Assessments			0.9859
(6)	Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,591,093,121
(7)	Loss Cost Change to 04/1/18 Level			0.8101
(8)	Expected Loss at Current Level (6) * (7)			1,288,944,537
<b>Losses - Paid-to-29th Method</b>				
		<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(9)	Paid Losses Reported (Table I-D & I-E)	623,059,411	561,770,641	1,184,830,052
(10)	Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.1439	1.3463	
(11)	Ultimate Incurred Losses (9) * (10)	712,717,660	756,311,814	1,469,029,474
(12)	Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13)	Adjusted Losses (11) * (12)	712,717,660	756,311,814	1,469,029,474
(14)	Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5529	0.5868	1.1397
<b>Losses - Incurred Method</b>				
(15)	Incurred Losses Reported (Table I-B & I-C)	653,954,661	616,668,829	1,270,623,490
(16)	Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0120	1.1024	
(17)	Ultimate Incurred Losses (15) * (16)	661,802,117	679,815,717	1,341,617,834
(18)	Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19)	Adjusted Losses (17) * (18)	661,802,117	679,815,717	1,341,617,834
(20)	Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.5134	0.5274	1.0408
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21)	Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	687,259,889	718,063,766	1,405,323,655
(22)	Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5332	0.5571	1.0903
(23)	Normalized Claim Frequency (Exhibit VI-2)	0.7443	0.7443	
(24)	Severity Ratio * (22) / (23)	0.7164	0.7485	1.4649

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 7**

**POLICY YEAR LOSS RATIO 2009**

(1) Standard Earned Premium Reported (Table I)			1,535,797,227
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0000
(3) Expense Constant Removal Factor			1.0000
(4) PCCPAP On-Level Factor			0.9987
(5) Factor to Remove Loss Based Assessments			0.9859
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,512,174,101
(7) Loss Cost Change to 04/1/18 Level			0.8065
(8) Expected Loss at Current Level (6) * (7)			1,219,568,412
<b>Losses - Paid-to-29th Method</b>	<b>Indemnity</b>	<b>Medical</b>	<b>Total</b>
(9) Paid Losses Reported (Table I-D & I-E)	609,860,913	518,873,677	1,128,734,590
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.1244	1.3288	
(11) Ultimate Incurred Losses (9) * (10)	685,727,611	689,479,342	1,375,206,953
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13) Adjusted Losses (11) * (12)	685,727,611	689,479,342	1,375,206,953
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5623	0.5653	1.1276
<b>Losses - Incurred Method</b>			
(15) Incurred Losses Reported (Table I-B & I-C)	632,299,926	558,463,603	1,190,763,529
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0075	1.0893	
(17) Ultimate Incurred Losses (15) * (16)	637,042,175	608,334,403	1,245,376,578
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19) Adjusted Losses (17) * (18)	637,042,175	608,334,403	1,245,376,578
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.5224	0.4988	1.0212
<b>Losses - Average of Incurred and Paid-to-29th Method</b>			
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	661,384,893	648,906,873	1,310,291,766
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5423	0.5321	1.0744
(23) Normalized Claim Frequency (Exhibit VI-2)	0.7550	0.7550	
(24) Severity Ratio * (22) / (23)	0.7182	0.7047	1.4229

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 8****POLICY YEAR LOSS RATIO 2008**

(1)	Standard Earned Premium Reported (Table I)			1,730,663,625
(2)	Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0000
(3)	Expense Constant Removal Factor			1.0000
(4)	PCCPAP On-Level Factor			0.9989
(5)	Factor to Remove Loss Based Assessments			0.9862
(6)	Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,704,903,008
(7)	Loss Cost Change to 04/1/18 Level			0.7614
(8)	Expected Loss at Current Level (6) * (7)			1,298,113,150
<b>Losses - Paid-to-29th Method</b>				
		<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(9)	Paid Losses Reported (Table I-D & I-E)	673,920,827	574,583,955	1,248,504,782
(10)	Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.1104	1.3120	
(11)	Ultimate Incurred Losses (9) * (10)	748,321,686	753,854,149	1,502,175,835
(12)	Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13)	Adjusted Losses (11) * (12)	748,321,686	753,854,149	1,502,175,835
(14)	Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5765	0.5807	1.1572
<b>Losses - Incurred Method</b>				
(15)	Incurred Losses Reported (Table I-B & I-C)	699,819,966	610,344,739	1,310,164,705
(16)	Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0074	1.0905	
(17)	Ultimate Incurred Losses (15) * (16)	704,998,634	665,580,938	1,370,579,572
(18)	Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19)	Adjusted Losses (17) * (18)	704,998,634	665,580,938	1,370,579,572
(20)	Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.5431	0.5127	1.0558
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21)	Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	726,660,160	709,717,544	1,436,377,704
(22)	Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5598	0.5467	1.1065
(23)	Normalized Claim Frequency (Exhibit VI-2)	0.7799	0.7799	
(24)	Severity Ratio * (22) / (23)	0.7178	0.7010	1.4188

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 9****POLICY YEAR LOSS RATIO 2007**

(1) Standard Earned Premium Reported (Table I)			1,884,559,925
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)			1.0000
(3) Expense Constant Removal Factor			1.0000
(4) PCCPAP On-Level Factor			1.0013
(5) Factor to Remove Loss Based Assessments			0.9873
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)			1,863,044,828
(7) Loss Cost Change to 04/1/18 Level			0.7151
(8) Expected Loss at Current Level (6) * (7)			1,332,263,357
<b>Losses - Paid-to-29th Method</b>	<b>Indemnity</b>	<b>Medical</b>	<b>Total</b>
(9) Paid Losses Reported (Table I-D & I-E)	723,921,319	636,175,057	1,360,096,376
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0975	1.2929	
(11) Ultimate Incurred Losses (9) * (10)	794,503,648	822,510,731	1,617,014,379
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(13) Adjusted Losses (11) * (12)	794,503,648	822,510,731	1,617,014,379
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5964	0.6174	1.2138
<b>Losses - Incurred Method</b>			
(15) Incurred Losses Reported (Table I-B & I-C)	751,331,890	674,222,528	1,425,554,418
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0073	1.0835	
(17) Ultimate Incurred Losses (15) * (16)	756,816,613	730,520,109	1,487,336,722
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000	
(19) Adjusted Losses (17) * (18)	756,816,613	730,520,109	1,487,336,722
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.5681	0.5483	1.1164
<b>Losses - Average of Incurred and Paid-to-29th Method</b>			
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	775,660,131	776,515,420	1,552,175,551
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5822	0.5829	1.1651
(23) Normalized Claim Frequency (Exhibit VI-2)	0.8434	0.8434	
(24) Severity Ratio * (22) / (23)	0.6903	0.6911	1.3814

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT III - 10**

**POLICY YEAR LOSS RATIO 2006**

(1) Standard Earned Premium Reported (Table I)				1,833,992,300
(2) Premium Development Factor to Ultimate Level (Exhibit V-1)				1.0000
(3) Expense Constant Removal Factor				1.0000
(4) PCCPAP On-Level Factor				1.0019
(5) Factor to Remove Loss Based Assessments				0.9897
(6) Standard Earned Premium on Level (1) * (2) * (3) * (4) * (5)				1,818,550,873
(7) Loss Cost Change to 04/1/18 Level				0.7085
(8) Expected Loss at Current Level (6) * (7)				1,288,443,294
<b>Losses - Paid-to-29th Method</b>				
	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>	
(9) Paid Losses Reported (Table I-D & I-E)	695,771,838	592,590,732	1,288,362,570	
(10) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0882	1.2744		
(11) Ultimate Incurred Losses (9) * (10)	757,138,914	755,197,629	1,512,336,543	
(12) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(13) Adjusted Losses (11) * (12)	757,138,914	755,197,629	1,512,336,543	
(14) Policy Year Ratio of Losses to Expected Losses (13) / (8)	0.5876	0.5861	1.1737	
<b>Losses - Incurred Method</b>				
(15) Incurred Losses Reported (Table I-B & I-C)	722,529,364	633,075,956	1,355,605,320	
(16) Loss Development Factor to Ultimate Valuation (Exhibit V-2 & V-3)	1.0055	1.0796		
(17) Ultimate Incurred Losses (15) * (16)	726,503,276	683,468,802	1,409,972,078	
(18) Adjustment to Post-Act 44 Loss Levels	1.0000	1.0000		
(19) Adjusted Losses (17) * (18)	726,503,276	683,468,802	1,409,972,078	
(20) Policy Year Ratio of Losses to Expected Losses (19) / (8)	0.5639	0.5305	1.0944	
<b>Losses - Average of Incurred and Paid-to-29th Method</b>				
(21) Adjusted Ultimate Incurred Losses ((13) + (19)) / 2	741,821,095	719,333,216	1,461,154,311	
(22) Policy Year Ratio of Losses to Expected Losses (21) / (8)	0.5757	0.5583	1.1340	
(23) Normalized Claim Frequency (Exhibit VI-2)	0.8953	0.8953		
(24) Severity Ratio * (22) / (23)	0.6430	0.6236	1.2666	

\* Severity Ratio represents loss ratio adjusted to a common level of claim frequency.

**EXHIBIT IV - 1**

**POLICY YEARS 2006 - 2011  
PREMIUM ON-LEVEL FACTORS**

<u>POLICY YEAR</u>	<u>(1) LOSS COST DATE</u>	<u>(2) LOSS COST CHANGE</u>	<u>(3) CUM. INDEX OF COL (2)</u>	<u>(4) PORTION OF YEAR ON-LEVEL</u>	<u>(5) PRODUCT (3) * (4)</u>	<u>FACTOR TO ADJUST to 04/01/18 LC LEVEL</u>
2006	4/01/05	BASE	1.0000	0.3203	0.3203	
	4/01/06	0.9142	0.9142	0.6797	0.6214	
	4/01/07	0.7298	0.6672	-----	-----	
	to 04/01/18			1.0000	0.9417	0.7085
2007	4/01/06	BASE	1.0000	0.3043	0.3043	
	4/01/07	1.0295	1.0295	0.6957	0.7162	
	4/01/08	0.7089	0.7298	-----	-----	
	to 04/01/18			1.0000	1.0205	0.7151
2008	4/01/07	BASE	1.0000	0.3260	0.3260	
	4/01/08	0.8978	0.8978	0.6740	0.6051	
	4/01/09	0.7896	0.7089	-----	-----	
	to 04/01/18			1.0000	0.9311	0.7614
2009	4/01/08	BASE	1.0000	0.3039	0.3039	
	4/01/09	0.9700	0.9700	0.6961	0.6752	
	4/01/10	0.8140	0.7896	-----	-----	
	to 04/01/18			1.0000	0.9791	0.8065
2010	4/01/09	BASE	1.0000	0.2929	0.2929	
	4/01/10	1.0068	1.0068	0.7071	0.7119	
	4/01/11	0.8085	0.8140	-----	-----	
	to 04/01/18			1.0000	1.0048	0.8101
2011	4/01/10	BASE	1.0000	0.2925	0.2925	
	4/01/11	1.0087	1.0087	0.7075	0.7137	
	4/01/12	0.8016	0.8086	-----	-----	
	to 04/01/18			1.0000	1.0062	0.8036

**EXHIBIT IV - 2**

**POLICY YEARS 2012 - 2016  
PREMIUM ON-LEVEL FACTORS**

<u>POLICY YEAR</u>	<u>(1) LOSS COST DATE</u>	<u>(2) LOSS COST CHANGE</u>	<u>(3) CUM. INDEX OF COL (2)</u>	<u>(4) PORTION OF YEAR ON-LEVEL</u>	<u>(5) PRODUCT (3) * (4)</u>	<u>FACTOR TO ADJUST to 04/01/18 LC LEVEL</u>
2012	4/01/11	BASE	1.0000	0.3077	0.3077	
	4/01/12	0.9434	0.9434	0.6923	0.6531	
	4/01/13	0.8497	0.8016	-----	-----	
	to 04/01/18			1.0000	0.9608	0.8343
2013	4/01/12	BASE	1.0000	0.3067	0.3067	
	4/01/13	0.9599	0.9599	0.6933	0.6655	
	4/01/14	0.8852	0.8497	-----	-----	
	to 04/01/18			1.0000	0.9722	0.8740
2014	4/01/13	BASE	1.0000	0.3123	0.3123	
	4/01/14	0.9485	0.9485	0.6877	0.6523	
	4/01/15	0.9332	0.8851	-----	-----	
	to 04/01/18			1.0000	0.9646	0.9176
2015	4/01/14	BASE	1.0000	0.3143	0.3143	
	4/01/15	0.9401	0.9401	0.6857	0.6446	
	4/01/16	0.9927	0.9332	-----	-----	
	to 04/01/18			1.0000	0.9589	0.9732
2016	4/01/15	BASE	1.0000	0.3029	0.3029	
	4/01/16	0.9910	0.9910	0.6971	0.6908	
	4/01/17	1.0017	0.9927	-----	-----	
	to 04/01/18			1.0000	0.9937	0.9990



**EXHIBIT V - 1**

**DEVELOPMENT FACTORS**

**PREMIUM**

Reports in Ratio	Policy Year	2015-2016 Ratio	Policy Year	2014-2015 Ratio	Policy Year	2013-2014 Ratio	Policy Year	2012-2013 Ratio	Unweighted Average	Selected Average	Cumulative Average
2nd to 1st	2014	1.0087	2013	1.0099	2012	1.0073	2011	1.0094	1.0088	1.0088	1.0086
3rd to 2nd	2013	1.0011	2012	0.9994	2011	1.0003	2010	0.9987	0.9999	0.9999	0.9998
4th to 3rd	2012	0.9995	2011	1.0002	2010	1.0002	2009	0.9992	0.9998	0.9998	0.9999
5th to 4th	2011	0.9998	2010	1.0001	2009	0.9997	2008	1.0001	0.9999	0.9999	1.0001
6th to 5th	2010	1.0003	2009	0.9997	2008	0.9997	2007	1.0000	0.9999	0.9999	1.0002
7th to 6th	2009	1.0011	2008	1.0000	2007	0.9999	2006	1.0000	1.0003	1.0003	1.0003
8th to 7th	2008	0.9999	2007	1.0000	2006	1.0000	2005	1.0000	1.0000	1.0000	1.0000
9th to 8th	2007	1.0002	2006	1.0000	2005	1.0000	2004	0.9999	1.0000	1.0000	1.0000
10th to 9th	2006	1.0000	2005	1.0000	2004	1.0000	2003	1.0000	1.0000	1.0000	1.0000
11th to 10th	2005	1.0000	2004	1.0000	2003	0.9999	2002	1.0000	1.0000	1.0000	1.0000
12th to 11th	2004	1.0000	2003	1.0001	2002	1.0000	2001	0.9999	1.0000	1.0000	1.0000
13th to 12th	2003	1.0000	2002	1.0000	2001	1.0000	2000	1.0001	1.0000	1.0000	1.0000
14th to 13th	2002	1.0000	2001	1.0000	2000	1.0001	1999	1.0000	1.0000	1.0000	1.0000
15th to 14th	2001	1.0000	2000	1.0000	1999	1.0000	1998	1.0000	1.0000	1.0000	1.0000
16th to 15th	2000	1.0000	1999	1.0000	1998	1.0000	1997	1.0000	1.0000	1.0000	1.0000
17th to 16th	1999	0.9999	1998	1.0000	1997	1.0000	1996	1.0000	1.0000	1.0000	1.0000
18th to 17th	1998	1.0000	1997	1.0000	1996	1.0000	1995	1.0000	1.0000	1.0000	1.0000
19th to 18th	1997	0.9999	1996	1.0001	1995	1.0000	1994	1.0000	1.0000	1.0000	1.0000
20th to 19th	1996	1.0000	1995	1.0000	1994	1.0000	1993	1.0000	1.0000	1.0000	1.0000
21st to 20th	1995	1.0000	1994	1.0000	1993	1.0000	1992	1.0000	1.0000	1.0000	1.0000
22nd to 21st	1994	1.0002	1993	1.0000	1992	1.0000	1991	1.0000	1.0001	1.0000	1.0000
23rd to 22nd	1993	1.0000	1992	1.0000	1991	1.0000	1990	1.0000	1.0000	1.0000	1.0000
24th to 23rd	1992	1.0000	1991	1.0000	1990	1.0000	1989	1.0000	1.0000	1.0000	1.0000
25th to 24th	1991	1.0000	1990	1.0000	1989	1.0000	1988	1.0000	1.0000	1.0000	1.0000
26th to 25th	1990	1.0000	1989	1.0000	1988	1.0000	1987	1.0000	1.0000	1.0000	1.0000
27th to 26th	1989	1.0000	1988	1.0000	1987	1.0001	1986	1.0000	1.0000	1.0000	1.0000
28th to 27th	1988	1.0000	1987	1.0000	1986	1.0000				1.0000	1.0000
29th to 28th	1987	1.0000	1986	1.0000						1.0000	1.0000

Policy <u>Year</u>	Present <u>Valuation</u>	Premium <u>Development Factor</u>
1988	Twenty-Eighth	1.0000
1989	Twenty-Seventh	1.0000
1990	Twenty-Sixth	1.0000
1991	Twenty-Fifth	1.0000
1992	Twenty-Fourth	1.0000
1993	Twenty-Third	1.0000
1994	Twenty-Second	1.0000
1995	Twenty-First	1.0000
1996	Twentieth	1.0000
1997	Nineteenth	1.0000
1998	Eighteenth	1.0000
1999	Seventeenth	1.0000
2000	Sixteenth	1.0000
2001	Fifteenth	1.0000
2002	Fourteenth	1.0000
2003	Thirteenth	1.0000
2004	Twelfth	1.0000
2005	Eleventh	1.0000
2006	Tenth	1.0000
2007	Ninth	1.0000
2008	Eighth	1.0000
2009	Seventh	1.0000
2010	Sixth	1.0003
2011	Fifth	1.0002
2012	Fourth	1.0001
2013	Third	0.9999
2014	Second	0.9998
2015	First	1.0086

**EXHIBIT V - 2**

**DEVELOPMENT FACTORS**

**INDEMNITY LOSSES  
PAID METHOD**

Reports in Ratio	Policy Year	2015-2016 Ratio	Policy Year	2014-2015 Ratio	Unweighted Average	Cumulative Average	
2nd to 1st	a	2014	1.8720	2013	1.9193	1.8957	3.2279
3rd to 2nd	a	2013	1.2554	2012	1.2606	1.2580	1.7028
4th to 3rd	a	2012	1.0970	2011	1.1011	1.0991	1.3536
5th to 4th	a	2011	1.0392	2010	1.0493	1.0443	1.2315
6th to 5th	a	2010	1.0262	2009	1.0356	1.0309	1.1793
7th to 6th	a	2009	1.0217	2008	1.0131	1.0174	1.1439
8th to 7th	a	2008	1.0107	2007	1.0144	1.0126	1.1244
9th to 8th	a	2007	1.0102	2006	1.0131	1.0117	1.1104
10th to 9th	a	2006	1.0088	2005	1.0083	1.0086	1.0975
11th to 10th	a	2005	1.0077	2004	1.0094	1.0086	1.0882
12th to 11th	a	2004	1.0064	2003	1.0071	1.0068	1.0789
13th to 12th	a	2003	1.0044	2002	1.0054	1.0049	1.0716
14th to 13th	a	2002	1.0040	2001	1.0040	1.0040	1.0664
15th to 14th	a	2001	1.0019	2000	1.0031	1.0025	1.0621
16th to 15th	a	2000	1.0022	1999	1.0013	1.0018	1.0595
17th to 16th	a	1999	1.0017	1998	1.0026	1.0022	1.0576
18th to 17th	a	1998	1.0019	1997	1.0029	1.0024	1.0553
19th to 18th	a	1997	1.0018	1996	1.0028	1.0023	1.0527
20th to 19th	a	1996	1.0031	1995	1.0034	1.0033	1.0503
21st to 20th	a	1995	1.0038	1994	1.0045	1.0042	1.0469
22nd to 21st	a	1994	1.0046	1993	1.0043	1.0045	1.0425
23rd to 22nd	a	1993	1.0040	1992	1.0039	1.0040	1.0378
24th to 23rd	a	1992	1.0039	1991	1.0034	1.0037	1.0337
25th to 24th	a	1991	1.0035	1990	1.0032	1.0034	1.0299
26th to 25th	a	1990	1.0028	1989	1.0031	1.0030	1.0264
27th to 26th	a	1989	1.0029	1988	1.0021	1.0025	1.0233
28th to 27th	a	1988	1.0020	1987	1.0021	1.0021	1.0208
29th to 28th	b	1987	1.0136	1986	1.0218	1.0177	1.0186
Beyond 29th	c	1986	1.0004	1985	1.0017	1.0011	1.0009

d

**INCURRED METHOD**

Reports in Ratio	Policy Year	2015-2016 Ratio	Policy Year	2014-2015 Ratio	Unweighted Average	Cumulative Average	
2nd to 1st	c	2014	1.3424	2013	1.3936	1.3680	1.5853
3rd to 2nd	c	2013	1.0948	2012	1.1086	1.1017	1.1588
4th to 3rd	c	2012	1.0331	2011	1.0240	1.0286	1.0519
5th to 4th	c	2011	1.0048	2010	1.0060	1.0054	1.0226
6th to 5th	c	2010	0.9990	2009	1.0112	1.0051	1.0171
7th to 6th	c	2009	1.0059	2008	1.0028	1.0044	1.0120
8th to 7th	c	2008	0.9998	2007	1.0003	1.0001	1.0075
9th to 8th	c	2007	1.0012	2006	0.9989	1.0001	1.0074
10th to 9th	c	2006	1.0023	2005	1.0013	1.0018	1.0073
11th to 10th	c	2005	1.0009	2004	0.9996	1.0003	1.0055
12th to 11th	c	2004	1.0010	2003	0.9998	1.0004	1.0052
13th to 12th	c	2003	1.0008	2002	0.9986	0.9997	1.0048
14th to 13th	c	2002	1.0012	2001	0.9996	1.0004	1.0051
15th to 14th	c	2001	1.0012	2000	0.9998	1.0005	1.0047
16th to 15th	c	2000	0.9997	1999	0.9995	0.9996	1.0042
17th to 16th	c	1999	1.0005	1998	0.9996	1.0001	1.0046
18th to 17th	c	1998	1.0003	1997	0.9996	1.0000	1.0045
19th to 18th	c	1997	1.0021	1996	0.9970	0.9996	1.0045
20th to 19th	c	1996	1.0003	1995	1.0004	1.0004	1.0049
21st to 20th	c	1995	0.9984	1994	1.0008	0.9996	1.0045
22nd to 21st	c	1994	1.0017	1993	1.0003	1.0010	1.0049
23rd to 22nd	c	1993	1.0002	1992	0.9989	0.9996	1.0039
24th to 23rd	c	1992	1.0011	1991	1.0006	1.0009	1.0043
25th to 24th	c	1991	1.0008	1990	1.0002	1.0005	1.0034
26th to 25th	c	1990	1.0006	1989	1.0019	1.0013	1.0029
27th to 26th	c	1989	1.0005	1988	0.9996	1.0001	1.0016
28th to 27th	c	1988	1.0004	1987	1.0005	1.0005	1.0015
29th to 28th	c	1987	0.9992	1986	1.0010	1.0001	1.0010
Beyond 29th	c	1986	1.0004	1985	1.0017	1.0011	1.0009

d

- a From Table I-D
- b 28th (Paid - Table I-D) to 29th (Incurred - Table I-B)
- c From Table I-B
- d Derived separately. See Exhibit 7 of the January 1, 2019 Filing.

**EXHIBIT V - 3**

**DEVELOPMENT FACTORS**

**MEDICAL LOSSES  
PAID METHOD**

<u>Reports in Ratio</u>	<u>Policy Year</u>	<u>2015-2016 Ratio</u>	<u>Policy Year</u>	<u>2014-2015 Ratio</u>	<u>Unweighted Average</u>	<u>Cumulative Average</u>
2nd to 1st	a	2014	2013	1.2531	1.2530	1.9387
3rd to 2nd	a	2013	2012	1.0754	1.0725	1.5472
4th to 3rd	a	2012	2011	1.0356	1.0353	1.4426
5th to 4th	a	2011	2010	1.0170	1.0187	1.3934
6th to 5th	a	2010	2009	1.0157	1.0160	1.3679
7th to 6th	a	2009	2008	1.0129	1.0132	1.3463
8th to 7th	a	2008	2007	1.0113	1.0128	1.3288
9th to 8th	a	2007	2006	1.0140	1.0148	1.3120
10th to 9th	a	2006	2005	1.0148	1.0145	1.2929
11th to 10th	a	2005	2004	1.0100	1.0106	1.2744
12th to 11th	a	2004	2003	1.0093	1.0102	1.2610
13th to 12th	a	2003	2002	1.0104	1.0123	1.2483
14th to 13th	a	2002	2001	1.0144	1.0106	1.2331
15th to 14th	a	2001	2000	1.0088	1.0095	1.2202
16th to 15th	a	2000	1999	1.0080	1.0078	1.2087
17th to 16th	a	1999	1998	1.0076	1.0088	1.1993
18th to 17th	a	1998	1997	1.0084	1.0092	1.1889
19th to 18th	a	1997	1996	1.0104	1.0103	1.1785
20th to 19th	a	1996	1995	1.0104	1.0089	1.1665
21st to 20th	a	1995	1994	1.0058	1.0091	1.1562
22nd to 21st	a	1994	1993	1.0109	1.0104	1.1458
23rd to 22nd	a	1993	1992	1.0075	1.0088	1.1340
24th to 23rd	a	1992	1991	1.0113	1.0091	1.1241
25th to 24th	a	1991	1990	1.0059	1.0062	1.1139
26th to 25th	a	1990	1989	1.0077	1.0088	1.1071
27th to 26th	a	1989	1988	1.0100	1.0085	1.0980
28th to 27th	a	1988	1987	1.0059	1.0066	1.0887
29th to 28th	b	1987	1986	1.0788	1.0714	1.0816
Beyond 29th	c	1986	1985	1.0221	0.9953	1.0087

**INCURRED METHOD**

<u>Reports in Ratio</u>	<u>Policy Year</u>	<u>2015-2016 Ratio</u>	<u>Policy Year</u>	<u>2014-2015 Ratio</u>	<u>Unweighted Average</u>	<u>Cumulative Average</u>
2nd to 1st	c	2014	2013	1.0692	1.0783	1.2204
3rd to 2nd	c	2013	2012	1.0187	1.0220	1.1318
4th to 3rd	c	2012	2011	1.0047	0.9925	1.1074
5th to 4th	c	2011	2010	1.0083	1.0061	1.1090
6th to 5th	c	2010	2009	0.9994	0.9982	1.1011
7th to 6th	c	2009	2008	1.0153	1.0086	1.1024
8th to 7th	c	2008	2007	0.9991	0.9987	1.0893
9th to 8th	c	2007	2006	1.0055	1.0075	1.0905
10th to 9th	c	2006	2005	1.0038	1.0033	1.0835
11th to 10th	c	2005	2004	1.0082	1.0112	1.0796
12th to 11th	c	2004	2003	0.9994	1.0064	1.0745
13th to 12th	c	2003	2002	1.0077	1.0094	1.0714
14th to 13th	c	2002	2001	1.0044	1.0038	1.0623
15th to 14th	c	2001	2000	1.0024	1.0052	1.0580
16th to 15th	c	2000	1999	1.0053	0.9998	1.0540
17th to 16th	c	1999	1998	1.0037	1.0001	1.0512
18th to 17th	c	1998	1997	1.0005	1.0024	1.0492
19th to 18th	c	1997	1996	1.0044	0.9937	1.0477
20th to 19th	c	1996	1995	1.0060	1.0103	1.0486
21st to 20th	c	1995	1994	0.9995	1.0070	1.0401
22nd to 21st	c	1994	1993	1.0044	1.0060	1.0366
23rd to 22nd	c	1993	1992	1.0049	1.0016	1.0313
24th to 23rd	c	1992	1991	1.0044	1.0042	1.0279
25th to 24th	c	1991	1990	0.9988	1.0037	1.0235
26th to 25th	c	1990	1989	1.0054	1.0096	1.0222
27th to 26th	c	1989	1988	1.0066	0.9993	1.0146
28th to 27th	c	1988	1987	1.0019	1.0022	1.0115
29th to 28th	c	1987	1986	1.0014	0.9983	1.0094
Beyond 29th	c	1986	1985	1.0221	0.9953	1.0087

- a From Table I-E
- b 28th (Paid - Table 1-E) to 29th (Incurred - Table I-C)
- c From Table I-C
- d Derived separately. See Exhibit 7 of the January 1, 2019 Filing.

**EXHIBIT VI - 1**

**DETERMINATION OF TREND**

**INDEMNITY**

Policy Year	2009	2010	2011	2012	2013	2014	2015
Actual Loss Ratio	0.5423	0.5332	0.5069	0.4742	0.4877	0.4632	0.4457
Normalized Frequency	0.7550	0.7443	0.6976	0.6525	0.6379	0.5843	0.5354
Severity Loss Ratio	0.7182	0.7164	0.7267	0.7267	0.7645	0.7927	0.8325
<b>x</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>y</b>	0.7182	0.7164	0.7267	0.7267	0.7645	0.7927	0.8325

**7 Point Exponential Regression:  $y = 0.681584 * 1.025175 ^ x$**

**Selected Annual Severity Trend Factor =** **2.52%**

Policy Year	Annual Severity Trend Factor (1)	Trend Period # of Years to 8/15/19 (2)	Severity Trend Factor (3) = (1) ^ (2)	Frequency Trend Factor (4) #
2013	1.0252	5.625	1.1501	0.7244
2014	1.0252	4.625	1.1219	0.7671
2015	1.0252	3.625	1.0943	0.8124

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2013	0.4877	0.8331	0.4063
2014	0.4632	0.8606	0.3986
2015	0.4457	0.8890	0.3962

**MEDICAL**

Policy Year	2009	2010	2011	2012	2013	2014	2015
Actual Loss Ratio	0.5321	0.5571	0.5467	0.5100	0.5325	0.5158	0.4599
Normalized Frequency	0.7550	0.7443	0.6976	0.6525	0.6379	0.5843	0.5354
Severity Loss Ratio	0.7047	0.7485	0.7837	0.7816	0.8347	0.8828	0.8590
<b>x</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>y</b>	0.7047	0.7485	0.7837	0.7816	0.8347	0.8828	0.8590

**7 Point Exponential Regression:  $y = 0.692293 * 1.035882 ^ x$**

**Selected Annual Severity Trend Factor to 1/1/15 =** **3.59%**

**HB1846 Adjustment to Annual Severity Trend from 1/1/15 and later =** **-0.19%**

**Selected Annual Severity Trend Factor from 1/1/15 and later =** **3.40%**

Policy Year	Annual Severity Trend Factor to 1/1/15 (1)	Trend Period # of Years to 1/1/15 (2)	Severity Trend Factor to 1/1/15 (3) = (1) ^ (2)	Annual Severity Trend Factor from 1/1/15 to 8/15/19 (4)	Trend Period # of Years to 8/15/19 (5)	Severity Trend Factor from 1/1/15 to 8/15/19 (6) = (4) ^ (5)	Frequency Trend Factor (7) #
2013	1.0359	1.0000	1.0359	1.0340	4.6250	1.1671	0.7244
2014	1.0359	0.0000	1.0000	1.0340	4.6250	1.1671	0.7671
2015	1.0359	0.0000	1.0000	1.0340	3.6250	1.1288	0.8124

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (8)	Combined Trend Factor (9) = (3) * (6) * (7)	Trended Loss Ratio (10) = (8) * (9)
2013	0.5325	0.8758	0.4664
2014	0.5158	0.8953	0.4618
2015	0.4599	0.9170	0.4217

# See page 19

**EXHIBIT VI - 2**

**DETERMINATION OF TREND**

**CLAIM FREQUENCY**

Policy Year Frequency per \$1 million of Expected Losses  
{1 = PY 2004, 12 = PY 2015}

Policy Year	Claim Frequency	Normalized Frequency
2004	23.31	1.0000
2005	21.67	0.9296
2006	20.87	0.8953
2007	19.66	0.8434
2008	18.18	0.7799
2009	17.60	0.7550
2010	17.35	0.7443
2011	16.26	0.6976
2012	15.21	0.6525
2013	14.87	0.6379
2014	13.62	0.5843
2015	12.48	0.5354

Policy Year	2009	2010	2011	2012	2013	2014	2015
<b>x</b>	1	2	3	4	5	6	7
<b>y</b>	0.7550	0.7443	0.6976	0.6525	0.6379	0.5843	0.5354

**7 Point Exponential Regression:  $y = 0.822220 * 0.944298 ^ x$**

**Selected Annual Frequency Trend Factor =**

<b>-5.6%</b>
--------------

Policy Year	Annual Frequency Trend Factor (1)	Trend Period # of Years to 8/15/19 (2)	Frequency Trend Factor (3) = (1) ^ (2)
2013	0.9443	5.625	0.7244
2014	0.9443	4.625	0.7671
2015	0.9443	3.625	0.8124

TABLE I

## POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

## ACCUMULATED STANDARD EARNED PREMIUM

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	11,387,026,168	11,387,026,168	1.0000
1986	1,427,053,500	1,427,053,500	1.0000
1987	1,701,096,294	1,701,096,294	1.0000
1988	1,896,671,487	1,896,671,487	1.0000
1989	2,033,041,334	2,033,041,334	1.0000
1990	2,297,321,643	2,297,321,642	1.0000
1991	2,410,475,163	2,410,477,490	1.0000
1992	2,261,547,619	2,261,547,612	1.0000
1993	2,426,141,391	2,426,141,388	1.0000
1994	1,829,233,734	1,829,233,731	1.0000
1995	1,683,694,150	1,683,693,870	1.0000
1996	1,603,055,563	1,603,209,437	1.0001
1997	1,318,094,999	1,318,094,345	1.0000
1998	1,263,299,558	1,263,299,020	1.0000
1999	1,280,634,956	1,280,635,208	1.0000
2000	1,352,113,283	1,352,096,858	1.0000
2001	1,453,811,318	1,453,787,992	1.0000
2002	1,521,152,015	1,521,113,671	1.0000
2003	1,610,223,104	1,610,317,128	1.0001
2004	1,725,601,738	1,725,589,086	1.0000
2005	1,895,970,105	1,896,001,232	1.0000
2006	1,870,790,988	1,870,757,322	1.0000
2007	1,926,834,195	1,926,781,618	1.0000
2008	1,776,302,604	1,776,299,975	1.0000
2009	1,586,402,203	1,585,868,305	0.9997
2010	1,670,468,737	1,670,658,033	1.0001
2011	1,744,617,869	1,745,030,915	1.0002
2012	1,667,072,337	1,666,089,436	0.9994
2013	1,631,567,698	1,647,785,650	1.0099
2014	911,252,856	1,623,248,488	1.7813
2015		890,767,895	

  

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	11,386,546,858	11,386,545,363	1.0000
1986	1,427,053,500	1,427,053,500	1.0000
1987	1,701,096,294	1,701,066,571	1.0000
1988	1,896,671,487	1,896,671,487	1.0000
1989	2,033,041,334	2,033,041,334	1.0000
1990	2,297,321,642	2,297,321,642	1.0000
1991	2,410,477,490	2,410,481,742	1.0000
1992	2,261,547,612	2,261,549,818	1.0000
1993	2,426,141,388	2,426,141,388	1.0000
1994	1,829,233,731	1,829,566,293	1.0002
1995	1,683,693,870	1,683,699,201	1.0000
1996	1,603,057,903	1,603,057,434	1.0000
1997	1,317,978,470	1,317,877,066	0.9999
1998	1,263,227,646	1,263,221,970	1.0000
1999	1,275,334,204	1,275,242,281	0.9999
2000	1,339,740,529	1,339,740,825	1.0000
2001	1,434,961,911	1,434,950,576	1.0000
2002	1,503,902,616	1,503,895,610	1.0000
2003	1,574,939,301	1,574,953,507	1.0000
2004	1,687,909,722	1,687,943,267	1.0000
2005	1,859,745,971	1,859,760,323	1.0000
2006	1,833,992,485	1,833,992,300	1.0000
2007	1,884,255,865	1,884,559,925	1.0002
2008	1,730,883,386	1,730,663,625	0.9999
2009	1,534,177,721	1,535,797,227	1.0011
2010	1,604,031,055	1,604,539,407	1.0003
2011	1,654,805,682	1,654,496,659	0.9998
2012	1,552,096,281	1,551,363,145	0.9995
2013	1,512,477,085	1,514,143,045	1.0011
2014	1,501,171,472	1,514,185,475	1.0087
2015	841,080,764	1,503,595,937	1.7877
2016		841,196,074	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.

TABLE I - A - ADJUSTED TO A POST-ACT 44 AND 57 BASIS AND A PRE-HB 1846 BASIS

POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

INCURRED LOSSES EXCLUDING BULK AND IBNR RESERVES

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	6,180,062,177	6,179,767,081	1.0000
1986	1,042,287,736	1,042,446,080	1.0002
1987	1,303,864,669	1,305,299,069	1.0011
1988	1,511,933,750	1,511,163,316	0.9995
1989	1,781,193,422	1,789,510,932	1.0047
1990	1,837,143,951	1,839,824,430	1.0015
1991	1,638,738,273	1,641,898,903	1.0019
1992	1,431,541,767	1,431,501,512	1.0000
1993	1,235,559,770	1,238,693,357	1.0025
1994	1,145,914,273	1,149,691,752	1.0033
1995	1,001,354,639	1,005,857,925	1.0045
1996	917,849,017	913,769,513	0.9956
1997	937,761,852	938,574,954	1.0009
1998	964,592,395	964,439,673	0.9998
1999	1,062,068,374	1,061,682,257	0.9996
2000	1,132,930,076	1,135,462,708	1.0022
2001	1,132,729,435	1,134,357,104	1.0014
2002	1,208,154,930	1,212,251,007	1.0034
2003	1,214,904,705	1,218,287,173	1.0028
2004	1,311,968,946	1,312,409,923	1.0003
2005	1,335,174,081	1,338,198,104	1.0023
2006	1,369,344,301	1,373,266,740	1.0029
2007	1,445,245,033	1,444,571,945	0.9995
2008	1,332,646,593	1,339,954,739	1.0055
2009	1,211,384,455	1,217,511,040	1.0051
2010	1,303,314,015	1,311,223,995	1.0061
2011	1,268,335,859	1,278,869,318	1.0083
2012	1,104,340,841	1,176,732,500	1.0656
2013	985,146,488	1,196,021,093	1.2141
2014	381,250,741	982,462,398	2.5769
2015		368,562,749	

  

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	6,179,447,807	6,183,709,795	1.0007
1986	1,042,456,195	1,045,650,451	1.0031
1987	1,305,446,026	1,305,391,082	1.0000
1988	1,511,226,044	1,512,651,567	1.0009
1989	1,789,579,588	1,794,432,350	1.0027
1990	1,839,968,445	1,844,309,580	1.0024
1991	1,641,910,380	1,641,959,223	1.0000
1992	1,431,609,017	1,435,045,153	1.0024
1993	1,238,869,595	1,241,360,746	1.0020
1994	1,149,861,737	1,153,030,228	1.0028
1995	1,005,933,617	1,004,775,430	0.9988
1996	913,860,850	916,451,977	1.0028
1997	938,594,506	941,513,422	1.0031
1998	964,543,936	964,943,166	1.0004
1999	1,059,442,417	1,061,501,023	1.0019
2000	1,124,384,994	1,126,799,053	1.0021
2001	1,119,821,103	1,121,754,653	1.0017
2002	1,202,395,978	1,205,530,275	1.0026
2003	1,196,886,053	1,201,619,296	1.0040
2004	1,293,571,452	1,293,883,382	1.0002
2005	1,317,578,467	1,323,303,743	1.0043
2006	1,351,529,465	1,355,605,320	1.0030
2007	1,420,975,547	1,425,554,418	1.0032
2008	1,310,832,222	1,310,164,705	0.9995
2009	1,178,678,482	1,190,763,529	1.0103
2010	1,271,692,452	1,270,623,490	0.9992
2011	1,230,546,769	1,238,572,663	1.0065
2012	1,100,921,470	1,121,865,609	1.0190
2013	1,111,373,334	1,172,374,113	1.0549
2014	923,543,545	1,093,050,557	1.1835
2015	356,292,323	893,227,810	2.5070
2016		333,090,752	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.

TABLE I - B - ADJUSTED TO A POST-ACT 44 AND 57 BASIS AND A PRE-HB 1846 BASIS

POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

INDEMNITY INCURRED LOSSES EXCLUDING BULK AND IBNR RESERVES

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	4,680,071,625	4,681,301,566	1.0003
1986	714,807,350	715,516,906	1.0010
1987	866,461,926	866,931,127	1.0005
1988	982,465,150	982,085,105	0.9996
1989	1,140,722,428	1,142,902,544	1.0019
1990	1,168,077,729	1,168,287,167	1.0002
1991	1,015,815,480	1,016,385,928	1.0006
1992	862,758,836	861,793,648	0.9989
1993	753,522,853	753,773,119	1.0003
1994	691,552,335	692,130,367	1.0008
1995	588,335,857	588,598,325	1.0004
1996	508,153,817	506,643,542	0.9970
1997	515,088,306	514,875,882	0.9996
1998	517,318,755	517,111,579	0.9996
1999	588,756,774	588,441,705	0.9995
2000	631,030,721	630,932,722	0.9998
2001	641,538,942	641,302,318	0.9996
2002	671,906,314	670,956,683	0.9986
2003	663,273,054	663,124,433	0.9998
2004	703,139,950	702,827,748	0.9996
2005	709,735,620	710,682,018	1.0013
2006	733,598,963	732,756,067	0.9989
2007	762,608,623	762,842,530	1.0003
2008	714,085,139	716,095,162	1.0028
2009	639,355,479	646,516,614	1.0112
2010	670,627,772	674,662,838	1.0060
2011	636,077,139	651,348,938	1.0240
2012	534,345,310	592,377,519	1.1086
2013	407,357,544	567,711,709	1.3936
2014	121,689,316	407,476,651	3.3485
2015		117,270,981	

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	4,680,989,260	4,680,991,716	1.0000
1986	715,529,652	715,795,145	1.0004
1987	866,956,759	866,280,939	0.9992
1988	982,128,054	982,554,826	1.0004
1989	1,142,944,672	1,143,500,362	1.0005
1990	1,168,340,124	1,169,073,351	1.0006
1991	1,016,348,121	1,017,162,457	1.0008
1992	861,795,845	862,729,147	1.0011
1993	753,819,714	753,937,302	1.0002
1994	692,181,490	693,344,871	1.0017
1995	588,622,413	587,692,565	0.9984
1996	506,668,154	506,810,833	1.0003
1997	514,876,571	515,934,344	1.0021
1998	517,110,020	517,266,643	1.0003
1999	587,224,354	587,535,712	1.0005
2000	626,777,609	626,565,167	0.9997
2001	635,491,287	636,240,434	1.0012
2002	665,926,350	666,714,256	1.0012
2003	651,146,702	651,686,483	1.0008
2004	692,371,497	693,053,613	1.0010
2005	699,145,604	699,804,956	1.0009
2006	720,861,650	722,529,364	1.0023
2007	750,441,498	751,331,890	1.0012
2008	699,955,794	699,819,966	0.9998
2009	628,606,948	632,299,926	1.0059
2010	654,630,114	653,954,661	0.9990
2011	627,572,853	630,564,859	1.0048
2012	554,931,051	573,290,625	1.0331
2013	528,739,541	578,855,679	1.0948
2014	386,505,713	518,849,297	1.3424
2015	113,601,587	373,424,707	3.2871
2016		106,983,032	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.



TABLE I - C - ADJUSTED TO A POST-ACT 44 AND 57 BASIS AND A PRE-HB 1846 BASIS

POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

MEDICAL INCURRED LOSSES EXCLUDING BULK AND IBNR RESERVES

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	1,499,990,552	1,498,465,515	0.9990
1986	327,480,386	326,929,174	0.9983
1987	437,402,743	438,367,942	1.0022
1988	529,468,600	529,078,211	0.9993
1989	640,470,994	646,608,388	1.0096
1990	669,066,222	671,537,263	1.0037
1991	622,922,793	625,512,975	1.0042
1992	568,782,931	569,707,864	1.0016
1993	482,036,917	484,920,238	1.0060
1994	454,361,938	457,561,385	1.0070
1995	413,018,782	417,259,600	1.0103
1996	409,695,200	407,125,971	0.9937
1997	422,673,546	423,699,072	1.0024
1998	447,273,640	447,328,094	1.0001
1999	473,311,600	473,240,552	0.9998
2000	501,899,355	504,529,986	1.0052
2001	491,190,493	493,054,786	1.0038
2002	536,248,616	541,294,324	1.0094
2003	551,631,651	555,162,740	1.0064
2004	608,828,996	609,582,175	1.0012
2005	625,438,461	627,516,086	1.0033
2006	635,745,338	640,510,673	1.0075
2007	682,636,410	681,729,415	0.9987
2008	618,561,454	623,859,577	1.0086
2009	572,028,976	570,994,426	0.9982
2010	632,686,243	636,561,157	1.0061
2011	632,258,720	627,520,380	0.9925
2012	569,995,531	584,354,981	1.0252
2013	577,788,944	628,309,384	1.0874
2014	259,561,425	574,985,747	2.2152
2015		251,291,768	

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	1,498,458,547	1,502,718,079	1.0028
1986	326,926,543	329,855,306	1.0090
1987	438,489,267	439,110,143	1.0014
1988	529,097,990	530,096,741	1.0019
1989	646,634,916	650,931,988	1.0066
1990	671,628,321	675,236,229	1.0054
1991	625,562,259	624,796,766	0.9988
1992	569,813,172	572,316,006	1.0044
1993	485,049,881	487,423,444	1.0049
1994	457,680,247	459,685,357	1.0044
1995	417,311,204	417,082,865	0.9995
1996	407,192,696	409,641,144	1.0060
1997	423,717,935	425,579,078	1.0044
1998	447,433,916	447,676,523	1.0005
1999	472,218,063	473,965,311	1.0037
2000	497,607,385	500,233,886	1.0053
2001	484,329,816	485,514,219	1.0024
2002	536,469,628	538,816,019	1.0044
2003	545,739,351	549,932,813	1.0077
2004	601,199,955	600,829,769	0.9994
2005	618,432,863	623,498,787	1.0082
2006	630,667,815	633,075,956	1.0038
2007	670,534,049	674,222,528	1.0055
2008	610,876,428	610,344,739	0.9991
2009	550,071,534	558,463,603	1.0153
2010	617,062,338	616,668,829	0.9994
2011	602,973,916	608,007,804	1.0083
2012	545,990,419	548,574,984	1.0047
2013	582,633,793	593,518,434	1.0187
2014	537,037,832	574,201,260	1.0692
2015	242,690,736	519,803,103	2.1418
2016		226,107,720	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.

TABLE I - D - ADJUSTED TO A POST-ACT 44 AND 57 BASIS AND A PRE-HB 1846 BASIS

POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

INDEMNITY PAID LOSSES

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	4,616,293,835	4,624,960,491	1.0019
1986	700,260,248	702,459,220	1.0031
1987	852,886,179	854,684,001	1.0021
1988	963,546,859	965,539,400	1.0021
1989	1,113,172,471	1,116,597,000	1.0031
1990	1,138,563,253	1,142,203,623	1.0032
1991	982,466,076	985,848,749	1.0034
1992	830,728,050	833,967,133	1.0039
1993	724,658,919	727,745,769	1.0043
1994	662,743,317	665,749,932	1.0045
1995	568,192,894	570,124,967	1.0034
1996	491,040,445	492,409,570	1.0028
1997	506,014,142	507,458,695	1.0029
1998	509,174,479	510,511,657	1.0026
1999	579,662,150	580,419,901	1.0013
2000	618,704,827	620,641,738	1.0031
2001	627,952,437	630,449,396	1.0040
2002	647,975,062	651,500,270	1.0054
2003	637,050,657	641,567,792	1.0071
2004	664,463,026	670,728,507	1.0094
2005	678,386,825	684,004,633	1.0083
2006	692,511,847	701,593,986	1.0131
2007	718,539,155	728,911,964	1.0144
2008	673,843,251	682,665,474	1.0131
2009	593,301,855	614,396,491	1.0356
2010	596,460,832	625,891,670	1.0493
2011	535,868,055	590,019,911	1.1011
2012	396,468,228	499,801,834	1.2606
2013	221,540,085	425,209,146	1.9193
2014	43,095,002	226,088,106	5.2463
2015		41,785,138	

  

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	4,624,657,710	4,631,393,876	1.0015
1986	702,471,966	704,135,529	1.0024
1987	854,697,282	856,059,302	1.0016
1988	965,557,516	967,441,515	1.0020
1989	1,116,635,141	1,119,923,195	1.0029
1990	1,142,256,580	1,145,499,500	1.0028
1991	985,803,782	989,273,902	1.0035
1992	833,957,913	837,249,307	1.0039
1993	727,776,056	730,687,430	1.0040
1994	665,754,343	668,799,448	1.0046
1995	570,145,064	572,323,066	1.0038
1996	492,429,986	493,973,095	1.0031
1997	507,443,977	508,363,409	1.0018
1998	510,505,644	511,492,805	1.0019
1999	579,190,204	580,181,990	1.0017
2000	616,505,689	617,840,938	1.0022
2001	624,632,170	625,802,688	1.0019
2002	646,608,660	649,203,079	1.0040
2003	629,646,189	632,394,442	1.0044
2004	660,214,504	664,464,647	1.0064
2005	672,874,630	678,060,906	1.0077
2006	689,735,893	695,771,838	1.0088
2007	716,596,655	723,921,319	1.0102
2008	666,761,868	673,920,827	1.0107
2009	596,895,691	609,860,913	1.0217
2010	607,162,611	623,059,411	1.0262
2011	567,698,732	589,959,625	1.0392
2012	467,949,764	513,335,088	1.0970
2013	395,032,351	495,922,555	1.2554
2014	211,976,656	396,818,028	1.8720
2015	39,798,666	221,197,012	5.5579
2016		36,886,750	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.

TABLE I - E - ADJUSTED TO A POST-ACT 44 AND 57 BASIS AND A PRE-HB 1846 BASIS

POLICY YEAR DATA ACCUMULATED TO END OF CALENDAR YEAR

MEDICAL PAID LOSSES

Policy Year Valued	As of 12/31/14	As of 12/31/15	Ratio to Prior Year
Prior			
to 1986	1,372,923,933	1,386,242,742	1.0097
1986	307,276,300	309,049,742	1.0058
1987	404,133,862	407,025,030	1.0072
1988	494,201,399	497,595,723	1.0069
1989	594,994,673	600,237,486	1.0088
1990	633,817,888	637,860,192	1.0064
1991	582,262,802	586,234,018	1.0068
1992	527,846,136	533,114,596	1.0100
1993	453,205,055	457,657,164	1.0098
1994	421,127,864	426,343,000	1.0124
1995	386,143,047	388,993,171	1.0074
1996	372,846,632	376,632,384	1.0102
1997	387,838,631	391,392,883	1.0092
1998	409,661,803	413,752,937	1.0100
1999	437,117,417	440,442,149	1.0076
2000	469,947,743	474,745,095	1.0102
2001	464,880,542	467,988,570	1.0067
2002	496,206,405	503,237,067	1.0142
2003	518,654,675	524,362,271	1.0110
2004	563,813,222	570,120,891	1.0112
2005	576,722,031	584,924,874	1.0142
2006	584,677,500	593,739,017	1.0155
2007	629,597,404	638,538,678	1.0142
2008	573,368,370	581,034,358	1.0134
2009	523,266,559	531,748,927	1.0162
2010	560,944,623	572,323,286	1.0203
2011	560,043,598	579,654,224	1.0350
2012	489,273,850	523,277,918	1.0695
2013	414,790,359	519,655,225	1.2528
2014	123,499,550	426,979,703	3.4573
2015		115,282,819	

  

Policy Year Valued	As of 12/31/15	As of 12/31/16	Ratio to Prior Year
Prior			
to 1986	1,386,184,065	1,397,569,148	1.0082
1986	309,035,659	311,818,890	1.0090
1987	407,043,611	410,623,515	1.0088
1988	497,574,746	500,522,830	1.0059
1989	600,241,316	606,260,544	1.0100
1990	637,878,412	642,773,747	1.0077
1991	586,249,982	589,703,480	1.0059
1992	533,143,884	539,156,677	1.0113
1993	457,669,149	461,086,469	1.0075
1994	426,337,651	430,985,760	1.0109
1995	389,005,847	391,255,969	1.0058
1996	376,630,871	380,555,829	1.0104
1997	391,386,284	395,475,573	1.0104
1998	413,750,190	417,205,908	1.0084
1999	439,355,104	442,679,587	1.0076
2000	467,747,591	471,484,045	1.0080
2001	459,309,687	463,354,811	1.0088
2002	498,748,231	505,946,342	1.0144
2003	515,110,569	520,482,146	1.0104
2004	561,704,871	566,937,710	1.0093
2005	575,853,464	581,590,003	1.0100
2006	583,925,176	592,590,732	1.0148
2007	627,381,401	636,175,057	1.0140
2008	568,158,693	574,583,955	1.0113
2009	512,268,448	518,873,677	1.0129
2010	553,095,772	561,770,641	1.0157
2011	555,328,468	564,792,909	1.0170
2012	486,445,734	503,768,010	1.0356
2013	477,376,969	513,348,455	1.0754
2014	398,148,477	498,912,493	1.2531
2015	110,910,434	367,913,374	3.3172
2016		100,131,704	

NOTE: So as to maximize the use of available data, the companies used in one stage of development were allowed to be independent of those used in the other stage of development; therefore, the figures shown at each valuation may vary.

## EXHIBIT VII

### LOSS COST FORMULAE

The experience used for classification relativities for the January 1, 2019 revision will include all available risks. It is proposed that catastrophes be limited in accordance with the procedure previously employed in other Bureau filings. The experience period will be five (5) years for all classifications regardless of whether a classification might meet the full credibility requirements with less than five years of data. Credibility will be based on reported payrolls for classifications using payroll as the exposure base. For non-payroll classifications, expected losses will be used as the basis for credibility. Thus, two credibility tables will be prepared for use in the January 1, 2019 filing. The values for these respective tables will be established such that the credibilities assigned to a payroll-based classification having the same portion of total statewide expected losses and payrolls attributable to its experience using each table would be equal. All occupational disease losses will be included in the exhibit of classification experience, with the total amount of such losses by type of injury being shown on a separate line on the classification loss cost worksheets.

Most classifications are subject to standard procedures as described below. However, circumstances will sometimes require that some classifications' rating procedure be modified to recognize situations where the normal rating process would not be appropriate. Such classifications, and the manner in which their loss costs have been derived, are separately identified within the filing material.

The calculation of classification loss costs will be made using the following procedure:

- (1) Determine the present pure premiums by category (serious, non-serious, medical only and total) for each classification.
- (2) Adjust the present pure premiums by category (serious, non-serious, medical-only and total) to the January 1, 2019 loss cost level.
- (3) Determine Expected Losses (serious, non-serious, medical-only and total) for each classification by multiplying the exposures from the experience period by the present pure premiums.
- (4) Determine the indicated pure premiums (serious, non-serious, medical-only and total) from the exposures and losses from the experience period.
- (5) Test the indicated total pure premiums by multiplying the exposures of the latest two years for each classification and obtaining the total Actual Losses for all classifications combined.
- (6) Calculate Expected Losses by multiplying the present pure premiums by the exposures from the last two years for each classification and by the overall average loss cost change.
- (7) Obtain correction factors by dividing the Expected Losses derived in (6) by the Actual Losses derived in (5).

## LOSS COST FORMULAE (CONTINUED)

- (8) Multiply the indicated (pre-test) pure premiums from (4) times the correction factors derived in (7) to obtain indicated (post-test) pure premiums.
- (9) Determine “formula” pure premiums from (2) and (8) above for each type of loss (serious, non-serious and medical-only), with credibility for each category of loss corresponding to either the amount of reported payroll (for all classifications in which payroll is the exposure base) or to the amount of Expected Losses (for all “non-payroll” classifications). Credibility weights will be taken from exhibits appearing in the Class Book. The complement of credibility is in each case to be assigned to the present loss costs on January 1, 2019 level for each category of loss.
- (10) Select proposed total pure premiums for each classification, using the middle value from the total pure premiums derived in (2), (8) and (9) above. If the proposed pure premium selected on this basis is different from the formula pure premium derived in (9) above, partial pure premiums are to be allocated between categories (serious, non-serious and medical-only) in the same proportion as the partial pure premiums comprising the formula pure premium.
- (11) Test the proposed total pure premiums selected in (10) by multiplying by the exposures of the two latest years for each classification and obtaining the total Expected Losses for all classifications combined.
- (12) Obtain a correction factor by dividing the Expected Losses derived in (6) above by the Expected Losses derived in (11) above.
- (13) Calculate the “composite pure premium multiplier” as the product of the following items:
  - (a) The pure premium correction factor determined in (12) above.
  - (b) The proposed experience rating plan off-balance factor.
- (14) Apply the composite pure premium multiplier obtained in (13) above to the proposed total pure premiums to obtain classification loss costs.
- (15) Test to assure that the maximum departure of the classification loss costs derived in (14) above from current loss costs are in accordance with the following parameters:

Maximum Change in Loss Cost:  
Upward: The overall average change plus 25% rounded to the nearest 1%.  
Downward: The overall average change minus 25% rounded to the nearest 1%.
- (16) Loss costs are to be rounded to the nearest \$.01.
- (17) Test the limited loss costs derived in (16) above to determine if balance has been achieved within 0.0005 of the indicated change in loss cost level. If such balance has not been achieved, calculate the necessary correction factor to adjust the composite pure premium multipliers derived in (13) above to achieve the necessary balance. Perform steps (14) through (17) iteratively until the desired balance is achieved.

**EXHIBIT VIII****COLLECTIBLE PREMIUM RATIOS \***

Manual Year	Premium at Manual Rates	Collected Premium (Excluding Constants)	Collectible Premium Ratio (2)/(3)
(1)	(2)	(3)	(4)
ALL INDUSTRIES			
2012	2,773,363,565	2,716,410,500	1.0210
2013	2,765,118,305	2,695,722,981	1.0257
2014	2,756,227,220	2,678,583,298	1.0290
<b>TOTAL</b>	<b>8,294,709,090</b>	<b>8,090,716,779</b>	<b>1.0252</b>
MANUFACTURING AND UTILITIES			
2012	570,622,932	550,861,554	1.0359
2013	565,329,433	543,685,240	1.0398
2014	564,443,027	542,238,876	1.0409
<b>TOTAL</b>	<b>1,700,395,392</b>	<b>1,636,785,670</b>	<b>1.0389</b>
CONTRACTING AND QUARRYING			
2012	526,615,593	473,301,153	1.1126
2013	526,957,286	470,108,430	1.1209
2014	534,892,299	470,016,147	1.1380
<b>TOTAL</b>	<b>1,588,465,178</b>	<b>1,413,425,730</b>	<b>1.1238</b>
OTHER INDUSTRIES			
2012	1,676,125,040	1,692,247,793	0.9905
2013	1,672,831,586	1,681,929,311	0.9946
2014	1,656,891,894	1,666,328,275	0.9943
<b>TOTAL</b>	<b>5,005,848,520</b>	<b>5,040,505,379</b>	<b>0.9931</b>

\* Excludes classifications and coverages not subject to experience rating.

**EXHIBIT IX**

**CALCULATION OF EXPECTED LOSS COST FACTORS (a)**

<b>Policy Year Beginning 1/1 (1)</b>	<b>HB 1846 Adjustment Factor (2)</b>	<b>Protz Adjustment Factor (3)</b>	<b>Loss Ratio Development Factor (4)</b>	<b>Collectible Premium Ratio (5)</b>	<b>Trend Factor (6)</b>	<b>Product (2) * (3) * (4) * (5) * (6) (7)</b>	<b>Expected Loss Cost Factor 1.0 / (7) (8)</b>
<b><u>Manufacturing and Utilities</u></b>							
2015	1.0000	1.0349	1.1181	1.0389	0.9029	1.0854	0.9213
2016	1.0000	1.0207	1.2253	1.0389	0.9287	1.2067	0.8287
2017	1.0000	1.0164	1.5184	1.0389	0.9552	1.5315	0.6530
<b><u>Contracting and Quarrying</u></b>							
2015	1.0000	1.0349	1.1712	1.1238	0.9029	1.2298	0.8131
2016	1.0000	1.0207	1.2547	1.1238	0.9287	1.3366	0.7482
2017	1.0000	1.0164	1.5125	1.1238	0.9552	1.6502	0.6060
<b><u>Other Industries</u></b>							
2015	1.0000	1.0349	1.1179	0.9931	0.9029	1.0373	0.9640
2016	1.0000	1.0207	1.2201	0.9931	0.9287	1.1486	0.8706
2017	1.0000	1.0164	1.5142	0.9931	0.9552	1.4599	0.6850

a Apply to pure Loss Costs (pre-LBA, Merit Rating Plan, PCCPAP and Certified Safety Committee adjustments).

**EXHIBIT X**

**RETROSPECTIVE DEVELOPMENT FACTORS \***

Retrospective development factors for first, second and third adjustments are calculated below. They are intended for application to retrospective plans with no loss limitation.

First Adjustment	RDF =	0.3106
Second Adjustment	RDF =	0.1733
Third Adjustment	RDF =	0.1089

For those companies using retrospective development factors with loss limitations, the following formula may be used:

$$\text{RDF(LIM)} = (1.0 - \text{ELF}) \times \text{RDF}$$

RDF(LIM) = Retrospective Development Factors at limited basis  
ELF = Excess Loss Factors for given Hazard Group and Loss Limitation  
RDF = Retrospective Development Factors without Loss Limitation

For Example:

$$\text{The \$25,000 limit Hazard Group C ELF} = 0.665$$

$$\begin{aligned} \text{Then First Adjustment RDF} &= (1 - 0.665) * 0.3106 \\ &= 0.1041 \end{aligned}$$

\* The use of retrospective development factors is optional.