REQUEST FOR PROPOSALS FOR PROFESSIONAL SERVICES
ACTUARIAL SERVICES/DCRB RATE FILING
CONTRACT NUMBER DOI18002-ACTUARIAL

ADDENDUM #1

	QUESTIONS RECEIVED					RESPONSES
	Section number	**Paragraph number**	**Page No.**	**Text of passage being questioned**	**Question**	
1.	Section III, A.1.	2	4	Provide Delaware license(s) and/or certification(s) necessary to perform services as identified in the scope of work;	Is proof of Delaware license and/or certification part of the proposal? Or is it to be supplied prior to contract?	The proof of Delaware license may be provided at time of contract.
2.	Appendix B – Scope of Work	2	44	d) If required by the DOI, testify at a public hearing related to the Rate Filing.	How many times in the past five years has the contracted actuary testified at a rate hearing?	No actuaries have testified at a public hearing in the past five years.

3.	N/A	N/A	N/A	N/A	Why is this engagement being put out for bid?	The application of 29 *Del.C.* §§ 6981 and 6982. The State of Delaware, Department of Insurance seeks professional services for Actuarial Services related to review and analysis of the annual DCRB Rate Filing.
4.	N/A	N/A	N/A	N/A	Has the scope of work changed since the work was done?	No.
5.	N/A	N/A	N/A	N/A	Who is the most recently hired actuarial firm?	Madison Consulting Group was hired for the 2017 annual review.
6.	N/A	N/A	N/A	N/A	What were the annual fees charged and the terms of the contract? What was the previous vendor paid for the services sought in this RFP?	Please see the response to question 8. The Key Contract Information form is available at http://bidcondocs.delaware.gov/DOI/DOI_17002-ACTUSRIAL_AN.pdf
7.	N/A	N/A	N/A	N/A	How long have the current actuaries been providing their services?	No firm is currently providing these services.
8.	N/A	N/A	N/A	N/A	What were the fees charged for the previous five years for the services sought in this RFP?	The fees for the last five years were: 2013 not applicable 2014 $38,947 2015 $57,390 2016 $38,315 2017 $15,000
9.	N/A	N/A	N/A	N/A	Were contract extensions used with previous contracts?	No.

10.	N/A	N/A	N/A	N/A	Can we get a copy of the most recent actuarial report?	Madison Consulting's analysis of that report is attached.
11.	N/A	N/A	N/A	N/A	Can we get a copy of the proposal of the last successful bidder?	Copies of the proposal are available through the FOIA process

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Actuaries • Property/Casualty Consulting Services

September 18, 2017

Mr. Mitch Crane, Esquire
Deputy Insurance Commissioner
Delaware Department of Insurance
841 Silver Lake Boulevard
Dover, DE 19904

Re: Analysis of Delaware Compensation Rating Bureau Workers Compensation
     Filing No. 1701 – December 1, 2017 Residual Market Rate and Voluntary Market
     Loss Cost Revision

Dear Mr. Crane:

Madison Consulting Group (MCG) is pleased to present the following analysis regarding the reasonability of the Delaware Compensation Rating Bureau (DCRB)'s requested residual market rate and voluntary market loss costs, as submitted in their Filing No. 1701.

Purpose

The Delaware Department of Insurance (DOI) requested that MCG perform a review of the DCRB Workers Compensation Filing No. 1701 – December 1, 2017 Residual Market Rate and Voluntary Market Loss Cost Revision in order to assist the DOI in determining whether the requested rate change is reasonable. This letter report describes that analysis.

Distribution and Use

This report has been prepared solely to assist the DOI in their determination of the appropriateness of the DCRB's residual market rate and voluntary market loss cost requests. Any other use or distribution is not authorized without our prior consent. All distributions of this report should be in its entirety including the attached exhibits.

Acknowledgement of Qualification

This report was prepared by Leslie Marlo, FCAS, MAAA. Ms. Marlo is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Executive Summary

The DCRB Filing No. 1701, with a proposed effective date of December 1, 2017, requests a residual market rate change of -4.91% and a voluntary market loss cost change of -2.15%.

The results of the MCG analysis indicate a residual market rate change of -1.07% and a voluntary market loss cost change of +1.80%.

MCG agreed with a number of the methodologies and underlying assumptions utilized by DCRB in their analysis of the rate and loss cost indications. However, as discussed in greater detail below, we have differences in certain underlying assumptions, such as loss development factors and trend factors. In addition, we have included additional generally accepted actuarial methodologies prior to making final selections of ultimate losses. The following table outlines the DCRB requested changes, the impacts of the differences between DCRB and MCG selections, and the MCG indicated changes:

	DCRB Indication	Impact of:			MCG Indication
		Loss Development Factors	Ultimate Loss Selections	Trend Factors	
Residual Market	-4.91%	3.26%	-0.96%	1.73%	-1.07%
Voluntary Loss Cost	-2.15%	3.38%	-1.15%	1.80%	1.80%

Data

In performing our analysis, we relied on data and exhibits prepared by the DCRB, as contained in their *Summary of Material for Modification of Experience December 1, 2017 Residual Market Rate and Voluntary Market Loss Cost Revision* (also known as the "Brown Book"), as well the supporting Filing No. 1701 filing exhibits.

We further received explanatory documentation from DCRB in regard to certain questions we posed on August 22, 2017.

All of the data were accepted for analysis without audit or verification. Any changes to this information that arise could cause us to change our conclusions.

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Analysis and Observations

DCRB Analysis

DCRB uses data through policy year 2015, evaluated as of December 31, 2016. The data is reviewed on a limited basis, i.e. with the underlying claims limited to a selected threshold. The data is also stated on a pre-HB373 basis for analysis purposes.

DCRB develops ultimate loss ratios, separately for indemnity vs. medical claims, to a 2016 "on-level" basis. Losses are developed using the standard paid and incurred loss development methods, which are generally accepted actuarial methodologies. Standard earned premium is also developed to ultimate, and adjusted to reflect historical rate changes up through 2016. A loss adjustment expense (LAE) load is incorporated, as are factors to reflect benefit level changes through 2017.

DCRB's on-level ultimate loss and LAE ratio is equal to the average of the indicated ultimate loss and LAE ratios for the latest four policy years, i.e. policy years 2012 – 2015. The indication is then trended forward to the midpoint of the effective period, December 1, 2018, and adjusted to reflect claims on a post-HB373 basis and on an unlimited claim basis.

The final indicated loss and LAE ratio is compared to a permissible loss and LAE ratio to determine the indicated change in residual market rates (further adjusted to reflect the estimated effect of a benefit level change to be effective July 1, 2018). The indicated change for voluntary market loss costs starts with the residual market rate change and adjusts for the change in current vs. proposed loss cost modifiers (LCMs).

A number of underlying assumptions are made by DCRB in the above approach. In our analysis, we have reviewed and agreed with the following assumptions:

- Standard earned premium development factors;
- On-level premium factors;
- Benefit level adjustment factors;
- Loss limitation factor;
- Impact of HB373;
- LAE load;
- General expense load (which impacts permissible loss and LAE ratio);
- Underwriting profit provision (which impacts permissible loss and LAE ratio).

Our differences with the DCRB indications stem from the following, which will be discussed in more detail below:

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- Paid and incurred loss development factor selection, including tail factors;
- Trend factors;
- Inclusion of Bornhuetter-Ferguson methodologies;
- Ultimate loss ratio selection.

Paid and Incurred Loss Development Factors

DCRB's selected loss development factors through a maturity of 27 years are based on curve fitting of the latest four-year average factors. The tail factor at 27 years for paid losses is set to produce the same ultimate at that maturity as on an incurred loss basis.

For our analysis, we examined several different average age-to-age loss development factors through 27 years: four-year average, seven-year average, ten-year average, and average of the last five years excluding high and low factors. Our selected age-to-age loss development factors give considerable weight to the seven-year average and average of the last five years excluding high and low factors. We also employ a smoothing technique in determining our final selections. The underlying data and resulting selected age-to-age factors are shown on Exhibit 6, Sheets 1 – 4.

Workers' compensation claims have multiple factors impacting the rate of payments in older maturities, including mortality, benefit limitations, cost of living adjustments, medical inflation, and claim settlements. Due to the nature of the payments, we believe it is appropriate to fit the age-to-age factors in order to determine a paid tail factor (for development greater than 27 years). As shown on Exhibit 6, Sheets 5 – 6, we used several approaches to determine the paid tail:

> Inverse power curve fit
> The inverse power curve is often considered to provide a good fit for workers' compensation experience; as can be seen on Exhibit 6, Sheets 5 and 6, the R-squared goodness of fit statistic is well over 90% for both indemnity and medical. However, the inverse power curve generally converges to development of 1.0000 very slowly and thus can produce a tail length that is, practically speaking, far too long (e.g. development going out for 100 years or more). MCG's indicated tail factor using this approach assumes that the tail is cut off at a maturity of sixty-two years, which we believe is a reasonable length of time for a given universe of workers' compensation claims to be fully paid.

Exponential curve fit

This is an alternative curve fit with R-squared of approximately 86% for both indemnity and medical. However, this curve tends to converge to development of 1.0000 much faster than would be considered reasonable for workers' compensation claims. With this curve, convergence occurs well before a maturity of sixty-two years.

Decay factor

This approach examines the rate of decay from one period to the next for relatively older maturities and applies future decay to the most recently observable development factor. As with the inverse power curve fit, an assumption is needed regarding how long it will take for claims to be fully paid. For this approach, we again assume the tail is cut off at sixty-two years.

Upon examination of the above approaches, considering the pros and cons of each, we judgmentally selected indemnity and medical paid tail factors.

For the incurred tail factors, we looked at the relationship between actual incurred and paid losses for the oldest policy years. Our incurred tail is then equal to the paid tail divided by a selected incurred-to-paid loss ratio. This calculation is outlined in Exhibit 6, Sheet 7.

Trend Factors

Separate trend factors are appropriately calculated by DCRB for frequency, indemnity severity, and medical severity. In determining trend factors, DCRB fits exponential curves of the last seven years of data for claim frequency and a series of years from four to ten years for indemnity severity and medical severity. In addition, for frequency, DCRB chooses to exclude policy years 2009 and 2010 from its curve fit due to a concern that these years are impacted by the recession.

For our analysis, we chose to examine several different time periods, including five years, seven years, and thirteen years (frequency) / ten years (severity). We note that our results for indemnity and medical severity will be different from DCRB's results due to differences in the initial indicated loss ratios feeding severity statistics.

For the trend factors used to project ultimate loss and LAE ratios to the midpoint of the effective period (December 1, 2018), we used all available data through policy year 2015. For frequency and indemnity severity, our selections of -5.0% and +4.0% respectively are the same as those selected by DCRB. Our selected medical severity trend of +9.0% is slightly higher than the +8.3% selected by DCRB. Exhibit 5,

Sheet 1 outlines these results. The following chart documents the differences in trend selections between DCRB and MCG:

| | Trend Selections: | |
	DCRB	MCG
Frequency	-5.0%	-5.0%
Indemnity Severity	4.0%	4.0%
Medical Severiy	8.3%	9.0%

In addition, our expected loss ratios for use in the Bornhuetter-Ferguson (B-F) methods discussed below rely on selected loss ratios for older policy years trended to the appropriate policy year being developed. For example, in determining the expected loss ratio used to apply the B-F methods to policy year 2015, we reviewed the initial indicated ultimate loss ratio for policy years 2010 – 2014 and trended those results to a policy year 2015 level. The trend factors selected for this calculation used data only through policy year 2014. See Exhibit 5, Sheet 2 for these results. Exhibit 5, Sheets 3 – 4 provide similar results for trend factors used in the expected loss ratio calculations for policy years 2013 and 2014.

Actuarial Methodologies

Similar to the DCRB analysis, we have utilized paid and incurred loss development methods. In addition, we have incorporated paid and incurred B-F methods into our analysis. B-F methods reflect a weighted average of actual experience and expected experience, with the weightings based on the paid and incurred loss development patterns. B-F methods tend to be more stable than development methods for less mature policy years, where the development factors are highly leveraged.

Specifically, the B-F methods project unreported or unpaid losses based on the paid and incurred development patterns and expected loss ratios. The development of the expected loss ratios is discussed above. The method results are outlined on Exhibit 3, Sheet 3.

Selected On-Level Ultimate Loss and LAE Ratios

Exhibit 3, Sheet 1 summarizes the results of the loss development methods and B-F methods. Our final selected ultimate loss ratio by policy year is generally the

average of the various methods. However, for policy year 2015, we have selected the average of the B-F methods due to the immaturity of the policy year. In addition, for policy years 2013 and 2014, we have not included the paid loss development method results when considering our selections. This is due to the open count-to-reported count statistics provided by DCRB which show increasing closure rates for more recent policy years, potentially resulting in the paid loss development method being overstated. The LAE load is then applied to the selected ultimate loss ratio to arrive at the ultimate loss and LAE ratios.

Trended Ultimate Loss and LAE Ratios

Exhibit 2 trends the selected on-level ultimate loss and LAE ratios for each policy year in the experience period to the midpoint of the effective period. Based on the results of the experience period, we then select our final trended ultimate loss and LAE ratio for indemnity separately from medical claims. We note that we have included ten policy years in our experience period, rather than only the latest four that DCRB uses in their selections.

Indicated Rate Change

In Exhibit 1, we compare the trended ultimate loss and LAE ratios, adjusted to a post-HB373, unlimited basis with the permissible loss and LAE ratio to determine the residual market rate change. We also adjust for the change in LCMs in order to determine the voluntary market loss cost change.

We have enjoyed working on this project and hope you find the results satisfactory. Please call if you have any questions or comments.

Sincerely,

Signature on File

Leslie Marlo, FCAS, MAAA

Peer Reviewed By:
Signature on File

Brian Sullivan, ACAS, MAAA

cc: Kathleen Makowski, Deputy Attorney General
Attachments

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Exhibit 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Indicated Change in Rate Level
Data as of December 31, 2016

		Indemnity	Medical	Total	% Change
(1)	Trended Ultimate Loss and LAE Ratio for Policy Period 12/1/2017 - 12/1/2018	0.2500	0.5750		
(2)	House Bill 373 Adjustment	1.0000	0.6859		
(3)	Trended Ultimate Loss and LAE Ratio Post Legislative Change	0.2500	0.3944	0.6444	
(4)	Excess Loss Factor			0.0817	
(5)	Trended Ultimate Loss and LAE Ratio Including Excess			0.7017	
(6)	Permissible Loss and LAE Ratio			0.7056	
(7)	Indicated Rate Change			0.9945	
(8)	Estimated Effect of 7/1/2018 Benefit Change			0.9948	
(9)	Indicated Rate Change - Residual Market			0.9893	**-1.07%**
(10)	Indicated Loss Cost Change - Voluntary Market			1.0180	**1.80%**

Notes: (1)   See Exhibit 2.

          (2), (4), (6), (8) See DCRB Filing No. 1701 "Brown Book" Exhibit I.

          (3)   = (1) × (2).

          (5)   = (3) ÷ [(1) - (4)].

          (7)   = (5) ÷ (6).

          (9)   = (7) × (8).

          (10)   = (9) × [0.7308 ÷ 0.7102] where 0.7308 and 0.7102 adjust for proposed and current LCMs.

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Exhibit 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Trended Ultimate Loss and LAE Ratio
Data as of December 31, 2016

Policy Year (1)	Selected Ultimate Loss and LAE Ratio (2)	Trend Period in Years to 12/1/2018 (3)	Frequency Trend Factor (4)	Severity Trend Factor (5)	Trended Ultimate Loss and LAE Ratio (6)
			Indemnity		
2006	0.2866	11.917	0.5427	1.5958	0.2482
2007	0.2722	10.917	0.5712	1.5344	0.2386
2008	0.2402	9.917	0.6013	1.4754	0.2131
2009	0.2629	8.917	0.6329	1.4187	0.2361
2010	0.2599	7.917	0.6663	1.3641	0.2362
2011	0.2588	6.917	0.7013	1.3116	0.2381
2012	0.2655	5.917	0.7382	1.2612	0.2472
2013	0.2841	4.917	0.7771	1.2127	0.2677
2014	0.2550	3.917	0.8180	1.1660	0.2432
2015	0.2575	2.917	0.8610	1.1212	0.2486
				Selected:	0.2500
			Medical		
2006	0.3518	11.917	0.5427	2.7925	0.5331
2007	0.3771	10.917	0.5712	2.5620	0.5519
2008	0.3838	9.917	0.6013	2.3504	0.5424
2009	0.4114	8.917	0.6329	2.1564	0.5615
2010	0.4978	7.917	0.6663	1.9783	0.6561
2011	0.4569	6.917	0.7013	1.8150	0.5816
2012	0.4452	5.917	0.7382	1.6651	0.5473
2013	0.5010	4.917	0.7771	1.5276	0.5947
2014	0.4844	3.917	0.8180	1.4015	0.5553
2015	0.5456	2.917	0.8610	1.2858	0.6040
				Selected:	0.5750

Notes: (2) See Exhibit 3, Sheet 1.

(3) Reflects difference between midpoint of effective period and experience period.

(4) Exhibit 5, Sheet 1, Column (10) *Selected*, raised to the power of Column (3).

(5) Indemnity: Exhibit 5, Sheet 1, Column (13) *Selected*, raised to the power of Column (3).
Medical: Exhibit 5, Sheet 1, Column (16) *Selected*, raised to the power of Column (3).

(6) = (2) × (4) × (5).

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Exhibit 3
Sheet 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Selection of On-Level Ultimate Loss and LAE
Data as of December 31, 2016

Policy Year (1)	Ultimate On-Level Standard Earned Premium (2)	Paid Development Method (3)	Incurred Development Method (4)	Paid Bornhuetter- Ferguson (5)	Incurred Bornhuetter- Ferguson (6)	Selected Ultimate Loss (7)	LAE Factor (8)	Selected Ultimate Loss and LAE (9)	Selected Ultimate Loss and LAE Ratio (10)
				Indemnity					
2006	217,597,737	52,765,962	50,440,364			51,603,163	1.2087	62,372,743	0.2866
2007	216,031,283	49,390,418	47,896,182			48,643,300	1.2087	58,795,157	0.2722
2008	218,623,838	44,781,794	42,101,424			43,441,609	1.2087	52,507,873	0.2402
2009	216,826,473	47,776,733	46,533,512			47,155,123	1.2087	56,996,397	0.2629
2010	211,455,587	47,364,680	43,579,672			45,472,176	1.2087	54,962,219	0.2599
2011	214,106,243	48,335,935	43,338,044			45,836,990	1.2087	55,403,169	0.2588
2012	199,898,044	46,021,008	41,801,326			43,911,167	1.2087	53,075,428	0.2655
2013	191,841,176	48,777,439	44,925,817	45,825,705	44,500,053	45,083,858	1.2087	54,492,860	0.2841
2014	191,633,163	44,252,125	37,947,995	43,839,183	39,489,928	40,425,702	1.2087	48,862,546	0.2550
2015	212,299,950	49,066,663	37,148,848	48,378,971	42,072,416	45,225,693	1.2087	54,664,296	0.2575
Total	2,090,313,494	478,532,757	435,713,184			456,798,781		552,132,688	0.2641
				Medical					
2006	217,597,737	63,166,095	63,485,577			63,325,836	1.2087	76,541,938	0.3518
2007	216,031,283	67,314,760	67,487,850			67,401,305	1.2087	81,467,957	0.3771
2008	218,623,838	68,648,088	70,178,784			69,413,436	1.2087	83,900,020	0.3838
2009	216,826,473	74,499,919	73,111,709			73,805,814	1.2087	89,209,087	0.4114
2010	211,455,587	87,653,279	86,515,296			87,084,288	1.2087	105,258,778	0.4978
2011	214,106,243	81,556,617	80,306,636			80,931,627	1.2087	97,822,057	0.4569
2012	199,898,044	74,857,801	72,410,354			73,634,078	1.2087	89,001,509	0.4452
2013	191,841,176	83,519,974	79,266,557	80,613,807	78,677,047	79,519,137	1.2087	96,114,781	0.5010
2014	191,633,163	74,280,597	73,807,897	78,920,005	77,666,030	76,797,977	1.2087	92,825,715	0.4844
2015	212,299,950	97,585,758	104,266,408	93,953,884	97,691,071	95,822,477	1.2087	115,820,628	0.5456
Total	2,090,313,494	773,082,888	770,837,068			767,735,974		927,962,470	0.4439

Notes: (2), (8) See DCRB Filing No. 1701 "Brown Book", Exhibit IV, Sheets 1 - 10.
   (3), (4) See Exhibit 3, Sheet 2.
   (5), (6) See Exhibit 3, Sheet 3.
   (9) = (7) × (8).
   (10) = (9) ÷ (2).

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Exhibit 3
Sheet 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Loss Development Methods
Data as of December 31, 2016

Policy Year (1)	Ultimate On-Level Standard Earned Premium (2)	Paid Loss (3)	Incurred Loss (4)	Paid Development Factor (5)	Incurred Development Factor (6)	Benefit Level Adjustment Factor (7)	Paid Development Method (8)	Incurred Development Method (9)	Intitial Indicated Ultimate (10)	Intitial Indicated Ultimate Loss Ratio (11)
					Indemnity					
2006	217,597,737	41,913,458	44,219,299	1.1137	1.0091	1.1304	52,765,962	50,440,364	51,603,163	0.2371
2007	216,031,283	39,357,798	42,850,116	1.1401	1.0155	1.1007	49,390,418	47,896,182	48,643,300	0.2252
2008	218,623,838	35,322,768	37,976,718	1.1716	1.0245	1.0821	44,781,794	42,101,424	43,441,609	0.1987
2009	216,826,473	36,492,210	41,726,944	1.2145	1.0345	1.0780	47,776,733	46,533,512	47,155,123	0.2175
2010	211,455,587	34,481,955	38,078,910	1.2708	1.0588	1.0809	47,364,680	43,579,672	45,472,176	0.2150
2011	214,106,243	32,727,413	36,827,314	1.3621	1.0853	1.0843	48,335,935	43,338,044	45,836,990	0.2141
2012	199,898,044	28,580,744	34,848,701	1.5067	1.1224	1.0687	46,021,008	41,801,326	43,911,167	0.2197
2013	191,841,176	25,879,943	36,373,343	1.8017	1.1807	1.0461	48,777,439	44,925,817	46,851,628	0.2442
2014	191,633,163	16,337,903	26,665,181	2.6200	1.3766	1.0338	44,252,125	37,947,995	41,100,060	0.2145
2015	212,299,950	9,169,573	19,974,736	5.1836	1.8016	1.0323	49,066,663	37,148,848	43,107,756	0.2031
Total	2,090,313,494	300,263,765	359,541,262				478,532,757	435,713,184	457,122,971	0.2187
					Medical					
2006	217,597,737	44,852,727	53,304,431	1.4083	1.1910	1.0000	63,166,095	63,485,577	63,325,836	0.2910
2007	216,031,283	46,299,443	55,399,647	1.4539	1.2182	1.0000	67,314,760	67,487,850	67,401,305	0.3120
2008	218,623,838	45,674,044	56,120,579	1.5030	1.2505	1.0000	68,648,088	70,178,784	69,413,436	0.3175
2009	216,826,473	47,722,708	56,526,758	1.5611	1.2934	1.0000	74,499,919	73,111,709	73,805,814	0.3404
2010	211,455,587	53,581,074	64,669,828	1.6359	1.3378	1.0000	87,653,279	86,515,296	87,084,288	0.4118
2011	214,106,243	47,199,848	56,963,141	1.7279	1.4098	1.0000	81,556,617	80,306,636	80,931,627	0.3780
2012	199,898,044	40,807,785	48,503,151	1.8344	1.4929	1.0000	74,857,801	72,410,354	73,634,078	0.3684
2013	191,841,176	41,845,771	49,519,933	1.9959	1.6007	1.0000	83,519,974	79,266,557	81,393,266	0.4243
2014	191,633,163	31,848,646	40,674,472	2.3323	1.8146	1.0000	74,280,597	73,807,897	74,044,247	0.3864
2015	212,299,950	29,887,525	46,731,090	3.2651	2.2312	1.0000	97,585,758	104,266,408	99,255,921	0.4675
Total	2,090,313,494	429,719,571	528,413,030				773,082,888	770,837,068	770,289,816	0.3685

Notes: (2), (3), (4), (7) See DCRB Filing No. 1701 "Brown Book" Exhibit IV. Sheets 1 - 10.
(5)   Indemnity: See Exhibit 6, Sheet 1, Medical: See Exhibit 6, Sheet 3.
(6)   Indemnity: See Exhibit 6, Sheet 2, Medical: See Exhibit 6, Sheet 4.
(8)   = (3) × (5) × (7).
(9)   = (4) × (6) × (7).
(10)   Average of (8) and (9).
(11)   (10) ÷ (2).

Exhibit 3
Sheet 3

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Bornhuetter-Ferguson Methods
Data as of December 31, 2016

Policy Year (1)	Ultimate On-Level Standard Earned Premium (2)	Expected Loss Ratio (3)	Paid Loss (4)	Incurred Loss (5)	Paid Development Factor (6)	Incurred Development Factor (7)	Benefit Level Adjustment Factor (8)	Paid Bornhuetter- Ferguson (9)	Incurred Bornhuetter- Ferguson (10)
					Indemnity				
2013	191,841,176	0.2100	25,879,943	36,373,343	1.8017	1.1807	1.0461	45,825,705	44,500,053
2014	191,633,163	0.2200	16,337,903	26,665,181	2.6200	1.3766	1.0338	43,839,183	39,489,928
2015	212,299,950	0.2200	9,169,573	19,974,736	5.1836	1.8016	1.0323	48,378,971	42,072,416
Total	595,774,289		51,387,419	83,013,260				138,043,858	126,062,397
					Medical				
2013	191,841,176	0.4050	41,845,771	49,519,933	1.9959	1.6007	1.0000	80,613,807	78,677,047
2014	191,633,163	0.4300	31,848,646	40,674,472	2.3323	1.8146	1.0000	78,920,005	77,666,030
2015	212,299,950	0.4350	29,887,525	46,731,090	3.2651	2.2312	1.0000	93,953,884	97,691,071
Total	595,774,289		103,581,942	136,925,495				253,487,697	254,034,148

Notes: (2), (4), (5), (8) See DCRB Filing No. 1701 "Brown Book" Exhibit IV, Sheets 1 - 10.
    (3)   See Exhibit 4, Sheets 1 - 3.
    (6)   Indemnity: See Exhibit 6, Sheet 1, Medical: See Exhibit 6, Sheet 3.
    (7)   Indemnity: See Exhibit 6, Sheet 2, Medical: See Exhibit 6, Sheet 4.
    (9) $= \{ \{[1 - 1/(6)] \times (2) \times (3)\} + (4)\} \times (8)$
    (10) $= \{ \{[1 - 1/(7)] \times (2) \times (3)\} + (5)\} \times (8)$

Exhibit 4
Sheet 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Initial Expected Loss Ratio - Poliy Year 2013
Data as of December 31, 2016

Policy Year (1)	Initial Indicated Ultimate Loss Ratio (2)	Trend Period in Years (3)	Frequency Trend Factor (4)	Severity Trend Factor (5)	Trended Ultimate Loss Ratio (6)
			Indemnity		
2008	0.1987	5.000	0.7223	1.2763	0.1832
2009	0.2175	4.000	0.7708	1.2155	0.2038
2010	0.2150	3.000	0.8227	1.1576	0.2048
2011	0.2141	2.000	0.8780	1.1025	0.2072
2012	0.2197	1.000	0.9370	1.0500	0.2161
				Selected:	0.2100
			Medical		
2008	0.3175	5.0000	0.7223	1.6474	0.3778
2009	0.3404	4.0000	0.7708	1.4909	0.3912
2010	0.4118	3.0000	0.8227	1.3492	0.4571
2011	0.3780	2.0000	0.8780	1.2210	0.4052
2012	0.3684	1.0000	0.9370	1.1050	0.3814
				Selected:	0.4050

Notes: (2) See Exhibit 3, Sheet 2.
(3) Reflects difference between midpoint of policy year 2013 and experience period.
(4) Exhibit 5, Sheet 4, Column (10) *Selected*, raised to the power of Column (3).
(5) Indemnity: Exhibit 5, Sheet 4, Column (13) *Selected*, raised to the power of Column (3).
     Medical: Exhibit 5, Sheet 4, Column (16) *Selected*, raised to the power of Column (3).
(6) = (2) × (4) × (5).

MₐC
G
MADISON CONSULTING GROUP, INC.

Exhibit 4
Sheet 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Initial Expected Loss Ratio - Poliy Year 2014
Data as of December 31, 2016

Policy Year (1)	Initial Indicated Ultimate Loss Ratio (2)	Trend Period in Years (3)	Frequency Trend Factor (4)	Severity Trend Factor (5)	Trended Ultimate Loss Ratio (6)
			Indemnity		
2009	0.2175	5.000	0.7536	1.3070	0.2142
2010	0.2150	4.000	0.7975	1.2388	0.2125
2011	0.2141	3.000	0.8439	1.1742	0.2121
2012	0.2197	2.000	0.8930	1.1130	0.2183
2013	0.2442	1.000	0.9450	1.0550	0.2435
				Selected:	0.2200
			Medical		
2009	0.3404	5.0000	0.7536	1.6105	0.4131
2010	0.4118	4.0000	0.7975	1.4641	0.4809
2011	0.3780	3.0000	0.8439	1.3310	0.4246
2012	0.3684	2.0000	0.8930	1.2100	0.3980
2013	0.4243	1.0000	0.9450	1.1000	0.4410
				Selected:	0.4300

Notes: (2) See Exhibit 3, Sheet 2.

(3) Reflects difference between midpoint of policy year 2014 and experience period.

(4) Exhibit 5, Sheet 3, Column (10) *Selected*, raised to the power of Column (3).

(5) Indemnity: Exhibit 5, Sheet 3, Column (13) *Selected*, raised to the power of Column (3).
Medical: Exhibit 5, Sheet 3, Column (16) *Selected*, raised to the power of Column (3).

(6) = (2) × (4) × (5).

Exhibit 4
Sheet 3

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Initial Expected Loss Ratio - Poliy Year 2015
Data as of December 31, 2016

Policy Year (1)	Initial Indicated Ultimate Loss Ratio (2)	Trend Period in Years (3)	Frequency Trend Factor (4)	Severity Trend Factor (5)	Trended Ultimate Loss Ratio (6)
			Indemnity		
2010	0.2150	5.000	0.7536	1.3382	0.2169
2011	0.2141	4.000	0.7975	1.2625	0.2155
2012	0.2197	3.000	0.8439	1.1910	0.2208
2013	0.2442	2.000	0.8930	1.1236	0.2451
2014	0.2145	1.000	0.9450	1.0600	0.2148
				Selected:	0.2200
			Medical		
2010	0.4118	5.0000	0.7536	1.5742	0.4886
2011	0.3780	4.0000	0.7975	1.4377	0.4334
2012	0.3684	3.0000	0.8439	1.3129	0.4081
2013	0.4243	2.0000	0.8930	1.1990	0.4543
2014	0.3864	1.0000	0.9450	1.0950	0.3998
				Selected:	0.4350

Notes: (2)   See Exhibit 3, Sheet 2.

              (3)   Reflects difference between midpoint of policy year 2015 and experience period.

              (4)   Exhibit 5, Sheet 2, Column (10) *Selected*, raised to the power of Column (3).

              (5)   Indemnity: Exhibit 5, Sheet 2, Column (13) *Selected*, raised to the power of Column (3).
                   Medical: Exhibit 5, Sheet 2, Column (16) *Selected*, raised to the power of Column (3).

              (6)   = (2) × (4) × (5).

Exhibit 5
Sheet 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Frequency and Severity Trend Analysis – Using All Years
Data as of December 31, 2016

Policy Year (1)	Normalized Frequency (2)		Policy Year (3)	Indemnity Initial Ultimate Loss Ratio (4)	Indemnity Severity Ratio (5)		Policy Year (6)	Medical Initial Ultimate Loss Ratio (7)	Medical Severity Ratio (8)
2003	1.0000								
2004	0.8819								
2005	0.7884								
2006	0.7417		2006	0.2371	0.3197		2006	0.2910	0.3924
2007	0.6899		2007	0.2252	0.3264		2007	0.3120	0.4522
2008	0.6109		2008	0.1987	0.3253		2008	0.3175	0.5197
2009	0.6100		2009	0.2175	0.3565		2009	0.3404	0.5580
2010	0.6100		2010	0.2150	0.3525		2010	0.4118	0.6751
2011	0.5718		2011	0.2141	0.3744		2011	0.3780	0.6611
2012	0.5123		2012	0.2197	0.4288		2012	0.3684	0.7190
2013	0.5353		2013	0.2442	0.4562		2013	0.4243	0.7926
2014	0.4630		2014	0.2145	0.4632		2014	0.3864	0.8345
2015	0.4928		2015	0.2031	0.4120		2015	0.4675	0.9487

Trend Period (9)	Implied Trend (10)	R Squared (11)	Trend Period (12)	Implied Trend (13)	R Squared (14)	Trend Period (15)	Implied Trend (16)	R Squared (17)
13 Years	-6.4%	93.7%	10 Years	4.1%	83.1%	10 Years	10.3%	97.2%
7 Years	-4.2%	83.2%	7 Years	4.3%	64.0%	7 Years	8.7%	94.9%
5 Years	-4.4%	61.8%	5 Years	4.3%	24.5%	5 Years	9.1%	98.7%
Selected:	-5.0%		Selected:	4.0%		Selected:	9.0%	

Notes:
(2) See DCRB Filing No. 1701 "Brown Book", Exhibit VII, Sheet 3.
(4), (7) See Exhibit 3, Sheet 2.
(5) = (4) ÷ (2).
(8) = (7) ÷ (2).
(10) = Exponential regression of (2). Reflects years through 2015.
(13) = Exponential regression of (5). Reflects years through 2015.
(16) = Exponential regression of (8). Reflects years through 2015.

Exhibit 5
Sheet 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Frequency and Severity Trend Analysis - Using Policy Years Through 2014
Data as of December 31, 2016

Policy Year (1)	Normalized Frequency (2)		Policy Year (3)	Indemnity Initial Ultimate Loss Ratio (4)	Indemnity Severity Ratio (5)		Policy Year (6)	Medical Initial Ultimate Loss Ratio (7)	Medical Severity Ratio (8)
2003	1.0000								
2004	0.8819								
2005	0.7884								
2006	0.7417		2006	0.2371	0.3197		2006	0.2910	0.3924
2007	0.6899		2007	0.2252	0.3264		2007	0.3120	0.4522
2008	0.6109		2008	0.1987	0.3253		2008	0.3175	0.5197
2009	0.6100		2009	0.2175	0.3565		2009	0.3404	0.5580
2010	0.6100		2010	0.2150	0.3525		2010	0.4118	0.6751
2011	0.5718		2011	0.2141	0.3744		2011	0.3780	0.6611
2012	0.5123		2012	0.2197	0.4288		2012	0.3684	0.7190
2013	0.5353		2013	0.2442	0.4562		2013	0.4243	0.7926
2014	0.4630		2014	0.2145	0.4632		2014	0.3864	0.8345
2015	0.4928		2015	0.2031	0.4120		2015	0.4675	0.9487

Trend Period (9)	Implied Trend (10)	R Squared (11)	Trend Period (12)	Implied Trend (13)	R Squared (14)	Trend Period (15)	Implied Trend (16)	R Squared (17)
12 Years	-6.7%	94.8%	9 Years	4.7%	92.3%	9 Years	10.4%	96.2%
7 Years	-3.8%	83.8%	7 Years	6.4%	94.2%	7 Years	8.5%	95.0%
5 Years	-6.1%	85.9%	5 Years	7.9%	93.5%	5 Years	5.4%	90.0%
Selected:	-5.5%		Selected:	6.0%		Selected:	9.5%	

Notes:
(2)   See DCRB Filing No. 1701 "Brown Book", Exhibit VII, Sheet 3.
(4), (7)   See Exhibit 3, Sheet 2.
(5)   = (4) ÷ (2).
(8)   = (7) ÷ (2).
(10)   = Exponential regression of (2). Reflects years through 2014.
(13)   = Exponential regression of (5). Reflects years through 2014.
(16)   = Exponential regression of (8). Reflects years through 2014.

MG
MADISON CONSULTING GROUP, INC.

Exhibit 5
Sheet 3

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Frequency and Severity Trend Analysis - Using Policy Years Through 2013
Data as of December 31, 2016

Policy Year (1)	Normalized Frequency (2)		Policy Year (3)	Indemnity Initial Ultimate Loss Ratio (4)	Indemnity Severity Ratio (5)		Policy Year (6)	Medical Initial Ultimate Loss Ratio (7)	Medical Severity Ratio (8)
2003	1.0000								
2004	0.8819								
2005	0.7884								
2006	0.7417		2006	0.2371	0.3197		2006	0.2910	0.3924
2007	0.6899		2007	0.2252	0.3264		2007	0.3120	0.4522
2008	0.6109		2008	0.1987	0.3253		2008	0.3175	0.5197
2009	0.6100		2009	0.2175	0.3565		2009	0.3404	0.5580
2010	0.6100		2010	0.2150	0.3525		2010	0.4118	0.6751
2011	0.5718		2011	0.2141	0.3744		2011	0.3780	0.6611
2012	0.5123		2012	0.2197	0.4288		2012	0.3684	0.7190
2013	0.5353		2013	0.2442	0.4562		2013	0.4243	0.7926
2014	0.4630		2014	0.2145	0.4632		2014	0.3864	0.8345
2015	0.4928		2015	0.2031	0.4120		2015	0.4675	0.9487

Trend Period (9)	Implied Trend (10)	R Squared (11)	Trend Period (12)	Implied Trend (13)	R Squared (14)		Trend Period (15)	Implied Trend (16)	R Squared (17)
11 Years	-6.7%	93.3%	8 Years	4.6%	89.1%		8 Years	10.9%	96.0%
7 Years	-4.6%	85.0%							
5 Years	-4.0%	78.0%	5 Years	6.2%	88.8%		5 Years	8.8%	88.1%
Selected:	-5.5%		Selected:	5.5%			Selected:	10.0%	

Notes: (2)   See DCRB Filing No. 1701 "Brown Book", Exhibit VII, Sheet 3.
 (4), (7) See Exhibit 3, Sheet 2.
 (5)   = (4) ÷ (2).
 (8)   = (7) ÷ (2).
 (10)   = Exponential regression of (2). Reflects years through 2013.
 (13)   = Exponential regression of (5). Reflects years through 2013.
 (16)   = Exponential regression of (8). Reflects years through 2013.

Exhibit 5
Sheet 4

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Frequency and Severity Trend Analysis - Using Policy Years Through 2012
Data as of December 31, 2016

Policy Year (1)	Normalized Frequency (2)		Policy Year (3)	Indemnity Initial Ultimate Loss Ratio (4)	Indemnity Severity Ratio (5)		Policy Year (6)	Medical Initial Ultimate Loss Ratio (7)	Medical Severity Ratio (8)
2003	1.0000								
2004	0.8819								
2005	0.7884								
2006	0.7417		2006	0.2371	0.3197		2006	0.2910	0.3924
2007	0.6899		2007	0.2252	0.3264		2007	0.3120	0.4522
2008	0.6109		2008	0.1987	0.3253		2008	0.3175	0.5197
2009	0.6100		2009	0.2175	0.3565		2009	0.3404	0.5580
2010	0.6100		2010	0.2150	0.3525		2010	0.4118	0.6751
2011	0.5718		2011	0.2141	0.3744		2011	0.3780	0.6611
2012	0.5123		2012	0.2197	0.4288		2012	0.3684	0.7190
2013	0.5353		2013	0.2442	0.4562		2013	0.4243	0.7926
2014	0.4630		2014	0.2145	0.4632		2014	0.3864	0.8345
2015	0.4928		2015	0.2031	0.4120		2015	0.4675	0.9487

Trend Period (9)	Implied Trend (10)	R Squared (11)	Trend Period (12)	Implied Trend (13)	R Squared (14)	Trend Period (15)	Implied Trend (16)	R Squared (17)
10 Years	-7.2%	94.8%	7 Years	4.0%	85.1%	7 Years	11.4%	95.1%
7 Years	-5.5%	90.7%						
5 Years	-3.4%	74.4%	5 Years	6.1%	87.0%	5 Years	8.9%	88.8%
Selected:	-6.3%		Selected:	5.0%		Selected:	10.5%	

Notes: (2)   See DCRB Filing No. 1701 "Brown Book", Exhibit VII, Sheet 3.

(4), (7)   See Exhibit 3, Sheet 2.

(5)   = (4) ÷ (2).

(8)   = (7) ÷ (2).

(10)   = Exponential regression of (2). Reflects years through 2012.

(13)   = Exponential regression of (5). Reflects years through 2012.

(16)   = Exponential regression of (8). Reflects years through 2012.

Exhibit 6
Sheet 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Indemnity Paid

Time (1)	12/31/06 to 12/31/07 (2)	12/31/07 to 12/31/08 (3)	12/31/08 to 12/31/09 (4)	12/31/09 to 12/31/10 (5)	12/31/10 to 12/31/11 (6)	12/31/11 to 12/31/12 (7)	12/31/12 to 12/31/13 (8)	12/31/13 to 12/31/14 (9)	12/31/14 to 12/31/15 (10)	12/31/15 to 12/31/16 (11)	4 Year Average (12)	7 Year Average (13)	10 Year Average (13)	Last 5 Excl High Low (14)	Incremental Selected (15)	Cumulative Selected (16)
> 27								1.0003	1.0010	1.0009						1.0150
26 - 27							1.0010	1.0015	1.0045	1.0001	1.0017	1.0017	1.0017	1.0012	1.0010	1.0160
25 - 26							1.0008	1.0002	0.9968	1.0014	0.9958	0.9971	0.9971	0.9995	1.0010	1.0170
24 - 25					1.0004	1.0024	0.9848	0.9999	1.0027	0.9966	1.0018	1.0013	1.0013	1.0009	1.0013	1.0183
23 - 24				1.0165	1.0034	1.0001	1.0078	1.0021	1.0040	0.9982	1.0020	1.0043	1.0043	1.0026	1.0021	1.0205
22 - 23			1.0089	1.0030	1.0027	1.0019	1.0038	1.0198	0.9972	1.0008	1.0046	1.0034	1.0041	1.0004	1.0031	1.0237
21 - 22		1.0045	1.0058	1.0050	1.0100	0.9997	1.0006	0.9984	1.0051	1.0090	1.0039	1.0046	1.0047	1.0033	1.0024	1.0262
20 - 21	1.0050	0.9996	1.0021	1.0038	1.0024	1.0055	1.0032	1.0007	1.0025	0.9997	1.0001	1.0017	1.0019	1.0010	1.0037	1.0300
19 - 20	1.0066	1.0023	1.0011	1.0007	1.0012	1.0063	0.9976	1.0387	1.0015	1.0029	1.0114	1.0077	1.0064	1.0039	1.0030	1.0331
18 - 19	1.0206	1.0014	1.0510	1.0049	0.9963	1.0040	1.0025	1.0005	1.0036	0.9989	1.0013	1.0018	1.0086	1.0021	1.0037	1.0369
17 - 18	1.0026	1.0154	1.0125	1.0035	1.0062	1.0021	1.0023	1.0035	1.0031	1.0025	1.0029	1.0036	1.0056	1.0030	1.0041	1.0412
16 - 17	1.0052	1.0064	1.0090	1.0048	1.0063	1.0057	1.0061	1.0084	1.0078	1.0107	1.0083	1.0066	1.0067	1.0074	1.0055	1.0469
15 - 16	1.0049	1.0015	1.0125	1.0032	1.0061	1.0133	1.0129	1.0101	1.0020	1.0023	1.0068	1.0060	1.0061	1.0060	1.0066	1.0538
14 - 15	1.0000	1.0164	1.0055	1.0109	1.0162	1.0101	1.0028	1.0028	1.0068	1.0053	1.0044	1.0083	1.0080	1.0050	1.0078	1.0620
13 - 14	1.0508	1.0141	1.0043	1.0232	1.0093	1.0101	1.0226	1.0087	1.0090	1.0011	1.0104	1.0120	1.0153	1.0093	1.0092	1.0718
12 - 13	1.0028	1.0021	1.0107	1.0086	1.0158	1.0109	1.0108	1.0112	1.0088	1.0073	1.0095	1.0105	1.0089	1.0102	1.0104	1.0829
11 - 12	1.0137	1.0066	1.0213	1.0195	1.0032	1.0108	1.0126	1.0127	1.0075	1.0043	1.0093	1.0101	1.0112	1.0103	1.0126	1.0966
10 - 11	1.0118	1.0135	1.0144	1.0024	1.0125	1.0114	1.0155	1.0341	1.0075	1.0288	1.0215	1.0160	1.0152	1.0186	1.0156	1.1137
9 - 10	1.0272	1.0197	1.0204	1.0263	1.0285	1.0126	1.0193	1.0164	1.0184	1.0227	1.0192	1.0206	1.0212	1.0180	1.0237	1.1401
8 - 9	1.0262	1.0301	1.0221	1.0525	1.0319	1.0203	1.0347	1.0284	1.0410	1.0379	1.0355	1.0352	1.0325	1.0337	1.0276	1.1716
7 - 8	1.0220	1.0437	1.0273	1.0257	1.0381	1.0260	1.0353	1.0547	1.0198	1.0194	1.0323	1.0313	1.0312	1.0270	1.0367	1.2145
6 - 7	1.0487	1.0281	1.0569	1.0517	1.0426	1.0467	1.0528	1.0310	1.0399	1.0588	1.0456	1.0462	1.0457	1.0465	1.0463	1.2708
5 - 6	1.0634	1.0538	1.0515	1.0693	1.0921	1.0765	1.0797	1.0546	1.0898	1.0517	1.0690	1.0734	1.0682	1.0703	1.0718	1.3621
4 - 5	1.0912	1.0891	1.1048	1.0950	1.1223	1.1237	1.1193	1.1210	1.0871	1.0535	1.0952	1.1031	1.1007	1.1091	1.1061	1.5067
3 - 4	1.1664	1.1592	1.1975	1.1983	1.1749	1.2065	1.1852	1.1993	1.1634	1.2347	1.1957	1.1946	1.1885	1.1970	1.1958	1.8017
2 - 3	1.4072	1.4355	1.4826	1.4295	1.4492	1.5144	1.5790	1.3944	1.4468	1.3822	1.4506	1.4565	1.4521	1.4519	1.4542	2.6200
1 - 2	1.9577	1.8847	2.0617	2.1464	2.1014	1.9083	2.0196	2.0411	1.8383	1.9436	1.9607	1.9998	1.9903	1.9572	1.9785	5.1836

Notes: (7) - (11) See DCRB Filing No. 1701 "Brown Book", Table L. (2) - (6) See DCRB 2015 and prior filings.

(16) See Exhibit 6. Sheet 5 for > 27 years. Remaining maturities are cumulative product of > 27 years and (15).

Exhibit 6
Sheet 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Indemnity Incurred

Time (1)	12/31/06 to 12/31/07 (2)	12/31/07 to 12/31/08 (3)	12/31/08 to 12/31/09 (4)	12/31/09 to 12/31/10 (5)	12/31/10 to 12/31/11 (6)	12/31/11 to 12/31/12 (7)	12/31/12 to 12/31/13 (8)	12/31/13 to 12/31/14 (9)	12/31/14 to 12/31/15 (10)	12/31/15 to 12/31/16 (11)	4 Year Average (12)	7 Year Average (15)	10 Year Average (13)	Last 5 Excl High Low (14)	Incremental Selected (15)	Cumulative Selected (16)
> 27								0.9989	0.9997	1.0001						1.0020
26 - 27							0.9992	0.9997	1.0015	0.9994			0.9998	0.9996	0.9984	1.0004
25 - 26						1.0008	0.9984	0.9990	0.9954	0.9985	0.9998	0.9998	0.9968	0.9976	0.9993	0.9997
24 - 25					0.9983	1.0001	0.9901	0.9978	1.0149	0.9927	0.9958	0.9958	1.0013	1.0007	1.0000	0.9997
23 - 24				1.0221	1.0011	1.0009	1.0041	0.9988	1.0008	0.9976	1.0024	1.0013	1.0034	1.0002	1.0008	1.0005
22 - 23			1.0033	1.0005	0.9978	0.9987	1.0022	1.0086	0.9991	0.9991	0.9999	1.0003	1.0007	0.9990	1.0001	1.0006
21 - 22		0.9899	1.0042	1.0024	1.0022	0.9993	0.9986	0.9983	1.0029	0.9946	1.0014	1.0003	0.9990	0.9981	0.9989	0.9995
20 - 21	1.0091	1.0026	1.0036	0.9932	1.0010	0.9978	0.9968	0.9989	1.0103	0.9919	0.9982	0.9995	1.0005	0.9977	0.9977	0.9972
19 - 20	1.0038	0.9956	1.0128	0.9977	1.0015	0.9965	0.9924	0.9884	0.9988	1.0004	0.9994	0.9985	0.9988	0.9959	1.0003	0.9975
18 - 19	1.0005	0.9944	1.0440	1.0158	1.0018	1.0116	1.0328	0.9993	1.0029	0.9977	0.9950	0.9965	1.0101	1.0046	0.9998	0.9973
17 - 18	0.9986	0.9814	1.0028	0.9982	1.0019	0.9781	0.9987	0.9962	0.9966	1.0007	1.0082	1.0088	0.9953	0.9972	1.0022	0.9994
16 - 17	0.9990	1.0037	1.0050	1.0039	1.0252	0.9995	1.0039	0.9981	1.0003	1.0061	0.9981	0.9958	1.0045	1.0012	0.9999	0.9993
15 - 16	1.0010	1.0000	1.0044	0.9985	1.0032	1.0030	1.0019	0.9997	0.9983	0.9964	1.0021	1.0053	1.0006	1.0000	1.0005	0.9998
14 - 15	0.9964	1.0094	1.0166	0.9932	1.0041	1.0036	0.9963	0.9977	0.9964	0.9985	0.9991	1.0001	1.0012	0.9975	0.9998	0.9996
13 - 14	1.0414	1.0041	1.0057	1.0146	0.9997	1.0045	0.9951	1.0031	0.9989	0.9994	0.9972	0.9985	1.0067	1.0005	1.0019	1.0015
12 - 13	0.9938	1.0063	1.0091	1.0001	1.0076	1.0221	1.0178	1.0020	0.9949	0.9999	0.9991	1.0022	1.0054	1.0066	1.0025	1.0040
11 - 12	0.9999	1.0015	0.9948	1.0071	0.9923	0.9957	1.0026	0.9964	0.9997	1.0050	1.0037	1.0063	0.9995	0.9996	1.0026	1.0066
10 - 11	0.9961	1.0099	1.0022	0.9933	0.9948	1.0002	1.0017	1.0237	1.0017	0.9975	1.0009	1.0018	1.0021	1.0012	1.0025	1.0091
9 - 10	1.0123	1.0066	1.0122	0.9904	1.0160	1.0064	1.0075	1.0083	1.0008	1.0080	1.0062	1.0053	1.0069	1.0073	1.0063	1.0155
8 - 9	1.0131	0.9938	1.0387	1.0171	1.0013	1.0119	1.0091	1.0009	1.0135	1.0062	1.0074	1.0086	1.0106	1.0091	1.0088	1.0245
7 - 8	1.0163	1.0182	1.0219	1.0083	1.0161	1.0209	1.0059	1.0101	1.0098	1.0050	1.0077	1.0109	1.0133	1.0086	1.0097	1.0345
6 - 7	1.0071	0.9990	1.0132	1.0315	1.0046	1.0306	1.0321	1.0349	1.0030	1.0136	1.0209	1.0215	1.0170	1.0254	1.0235	1.0588
5 - 6	1.0160	1.0065	1.0106	1.0139	1.0075	1.0148	1.0290	1.0332	1.0341	1.0220	1.0296	1.0221	1.0188	1.0281	1.0251	1.0853
4 - 5	1.0113	1.0414	1.0561	1.0407	1.0702	1.0177	1.0537	1.0628	0.9855	1.0245	1.0316	1.0364	1.0344	1.0320	1.0342	1.1224
3 - 4	1.0381	1.0281	1.0870	1.0736	0.9969	1.0368	1.0580	1.0575	1.0444	1.0863	1.0616	1.0505	1.0507	1.0533	1.0519	1.1807
2 - 3	1.1294	1.1755	1.1782	1.1848	1.1951	1.2167	1.2485	1.0990	1.1065	1.1560	1.1525	1.1721	1.1686	1.1597	1.1659	1.3766
1 - 2	1.2337	1.3367	1.4057	1.4633	1.3383	1.3101	1.2854	1.3204	1.2829	1.2727	1.2904	1.3247	1.3247	1.2928	1.3088	1.8016

Notes: (7) - (11) See DCRB Filing No. 1701 "Brown Book", Table 1. (2) - (6) See DCRB 2015 and prior filings.

(16) See Exhibit 6, Sheet 5 for > 27 years. Remaining maturities are cumulative product of > 27 years and (15).

MADISON CONSULTING GROUP, INC.

Exhibit 6
Sheet 3

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Medical Paid

Time (1)	12/31/06 to 12/31/07 (2)	12/31/07 to 12/31/08 (3)	12/31/08 to 12/31/09 (4)	12/31/09 to 12/31/10 (5)	12/31/10 to 12/31/11 (6)	12/31/11 to 12/31/12 (7)	12/31/12 to 12/31/13 (8)	12/31/13 to 12/31/14 (9)	12/31/14 to 12/31/15 (10)	12/31/15 to 12/31/16 (11)	4 Year Average (12)	7 Year Average (13)	10 Year Average (13)	Last 5 Excl. High Low (14)	Incremental Selected (15)	Cumulative Selected (16)
> 27							1.0130	1.0087	1.0074	1.0079						1.1000
26 - 27							1.0123	1.0112	1.0023	1.0030	1.0072	1.0072	1.0072	1.0071	1.0093	1.1102
25 - 26							1.0332	1.0050	1.0196	1.0045	1.0156	1.0130	1.0130	1.0097	1.0097	1.1209
24 - 25						1.0028	1.0065	1.0167	1.0097	1.0004	1.0083	1.0099	1.0099	1.0110	1.0104	1.1326
23 - 24				1.0203	1.0023	1.0239	1.0130	1.0072	1.0130	1.0029	1.0090	1.0109	1.0109	1.0080	1.0095	1.1434
22 - 23			1.0024	1.0151	1.0161	1.0037	1.0128	1.0083	1.0073	1.0104	1.0097	1.0086	1.0079	1.0087	1.0096	1.1544
21 - 22		1.0031	1.0074	1.0101	1.0021	1.0044	1.0086	1.0116	1.0128	1.0097	1.0107	1.0114	1.0100	1.0101	1.0092	1.1650
20 - 21	1.0077	1.0076	1.0051	1.0164	1.0178	1.0091	1.0082	1.0086	1.0054	1.0051	1.0068	1.0095	1.0087	1.0068	1.0107	1.1774
19 - 20	0.9935	1.0099	1.0232	1.0088	1.0156	1.0069	1.0146	1.0243	1.0065	1.0141	1.0149	1.0128	1.0116	1.0135	1.0119	1.1914
18 - 19	1.0057	1.0120	1.0125	1.0052	1.0092	1.0118	1.0114	1.0141	1.0219	1.0177	1.0163	1.0133	1.0124	1.0156	1.0139	1.2080
17 - 18	1.0132	1.0065	1.0149	1.0078	1.0080	1.0150	1.0276	1.0181	1.0098	1.0147	1.0176	1.0139	1.0132	1.0145	1.0144	1.2254
16 - 17	1.0110	1.0107	1.0078	1.0181	1.0084	1.0108	1.0243	1.0226	1.0089	1.0064	1.0156	1.0151	1.0135	1.0140	1.0145	1.2432
15 - 16	1.0100	1.0098	1.0120	1.0145	1.0148	1.0104	1.0172	1.0047	1.0167	1.0084	1.0118	1.0157	1.0142	1.0141	1.0152	1.2620
14 - 15	1.0108	1.0218	0.9976	1.0110	1.0145	1.0340	1.0106	1.0106	1.0190	1.0317	1.0165	1.0172	1.0150	1.0149	1.0152	1.2812
13 - 14	1.0174	1.0184	1.0187	1.0206	1.0177	1.0104	1.0122	1.0217	1.0140	1.0143	1.0156	1.0158	1.0165	1.0135	1.0181	1.3044
12 - 13	1.0309	1.0166	1.0402	1.0134	1.0158	1.0176	1.0273	1.0212	1.0499	1.0218	1.0301	1.0239	1.0255	1.0234	1.0211	1.3320
11 - 12	1.0336	1.0301	1.0235	1.0145	1.0162	1.0401	1.0233	1.0330	1.0217	1.0202	1.0246	1.0241	1.0256	1.0260	1.0270	1.3680
10 - 11	1.0476	1.0175	1.0114	1.0227	1.0342	1.0246	1.0348	1.0320	1.0315	1.0442	1.0356	1.0320	1.0301	1.0328	1.0295	1.4083
9 - 10	1.0341	1.0232	1.0249	1.0386	1.0273	1.0247	1.0398	1.0274	1.0197	1.0424	1.0323	1.0314	1.0302	1.0306	1.0324	1.4539
8 - 9	1.0271	1.0226	1.0573	1.0294	1.0319	1.0413	1.0252	1.0287	1.0443	1.0325	1.0327	1.0333	1.0340	1.0342	1.0337	1.5030
7 - 8	1.0269	1.0436	1.0450	1.0531	1.0368	1.0216	1.0386	1.0455	1.0336	1.0430	1.0402	1.0389	1.0388	1.0384	1.0386	1.5611
6 - 7	1.0497	1.0318	1.0330	1.0390	1.0392	1.0507	1.0464	1.0357	1.0517	1.0606	1.0486	1.0462	1.0438	1.0496	1.0479	1.6359
5 - 6	1.0436	1.0545	1.0422	1.0516	1.0413	1.0691	1.0467	1.0531	1.0852	1.0465	1.0579	1.0562	1.0534	1.0563	1.0563	1.7279
4 - 5	1.0544	1.0622	1.0529	1.0657	1.0727	1.0553	1.0908	1.0574	1.0719	1.0181	1.0596	1.0617	1.0601	1.0615	1.0616	1.8344
3 - 4	1.0451	1.0858	1.0891	1.0739	1.0793	1.0832	1.0989	1.1048	1.0792	1.0864	1.0923	1.0865	1.0826	1.0895	1.0880	1.9959
2 - 3	1.1381	1.1360	1.1592	1.1673	1.1551	1.1790	1.1659	1.1124	1.1747	1.1928	1.1615	1.1639	1.1581	1.1732	1.1685	2.3323
1 - 2	1.3225	1.3583	1.4555	1.4300	1.4390	1.3999	1.3538	1.3633	1.4562	1.4129	1.3966	1.4079	1.3989	1.3920	1.4000	3.2651

Notes: (7) - (11) See DCRB Filing No. 1701 "Brown Book", Table I. (2) - (6) See DCRB 2015 and prior filings.
(16) See Exhibit 6, Sheet 5 for > 27 years. Remaining maturities are cumulative product of > 27 years and (15).

Exhibit 6
Sheet 4

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Medical Incurred

Time (1)	12/31/06 to 12/31/07 (2)	12/31/07 to 12/31/08 (3)	12/31/08 to 12/31/09 (4)	12/31/09 to 12/31/10 (5)	12/31/10 to 12/31/11 (6)	12/31/11 to 12/31/12 (7)	12/31/12 to 12/31/13 (8)	12/31/13 to 12/31/14 (9)	12/31/14 to 12/31/15 (10)	12/31/15 to 12/31/16 (11)	4 Year Average (12)	7 Year Average (13)	10 Year Average (13)	Last 5 Excl. High Low (14)	Incremental Selected (15)	Cumulative Selected (16)
> 27							1.0092	1.0030	0.9996	1.0027						1.0608
26 - 27							0.9757	1.0041	1.0039	1.0051	0.9972	0.9972	0.9972	1.0040	1.0045	1.0653
25 - 26						1.0013	1.0281	0.9967	1.0122	1.0073	1.0111	1.0091	1.0091	1.0069	1.0051	1.0707
24 - 25					1.0205	1.0090	0.9995	1.0077	1.0115	0.9977	1.0041	1.0077	1.0077	1.0054	1.0069	1.0781
23 - 24				1.0366	1.0077	1.0022	1.0027	1.0027	1.0040	1.0073	1.0042	1.0090	1.0090	1.0031	1.0036	1.0819
22 - 23			0.9976	1.006	0.9952	1.0001	0.9917	0.9838	1.0153	1.0001	0.9977	0.9989	0.9987	0.9973	1.0022	1.0843
21 - 22		1.0083	1.0265	1.0017	1.0242	1.0065	0.9944	1.0034	1.0071	0.9885	0.9984	1.0037	1.0067	1.0014	1.0019	1.0864
20 - 21	1.005	1.0233	1.0056	1.0056	1.0044	0.9995	1.0014	1.0122	1.0058	1.0046	1.0060	1.0064	1.0079	1.0039	1.0010	1.0874
19 - 20	0.995	0.9983	1.0074	1.0027	0.9986	1.0126	0.9801	0.9761	1.0026	0.9999	0.9897	0.9961	0.9973	0.9942	1.0014	1.0889
18 - 19	1.011	1.0049	1.0164	1.0013	1.0015	0.9957	1.0116	0.9932	1.0200	1.0036	1.0071	1.0038	1.0059	1.0036	1.0005	1.0894
17 - 18	0.999	1.0177	1.0086	1.0008	0.9984	1.0088	0.9968	0.9846	1.0036	1.0210	1.0015	1.0020	1.0040	1.0031	1.0053	1.0951
16 - 17	1.011	1.0154	1.004	1.009	1.0213	1.0239	1.0210	1.0017	1.0029	0.9937	1.0048	1.0105	1.0104	1.0085	1.0085	1.1045
15 - 16	0.999	1.0121	1.0292	1.0129	1.0251	1.0191	1.0111	0.9990	1.0184	1.0107	1.0098	1.0138	1.0136	1.0134	1.0107	1.1163
14 - 15	1.004	1.0153	1.0008	1.0079	1.0459	1.0129	1.0145	0.9764	0.9916	1.0323	1.0037	1.0116	1.0102	1.0063	1.0094	1.1268
13 - 14	1.014	1.0053	1.0067	1.0124	1.0167	0.9959	0.9926	0.9887	1.0231	1.0243	1.0072	1.0077	1.0080	1.0039	1.0092	1.1371
12 - 13	1.001	1.011	1.0371	1.0089	1.0125	0.9965	1.0208	0.9987	1.0215	1.0259	1.0162	1.0118	1.0132	1.0137	1.0119	1.1507
11 - 12	1.017	1.0415	1.0244	1.0151	1.0118	1.0292	0.9936	1.0135	1.0121	1.0386	1.0145	1.0163	1.0197	1.0183	1.0157	1.1687
10 - 11	1.022	1.0405	0.9928	1.0206	1.0269	1.0146	0.9769	1.0119	1.0346	1.0272	1.0127	1.0161	1.0168	1.0179	1.0190	1.1910
9 - 10	1.009	0.9875	0.9789	1.0159	0.9982	1.0531	1.0220	1.0161	1.0268	1.0282	1.0233	1.0200	1.0116	1.0257	1.0229	1.2182
8 - 9	1.009	1.0236	1.0216	1.0372	1.0181	1.0505	0.9937	1.0329	1.0080	1.0406	1.0188	1.0259	1.0236	1.0272	1.0265	1.2505
7 - 8	1.060	1.0156	1.019	1.0406	1.0233	1.0083	1.0117	1.0619	1.0289	1.0665	1.0423	1.0345	1.0336	1.0342	1.0343	1.2934
6 - 7	1.047	1.021	1.0316	1.0474	1.0157	1.0376	1.0396	1.0224	1.0443	1.0281	1.0336	1.0336	1.0335	1.0351	1.0343	1.3378
5 - 6	1.023	1.0426	1.0217	1.0391	1.0404	1.0451	1.0358	1.0814	1.0597	1.0622	1.0598	1.0520	1.0451	1.0557	1.0538	1.4098
4 - 5	1.053	1.0772	1.0771	1.0816	1.1007	1.0144	1.0527	1.1209	1.0654	1.0343	1.0683	1.0671	1.0657	1.0508	1.0590	1.4929
3 - 4	1.065	1.0893	1.0912	1.1118	1.1301	1.0790	1.0672	1.0691	1.0433	1.0578	1.0594	1.0798	1.0804	1.0647	1.0722	1.6007
2 - 3	1.090	1.1591	1.1124	1.1157	1.1334	1.1415	1.1308	1.0854	1.1432	1.1516	1.1278	1.1288	1.1263	1.1385	1.1337	1.8146
1 - 2	1.124	1.1907	1.2986	1.2758	1.3373	1.1965	1.1849	1.2411	1.2929	1.1994	1.2296	1.2468	1.2342	1.2123	1.2296	2.2312

Notes: (7) - (11) See DCRB Filing No. 1701 "Brown Book", Table I. (2) - (6) See DCRB 2015 and prior filings.
(16) See Exhibit 6, Sheet 5 for > 27 years. Remaining maturities are cumulative product of > 27 years and (15).

MADISON CONSULTING GROUP, INC.

Exhibit 6
Sheet 5
Page 1

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Indemnity Paid Curve Fits

Time (1)	Incremental Selected (2)	Development Portion (3)	ln(Time) (4)	ln(Devt) (5)	Inverse Power Fitted Incremental (6)	Exponential Fitted Incremental (7)	Decay Method (8)
2	1.9785	0.9785	0.6931	(0.0217)	2.0964	1.2478	
3	1.4542	0.4542	1.0986	(0.7893)	1.4008	1.1932	
4	1.1958	0.1958	1.3863	(1.6306)	1.1963	1.1506	
5	1.1061	0.1061	1.6094	(2.2431)	1.1128	1.1174	
6	1.0718	0.0718	1.7918	(2.6335)	1.0717	1.0915	
7	1.0463	0.0463	1.9459	(3.0717)	1.0489	1.0714	
8	1.0367	0.0367	2.0794	(3.3063)	1.0351	1.0556	
9	1.0276	0.0276	2.1972	(3.5884)	1.0262	1.0434	
10	1.0237	0.0237	2.3026	(3.7427)	1.0202	1.0338	
11	1.0156	0.0156	2.3979	(4.1603)	1.0159	1.0264	
12	1.0126	0.0126	2.4849	(4.3736)	1.0128	1.0205	
13	1.0104	0.0104	2.5649	(4.5675)	1.0105	1.0160	
14	1.0092	0.0092	2.6391	(4.6888)	1.0088	1.0125	
15	1.0078	0.0078	2.7081	(4.8577)	1.0074	1.0097	
16	1.0066	0.0066	2.7726	(5.0264)	1.0063	1.0076	
17	1.0055	0.0055	2.8332	(5.2104)	1.0054	1.0059	
18	1.0041	0.0041	2.8904	(5.4950)	1.0047	1.0046	
19	1.0037	0.0037	2.9444	(5.6018)	1.0041	1.0036	
20	1.0030	0.0030	2.9957	(5.7976)	1.0036	1.0028	
21	1.0037	0.0037	3.0445	(5.5990)	1.0032	1.0022	
22	1.0024	0.0024	3.0910	(6.0296)	1.0029	1.0017	
23	1.0031	0.0031	3.1355	(5.7764)	1.0026	1.0013	0.8955
24	1.0021	0.0021	3.1781	(6.1510)	1.0023	1.0010	0.8998
25	1.0013	0.0012	3.2189	(6.6846)	1.0021	1.0008	0.9036
26	1.0010	0.0010	3.2581	(6.9078)	1.0019	1.0006	0.9072
27	1.0010	0.0010	3.2958	(6.9078)	1.0017	1.0005	0.9106
28			3.3322	(6.4579)	1.0016	1.0004	
29			3.3673	(6.5450)	1.0014	1.0003	
30			3.4012	(6.6291)	1.0013	1.0002	
31			3.4340	(6.7105)	1.0012	1.0002	
32			3.4657	(6.7893)	1.0011	1.0001	
33			3.4965	(6.8657)	1.0010	1.0001	
34			3.5264	(6.9398)	1.0010	1.0001	
35			3.5553	(7.0117)	1.0009	1.0001	
36			3.5835	(7.0816)	1.0008	1.0001	
37			3.6109	(7.1496)	1.0008	1.0000	
38			3.6376	(7.2158)	1.0007	1.0000	
39			3.6636	(7.2803)	1.0007	1.0000	
40			3.6889	(7.3431)	1.0006	1.0000	
41			3.7136	(7.4044)	1.0006	1.0000	
42			3.7377	(7.4642)	1.0006	1.0000	
43			3.7612	(7.5226)	1.0005	1.0000	

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MADISON CONSULTING GROUP, INC.

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DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Indemnity Paid Curve Fits

Time (1)	Incremental Selected (2)	Development Portion (3)	ln(Time) (4)	ln(Devt) (5)	Inverse Power Fitted Incremental (6)	Exponential Fitted Incremental (7)	Decay Method (8)
44			3.7842	(7.5797)	1.0005	1.0000	
45			3.8067	(7.6355)	1.0005	1.0000	
46			3.8286	(7.6900)	1.0005	1.0000	
47			3.8501	(7.7434)	1.0004	1.0000	
48			3.8712	(7.7956)	1.0004	1.0000	
49			3.8918	(7.8468)	1.0004	1.0000	
50			3.9120	(7.8970)	1.0004	1.0000	
51			3.9318	(7.9461)	1.0004	1.0000	
52			3.9512	(7.9943)	1.0003	1.0000	
53			3.9703	(8.0416)	1.0003	1.0000	
54			3.9890	(8.0880)	1.0003	1.0000	
55			4.0073	(8.1335)	1.0003	1.0000	
56			4.0254	(8.1782)	1.0003	1.0000	
57			4.0431	(8.2222)	1.0003	1.0000	
58			4.0604	(8.2653)	1.0003	1.0000	
59			4.0775	(8.3077)	1.0002	1.0000	
60			4.0943	(8.3495)	1.0002	1.0000	
61			4.1109	(8.3905)	1.0002	1.0000	
62			4.1271	(8.4308)	1.0002	1.0000	
63			4.1431	(8.4706)	1.0002	1.0000	
64			4.1589	(8.5096)	1.0002	1.0000	
65			4.1744	(8.5481)	1.0002	1.0000	
66			4.1897	(8.5860)	1.0002	1.0000	
67			4.2047	(8.6233)	1.0002	1.0000	

(9) Cumulative Tail > 27, 35 Year Length — 1.0216 — 1.0017 — 1.0155
(10) R Squared — 99.6% — 91.0%

Selected Tail	1.0150

Notes: (2) See Exhibit 6, Sheet 1.
(3) = (2) - 1.0000.
(4) = Natural log of (1).
(5) = Natural log of (3).
(6) = Inverse power curve fit to (4) and (5), years 2 - 23.
(7) = Exponential curve fit of (1) and (5), years 2 - 23.
(8) = [Current (6) - 1.0000] ÷ [Prior (6) - 1.0000].
(9) Inverse Power: product of (6) years 28 - 62.
   Exponential: product of (7) years 28 - 62.
   Decay = 1.0000 + {[27 year (6) - 1.0000] ×
   {[Average (8) - Average (8)^35] ÷ [(1.0000-Average (8)]}.

MADISON CONSULTING GROUP, INC.

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DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Medical Paid Curve Fits

Time	Incremental Selected	Development Portion	ln(Time)	ln(Devt)	Inverse Power Fitted Incremental	Exponential Fitted Incremental	Decay Method
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	1.4000	0.4000	0.6931	(0.9164)	1.2896	1.1217	
3	1.1685	0.1685	1.0986	(1.7806)	1.1638	1.1060	
4	1.0880	0.0880	1.3863	(2.4303)	1.1094	1.0923	
5	1.0616	0.0616	1.6094	(2.7868)	1.0800	1.0803	
6	1.0563	0.0563	1.7918	(2.8778)	1.0619	1.0699	
7	1.0479	0.0479	1.9459	(3.0388)	1.0498	1.0609	
8	1.0386	0.0386	2.0794	(3.2534)	1.0413	1.0530	
9	1.0337	0.0337	2.1972	(3.3888)	1.0350	1.0462	
10	1.0324	0.0324	2.3026	(3.4301)	1.0302	1.0402	
11	1.0295	0.0295	2.3979	(3.5236)	1.0264	1.0350	
12	1.0270	0.0270	2.4849	(3.6107)	1.0234	1.0305	
13	1.0211	0.0211	2.5649	(3.8571)	1.0209	1.0265	
14	1.0181	0.0181	2.6391	(4.0107)	1.0188	1.0231	
15	1.0152	0.0152	2.7081	(4.1859)	1.0171	1.0201	
16	1.0152	0.0152	2.7726	(4.1893)	1.0156	1.0175	
17	1.0145	0.0145	2.8332	(4.2305)	1.0143	1.0152	
18	1.0144	0.0144	2.8904	(4.2407)	1.0132	1.0133	
19	1.0139	0.0139	2.9444	(4.2734)	1.0123	1.0116	
20	1.0119	0.0119	2.9957	(4.4302)	1.0114	1.0101	
21	1.0107	0.0107	3.0445	(4.5396)	1.0107	1.0088	
22	1.0092	0.0092	3.0910	(4.6903)	1.0100	1.0076	
23	1.0096	0.0096	3.1355	(4.6448)	1.0094	1.0066	0.9395
24	1.0095	0.0095	3.1781	(4.6559)	1.0088	1.0058	0.9420
25	1.0104	0.0104	3.2189	(4.5651)	1.0083	1.0050	0.9443
26	1.0097	0.0097	3.2581	(4.6407)	1.0079	1.0044	0.9464
27	1.0093	0.0093	3.2958	(4.6826)	1.0075	1.0038	0.9484
28			3.3322	(4.9459)	1.0071	1.0033	
29			3.3673	(4.9952)	1.0068	1.0029	
30			3.4012	(5.0428)	1.0065	1.0025	
31			3.4340	(5.0888)	1.0062	1.0022	
32			3.4657	(5.1334)	1.0059	1.0019	
33			3.4965	(5.1767)	1.0056	1.0017	
34			3.5264	(5.2186)	1.0054	1.0014	
35			3.5553	(5.2593)	1.0052	1.0013	
36			3.5835	(5.2989)	1.0050	1.0011	
37			3.6109	(5.3373)	1.0048	1.0010	
38			3.6376	(5.3748)	1.0046	1.0008	
39			3.6636	(5.4113)	1.0045	1.0007	
40			3.6889	(5.4468)	1.0043	1.0006	
41			3.7136	(5.4815)	1.0042	1.0005	
42			3.7377	(5.5154)	1.0040	1.0005	
43			3.7612	(5.5484)	1.0039	1.0004	

Exhibit 6
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Page 2

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Medical Paid Curve Fits

Time	Incremental Development Selected	Portion	ln(Time)	ln(Devt)	Inverse Power Fitted Incremental	Exponential Fitted Incremental	Decay Method
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
44			3.7842	(5.5807)	1.0038	1.0004	
45			3.8067	(5.6123)	1.0037	1.0003	
46			3.8286	(5.6431)	1.0035	1.0003	
47			3.8501	(5.6733)	1.0034	1.0002	
48			3.8712	(5.7029)	1.0033	1.0002	
49			3.8918	(5.7319)	1.0032	1.0002	
50			3.9120	(5.7602)	1.0032	1.0002	
51			3.9318	(5.7881)	1.0031	1.0001	
52			3.9512	(5.8153)	1.0030	1.0001	
53			3.9703	(5.8421)	1.0029	1.0001	
54			3.9890	(5.8683)	1.0028	1.0001	
55			4.0073	(5.8941)	1.0028	1.0001	
56			4.0254	(5.9194)	1.0027	1.0001	
57			4.0431	(5.9443)	1.0026	1.0001	
58			4.0604	(5.9687)	1.0026	1.0001	
59			4.0775	(5.9927)	1.0025	1.0000	
60			4.0943	(6.0163)	1.0024	1.0000	
61			4.1109	(6.0395)	1.0024	1.0000	
62			4.1271	(6.0624)	1.0023	1.0000	
63			4.1431	(6.0848)	1.0023	1.0000	
64			4.1589	(6.1070)	1.0022	1.0000	
65			4.1744	(6.1287)	1.0022	1.0000	
66			4.1897	(6.1502)	1.0021	1.0000	
67			4.2047	(6.1713)	1.0021	1.0000	

(9) Cumulative Tail > 27, 35 Year Length   1.1501   1.0258   1.1085

(10) R Squared   98.3%   86.8%

Selected Tail	1.1000

Notes: (2) See Exhibit 6, Sheet 1.

(3) = (2) - 1.0000.

(4) − Natural log of (1).

(5) = Natural log of (3).

(6) = Inverse power curve fit to (4) and (5), years 2 - 23.

(7) = Exponential curve fit of (1) and (5), years 2 - 23.

(8) = [Current (6) - 1.0000] ÷ [Prior (6) - 1.0000].

(9) Inverse Power: product of (6) years 28 - 62.

Exponential: product of (7) years 28 - 62.

Decay = 1.0000 + {[27 year (6) - 1.0000] ×

{[Average (8) - Average (8)^35] ÷ [(1.0000-Average (8)]}.

MG
MADISON CONSULTING GROUP, INC.

Exhibit 6
Sheet 7

DELAWARE DEPARTMENT OF INSURANCE
DCRB FILING NUMBER 1701, PROPOSED EFFECTIVE DATE DECEMBER 1, 2017

Limited Loss Development Factor Analysis
Data as of December 31, 2016

Incurred Tail Factor Selection

Indemnity:

	Incurred to Paid Ratio at:					Paid	Incurred
Time	12/31/16	12/31/15	12/31/14	12/31/13	Average	Tail	Tail
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
30	1.0121				1.0121		
29	1.0112	1.0152			1.0132		
28	1.0037	1.0116	1.0182		1.0112		
27	1.0064	1.0051	1.0136	1.0162	1.0103		
26	1.0250	1.0071	1.0081	1.0157	1.0140		
25	1.0106	1.0281	1.0086	1.0096	1.0142		
24	1.0023	1.0146	1.0157	1.0104	1.0108		
				Selected:	1.0130	1.0150	1.0020

Medical:

	Incurred to Paid Ratio at:					Paid	Incurred
Time	12/31/16	12/31/15	12/31/14	12/31/13	Average	Tail	Tail
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
30	1.0269				1.0269		
29	1.0571	1.0282			1.0426		
28	1.0078	1.0661	1.0315		1.0351		
27	1.0206	1.0074	1.0666	1.0313	1.0315		
26	1.0797	1.0184	1.0058	1.0727	1.0442		
25	1.0138	1.0767	1.0259	1.0102	1.0316		
24	1.0184	1.0165	1.0748	1.0357	1.0364		
				Selected:	1.0370	1.1000	1.0608

Notes: (2) - (5) Based on limited loss data provided by DCRB.
  (7) Indemnity: Exhibit 6, Sheet 5 Selected.
    Medical: Exhibit 6, Sheet 6 Selected.
  (8) = (7) ÷ (6).