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DATE: September 24, 2012

TO: Gene Reed, Deputy Insurance Commissioner, State of Delaware

FROM: Bob Gardner, Actuary, INS Consultants, Inc.

SUBJECT: 2012 DCRB Workers Compensation Residual Market Rates and Voluntary Market Loss Costs -- Bureau Filing No. 1201, Filed August 14, 2012

INS Consultants, Inc. (INS) has been engaged by the Delaware Insurance Department to review the Delaware Compensation Rating Bureau (DCRB) Workers Compensation Bureau Filing No. 1201 submitted on August 14, 2012. The filing requests an overall rate level change of +43.5% for the residual market rates and requests an overall loss cost level change of +38.3% for the voluntary market loss costs. These filed amounts were based on indicated changes of +43.5% for the residual market rates and +38.3% for the voluntary market loss costs.

INS has reviewed the filing. INS used the experience data in the filing to calculate indicated changes in residual market rates and voluntary market loss costs. The INS indicated changes are +28.1% and +23.5% respectively. The attached exhibits present the derivation of these figures.

The following table presents a comparison of the DCRB and INS indicated changes:

	Comparison of Indicated Changes	
	DCRB	INS
Residual Market Rates	+43.5%	+28.1%
Voluntary Market Loss Costs	+38.3%	+23.5%

The indicated changes are based upon policy-year premium and loss data through policy-year 2010 evaluated as of December 31, 2011.

This analysis was performed by Robert W. Gardner, FCAS, MAAA and was peer-reviewed by David J. Macesic, ACAS, MAAA.

Details of the INS analysis

In the derivation of the indications, INS reviewed and accepted the following key parameters as presented by the DCRB:

INS reviewed and accepted the Permissible Loss and Loss Adjustment Expense ("LAE") Ratio of 68.27%. This acceptance is based on the review and acceptance of the projected figures for underwriting expenses and the required need for profit. Note that this acceptance relates primarily to the determination of the residual market rates, as the voluntary market loss costs are calculated without these figures; the expense and profit component of the final rates for the voluntary market are determined in the adoption filings to be submitted by the insurers.

INS reviewed and accepted the July 1, 2013 anticipated benefit change of +0.62% together with past benefit level changes included in the adjustment of past losses.

INS reviewed and accepted the Senate Bill 1 adjustment of -17.4% applied to the medical losses. This amount is consistent with the Department's agreement from earlier filings.

INS reviewed and accepted the Excess Loss Factor of 9.90% as derived by the DCRB. The data in the filing supports the use of this factor to account for losses above the basic limits level used in the estimation of the indicated change.

INS reviewed and accepted the Loss Adjustment Expense Factor of 1.1929 as derived by the DCRB. The data in the filing supports the use of this factor to account for loss adjustment expenses in the projection of future costs.

INS reviewed and accepted the premium development factors for projecting the final premiums by policy year after all premium adjustments will have been made.

INS reviewed and accepted the premium adjustment factor of 1.0593 to restate premiums to the level prior to any reductions required by the Chancery Court decision to reflect savings from the future settlements of older claims. Such savings were required to be recognized by lowering premiums over

a four-year period for most insurers. Historical premiums were adjusted to the current rate level, which includes the reductions, then adjusted uniformly to a pre-Chancery Court level by means of a common factor.

The following items required some further review and discussion in the analysis of the data.

Loss Development Factors: For both the paid and incurred loss development factors, INS independently selected factors based on the data in the filing. Where the DCRB processed their selections through a fitting technique, INS elected to select factors based on the observed link ratios. The INS selections were based on averaging two measures of central tendency: the mean of the latest four years of the observed link ratios and the median of the latest four years of observed link ratios.

Selections of Ultimate Loss: For selecting estimates of ultimate loss, the DCRB relied upon the average of the paid development method and the incurred development method. Where the loss development factors (LDFs) were below 2.000, INS relied upon the development methods, but where the loss development factors exceeded 2.000, INS did not rely upon the development methods. A loss development over 2.000 means that less than 50% of the ultimate amount has been paid (for paid LDF) or less than 50% has been reported (for incurred LDF).

For Indemnity losses, both the paid and incurred LDFs were below 2.000 for all policy years through 2008, and only the incurred LDFs were below 2.000 for policy years 2009 and 2010 (paid LDFs are usually higher than incurred LDFs, since a larger proportion of the eventual losses are reported at a given point in time than are paid at that same point in time). Consequently, to estimate ultimate values for Indemnity losses, INS averaged the paid and the incurred methods for policy years 2001 through 2008, similar to the DCRB approach, and selected the incurred value alone for policy years 2009 and 2010, different from the DCRB approach.

For Medical losses, the LDFs exceeded 2.000 only for policy year 2010, but both the paid and the incurred LDFs exceeded 2.000. To estimate ultimate values for Medical losses, INS averaged the paid and the incurred methods for policy years 2001 through 2009, similar to the DCRB approach. Due to the high development factors in the latest year, INS elected to estimate the values of the ultimate losses for policy year 2010 by means of a Bornhuetter-Ferguson method applied to the paid and the incurred values. The Bornhuetter-Ferguson methods are generally accepted actuarial practices for estimating unpaid claim amounts.

The Bornhuetter-Ferguson Incurred Development Method is a target loss ratio approach with scheduled amortization of reserves. The method calculates the estimated Incurred But Not Reported (IBNR) losses as the product of the applicable earned premium, the expected loss ratio, and the

percentage of ultimate loss undeveloped at the respective valuation date. The derivation of the percentage undeveloped utilizes the age-to-ultimate development factors derived in the Incurred Loss Development Method. The IBNR is added to the reported incurred losses to estimate the ultimate losses. Similarly, the Bornhuetter-Ferguson Paid Development Method calculates the estimated unpaid as the product of the applicable earned premium, the expected loss ratio, and the percentage of ultimate loss unpaid at the respective valuation date. The derivation of the percentage unpaid utilizes the age-to-ultimate development factors derived in the Paid Loss Development Method. The unpaid is added to the paid to estimate the ultimate losses.

In applying these methods, the actuary must estimate an Initial Expected Loss Ratio (IELR) for the amortization of the reserves. INS elected to rely upon the average of the ultimate loss ratios from the four prior policy years (2006 through 2009) after consideration of trend. For purposes of trending to estimate the IELR, INS used the six-year fits of frequency and severity, from policy years 2004 through 2009. The exhibits included in this report show the trended values in support of the selection of 47.84% as the IELR. INS relied upon the average of the paid Bornhuetter-Ferguson estimate and the incurred Bornhuetter-Ferguson estimate for policy-year 2010.

Note that the trending involved in the IELR, as mentioned above, is for purpose of estimating a pure loss ratio for policy year 2010. The trending referred to in the following paragraphs is for the purpose of projecting the loss and LAE ratio for the cohort of policies written in the future period from December 1, 2012 through November 30, 2013.

Frequency Trend: After examining the fits of data across differing lengths of periods, INS accepted the DCRB's frequency trend selection of -6.5% representing the annual change in claims frequency.

Indemnity Severity Trend: The DCRB selected an annual trend factor of +3.8% for projecting the severity of indemnity losses. The figure is equal to the fitted average annual change based upon a 7-year exponential regression. INS performed an exponential fit of the values over a 7-year period, 6-year period, 5-year period, and 4-year period for estimating the annual severity trend. Following the DCRB's approach, INS selected the 7-year value, but because the INS severities are derived from different estimates of ultimate loss values (see "Loss Development Factors" and "Selections of Ultimate Loss" above), INS' resulting exponential fitted average annual change is slightly different, at +3.9%.

Medical Severity Trend: The DCRB selected an annual trend factor of +10.7% for projecting the severity of medical losses. The figure is equal to the fitted average annual change of +12.5% based upon a 7-year exponential regression, then adjusted downward by 1.8 points for the effects of Senate

Bill 1. INS performed an exponential fit of the values over a 7-year period, 6-year period, 5-year period, and 4-year period for estimating the annual severity trend. Following the DCRB's approach, INS selected the 7-year value, but because the INS severities are derived from different estimates of ultimate loss values (see "Loss Development Factors" and "Selections of Ultimate Loss" above), the resulting exponential fitted average annual change is lower, at +10.6%. Applying the same downward adjustment of 1.8 points for the effects of Senate Bill 1, INS' resulting medical severity trend is +8.8%.

Average Loss Ratio: In both the DCRB and the INS approaches, for both Indemnity and Medical, the indicated rate level need relies upon the average of the latest four policy years' loss and LAE ratios.

Descriptions of the exhibits

Exhibit 1 is structured to compare directly to the DCRB's Exhibit I ("Brown Book") in deriving the indicated changes. Line 1 represents the selected value for the projected loss and LAE ratios separately for indemnity and medical, with losses capped at the loss limitation. Line 2 shows the -17.4% adjustment to the projected medical loss ratio to account for the effects of SB1 [0.8260 is equal to 1.000 minus 0.1740]. Line 3 calculates the resulting loss ratios post-SB1. Line 4 represents the 9.90% Excess Loss Factor accepted by INS. Line 5 restates the loss and LAE ratios at full value including the excess losses. Line 6 shows the Permissible Loss and LAE Ratio accepted by INS. Line 7 shows the preliminary indicated change in Residual Market Rates, followed by the adjustment to the indicated change resulting from July 1, 2013 benefit level change (Lines 8 and 9). Line 10 removes the effects of the changes in expense and profit load to calculate the indicated change in voluntary market loss costs.

Exhibit 2 shows the selections of the annual severity trend changes, with page 1 for indemnity and page 2 for medical, along with the application of the resulting trends for projecting the loss and LAE ratios to the policy-writing period December 1, 2012 through November 30, 2013. The selected ultimate loss and LAE ratios for each of the seven policy years are restated to a common frequency basis by means of dividing by normalized frequency factors. At this common frequency basis, the severities are fitted by means of an exponential regression to estimate the projected annual changes in severity. For medical this is further adjusted for the effects of SB1. INS followed the DCRB approach in applying the SB1 adjustment. Specifically, the selected trend value was applied to all policy years to trend the loss ratios to September 1, 2008, the consensus date for the implementation of SB1. The trend value applied for the period from September 1, 2008 to December 1, 2013 is the selected trend value less 1.8 points to reflect the savings from SB1 following September 1, 2008.

Exhibit 3 shows the selections of the annual frequency trend changes. The exhibit shows the INS analysis to support the acceptance of the DCRB's selection of -6.5% to represent the annual change in claims frequency.

Exhibit 4 shows the derivation of the ultimate loss and LAE values with page 1 for indemnity and page 2 for medical. Premiums are shown as developed to ultimate value. Paid and incurred development factors are applied to paid and incurred losses. For indemnity, the benefit level changes are included in the estimates of the ultimate losses. The selected ultimate indemnity loss values are those resulting from the average of the paid and incurred development methods in policy years 2001 through 2008. The selected ultimate indemnity loss values are those resulting from the incurred development method alone in policy years 2009 and 2010. For medical, the Bornhuetter-Ferguson methods are applied to policy year 2010 values. Procedures outlined later, in the "Exhibit 6" paragraph below, support the selection of 47.84% as the Initial Expected Loss Ratio, which is based on the previous years' loss ratios trended to policy year 2010. The selected ultimate medical loss values are those resulting from the average of the paid and incurred development methods in policy years 2001 through 2009. The selected ultimate medical loss value is that resulting from the average of the Bornhuetter-Ferguson methods for paid and incurred in policy year 2010. In both the indemnity and the medical estimates, the final column accounts for the loss adjustment expenses through the inclusion of the 1.1929 LAE factor

Exhibit 5 provides the derivations of the paid loss development factors and the incurred loss development factors.

Exhibit 6 provides the derivation of the Initial Expected Loss Ratio for use in the Bornhuetter-Ferguson methods applied to the policy year 2010 medical losses. Page 1 shows the annual frequency trend of -7.2% derived from the six-year exponential regression applied to the frequencies in the six policy years 2004 through 2009. Page 2 shows the annual severity trend of +9.8%, also derived from the six-year exponential regression applied to the severities in the six policy years 2004 through 2009. Page 2 also shows the four projected loss ratios from policy years 2006 through 2009 which were averaged to produce the policy year 2010 estimated loss ratio of 47.84%. This value was then selected for the 2010 IELR appearing on Exhibit 4 page 2.

In INS Exhibits 1 through 4 and Exhibit 6, all source documentation citing the DCRB Filing refers to the DCRB's so-called "Brown Book" as filed. In INS Exhibit 5, the source documentation citing the DCRB Filing refers to the DCRB's paper Exhibit 2.

Closing

The INS review is focused only on the overall statewide rate level change. Changes in classification relativities are accepted without review, based on the controls present in the DCRB and in the procedures for review by an actuarial panel. INS finds that the filing request for the overall change is higher than indicated by the INS review. Please note that the INS findings pertain solely to the DCRB Delaware Workers Compensation Bureau Filing No. 1201, originally submitted August 14, 2012.

Robert W. Gardner, FCAS, MAAA

DELAWARE COMPENSATION RATING BUREAU Exhibit 1
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

	Indemnity	Medical	Total
(1) Trended Policy Year Loss & LAE Ratio for Policy Period 12/01/12-12/01/13	0.2699	0.6216	0.8915
(2) Senate Bill 1 Adjustment	1.0000	0.8260	
(3) Trended Loss & LAE Ratio Post SB 1	0.2699	0.5134	0.7833
(4) Excess Loss Factor			0.0990
(5) Trended Loss & LAE Ratio with Excess Load			0.8694
(6) Permissible Loss & LAE Ratio			0.6827
(7) Preliminary Indicated Rate Change in Residual Market Rates			1.2735
(8) Estimated Effect of 07/01/13 Benefit Change			1.0062
(9) Indicated Change in Residual Market Rate Level			1.2814
(10) Indicated Change in Voluntary Loss Costs			1.2345

Notes:
(1) from INS Exhibit 2 Page 1 Col 12 (Indemnity); Exhibit 2 Page 2 Col 16 (Medical); sum (Total)
(2) from DCRB Filing Exhibit I Line 3a
(3) = (1) x (2) separately for Indemnity and Medical; sum to Total
(4) from DCRB Filing Exhibit I Line 4a
(5) = (3) / [1 - (4)]
(6) from DCRB Filing Exhibit I Line 6
(7) = (5) / (6)
(8) from DCRB Filing Exhibit I Line 8
(9) = (7) x (8)
(10) = (9) x [0.7074 / 0.7343] per DCRB Filing Exhibit I Line 10

Workers' Compensation Indemnity
Derivation of Trended Loss Ratio

Policy Year	(1) Actual Loss & LAE Ratio	(2) Normalized Frequency	(3) Severity Loss & LAE Ratio
2004	0.3626	0.6629	0.5470
2005	0.3499	0.5940	0.5891
2006	0.3275	0.5587	0.5862
2007	0.3218	0.5195	0.6194
2008	0.2863	0.4609	0.6212
2009	0.3092	0.4631	0.6677
2010	0.3124	0.4441	0.7034

Indicated annual trend values	(4)	(5) R-squared
7-yr fit	3.9%	94.4%
6-yr fit	3.7%	91.1%
5-yr fit	4.5%	95.0%
4-yr fit	4.6%	91.1%

(6) Selected 3.9%

Policy Year	(7) Number of Years to 12/01/13	(8) Trend Factor
2004	8.9167	1.4028
2005	7.9167	1.3506
2006	6.9167	1.3003
2007	5.9167	1.2518
2008	4.9167	1.2052
2009	3.9167	1.1603
2010	2.9167	1.1171

Policy Year	(9) Actual Loss & LAE Ratio	(10) Severity Trend Factor	(11) Frequency Trend factor	(12) Trended Loss & LAE Ratio
2004	0.3626	1.4028	0.5474	0.2784
2005	0.3499	1.3506	0.5857	0.2768
2006	0.3275	1.3003	0.6266	0.2668
2007	0.3218	1.2518	0.6704	0.2701
2008	0.2863	1.2052	0.7173	0.2475
2009	0.3092	1.1603	0.7674	0.2753
2010	0.3124	1.1171	0.8211	0.2865
			4-yr avg	0.2699

Notes
(1) from INS Exhibit 4, Page 1, Col 13
(2) from INS Exhibit 3, Col 1
(3) = (1) / (2)
(4), (5) from exponential regression of (3) across indicated years
(6) selection of 7-year fit
(7) by calculation of difference between 12/31/xx and 12/01/13
(8) = [1 + (6)] ^ (7)
(9) = (1)
(10) = (8)
(11) from INS Exhibit 3, Col 5
(12) = (9) x (10) x (11)

Workers' Compensation Medical
Derivation of Trended Loss Ratio

Policy Year	(1) Actual Loss & LAE Ratio	(2) Normalized Frequency	(3) Severity Loss & LAE Ratio
2004	0.5458	0.6629	0.8234
2005	0.5202	0.5940	0.8758
2006	0.4881	0.5587	0.8736
2007	0.5629	0.5195	1.0835
2008	0.5344	0.4609	1.1595
2009	0.5948	0.4631	1.2844
2010	0.6574	0.4441	1.4803

Indicated annual trend values	(4)	(5) R-squared
7-yr fit	10.6%	95.6%
6-yr fit	11.6%	96.1%
5-yr fit	13.0%	96.9%
4-yr fit	10.9%	97.5%

(6) Selected prior to 9/1/08	10.6%
(7) Adjustment for S.B.1	-1.8%
(8) Selected subseq. to 9/1/08	8.8%

Policy Year	(9) Number of Years to 09/01/08	(10) Trend Factor	(11) Trend Factor Subsequent to 09/01/08	(12) Total Trend Factor
2004	3.6667	1.4446	1.5534	2.2440
2005	2.6667	1.3067	1.5534	2.0298
2006	1.6667	1.1820	1.5534	1.8361
2007	0.6667	1.0692	1.5534	1.6609
2008	(0.3333)	0.9671	1.5534	1.5023
2009	(1.3333)	0.8748	1.5534	1.3589
2010	(2.3333)	0.7913	1.5534	1.2292

Policy Year	(13) Actual Loss & LAE Ratio	(14) Severity Trend Factor	(15) Frequency Trend factor	(16) Trended Loss & LAE Ratio
2004	0.5458	2.2440	0.5474	0.6704
2005	0.5202	2.0298	0.5857	0.6184
2006	0.4881	1.8361	0.6266	0.5616
2007	0.5629	1.6609	0.6704	0.6268
2008	0.5344	1.5023	0.7173	0.5759
2009	0.5948	1.3589	0.7674	0.6203
2010	0.6574	1.2292	0.8211	0.6635
			4-yr avg	0.6216

Notes:
(1) from INS Exhibit 4, Page 2, Col 15
(2) from INS Exhibit 3, Col 1
(3) = (1) / (2)
(4), (5) from exponential regression of (3) across indicated years
(6) selection of 7-year fit
(7) from DCRB Exhibit VII - 2
(8) = (6) - (7)
(9) by calculation of difference between 12/31/xx and 09/01/08
(10) = [1 + (6)] ^ (9)
(11) = [1 + (8)] ^ 5.25 years (representing 09/01/08 to 12/01/13)
(12) = (10) x (11)
(13) = (1)
(14) = (12)
(15) from INS Exhibit 3, Col 5
(16) = (13) x (14) x (15)

DELAWARE COMPENSATION RATING BUREAU Exhibit 3
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Workers' Compensation Frequency
Derivation of Trend

Policy Year	(1) Normalized Frequency	Indicated annual trend values	(2)	(3) R-squared
2004	0.6629	7-yr fit	-6.5%	95.2%
2005	0.5940	6-yr fit	-5.9%	93.6%
2006	0.5587	5-yr fit	-5.6%	88.8%
2007	0.5195	4-yr fit	-4.6%	78.5%
2008	0.4609			
2009	0.4631	Selected	-6.5%	
2010	0.4441			

Policy Year	(4) Number of Years to 12/01/13	(5) Trend Factor
2004	8.9167	0.5474
2005	7.9167	0.5857
2006	6.9167	0.6266
2007	5.9167	0.6704
2008	4.9167	0.7173
2009	3.9167	0.7674
2010	2.9167	0.8211

Notes:
(1) from DCRB Filing Exhibit VIII-3
(2), (3) from exponential regression of (1) across indicated years
(4) by calculation of difference between 12/31/xx and 12/01/13
(5) = [1 + Selected (2)] ^ (4)

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Development of Ultimate Loss and LAE

Indemnity

(1) Policy Year	(2) Ult. Std. Earned Prem (At Curr. Rates)	(3) Paid Loss	(4) Incd Loss	(5) Paid LDF	(6) Incd LDF	(7) 7/2/2012 Benefit Factor	(8) Paid LDF Ult. Loss	(9) Incd LDF Ult. Loss	(10) Selected Ult. Loss	(11) Selected Ult. Loss Ratio	(12) LAE Factor	(13) Ult. Loss & LAE Ratio
2001	114,914,516	33,173,475	35,537,122	1.1072	1.0426	1.1605	42,624,784	42,997,689	42,811,237	37.25%	1.1929	44.44%
2002	119,366,617	34,764,655	36,992,239	1.1333	1.0508	1.1345	44,697,920	44,099,654	44,398,787	37.20%	1.1929	44.38%
2003	125,592,716	35,173,727	38,482,468	1.1702	1.0624	1.1069	45,560,331	45,254,249	45,407,290	36.15%	1.1929	43.12%
2004	148,462,739	34,897,069	37,331,793	1.2089	1.0802	1.0940	46,152,651	44,116,428	45,134,540	30.40%	1.1929	36.26%
2005	159,515,388	34,427,802	39,584,612	1.2645	1.0915	1.0789	46,968,785	46,615,605	46,792,195	29.33%	1.1929	34.99%
2006	168,117,964	32,379,633	39,705,222	1.3459	1.1023	1.0566	46,046,362	46,244,282	46,145,322	27.45%	1.1929	32.75%
2007	167,382,450	29,382,819	38,457,155	1.4824	1.1503	1.0287	44,807,179	45,506,875	45,157,027	26.98%	1.1929	32.18%
2008	171,361,225	23,625,748	33,053,278	1.7556	1.2056	1.0114	41,950,205	40,303,311	41,126,758	24.00%	1.1929	28.63%
2009	168,763,551	16,311,940	30,505,507	2.5351	1.4232	1.0077	41,670,813	43,749,736	43,749,736	25.92%	1.1929	30.92%
2010	162,883,448	8,145,030	21,482,134	5.2345	1.9652	1.0104	43,078,565	42,655,743	42,655,743	26.19%	1.1929	31.24%
Total	1,506,360,614	282,281,898	351,131,530				443,557,595	441,543,572	443,378,635			

Notes:
(2) from DCRB Filing Exhibit IV, line 7
(3) from DCRB Filing Exhibit IV, line 8
(4) from DCRB Filing Exhibit IV, line 11
(5), (6) from INS Exhibit 5
(7) from DCRB Filing Exhibit IV, line 15
(8) = (3) x (5)
(9) = (4) x (6)
(10) = average of (8) and (9) for Policy Years 2001 through 2008
(10) = (9) for Policy Years 2009 and 2010
(11) = (10) / (2)
(12) from DCRB Filing Exhibit IV, line 16
(13) = (11) x (12)

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Development of Ultimate Loss and LAE

Medical

(1) Policy Year	(2) Ult. Std. Earned Prem (At Curr. Rates)	(3) Paid Loss	(4) Incd Loss	(5) Paid LDF	(6) Incd LDF	(7) IELR	(8) Paid LDF Ult. Loss	(9) Incd LDF Ult. Loss	(10) Paid BF Ult. Loss	(11) Incd BF Ult. Loss	(12) Selected Ult. Loss	(13) Selected Ult. Loss Ratio	(14) LAE Factor	(15) Ult. Loss & LAE Ratio
2001	114,914,516	37,644,822	45,474,249	1.2129	1.1923		45,659,405	54,218,947			49,939,176	43.46%	1.1929	51.84%
2002	119,366,617	43,542,041	51,368,229	1.2452	1.1850		54,218,549	60,871,351			57,544,950	48.21%	1.1929	57.51%
2003	125,592,716	43,372,051	52,512,118	1.2863	1.2133		55,789,469	63,712,953			59,751,211	47.58%	1.1929	56.76%
2004	148,462,739	48,100,242	57,373,505	1.3434	1.2412		64,617,865	71,211,994			67,914,930	45.75%	1.1929	54.58%
2005	159,515,388	46,482,782	58,370,890	1.3916	1.2756		64,685,439	74,457,907			69,571,673	43.61%	1.1929	52.02%
2006	168,117,964	44,239,818	55,219,393	1.4571	1.3241		64,461,839	73,115,998			68,788,919	40.92%	1.1929	48.81%
2007	167,382,450	47,138,575	59,290,800	1.5498	1.4323		73,055,364	84,922,213			78,988,789	47.19%	1.1929	56.29%
2008	171,361,225	42,696,575	51,851,994	1.6769	1.5804		71,597,887	81,946,891			76,772,389	44.80%	1.1929	53.44%
2009	168,763,551	40,464,497	50,515,353	1.9370	1.7800		78,379,731	89,917,328			84,148,530	49.86%	1.1929	59.48%
2010	162,883,448	34,570,569	51,428,435	2.7639	2.2839	47.84%	95,549,596	117,457,403	84,300,718	95,233,289	89,767,004	55.11%	1.1929	65.74%
Total	1,506,360,614	428,251,972	533,404,966				668,015,144	771,832,985			703,187,571			

Notes:
(2) from DCRB Filing Exhibit IV, line 7
(3) from DCRB Filing Exhibit IV, line 8
(4) from DCRB Filing Exhibit IV, line 11
(5), (6) from INS Exhibit 5
(7) from INS Exhibit 6, Page 2, Col 14
(8) = (3) x (5)
(9) = (4) x (6)
(10) = (2) x (7) x [(1 - 1/(5))] + (3)
(11) = (2) x (7) x [(1 - 1/(6))] + (4)
(12) = average of (8) and (9) for Policy Years 2001 through 2009
(12) = average of (10) and (11) for Policy Year 2010
(13) = (12) / (2)
(14) from DCRB Filing Exhibit IV, line 16
(15) = (13) x (14)

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Derivation of Loss Development Factors
Paid Indemnity

Policy-year age-to-age factors for calendar-year intervals

Maturities	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	4-yr avg	4-yr median	Avg	Cumul
Beyond												1.0055
21 to 22					1.0045	1.0058	1.0049	1.0100	1.0063	1.0054	1.0059	1.0114
20 to 21				1.0050	0.9996	1.0021	1.0037	1.0024	1.0020	1.0023	1.0022	1.0136
19 to 20	0.9988	1.0028	1.0050	1.0066	1.0023	1.0011	1.0006	1.0012	1.0013	1.0012	1.0013	1.0149
18 to 19	0.9964	1.0101	1.0020	1.0206	1.0014	1.0510	1.0053	0.9963	1.0135	1.0034	1.0085	1.0235
17 to 18	1.0105	1.0040	1.0217	1.0026	1.0154	1.0125	1.0026	1.0068	1.0093	1.0097	1.0095	1.0332
16 to 17	1.0071	1.0111	1.0026	1.0052	1.0064	1.0090	1.0052	1.0071	1.0069	1.0068	1.0069	1.0403
15 to 16	1.0088	1.0039	1.0131	1.0049	1.0015	1.0125	1.0016	1.0064	1.0055	1.0040	1.0048	1.0453
14 to 15	1.0085	1.0101	1.0067	1.0000	1.0164	1.0055	1.0068	1.0167	1.0114	1.0116	1.0115	1.0573
13 to 14	1.0075	1.0092	1.0021	1.0508	1.0141	1.0043	1.0222	1.0095	1.0125	1.0118	1.0122	1.0702
12 to 13	1.0063	1.0108	1.0149	1.0028	1.0021	1.0107	1.0086	1.0161	1.0094	1.0097	1.0096	1.0805
11 to 12	1.0151	1.0176	1.0025	1.0137	1.0066	1.0213	1.0189	1.0024	1.0123	1.0128	1.0126	1.0941
10 to 11	1.0246	1.0203	1.0144	1.0118	1.0135	1.0144	1.0024	1.0128	1.0108	1.0132	1.0120	1.1072
9 to 10	1.0037	1.0150	1.0109	1.0272	1.0197	1.0204	1.0263	1.0283	1.0237	1.0234	1.0236	1.1333
8 to 9	1.0155	1.0158	1.0470	1.0262	1.0301	1.0221	1.0524	1.0318	1.0341	1.0310	1.0326	1.1702
7 to 8	1.0259	1.0599	1.0302	1.0220	1.0437	1.0273	1.0256	1.0377	1.0336	1.0325	1.0331	1.2089
6 to 7	1.0499	1.0414	1.0524	1.0487	1.0281	1.0569	1.0510	1.0432	1.0448	1.0471	1.0460	1.2645
5 to 6	1.0610	1.0583	1.0912	1.0634	1.0538	1.0515	1.0692	1.0948	1.0673	1.0615	1.0644	1.3459
4 to 5	1.0857	1.1013	1.1160	1.0912	1.0891	1.1048	1.0950	1.1227	1.1029	1.0999	1.1014	1.4824
3 to 4	1.2531	1.1720	1.1380	1.1664	1.1592	1.1975	1.1982	1.1748	1.1824	1.1862	1.1843	1.7556
2 to 3	1.4010	1.3539	1.4474	1.4072	1.4355	1.4826	1.4292	1.4445	1.4480	1.4400	1.4440	2.5351
1 to 2	1.9296	1.8426	2.1728	1.9577	1.8847	2.0617	2.1495	2.0997	2.0489	2.0807	2.0648	5.2345

source: page 2.2 of DCRB filing

Cumulative value beyond 22 months is from the incurred analysis

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Derivation of Loss Development Factors
Incurred Indemnity

Policy-year age-to-age factors for calendar-year intervals

Maturities	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	4-yr avg	4-yr median	Avg	Cumul
Beyond	0.9621	0.9941	1.0206	0.9971	1.045	0.9792	1.0074	0.9992	1.0077	1.0033	1.0055	1.0055
21 to 22					0.9899	1.0042	1.0024	1.0024	0.9997	1.0024	1.0011	1.0066
20 to 21				1.0091	1.0026	1.0036	0.9931	1.0010	1.0001	1.0018	1.0010	1.0076
19 to 20	1.0043	1.0014	1.0013	1.0038	0.9956	1.0128	0.9977	1.0014	1.0019	0.9996	1.0008	1.0084
18 to 19	0.9998	0.9926	1.0019	1.0005	0.9944	1.0440	1.0154	1.0018	1.0139	1.0086	1.0113	1.0198
17 to 18	0.9965	0.9988	1.0001	0.9986	0.9814	1.0028	0.9973	1.0019	0.9959	0.9996	0.9978	1.0176
16 to 17	1.0031	1.0040	0.9980	0.9990	1.0037	1.0050	1.0039	1.0274	1.0100	1.0045	1.0073	1.0250
15 to 16	0.9950	1.0092	1.0063	1.0010	1.0000	1.0044	0.9970	1.0033	1.0012	1.0017	1.0015	1.0265
14 to 15	1.0015	1.0010	1.0107	0.9964	1.0094	1.0166	0.9894	1.0042	1.0049	1.0068	1.0059	1.0326
13 to 14	1.0153	0.9925	0.9971	1.0414	1.0041	1.0057	1.0137	0.9997	1.0058	1.0049	1.0054	1.0382
12 to 13	1.0119	1.0065	1.0070	0.9938	1.0063	1.0091	1.0001	1.0078	1.0058	1.0071	1.0065	1.0449
11 to 12	1.0099	1.0176	1.0243	0.9999	1.0015	0.9948	1.0065	0.9909	0.9984	0.9982	0.9983	1.0431
10 to 11	1.0153	1.0061	0.9979	0.9961	1.0099	1.0022	0.9933	0.9954	1.0002	0.9988	0.9995	1.0426
9 to 10	1.0069	0.9900	0.9925	1.0123	1.0066	1.0122	0.9904	1.0163	1.0064	1.0094	1.0079	1.0508
8 to 9	1.0064	1.0262	0.9915	1.0131	0.9938	1.0387	1.0171	1.0013	1.0127	1.0092	1.0110	1.0624
7 to 8	1.0086	1.0840	1.0253	1.0163	1.0182	1.0219	1.0083	1.0164	1.0162	1.0173	1.0168	1.0802
6 to 7	1.0616	1.0217	1.0293	1.0071	0.9990	1.0132	1.0312	1.0046	1.0120	1.0089	1.0105	1.0915
5 to 6	1.0416	1.0085	1.0301	1.0160	1.0065	1.0106	1.0139	1.0088	1.0100	1.0097	1.0099	1.1023
4 to 5	1.0817	1.0562	1.0315	1.0113	1.0414	1.0361	1.0408	1.0650	1.0458	1.0411	1.0435	1.1503
3 to 4	1.1176	1.0310	1.0701	1.0381	1.0281	1.0870	1.0722	0.9963	1.0459	1.0502	1.0481	1.2056
2 to 3	1.1874	1.1414	1.1462	1.1294	1.1735	1.1782	1.1847	1.1836	1.1800	1.1809	1.1805	1.4232
1 to 2	1.2981	1.3025	1.3445	1.2337	1.3367	1.4040	1.4660	1.3438	1.3876	1.3739	1.3808	1.9652

source: page 2.2 of DCRB filing

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Derivation of Loss Development Factors
Paid Medical

Policy-year age-to-age factors for calendar-year intervals

Maturities	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	4-yr avg	4-yr median	Avg	Cumul
Beyond												1.0292
21 to 22					1.0031	1.0074	1.0101	1.0179	1.0096	1.0088	1.0092	1.0387
20 to 21				1.0077	1.0076	1.0051	1.0148	1.0146	1.0105	1.0111	1.0108	1.0499
19 to 20	1.0054	1.0040	1.0049	0.9935	1.0099	1.0232	1.0082	1.0092	1.0126	1.0096	1.0111	1.0616
18 to 19	1.0011	1.0037	1.0099	1.0057	1.0120	1.0125	1.0058	1.0082	1.0096	1.0101	1.0099	1.0721
17 to 18	1.0092	1.0158	1.0051	1.0132	1.0065	1.0149	1.0066	1.0086	1.0092	1.0076	1.0084	1.0811
16 to 17	1.0114	1.0086	1.0094	1.0110	1.0107	1.0078	1.0180	1.0152	1.0129	1.0130	1.0130	1.0952
15 to 16	1.0075	1.0119	1.0207	1.0100	1.0098	1.0120	1.0116	1.0151	1.0121	1.0118	1.0120	1.1083
14 to 15	1.0109	1.0109	1.0215	1.0108	1.0218	0.9976	1.0025	1.0284	1.0126	1.0122	1.0124	1.1220
13 to 14	1.0151	1.0107	1.0070	1.0174	1.0184	1.0187	1.0196	1.0175	1.0186	1.0186	1.0186	1.1429
12 to 13	1.0146	1.0082	1.0137	1.0309	1.0166	1.0402	1.0134	1.0161	1.0216	1.0164	1.0190	1.1646
11 to 12	1.0197	1.0156	1.0299	1.0336	1.0301	1.0235	1.0132	1.0158	1.0207	1.0197	1.0202	1.1881
10 to 11	1.0195	1.0206	1.0333	1.0476	1.0175	1.0114	1.0226	1.0349	1.0216	1.0201	1.0209	1.2129
9 to 10	1.0093	1.0187	1.0300	1.0341	1.0232	1.0249	1.0386	1.0254	1.0280	1.0252	1.0266	1.2452
8 to 9	1.0163	1.0237	1.0366	1.0271	1.0226	1.0573	1.0294	1.0320	1.0353	1.0307	1.0330	1.2863
7 to 8	1.0164	1.0274	1.0240	1.0269	1.0436	1.0450	1.0528	1.0366	1.0445	1.0443	1.0444	1.3434
6 to 7	1.0404	1.0318	1.0529	1.0497	1.0318	1.0330	1.0389	1.0396	1.0358	1.0360	1.0359	1.3916
5 to 6	1.0494	1.0515	1.0627	1.0436	1.0545	1.0422	1.0514	1.0413	1.0474	1.0468	1.0471	1.4571
4 to 5	1.0432	1.1013	1.0720	1.0544	1.0622	1.0529	1.0656	1.0726	1.0633	1.0639	1.0636	1.5498
3 to 4	1.0931	1.0627	1.0830	1.0451	1.0858	1.0891	1.0743	1.0783	1.0819	1.0821	1.0820	1.6769
2 to 3	1.1432	1.1553	1.1522	1.1381	1.1360	1.1592	1.1670	1.1532	1.1539	1.1562	1.1551	1.9370
1 to 2	1.3111	1.3288	1.3390	1.3225	1.3583	1.4530	1.4281	1.4397	1.4198	1.4339	1.4269	2.7639

source: page 2.14 of DCRB filing

Cumulative value beyond 22 months is from the incurred analysis

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1201, Proposed Effective December 1, 2012
INS RATE LEVEL INDICATION

Derivation of Loss Development Factors
Incurred Medical

Policy-year age-to-age factors for calendar-year intervals

Maturities	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	4-yr avg	4-yr median	Avg	Cumul
Beyond	1.1167	1.0528	1.0347	1.0628	1.0222	1.0308	0.9985	1.0756	1.0318	1.0265	1.0292	1.0292
21 to 22					1.0083	1.0265	1.0017	1.0243	1.0152	1.0163	1.0158	1.0455
20 to 21				1.0050	1.0233	1.0056	1.0156	1.0045	1.0123	1.0106	1.0115	1.0575
19 to 20	1.0222	1.0140	1.0036	0.9948	0.9983	1.0074	1.0022	0.9986	1.0016	1.0004	1.0010	1.0586
18 to 19	1.0127	1.0169	1.0034	1.0105	1.0049	1.0164	1.0020	1.0016	1.0062	1.0035	1.0049	1.0638
17 to 18	1.0040	1.0059	1.0166	0.9994	1.0177	1.0086	0.9997	0.9983	1.0061	1.0042	1.0052	1.0693
16 to 17	1.0158	1.0024	1.0102	1.0107	1.0154	1.0040	1.0090	1.0219	1.0126	1.0122	1.0124	1.0826
15 to 16	1.0028	1.0183	1.0206	0.9986	1.0121	1.0292	1.0102	1.0261	1.0194	1.0191	1.0193	1.1035
14 to 15	1.0270	1.0007	1.0174	1.0039	1.0153	1.0008	1.0001	1.0471	1.0158	1.0081	1.0120	1.1167
13 to 14	1.0356	1.0082	1.0116	1.0143	1.0053	1.0067	1.0115	1.0099	1.0084	1.0083	1.0084	1.1261
12 to 13	1.0428	0.9906	1.0123	1.0006	1.0110	1.0371	1.0089	1.0127	1.0174	1.0119	1.0147	1.1427
11 to 12	1.0262	1.0399	0.9999	1.0171	1.0415	1.0244	1.0139	1.0081	1.0220	1.0192	1.0206	1.1662
10 to 11	1.0077	1.0264	1.0053	1.0223	1.0405	0.9928	1.0205	1.0280	1.0205	1.0243	1.0224	1.1923
9 to 10	1.0766	1.0163	1.0242	1.0090	0.9875	0.9789	1.0159	0.9979	0.9951	0.9927	0.9939	1.1850
8 to 9	1.0467	1.0500	0.9982	1.0093	1.0236	1.0216	1.0372	1.0181	1.0251	1.0226	1.0239	1.2133
7 to 8	1.0214	1.0240	1.0313	1.0604	1.0156	1.0190	1.0404	1.0236	1.0247	1.0213	1.0230	1.2412
6 to 7	1.0444	1.0474	1.0560	1.0471	1.0210	1.0316	1.0473	1.0159	1.0290	1.0263	1.0277	1.2756
5 to 6	1.0669	1.0474	1.0608	1.0229	1.0426	1.0217	1.0389	1.0408	1.0360	1.0399	1.0380	1.3241
4 to 5	1.0845	1.1314	1.0954	1.0327	1.0772	1.0771	1.0816	1.0996	1.0839	1.0794	1.0817	1.4323
3 to 4	1.1625	1.0612	1.0930	1.0654	1.0893	1.0912	1.1117	1.1285	1.1052	1.1015	1.1034	1.5804
2 to 3	1.2077	1.1279	1.1161	1.0901	1.1591	1.1124	1.1156	1.1306	1.1294	1.1231	1.1263	1.7800
1 to 2	1.1282	1.1921	1.1267	1.1244	1.1907	1.2989	1.2786	1.3408	1.2773	1.2888	1.2831	2.2839

source: page 2.14 of DCRB filing

Support for IELR

Workers' Compensation Frequency
Derivation of Trend Through Policy Year 2009
Trending to December 31, 2010

Policy Year	(1) Normalized Frequency
2004	0.6629
2005	0.5940
2006	0.5587
2007	0.5195
2008	0.4609
2009	0.4631

(2) Indicated Annual Trend -7.2%

Policy Year	(3) Number of Years to 12/31/10	(4) Trend Factor
2006	4.0000	0.7416
2007	3.0000	0.7992
2008	2.0000	0.8612
2009	1.0000	0.9280

Notes:
(1) from DCRB Filing Exhibit VIII-3
(2) from exponential regression of (1) for six years
(3) by calculation of difference between 12/31/xx and 12/31/10
(4) = [1 + Selected (2)] ^ (3)

Support for IELR

Workers' Compensation Medical Severity
Derivation of Trend Through Policy Year 2009
Trending to December 31, 2010

Policy Year	(1) Actual Loss Ratio	(2) Normalized Frequency	(3) Severity Loss Ratio
2004	0.4575	0.6629	0.6901
2005	0.4361	0.5940	0.7342
2006	0.4092	0.5587	0.7324
2007	0.4719	0.5195	0.9084
2008	0.4480	0.4609	0.9720
2009	0.4986	0.4631	1.0767

(4) Indicated Annual Trend 9.8%

Policy Year	(5) Number of Years to 12/31/10	(6) Trend Factor
2006	4.0000	1.4535
2007	3.0000	1.3238
2008	2.0000	1.2056
2009	1.0000	1.0980

Policy Year	(7) Actual Loss Ratio	(8) Severity Trend Factor	(9) Frequency Trend factor	(10) Trended Loss Ratio
2006	0.4092	1.4535	0.7416	0.4411
2007	0.4719	1.3238	0.7992	0.4993
2008	0.4480	1.2056	0.8612	0.4651
2009	0.4986	1.0980	0.9280	0.5080
			4-yr avg	0.4784

Notes:
(1) from INS Exhibit 4, Page 2, Col 13
(2) from INS Exhibit 6, Col 1
(3) = (1) / (2)
(4) from exponential regression of (3) for six years
(5) by calculation of difference between 12/31/xx and 12/31/10
(6) = [1 + (4)] ^ (5)
(7) = (1)
(8) = (6)
(9) from INS Exhibit 6, Page 1, Col 4
(10) = (7) x (8) x (9)