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DATE: December 23, 2014

TO: Gene Reed, Deputy Insurance Commissioner, Delaware Insurance Department

FROM: John R. Pedrick, Actuary, INS Consultants, Inc.

SUBJECT: 2014 DCRB Workers Compensation Residual Market Rates and Voluntary Market Loss Costs -- Bureau Filing No. 1404, Dated October 10, 2014

INS Consultants, Inc. (INS) has been engaged by the Delaware Insurance Department (the Department) to review the Delaware Compensation Rating Bureau (DCRB) Workers Compensation Filing No. 1404 dated October 10, 2014. The filing requests an overall rate level change of -1.56% for residual market rates and requests an overall loss cost level change of -3.52% for voluntary market loss costs. These filed amounts are identical to the indicated changes for both residual market rates and voluntary market loss costs, and include an adjustment reflecting the intended impact of House Bill 373 of 2014 (HB-373).

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 -1.96% and -3.91% respectively. The attached exhibits present the derivation of these figures.

The following table compares the DCRB and INS indicated changes:

	<u>DCRB</u>	<u>INS</u>
Residual Market Rates	-1.56%	-1.96%
Voluntary Market Loss Costs	-3.52%	-3.91%

The indicated changes are based upon policy-year premium and loss data through policy-year 2012 evaluated as of December 31, 2013.

This analysis was performed by John R. Pedrick, FCAS, MAAA and was peer reviewed by Robert W. Gardner, FCAS, MAAA.

The Impact of HB-373

Both the DCRB and INS analyses incorporate the desired impact of HB-373, which was signed into law on July 15, 2014. At the time DCRB assembled and submitted Filing 1404, no fee schedule or guidelines as required by the legislation were available. Language within the bill requires the DCRB to, “file for approval by the Insurance Commissioner prospective loss costs that shall explicitly and individually account for the impact of any statutory changes in this act.” As a result, the DCRB calculated the impact of HB-373 under the presumption that it will be fully implemented and its effects fully realized, producing a decrease in prospective medical costs of 32.45%.

There are no medical cost data, fee schedules, medical practice guidelines, or other factual information to examine in support of the true impact of this legislated change. The bill requires the development and implementation of a fee schedule: “The fee schedule shall result in a reduction of 20% in aggregate workers compensation medical expenses in the year beginning January 31, 2015, an additional reduction of 5% of current [2014] expenses by the year beginning January 31, 2016, and an additional reduction of 8% of current [2014] expenses by the year beginning January 31, 2017.” Aggregate medical expenses in Workers’ Compensation are the result of the number, type, and severity of injuries, the health of those workers who are injured, as well as medical fees, practice guidelines, and other elements as identified in the bill. It is not clear how this legislation will result in the required aggregate medical expense reductions, particularly for injuries that have not yet happened, yet it is these figures from the bill that the DCRB used in calculating its impact.

If HB-373 had not been passed and signed into law, and if there were no other legislative changes affecting Workers’ Compensation costs, the indicated residual market rates and voluntary market loss costs would be higher, as shown in the following table. The actual impact of the bill is likely to produce costs that fall between those produced by the INS indicated change shown above and the indicated change without HB-373 as shown in the following table.

	INS Indicated <u>Change</u>	INS Indicated Change <u>Without HB-373</u>
Residual Market Rates	-1.96%	+25.97%
Voluntary Market Loss Costs	-3.91%	+23.46%

In other words, as actual claim cost experience emerges, if the fully intended impact of the bill is not achieved, indicated changes in the residual market rates and voluntary market loss costs will move closer to the indicated level without HB-373.

The discussion and analysis that follows is based on the presumption that expense reductions in HB-373 will be fully realized.

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 68.71%. 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, since the voluntary market loss costs are calculated without a provision for expenses (other than LAE) and profit. The expense and profit component of an insurer’s final rates for the voluntary market are determined in the adoption filings to be submitted to the Department.

INS reviewed and accepted the July 1, 2015 anticipated benefit change of -0.08% together with past benefit level changes included in the adjustment of past losses.

INS reviewed and accepted the Senate Bill 1 (SB-1) adjustment of -17.4%, the Senate Bill 238 (SB-238) adjustment of -0.42%, and the House Bill 175 (HB-175) adjustment of -7.42% applied to the medical losses. As discussed above, INS also reviewed and accepted the HB-373 adjustment of -32.45%. The SB-1 adjustment is consistent with the Department’s agreement from earlier filings. The SB-238, HB-175, and HB-373 adjustments are based on analyses included in this filing.

INS reviewed and accepted the Excess Loss Factor of 12.90% 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 1.2037 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.

The following items require some further review and discussion.

Loss Development Factors: For both the paid and incurred loss development factors (LDFs), 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. The selection of LDFs reduced the voluntary market indicated change by 0.63 percentage points from the DCRB's indicated change.

Selections of Ultimate Loss: To select estimates of ultimate indemnity and medical loss, the DCRB relied upon the average of the paid development method and the incurred development method.

Under both the DCRB and INS analyses for indemnity, the paid LDFs for 2011 and 2012 exceed 2.000. For both analyses of medical loss, the paid LDFs for 2011 and 2012 and the incurred LDF for 2012 exceed 2.000. A factor 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). Similarly, a factor over 2.500 means that less than 40% of the ultimate amount has been paid (for paid LDF) or reported (for incurred LDF). As a result, INS relied on the average of the paid and incurred development methods for all years through 2010, the years for which all LDFs are less than 2.000.

For 2011 and 2012, INS incorporated two additional methods: the paid and incurred Bornhuetter-Ferguson methods. INS then used an average from among the four methods as follows. If the paid LDF was below 2.000, then the ultimate loss it projects was used in the average, and the ultimate loss from the paid Bornhuetter-Ferguson method was not. If the paid LDF was 2.000 or greater, but less than 2.500, then the ultimate loss estimates from both the paid LDF and the paid Bornhuetter-Ferguson methods were used. If the paid LDF was 2.500 or greater, then the ultimate loss from the paid LDF method was not used and the ultimate loss from the paid Bornhuetter-Ferguson method was used in the average. The same approach was applied in determining ultimate loss estimates from the incurred LDF and the incurred Bornhuetter-Ferguson methods.

As a result, for the INS indemnity loss estimate in both 2011 and 2012, the average of the ultimate loss estimates from the incurred LDF and the paid Bornhuetter-Ferguson methods was used to develop the INS selected ultimate loss. For the 2011 INS medical loss estimate, the average of the ultimate loss estimates from the paid LDF, incurred LDF, and paid Bornhuetter-

Ferguson methods was used to determine the INS selected ultimate loss. For the 2012 INS medical loss estimate, the average of the ultimate loss estimates from the incurred LDF, paid Bornhuetter-Ferguson, and incurred Bornhuetter-Ferguson methods was used to determine the INS selected ultimate loss.

This approach reduced the voluntary market indicated change by an additional 1.16 percentage points from the DCRB indicated change.

The Bornhuetter-Ferguson method is a generally accepted actuarial practice for estimating unpaid claim amounts, particularly for immature years, where the loss development methods can have a significant leveraging affect. For incurred loss, the Bornhuetter-Ferguson 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, for paid losses, the Bornhuetter-Ferguson 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 loss estimate is added to paid loss 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. For 2011 and 2012, INS elected to rely upon the average of the ultimate loss ratios from the four prior policy years after consideration of trend. For policy year 2011, ultimate loss ratios for 2007 through 2010 were trended to 12/31/2011. For policy year 2012, ultimate loss ratios for 2008 through 2011 were trended to 12/31/2012. The trends selected are discussed below. Note that the trending used to estimate the IELRs differs from the trending used to determine the projected loss and LAE ratio for the cohort of policies to be written in the future period from December 1, 2014 through November 30, 2015.

Frequency Trend: INS reviewed the DCRB's methods and discussion concerning frequency trend, particularly the additional technique used to address the observation that frequency was virtually unchanged from 2009 to 2010, and that this was related to the economic recession during that time. The DCRB observed that the lack of improvement (decrease) in frequency was less than had been observed in any policy year since 2003. As a result, DCRB used the average of two trend calculations. The first is exponential curve of best fit for the seven

most recent observations (7-year exponential regression). This produced a -5.0% trend estimate. The second calculation is also an exponential fit of seven observations, but with adjustments to remove 2009 and 2010. This produced a -8.1% trend estimate. The average of these two, -6.6%, was selected by the DCRB for frequency trend.

INS calculated several estimates using exponential regression. The 7-year exponential fit produces -5.0% annual trend, identical to the DCRB's calculation. Fitted curves using more years produce lower estimates of -6.4% using ten years, and -6.6% using thirteen years. INS considered trend calculations from the analysis of last year's DCRB Filing No. 1305 for the policy year starting December 1, 2013. In that analysis, a year ago, both DCRB and INS selected the 7-year regression result of -5.1%.

The goal of these analyses and discussions is to determine the best estimate of claim frequency for the policy year starting December 1, 2014. The selection should balance the need for stability in reflecting long-term trends and the need for responsiveness to recent trends that are likely to continue into this next policy year. Based on the DCRB and INS calculations and observations, INS selected an annual frequency trend of -6.0%.

INS also analyzed trend to be used in the calculation of IELRs discussed above. For the 2012 IELRs, frequency trend calculations were based on data points from 2000 to 2011, thus eliminating the 2012 observation. Similarly, for the 2011 IELRs, frequency trend calculations were based on data points from 2000 to 2010, eliminating the 2011 and 2012 observations. INS considered these calculations as well as the INS selections from its analysis of Filing 1305, and selected frequency trends of -6.0% for the 2012 IELRs and -6.3% for the 2011 IELRs.

Indemnity Severity Trend: The DCRB selected an annual trend factor of +5.8% to project the severity of indemnity losses. The figure is equal to the average annual change based upon a 7-year exponential regression. INS performed exponential regressions over a 10-year period, a 7-year period, a 5-year period, and a 4-year period for estimating the annual severity trend, and selected the 7-year value. Since 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 +5.0%.

Medical Severity Trend: The DCRB selected annual trend factors for four contiguous time frames. For medical costs prior to, and up through September 1, 2008, the DCRB used the fitted average annual change of +13.6%, based on a 7-year exponential regression. For medical costs from September 1, 2008 to January 31, 2013, the DCRB adjusted the fitted trend downward by 1.5 points to +12.1%. For medical costs from January 31, 2013 to June 27, 2013, the DCRB

adjusted the fitted trend downward by 1.8 points to +11.8%. For medical costs after June 27, 2013, the DCRB adjusted the fitted trend downward by 2.2 points to +11.4%.

INS followed the DCRB method of adjusting fitted trend due to legislative changes. INS performed an exponential fit of the values over a 10-year period, a 7-year period, a 5-year period, and a 4-year period for estimating the annual severity trend. INS selected the 7-year value, +13.6%. While the INS severities are derived from different estimates of ultimate loss values (see “Loss Development Factors” and “Selections of Ultimate Loss” above), the resulting fitted average annual change is the same. INS reviewed and accepted the DCRB’s trend adjustments for the four time periods described above.

The table below summarizes the trend figures used in both the DCRB and INS analyses.

Summary of Frequency and Severity Trend		
	DCRB	INS
Claim Frequency	-6.6%	-6.0%
Indemnity Severity	+5.8%	+5.0%
Medical Severity, up to 9/1/08	+13.6%	+13.6%
From 9/1/08 to 1/31/13	+12.1%	+12.1%
From 1/31/13 to 6/27/13	+11.8%	+11.8%
After 6/27/13	+11.4%	+11.4%

The INS analysis of severity trends for the calculation of IELRs is similar to the frequency trend analysis for IELRs. For the 2012 IELRs, severity trend calculations were based on data points from 2003 to 2011, thus eliminating the 2012 observation. Similarly, for the 2011 IELRs, severity trend calculations were based on data points from 2003 to 2010, eliminating the 2011 and 2012 observations. INS considered these calculations as well as the INS selections from its analysis of Filing 1305. For the 2012 IELRs, INS selected severity trends of +4.2% for indemnity and +13.1% for medical. For the 2011 IELRs, INS selected severity trends of +4.0% for indemnity and +11.9% for medical.

The trend selections made by INS increased the voluntary market indicated change by 1.40 percentage points from the DCRB indicated change.

Average Loss Ratio: In 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. These ratios summarize the many elements discussed above and provide

estimates of the loss ratio that can be expected for the policy year starting 12/1/14. The average loss and LAE ratio gives equal weight to each of the ratios for the last four policy years.

Summary of differences

The following table summarizes the effects of the major differences between the DCRB and INS indicated changes for voluntary market loss costs. Exhibit 7 provides a chart of these incremental differences.

DCRB Voluntary Market Loss Cost Indicated Change	-3.52%
1. INS Loss Development Factors	-0.63%
2. INS Ultimate Loss Selection	-1.16%
3. INS Trend Selection	+1.40%
INS Voluntary Market Loss Cost Indicated Change	-3.91%

Descriptions of the exhibits

Exhibit 1 is structured to compare directly to the DCRB's "Brown Book" Exhibit I in deriving the indicated changes. Line 1 presents the INS selected value for projected loss and LAE ratios for indemnity, medical, and total, using losses capped at the loss limitation. The projected loss and LAE ratios are developed in Exhibit 2. Lines 2 through 5 of Exhibit 1 show the adjustments for the effects of legislation: -17.4% for SB-1, -0.42% for SB-238, -7.42% for HB-175, and -32.45% for HB-373. These are the same legislation adjustments used by the DCRB and accepted by INS. Line 6 presents the combined, multiplicative effect of these legislative changes. Line 7 shows the resulting loss and LAE ratios. Line 8 shows the 12.90% Excess Loss Factor accepted by INS. Line 9 restates the loss and LAE ratios at full value including the excess losses. The use of a loss limitation in developing Lines 1 through 7 and applying the Excess Loss Factor in Line 8 reduces the variation in loss experience that can be caused by large claims, spreading their impact over several years. The factor extends the estimated loss and LAE ratio based on limited losses to a ratio representing the estimated costs of unlimited losses that are inherent in Workers' Compensation insurance.

Exhibit 1, Line 10 shows the Permissible Loss and LAE Ratio accepted by INS. Line 11 shows the preliminary indicated change in Residual Market Rates before adjustment for the anticipated benefit change on 7/1/15. Line 12 shows the anticipated benefit change and Line 13 presents the indicated change in Residual Market Rates. Line 14 removes the effects of the changes in expense and profit load to calculate the indicated change in voluntary market loss costs.

Exhibit 2, Page 1, shows the derivation of the projected indemnity loss ratio for the 12/1/14 to 11/30/15 prospective policy writing period. The loss and LAE ratios for 2006 through 2012, from Exhibit 4, Page 1, are projected to the average exposure date for the prospective policy writing period, 12/1/15. The severity trend factors developed in this exhibit use the annual severity trend derived in Exhibit 3, Page 2. The frequency trend factors are from Exhibit 3, Page 1. Column 6 shows the projected loss and LAE ratios for 2006 through 2012. INS selected the average of the most recent four years (2009 to 2012) as its projected indemnity loss ratio for the prospective policy writing period.

Exhibit 2, Page 2, shows the derivation of the projected medical loss ratio for the 12/1/14 to 11/30/15 prospective policy writing period. The loss and LAE ratios for 2006 through 2012, from Exhibit 4, Page 2, are projected to the average exposure date for the prospective policy writing period, 12/1/15. INS followed the DCRB approach in making adjustments for SB-1, by applying different rates of trend to four contiguous time periods. The severity trend for medical costs is a 7-year fitted trend, derived in Exhibit 3, Page 2, and is applied to medical costs through 9/1/08. For the period from 9/1/08 through 1/31/13, the 7-year fitted trend is reduced by 1.5 percentage points. For medical costs from 1/31/13 through 6/27/13, the 7-year fitted trend is reduced by 1.8 percentage points. For medical costs from 6/27/13 through 12/1/15, the 7-year fitted trend is reduced by 2.2 percentage points. The adjustments reflect the impact of SB-1. The frequency trend factors are from Exhibit 3, Page 1. Column 21 shows the projected loss and LAE ratios for 2006 through 2012. INS selected the average of the most recent four years (2009 to 2012) as its projected medical loss ratio for the prospective policy period.

Exhibit 3, Page 1, summarizes the derivation and selection of annual frequency trend. The analysis uses normalized frequency, which is the ratio of reported claim frequency for each year divided by the reported claim frequency for 2000. (The normalization has no impact on the calculations of frequency trend, but is used in the following analysis of severity trend.) The exhibit is divided into three sections. The first, columns 2, 3, 8 and 9, shows the development of frequency trend used to project policy years 2000 to 2012 to the midpoint of the experience period under review, 12/1/15. INS calculated 13-year, 10-year, 7-year, 5-year, and 4-year exponential fitted trends. As discussed above, INS selected -6.0% to represent the annual change in claim frequency. The second section, in columns 4, 5, 10 and 11, and the third section, in columns 6, 7, 12 and 13, provide the frequency trend analyses used in Exhibit 6.

Exhibit 3, Page 2, shows the derivation and selection of annual severity trend. Separately for indemnity and medical losses, ultimate loss ratios are divided by relative frequency, producing severity loss ratios for each year. That is, since the ultimate loss ratios have a frequency and a severity component, dividing by normalized frequency leaves only the severity

component of the loss ratio needed for the analysis in this exhibit. INS calculated 10-year, 7-year, 5-year, and 4-year exponential fitted trends. The results support the selection of the 7-year fitted severity trends of +5.0% for indemnity and +13.6% for medical. The INS trend selections differ from the DCRB selections, even though both are based on 7-year fitted trend calculations, because the ultimate loss ratios selected by INS and used in this analysis are different. Columns 1 through 5 are the basis for the INS severity analysis. Columns 6 through 9 contain the key figures for the severity trend analysis used in projecting costs to the prospective policy period. Columns 10 through 17 provide the severity trend analyses used in Exhibit 6.

Exhibit 4 shows the derivation of the ultimate loss and LAE ratios with Page 1 for indemnity and Page 2 for medical. Premiums are shown at ultimate value and current rates. Paid and incurred development factors are applied to paid and incurred losses, respectively. For indemnity, 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 2003 through 2010. For indemnity, the 2011 and 2012 selected ultimate indemnity loss values result from an average of the estimates from the incurred loss development and the paid Bornhuetter-Ferguson methods. For medical, the 2011 selected ultimate loss value results from an average of the estimates from the paid loss development, incurred loss development and the paid Bornhuetter-Ferguson methods. The 2012 ultimate loss value results from an average of the estimates from the incurred loss development, the paid Bornhuetter-Ferguson, and the incurred Bornhuetter-Ferguson methods. Procedures outlined in the discussion of Exhibit 6 below describe the derivation of the IELRs. In both the indemnity and the medical estimates, the final column accounts for loss adjustment expenses through the inclusion of the 1.2037 LAE factor.

Exhibit 5 provides the derivations of the paid loss development factors and the incurred loss development factors, for indemnity and medical. INS used the DCRB link ratios, and selected the average of two measures of central tendency: the 4-year average and the 4-year median of the four most recent years.

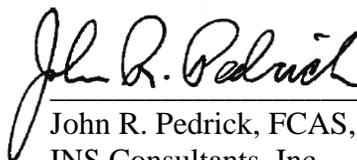
Exhibit 6 provides the derivation of the Initial Expected Loss Ratios for use in the Bornhuetter-Ferguson methods for policy years 2011 and 2012, indemnity and medical losses. The IELRs for indemnity are derived on Page 1a for 2011 and Page 1b for 2012. Severity trends from Exhibit 3, Page 2, and frequency trends from Exhibit 3, Page 1, are applied to the ultimate loss ratios from Exhibit 4, for the four policy years preceding the one for which the IELR is to be estimated. The IELRs for medical are derived similarly on Page 2a for 2011 and Page 2b for 2012. In each case, the selected IELR is the average of the trended ultimate loss ratio for the four years shown.

Exhibit 7 is a chart that illustrates the impact of the major elements of the INS analysis and the resulting incremental steps in the voluntary market indicated change from the DCRB's result to INS' result.

Throughout this analysis, the source documentation is the DCRB Filing exhibits, including the "Brown Book" as filed.

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 close to (0.39 percentage points higher) the change indicated by the INS review. These calculations are based on the presumption that the provisions of HB-373 are fully realized. Differences between the effects of the actual implementation of HB-373 and the intended effects will alter the final result. The INS findings pertain solely to the DCRB Delaware Workers Compensation Bureau Filing No. 1404, dated October 10, 2014.



John R. Pedrick, FCAS, MAAA
INS Consultants, Inc.

DELAWARE COMPENSATION RATING BUREAU
DCRB Bureau Filing No. 1404, Proposed Effective December 1, 2014
INS RATE LEVEL INDICATION

Exhibit 1

	Indemnity	Medical	Total
(1) Trended Policy Year Loss & LAE Ratio for Policy Period 12/01/13-12/01/14	0.2390	0.6769	0.9159
(2) Senate Bill 1 Adjustment	1.0000	0.8260	
(3) Senate Bill 238 Adjustment	1.0000	0.9958	
(4) House Bill 175 Adjustment	1.0000	0.9258	
(5) House Bill 373 Adjustment	1.0000	0.6755	
(6) Combined Legislative Adjustment	1.0000	0.5144	
(7) Trended Loss & LAE Ratio Adjusted for Legislative Changes	0.2390	0.3482	0.5872
(8) Excess Loss Factor			0.1290
(9) Trended Loss & LAE Ratio with Excess Load			0.6742
(10) Permissible Loss & LAE Ratio			0.6871
(11) Preliminary Indicated Rate Change in Residual Market Rates			0.9812
(12) Estimated Effect of 07/01/15 Benefit Change			0.9992
(13) Indicated Change in Residual Market Rate Level			0.9804 -1.96%
(14) Indicated Change in Voluntary Loss Costs			0.9609 -3.91%

Notes:

(1) from INS Exhibit 2, Page 1, Column 6 (Indemnity); Exhibit 2, Page 2, Column 21 (Medical)

(2) through (5) from DCRB "Brown Book" Exhibit I, Lines 3ai, 3aii, 3aiii, 3aiv

(6) = (2) x (3) x (4) x (5)

(7) = (1) x (6) separately for Indemnity and Medical

(8) from DCRB "Brown Book" Exhibit I, Line 4a

(9) = (7) / [1 - (8)]

(10) from DCRB "Brown Book" Exhibit I, Line 6

(11) = (9) / (10)

(12) from DCRB "Brown Book" Exhibit I, Line 8

(13) = (11) x (12)

(14) = (13) x 0.7095 / 0.7239, per DCRB "Brown Book" Exhibit I, Line 10

Workers' Compensation Indemnity
 Derivation of Trended Loss Ratio

Policy Year	(1) Ultimate Loss & LAE Ratio	(2) Selected Indemnity Severity Trend	(3) Number of Years to 12/01/15	(4) Severity Trend Factor	(5) Frequency Trend factor	(6) Trended Loss & LAE Ratio
2006	0.2651	5.0%	8.9167	1.5450	0.5760	0.2359
2007	0.2605	5.0%	7.9167	1.4715	0.6127	0.2349
2008	0.2310	5.0%	6.9167	1.4014	0.6518	0.2110
2009	0.2487	5.0%	5.9167	1.3347	0.6934	0.2302
2010	0.2518	5.0%	4.9167	1.2711	0.7377	0.2361
2011	0.2598	5.0%	3.9167	1.2106	0.7848	0.2468
2012	0.2521	5.0%	2.9167	1.1529	0.8349	0.2427
					4-yr avg	0.2390

Notes

- (1) from INS Exhibit 4, Page 1, Col 15
- (2) from INS Exhibit 3, Page 2, Selected Col 6
- (3) by calculation of difference between policy year midpoint and 12/01/15
- (4) = [1.0 + (2)] ^ (3)
- (5) From INS Exhibit 3, Page 1, Col 9
- (6) = (1) x (4) x (5)

Workers' Compensation Medical
 Derivation of Trended Loss Ratio

(1) Medical severity trend prior to 9/1/08	13.6%
(2) Adjustment for S.B.1 from 9/1/08 to 1/31/13	-1.5%
(3) Medical severity trend 9/1/08 to 1/31/13	12.1%
(4) Adjustment for S.B.1 from 1/31/13 to 6/27/13	-1.8%
(5) Medical severity trend 1/31/13 to 6/27/13	11.8%
(6) Adjustment for S.B.1 starting 6/27/13	-2.2%
(7) Medical severity trend 6/27/13 and beyond	11.4%

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			Number of Years from Later of	Number of Years	Number of Years	Severity	Severity Trend Factor from Later of	Severity Trend Factor	Severity Trend Factor
Policy Year	Midpoint of Policy Year	Number of Years from Midpoint to 09/01/08	09/01/08 or Midpoint to 01/31/13	from 01/31/13 to 06/27/13	from 06/27/13 to 12/01/15	Trend Factor to 09/01/08	09/01/08 or Midpoint to 01/31/13	from 01/31/13 to 06/27/13	from 06/27/13 to 12/01/15
2006	01/01/07	1.6667	4.4167	0.4167	2.4167	1.2368	1.6561	1.0476	1.2981
2007	01/01/08	0.6667	4.4167	0.4167	2.4167	1.0887	1.6561	1.0476	1.2981
2008	01/01/09	-	4.0833	0.4167	2.4167	1.0000	1.5942	1.0476	1.2981
2009	01/01/10	-	3.0833	0.4167	2.4167	1.0000	1.4222	1.0476	1.2981
2010	01/01/11	-	2.0833	0.4167	2.4167	1.0000	1.2687	1.0476	1.2981
2011	01/01/12	-	1.0833	0.4167	2.4167	1.0000	1.1317	1.0476	1.2981
2012	01/01/13	-	0.0833	0.4167	2.4167	1.0000	1.0096	1.0476	1.2981

	(17)	(18)	(19)	(20)	(21)
Policy Year	Combined Periods Severity Trend Factor	Frequency Trend factor	Loss Ratio Trend Factor	Ultimate Loss & LAE Ratio	Trended Loss & LAE Ratio
2006	2.7854	0.5760	1.6044	0.3870	0.6209
2007	2.4519	0.6127	1.5023	0.4268	0.6412
2008	2.1679	0.6518	1.4130	0.4129	0.5834
2009	1.9340	0.6934	1.3410	0.4592	0.6158
2010	1.7253	0.7377	1.2728	0.5737	0.7302
2011	1.5390	0.7848	1.2078	0.5846	0.7061
2012	1.3729	0.8349	1.1462	0.5719	0.6555
				4-yr avg	0.6769

Notes:

- | | | |
|--|--|--|
| (1) from INS Exhibit 3, Page 2, Selected Col 8 | (8) mid-point of policy year | (15) = [1.0 + (5)] ^ (11) |
| (2) from DCRB "Brown Book" Exhibit VII-2 | (9) years from policy year midpoint to 09/01/08 | (16) = [1.0 + (7)] ^ (12) |
| (3) = (1) + (2) | (10) years from 09/01/08 or the policy year midpoint to 01/31/13 | (17) = (13) x (14) x (15) x (16) |
| (4) from DCRB "Brown Book" Exhibit VII-2 | (11) years from 01/31/13 to 06/27/13 | (18) from INS Exhibit 3, Page 1, Column 9 |
| (5) = (1) + (4) | (12) years from 06/27/13 to 12/01/15 | (19) = (17) x (18) |
| (6) from DCRB "Brown Book" Exhibit VII-2 | (13) = [1.0 + (1)] ^ (9) | (20) from INS Exhibit 4, Page 2, Column 14 |
| (7) = (1) + (6) | (14) = [1.0 + (3)] ^ (10) | (21) = (19) x (20) |

Derivation of Frequency Trend

Policy Year	(1)	(2)			(4)			(5)			(6)			(7)
	Normalized Frequency	Trend Using 2000 to 2012 for the policy year starting 12/1/14			Trend Using 2000 to 2011 for the 2012 IELRs			Trend Using 2000 to 2010 for the 2011 IELRs						
		Annual Trend	R-squared		Annual Trend	R-squared		Annual Trend	R-squared		Annual Trend	R-squared		
2000	1.0000	13-yr-fit	-6.6%	97.1%	12-yr-fit	-6.7%	94.7%	11-yr-fit	-7.0%	95.5%				
2001	0.8723	10-yr-fit	-6.4%	94.6%	10-yr-fit	-6.8%	92.3%	10-yr-fit	-6.9%	94.6%				
2002	0.8838	7-yr fit	-5.0%	91.4%	7-yr fit	-5.2%	90.1%	7-yr fit	-6.3%	91.4%				
2003	0.8458	5-yr fit	-3.8%	77.8%	5-yr fit	-3.7%	76.7%	5-yr fit	-5.1%	81.6%				
2004	0.7446	4-yr fit	-5.1%	86.2%	4-yr fit	-2.0%	68.2%	4-yr fit	-3.8%	64.0%				
2005	0.6664													
2006	0.6270	Selected	-6.0%		Selected	-6.0%		Selected	-6.3%					
2007	0.5829													
2008	0.5177													
2009	0.5143													
2010	0.5143													
2011	0.4837													
2012	0.4409													
		(8)	(9)		(10)	(11)		(12)	(13)					
		Number of Years	Trend Factor		Number of Years	Trend Factor		Number of Years	Trend Factor					
Policy Year		to 12/01/15		Policy Year	to 12/31/12		Policy Year	to 12/31/11						
		2006	8.9167	0.5760	2006	6.0000	0.6899	2006	5.0000	0.7225				
		2007	7.9167	0.6127	2007	5.0000	0.7339	2007	4.0000	0.7710				
		2008	6.9167	0.6518	2008	4.0000	0.7807	2008	3.0000	0.8228				
		2009	5.9167	0.6934	2009	3.0000	0.8306	2009	2.0000	0.8781				
		2010	4.9167	0.7377	2010	2.0000	0.8836	2010	1.0000	0.9371				
		2011	3.9167	0.7848	2011	1.0000	0.9400							
		2012	2.9167	0.8349										

Notes:

- (1) from DCRB Filing Exhibit 2
- (2) through (7) from exponential regression of (1) across indicated years
- (8) by calculation of difference between the mid-point of each policy year and 12/01/15
- (9) = [1 + Selected (2)] ^ (8)
- (10) by calculation of difference between 12/31/xx and 12/31/12 for 2012 IELRs in Exhibit 6, Pages 1b and 2b
- (11) = [1 + Selected (4)] ^ (10)
- (12) by calculation of difference between 12/31/xx and 12/31/11 for 2011 IELRs in Exhibit 6, Pages 1a and 2a
- (13) = [1 + Selected (6)] ^ (12)

Workers' Compensation Severity
 Derivation of Severity Trend

Policy Year	(1) Normalized Frequency	(2) Indemnity Ultimate Loss Ratio	(3) Indemnity Severity Loss Ratio	(4) Medical Ultimate Loss Ratio	(5) Medical Severity Loss Ratio
2003	0.8458	0.2780	0.3287	0.3774	0.4462
2004	0.7446	0.2378	0.3194	0.3403	0.4570
2005	0.6664	0.2287	0.3432	0.3364	0.5048
2006	0.6270	0.2202	0.3512	0.3215	0.5128
2007	0.5829	0.2164	0.3712	0.3546	0.6083
2008	0.5177	0.1919	0.3707	0.3430	0.6625
2009	0.5143	0.2066	0.4017	0.3815	0.7418
2010	0.5143	0.2092	0.4068	0.4766	0.9267
2011	0.4837	0.2158	0.4461	0.4857	1.0041
2012	0.4409	0.2094	0.4749	0.4751	1.0776

Trend Using 2003 to 2012

	(6) Indemnity Severity Trend	(7) R-squared	(8) Medical Severity Trend	(9) R-squared
10-yr-fit	4.3%	93.2%	11.3%	93.7%
7-yr-fit	5.0%	94.1%	13.6%	98.0%
5-yr-fit	6.2%	96.3%	13.6%	97.0%
4-yr-fit	6.1%	93.3%	12.8%	94.2%
Selected	5.0%		13.6%	

Trend Using 2003 to 2011 (for IELRs in Exhibit 6)

	(10) Indemnity Severity Trend	(11) R-squared	(12) Medical Severity Trend	(13) R-squared
9-yr-fit	3.9%	93.2%	11.2%	91.6%
7-yr-fit	4.2%	93.2%	13.1%	94.7%
5-yr-fit	4.7%	89.5%	14.3%	96.0%
4-yr-fit	5.8%	93.1%	15.8%	97.0%
Selected	4.2%		13.1%	

Trend Using 2003 to 2010 (for IELRs in Exhibit 6)

	(14) Indemnity Severity Trend	(15) R-squared	(16) Medical Severity Trend	(17) R-squared
8-yr-fit	3.5%	93.8%	10.7%	89.3%
7-yr-fit	4.0%	96.3%	11.9%	91.4%
5-yr-fit	3.8%	92.0%	14.8%	94.7%
4-yr-fit	3.6%	84.6%	14.8%	92.1%
Selected	4.0%		11.9%	

- (1) from DCRB Filing Exhibit 2
- (2) from INS Exhibit 4, Page 1, Col (13)
- (3) = (2) / (1)
- (4) from INS Exhibit 4, Page 2, Col (12)
- (5) = (4) / (1)
- (6), (7), (10), (11), (14), (15) from exponential regression of (3) across indicated years
- (8), (9), (12), (13), (16), (17) from exponential regression of (5) across indicated years

Development of Ultimate Loss and LAE

Indemnity

Policy Year	(1) Ult. Std. Earned Premium (At Current Rates)	(2) Paid Loss	(3) Incurred Loss	(4) Paid Loss Dev. Factor	(5) Incurred Loss Dev. Factor	(6) 7/1/14 Benefit Factor	(7) Indemnity IELR	(8) Paid LDF Ult. Loss	(9) Incurred LDF Ult. Loss	(10) Paid BF Ult. Loss	(11) Incurred BF Ult. Loss	(12) Selected Ult. Loss	(13) Selected Ult. Loss Ratio	(14) LAE Factor	(15) Ult. Loss & LAE Ratio
2003	167,149,415	36,564,257	39,348,644	1.1168	1.0199	1.1478						46,466,758	0.2780	1.2037	0.3346
2004	197,397,741	37,517,578	38,911,290	1.1418	1.0261	1.1343						46,939,855	0.2378	1.2037	0.2862
2005	213,793,924	37,650,092	41,450,121	1.1807	1.0367	1.1187						48,901,065	0.2287	1.2037	0.2753
2006	224,722,483	37,329,211	42,772,459	1.2171	1.0496	1.0956						49,481,326	0.2202	1.2037	0.2651
2007	223,101,413	36,240,706	40,997,347	1.2767	1.0790	1.0667						48,270,654	0.2164	1.2037	0.2605
2008	227,688,611	31,616,539	36,298,562	1.3774	1.0956	1.0486						43,683,274	0.1919	1.2037	0.2310
2009	224,838,769	28,954,511	38,874,549	1.5347	1.1446	1.0449						46,462,679	0.2066	1.2037	0.2487
2010	219,495,759	24,478,931	35,942,952	1.8289	1.1935	1.0477						45,924,584	0.2092	1.2037	0.2518
2011	222,776,958	19,114,145	31,289,369	2.7190	1.4432	1.0509	0.1932		48,683,066	46,772,310	48,069,183	0.2158	1.2037	0.2598	
2012	206,319,809	7,902,554	21,948,202	5.5767	1.9303	1.0358	0.1957		42,508,274	42,890,018	43,195,807	0.2094	1.2037	0.2521	
Total	2,127,284,882	297,368,524	367,833,495					483,588,929	460,274,680			467,395,185			

Notes:

- (1) from DCRB Filing "Brown Book" Exhibits IV-1 through IV-10, Line 7
- (2) from DCRB Filing Exhibit 1
- (3) from DCRB Filing Exhibit 1
- (4), (5) from INS Exhibit 5
- (6) from DCRB Filing "Brown Book" Exhibits IV-1 through IV-10, Line 15
- (7) from INS Exhibit 6, Page 1a, Selected Column 7 for 2011; Exhibit 6, Page 1b, Selected Column 7 for 2012
- (8) = (2) x (4) x (6)
- (9) = (3) x (5) x (6)
- (10) = [(1) x (7) x [1.0 - (1.0 / (4))] + (2)] x (6)
- (11) = [(1) x (7) x [1.0 - (1.0 / (5))] + (3)] x (6)
- (12) = Average of: (8) and (9) for 2003 to 2010; (9) and (10) for 2011 and 2012
- (13) = (12) / (1)
- (14) from DCRB Filing, Exhibit 8
- (15) = (13) x (14)

Development of Ultimate Loss and LAE

Medical

Policy Year	(1) Ult. Std. Earned Premium (At Current Rates)	(2) Paid Loss	(3) Incurred Loss	(4) Paid Loss Dev. Factor	(5) Incurred Loss Dev. Factor	(6) Medical IELR			
2003	167,149,415	47,617,110	57,505,994	1.2888	1.1266				
2004	197,397,741	50,917,849	58,113,530	1.3309	1.1459				
2005	213,793,924	51,466,440	62,241,774	1.3724	1.1762				
2006	224,722,483	49,833,156	61,274,870	1.4244	1.2000				
2007	223,101,413	52,949,257	63,870,408	1.4869	1.2449				
2008	227,688,611	50,629,995	59,490,482	1.5633	1.2952				
2009	224,838,769	51,933,496	61,218,550	1.6737	1.3821				
2010	219,495,759	56,240,867	70,576,572	1.8161	1.5170				
2011	222,776,958	51,728,678	64,926,362	2.1192	1.7245	0.4358			
2012	206,319,809	32,660,315	44,725,827	2.9893	2.1453	0.4879			
Total	2,127,284,882	495,977,163	603,944,369						
Policy Year	(7) Paid LDF Ult. Loss	(8) Incurred LDF Ult. Loss	(9) Paid BF Ult. Loss	(10) Incurred BF Ult. Loss	(11) Selected Ult. Loss	(12) Selected Ult. Loss Ratio	(13) LAE Factor	(14) Ult. Loss & LAE Ratio	
2003	61,368,931	64,786,253			63,077,592	0.3774	1.2037	0.4543	
2004	67,766,565	66,592,294			67,179,430	0.3403	1.2037	0.4096	
2005	70,632,542	73,208,775			71,920,659	0.3364	1.2037	0.4049	
2006	70,982,347	73,529,844			72,256,096	0.3215	1.2037	0.3870	
2007	78,730,250	79,512,271			79,121,261	0.3546	1.2037	0.4268	
2008	79,149,871	77,052,072			78,100,972	0.3430	1.2037	0.4129	
2009	86,921,092	84,610,158			85,765,625	0.3815	1.2037	0.4592	
2010	102,139,039	107,064,660			104,601,850	0.4766	1.2037	0.5737	
2011	109,623,414	111,965,511	103,002,212	105,714,388	108,197,046	0.4857	1.2037	0.5846	
2012	97,631,480	95,950,317	99,649,166	98,466,484	98,021,989	0.4751	1.2037	0.5719	
Total	824,945,531	834,272,155			828,242,520				

Notes:

- (1) from DCRB Filing "Brown Book" Exhibits IV-1 through IV-10, Line 7
- (2) from DCRB Filing Exhibit 1
- (3) from DCRB Filing Exhibit 1
- (4), (5) from INS Exhibit 5
- (6) from INS Exhibit 6, Page 2a, Selected Column 7 for 2011; Exhibit 6 Page 2b, Selected Column 7 for 2012
- (7) = (2) x (4)
- (8) = (3) x (5)
- (9) = [(1) x (6) x [1.0 - (1.0 / (4))] + (2)]
- (10) = [(1) x (6) x [1.0 - (1.0 / (5))] + (3)]
- (11) = Average of: (7) and (8) for 2003 to 2010; (7), (8), and (9) for 2011; (8), (9) and (10) for 2012
- (12) = (11) / (1)
- (13) from DCRB Filing, Exhibit 8
- (14) = (12) x (13)

Derivation of Loss Development Factors
Paid Indemnity

Maturities	Policy-year age-to-age factors for calendar-year intervals								4-yr avg	4-yr median	Avg	Cumul
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13				
Beyond 24					1.0292	1.0158	1.0132	0.9995	1.0144	1.0145	1.0145	1.0145
23 to 24					1.0165	1.0034	1.0017	1.0035	1.0063	1.0035	1.0049	1.0195
22 to 23				1.0089	1.0030	1.0027	1.0000	1.0005	1.0016	1.0016	1.0016	1.0211
21 to 22			1.0045	1.0058	1.0050	1.0100	1.0022	1.0029	1.0050	1.0040	1.0045	1.0257
20 to 21		1.0050	0.9996	1.0021	1.0038	1.0024	1.0057	0.9977	1.0024	1.0031	1.0028	1.0286
19 to 20	1.0050	1.0066	1.0023	1.0011	1.0007	1.0012	1.0063	1.0023	1.0026	1.0018	1.0022	1.0309
18 to 19	1.0020	1.0206	1.0014	1.0510	1.0049	0.9963	1.0064	1.0022	1.0025	1.0036	1.0031	1.0341
17 to 18	1.0217	1.0026	1.0154	1.0125	1.0035	1.0062	1.0040	1.0020	1.0039	1.0038	1.0039	1.0381
16 to 17	1.0026	1.0052	1.0064	1.0090	1.0048	1.0063	1.0020	1.0060	1.0048	1.0054	1.0051	1.0434
15 to 16	1.0131	1.0049	1.0015	1.0125	1.0032	1.0061	1.0053	1.0130	1.0069	1.0057	1.0063	1.0500
14 to 15	1.0067	1.0000	1.0164	1.0055	1.0109	1.0162	1.0134	1.0028	1.0108	1.0122	1.0115	1.0621
13 to 14	1.0021	1.0508	1.0141	1.0043	1.0232	1.0093	1.0102	1.0234	1.0165	1.0167	1.0166	1.0797
12 to 13	1.0149	1.0028	1.0021	1.0107	1.0086	1.0158	1.0109	1.0105	1.0115	1.0107	1.0111	1.0917
11 to 12	1.0025	1.0137	1.0066	1.0213	1.0195	1.0032	1.0106	1.0126	1.0115	1.0116	1.0116	1.1044
10 to 11	1.0144	1.0118	1.0135	1.0144	1.0024	1.0125	1.0114	1.0154	1.0104	1.0120	1.0112	1.1168
9 to 10	1.0109	1.0272	1.0197	1.0204	1.0263	1.0285	1.0126	1.0196	1.0218	1.0230	1.0224	1.1418
8 to 9	1.0470	1.0262	1.0301	1.0221	1.0525	1.0319	1.0205	1.0346	1.0349	1.0333	1.0341	1.1807
7 to 8	1.0302	1.0220	1.0437	1.0273	1.0257	1.0381	1.0253	1.0353	1.0311	1.0305	1.0308	1.2171
6 to 7	1.0524	1.0487	1.0281	1.0569	1.0517	1.0426	1.0469	1.0530	1.0486	1.0493	1.0490	1.2767
5 to 6	1.0912	1.0634	1.0538	1.0515	1.0693	1.0921	1.0767	1.0797	1.0795	1.0782	1.0789	1.3774
4 to 5	1.1160	1.0912	1.0891	1.1048	1.0950	1.1223	1.1237	1.1092	1.1126	1.1158	1.1142	1.5347
3 to 4	1.1380	1.1664	1.1592	1.1975	1.1983	1.1749	1.2050	1.1860	1.1911	1.1922	1.1917	1.8289
2 to 3	1.4474	1.4072	1.4355	1.4826	1.4295	1.4494	1.5122	1.5791	1.4926	1.4808	1.4867	2.7190
1 to 2	2.1728	1.9577	1.8847	2.0617	2.1464	2.1012	1.9133	2.0147	2.0439	2.0580	2.0510	5.5767

Data Source: DCRB worksheet: "Exhibits 2, 3 and 6 - Limited Come From This File.xls"
Note: Cumulative value beyond 24 years is from the incurred analysis.

Derivation of Loss Development Factors
Incurred Indemnity

Maturities	Policy-year age-to-age factors for calendar-year intervals								4-yr avg	4-yr median	Avg	Cumul
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13				
Beyond 24	1.0206	0.9971	1.0450	0.9760	0.9835	0.9995	0.9969	0.9834	0.9908	0.9902	0.9905	0.9905
23 to 24					1.0221	1.0011	1.0010	1.0018	1.0065	1.0015	1.0040	0.9945
22 to 23				1.0033	1.0005	0.9978	0.9984	0.9984	0.9988	0.9984	0.9986	0.9931
21 to 22			0.9899	1.0042	1.0024	1.0022	0.9990	0.9929	0.9991	1.0006	0.9999	0.9930
20 to 21		1.0091	1.0026	1.0036	0.9932	1.0010	0.9981	0.9965	0.9972	0.9973	0.9973	0.9903
19 to 20	1.0013	1.0038	0.9956	1.0128	0.9977	1.0015	0.9971	0.9918	0.9970	0.9974	0.9972	0.9875
18 to 19	1.0019	1.0005	0.9944	1.0440	1.0158	1.0018	1.0141	1.0371	1.0172	1.0150	1.0161	1.0034
17 to 18	1.0001	0.9986	0.9814	1.0028	0.9982	1.0019	0.9777	0.9988	0.9942	0.9985	0.9964	0.9998
16 to 17	0.9980	0.9990	1.0037	1.0050	1.0039	1.0252	0.9996	1.0037	1.0081	1.0038	1.0060	1.0058
15 to 16	1.0063	1.0010	1.0000	1.0044	0.9985	1.0032	1.0027	1.0012	1.0014	1.0020	1.0017	1.0075
14 to 15	1.0107	0.9964	1.0094	1.0166	0.9932	1.0041	1.0039	0.9964	0.9994	1.0002	0.9998	1.0073
13 to 14	0.9971	1.0414	1.0041	1.0057	1.0146	0.9997	1.0050	0.9961	1.0039	1.0024	1.0032	1.0105
12 to 13	1.0070	0.9938	1.0063	1.0091	1.0001	1.0076	1.0217	1.0185	1.0120	1.0131	1.0126	1.0232
11 to 12	1.0243	0.9999	1.0015	0.9948	1.0071	0.9923	0.9957	1.0026	0.9994	0.9992	0.9993	1.0225
10 to 11	0.9979	0.9961	1.0099	1.0022	0.9933	0.9948	1.0002	1.0016	0.9975	0.9975	0.9975	1.0199
9 to 10	0.9925	1.0123	1.0066	1.0122	0.9904	1.0160	1.0065	1.0076	1.0051	1.0071	1.0061	1.0261
8 to 9	0.9915	1.0131	0.9938	1.0387	1.0171	1.0013	1.0123	1.0090	1.0099	1.0107	1.0103	1.0367
7 to 8	1.0253	1.0163	1.0182	1.0219	1.0083	1.0161	1.0202	1.0059	1.0126	1.0122	1.0124	1.0496
6 to 7	1.0293	1.0071	0.9990	1.0132	1.0315	1.0046	1.0307	1.0322	1.0248	1.0311	1.0280	1.0790
5 to 6	1.0301	1.0160	1.0065	1.0106	1.0139	1.0075	1.0148	1.0293	1.0164	1.0144	1.0154	1.0956
4 to 5	1.0315	1.0113	1.0414	1.0361	1.0407	1.0702	1.0180	1.0489	1.0445	1.0448	1.0447	1.1446
3 to 4	1.0701	1.0381	1.0281	1.0870	1.0736	0.9969	1.0317	1.0585	1.0402	1.0451	1.0427	1.1935
2 to 3	1.1462	1.1294	1.1735	1.1782	1.1848	1.1932	1.2149	1.2639	1.2142	1.2041	1.2092	1.4432
1 to 2	1.3445	1.2337	1.3367	1.4037	1.4633	1.3383	1.3121	1.2853	1.3498	1.3252	1.3375	1.9303

Data Source: DCRB worksheet: "Exhibits 2, 3 and 6 - Limited Come From This File.xls"

Derivation of Loss Development Factors
Paid Medical

Maturities	Policy-year age-to-age factors for calendar-year intervals								4-yr avg	4-yr median	Avg	Cumul
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13				
Beyond 24					1.0637	1.1219	1.0263	1.0457	1.0644	1.0547	1.0596	1.0596
23 to 24					1.0203	1.0161	1.0024	1.0092	1.0120	1.0127	1.0124	1.0727
22 to 23				1.0024	1.0151	1.0021	1.0016	1.0097	1.0071	1.0059	1.0065	1.0797
21 to 22			1.0031	1.0074	1.0101	1.0178	1.0073	1.0060	1.0103	1.0087	1.0095	1.0900
20 to 21		1.0077	1.0076	1.0051	1.0164	1.0156	1.0046	1.0063	1.0107	1.0110	1.0109	1.1019
19 to 20	1.0049	0.9935	1.0099	1.0232	1.0088	1.0092	1.0095	1.0129	1.0101	1.0094	1.0098	1.1127
18 to 19	1.0099	1.0057	1.0120	1.0125	1.0052	1.0080	1.0129	1.0102	1.0091	1.0091	1.0091	1.1228
17 to 18	1.0051	1.0132	1.0065	1.0149	1.0078	1.0084	1.0092	1.0238	1.0123	1.0088	1.0106	1.1347
16 to 17	1.0094	1.0110	1.0107	1.0078	1.0181	1.0148	1.0088	1.0209	1.0157	1.0165	1.0161	1.1530
15 to 16	1.0207	1.0100	1.0098	1.0120	1.0145	1.0145	1.0285	1.0161	1.0184	1.0153	1.0169	1.1725
14 to 15	1.0215	1.0108	1.0218	0.9976	1.0110	1.0280	1.0137	1.0099	1.0157	1.0124	1.0141	1.1890
13 to 14	1.0070	1.0174	1.0184	1.0187	1.0206	1.0177	1.0095	1.0116	1.0149	1.0147	1.0148	1.2066
12 to 13	1.0137	1.0309	1.0166	1.0402	1.0134	1.0158	1.0162	1.0249	1.0176	1.0160	1.0168	1.2269
11 to 12	1.0299	1.0336	1.0301	1.0235	1.0145	1.0162	1.0372	1.0227	1.0227	1.0195	1.0211	1.2528
10 to 11	1.0333	1.0476	1.0175	1.0114	1.0227	1.0342	1.0232	1.0342	1.0286	1.0287	1.0287	1.2888
9 to 10	1.0300	1.0341	1.0232	1.0249	1.0386	1.0273	1.0235	1.0397	1.0323	1.0330	1.0327	1.3309
8 to 9	1.0366	1.0271	1.0226	1.0573	1.0294	1.0319	1.0400	1.0256	1.0317	1.0307	1.0312	1.3724
7 to 8	1.0240	1.0269	1.0436	1.0450	1.0531	1.0368	1.0213	1.0394	1.0377	1.0381	1.0379	1.4244
6 to 7	1.0529	1.0497	1.0318	1.0330	1.0390	1.0392	1.0505	1.0479	1.0442	1.0436	1.0439	1.4869
5 to 6	1.0627	1.0436	1.0545	1.0422	1.0516	1.0413	1.0694	1.0483	1.0527	1.0500	1.0514	1.5633
4 to 5	1.0720	1.0544	1.0622	1.0529	1.0657	1.0727	1.0556	1.0941	1.0720	1.0692	1.0706	1.6737
3 to 4	1.0830	1.0451	1.0858	1.0891	1.0739	1.0793	1.0885	1.1029	1.0862	1.0839	1.0851	1.8161
2 to 3	1.1522	1.1381	1.1360	1.1592	1.1673	1.1552	1.1782	1.1665	1.1668	1.1669	1.1669	2.1192
1 to 2	1.3390	1.3225	1.3583	1.4535	1.4300	1.4377	1.4006	1.3549	1.4058	1.4153	1.4106	2.9893

Data Source: DCRB worksheet: "Exhibits 2, 3 and 6 - Limited Come From This File.xls"
Note: Cumulative value beyond 24 years is from the incurred analysis.

Derivation of Loss Development Factors
Incurred Medical

Maturities	Policy-year age-to-age factors for calendar-year intervals								4-yr avg	4-yr median	Avg	Cumul
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13				
Beyond 24	1.0347	1.0628	1.0222	1.0333	0.9943	1.0286	1.0103	1.0086	1.0105	1.0095	1.0100	1.0100
23 to 24					1.0366	1.0077	1.0007	1.0030	1.0120	1.0054	1.0087	1.0188
22 to 23				0.9976	1.0060	0.9952	0.9994	0.9929	0.9984	0.9973	0.9979	1.0167
21 to 22			1.0083	1.0265	1.0017	1.0242	1.0018	1.0008	1.0071	1.0018	1.0045	1.0213
20 to 21		1.0050	1.0233	1.0056	1.0172	1.0044	0.9989	1.0005	1.0053	1.0025	1.0039	1.0253
19 to 20	1.0036	0.9948	0.9983	1.0074	1.0027	0.9986	1.0089	0.9834	0.9984	1.0007	0.9996	1.0249
18 to 19	1.0034	1.0105	1.0049	1.0164	1.0013	1.0015	0.9954	1.0112	1.0024	1.0014	1.0019	1.0268
17 to 18	1.0166	0.9994	1.0177	1.0086	1.0008	0.9984	1.0077	0.9977	1.0012	0.9996	1.0004	1.0272
16 to 17	1.0102	1.0107	1.0154	1.0040	1.0090	1.0213	1.0185	1.0199	1.0172	1.0192	1.0182	1.0459
15 to 16	1.0206	0.9986	1.0121	1.0292	1.0129	1.0251	1.0175	1.0106	1.0165	1.0152	1.0159	1.0625
14 to 15	1.0174	1.0039	1.0153	1.0008	1.0079	1.0459	1.0127	1.0143	1.0202	1.0135	1.0169	1.0805
13 to 14	1.0116	1.0143	1.0053	1.0067	1.0124	1.0167	0.9963	0.9943	1.0049	1.0044	1.0047	1.0856
12 to 13	1.0123	1.0006	1.0110	1.0371	1.0089	1.0125	0.9966	1.0225	1.0101	1.0107	1.0104	1.0969
11 to 12	0.9999	1.0171	1.0415	1.0244	1.0151	1.0118	1.0270	0.9956	1.0124	1.0135	1.0130	1.1112
10 to 11	1.0053	1.0223	1.0405	0.9928	1.0206	1.0269	1.0140	0.9803	1.0105	1.0173	1.0139	1.1266
9 to 10	1.0242	1.0090	0.9875	0.9789	1.0159	0.9982	1.0298	1.0203	1.0161	1.0181	1.0171	1.1459
8 to 9	0.9982	1.0093	1.0236	1.0216	1.0372	1.0181	1.0494	0.9957	1.0251	1.0277	1.0264	1.1762
7 to 8	1.0313	1.0604	1.0156	1.0190	1.0406	1.0233	1.0082	1.0143	1.0216	1.0188	1.0202	1.2000
6 to 7	1.0560	1.0471	1.0210	1.0316	1.0474	1.0157	1.0375	1.0410	1.0354	1.0393	1.0374	1.2449
5 to 6	1.0608	1.0229	1.0426	1.0217	1.0391	1.0404	1.0453	1.0388	1.0409	1.0398	1.0404	1.2952
4 to 5	1.0954	1.0327	1.0772	1.0771	1.0816	1.1007	1.0145	1.0587	1.0639	1.0702	1.0671	1.3821
3 to 4	1.0930	1.0654	1.0893	1.0912	1.1118	1.1301	1.0808	1.0725	1.0988	1.0963	1.0976	1.5170
2 to 3	1.1161	1.0901	1.1591	1.1124	1.1157	1.1334	1.1453	1.1442	1.1347	1.1388	1.1368	1.7245
1 to 2	1.1267	1.1244	1.1907	1.2986	1.2758	1.3364	1.1985	1.1919	1.2507	1.2372	1.2440	2.1453

Data Source: DCRB worksheet: "Exhibits 2, 3 and 6 - Limited Come From This File.xls"

Support for IELR - Indemnity - 2011

Derivation of Ultimate Trended Indemnity Loss Ratio
 Trending to December 31, 2011

Policy Year	(1) Number of Years to 12/31/11	(2) Annual Severity Trend	(3) Severity Trend Factor	(4) Annual Frequency Trend	(5) Frequency Trend Factor
2007	4.0000	4.0%	1.1692	-6.3%	0.7710
2008	3.0000	4.0%	1.1244	-6.3%	0.8228
2009	2.0000	4.0%	1.0813	-6.3%	0.8781
2010	1.0000	4.0%	1.0399	-6.3%	0.9371

Policy Year	(6) Selected Ult. Loss Ratio	(7) Trended Selected Ult. Loss Ratio
2007	0.2164	0.1951
2008	0.1919	0.1775
2009	0.2066	0.1962
2010	0.2092	0.2039
4-yr avg - Selected		0.1932

Notes:

- (1) Difference between 12/31/xx and 12/31/11, in years
- (2) from INS Exhibit 3, Page 2, Selected Column 14
- (3) = [1 + (2)] ^ (1)
- (4) from INS Exhibit 3, Page 1, Selected Column 6
- (5) = [1 + (4)] ^ (1)
- (6) From INS Exhibit 4, Page 1, Column 13
- (7) = (3) x (5) x (6); IELR = 4-yr avg - selected

Support for IELR - Indemnity - 2012

Derivation of Ultimate Trended Indemnity Loss Ratio
Trending to December 31, 2012

Policy Year	(1) Number of Years to 12/31/12	(2) Annual Severity Trend	(3) Severity Trend Factor	(4) Annual Frequency Trend	(5) Frequency Trend Factor
2008	4.0000	4.2%	1.1789	-6.0%	0.7807
2009	3.0000	4.2%	1.1314	-6.0%	0.8306
2010	2.0000	4.2%	1.0858	-6.0%	0.8836
2011	1.0000	4.2%	1.0420	-6.0%	0.9400

Policy Year	(6) Selected Ult. Loss Ratio	(7) Trended Selected Ult. Loss Ratio
2008	0.1919	0.1766
2009	0.2066	0.1942
2010	0.2092	0.2007
2011	0.2158	0.2114
4-yr avg - Selected		0.1957

Notes:

- (1) Difference between 12/31/xx and 12/31/11, in years
- (2) from INS Exhibit 3, Page 2, Selected Column 10
- (3) = [1 + (2)] ^ (1)
- (4) from INS Exhibit 3, Page 1, Selected Column 4
- (5) = [1 + (4)] ^ (1)
- (6) From INS Exhibit 4, Page 1, Column 13
- (7) = (3) x (5) x (6); IELR = 4-yr avg - Selected

Support for IELR - Medical -2011

Derivation of Ultimate Trended Medical Loss Ratio
 Trending to December 31, 2011

Policy Year	(1) Number of Years to 12/31/11	(2) Annual Severity Trend	(3) Severity Trend Factor	(4) Annual Frequency Trend	(5) Frequency Trend Factor
2007	4.0000	11.9%	1.5676	-6.3%	0.7710
2008	3.0000	11.9%	1.4010	-6.3%	0.8228
2009	2.0000	11.9%	1.2520	-6.3%	0.8781
2010	1.0000	11.9%	1.1189	-6.3%	0.9371

Policy Year	(6) Selected Ult. Loss Ratio	(7) Trended Selected Ult. Loss Ratio
2007	0.3546	0.4286
2008	0.3430	0.3954
2009	0.3815	0.4194
2010	0.4766	0.4997
4-yr avg - Selected		0.4358

Notes:

- (1) Difference between 12/31/xx and 12/31/11, in years
- (2) from INS Exhibit 3, Page 2, Selected Column 16
- (3) = [1.0 + (2)] ^ (1)
- (4) from INS Exhibit 3, Page 1, Selected Column 6
- (5) = [1.0 + (4)] ^ (1)
- (6) From INS Exhibit 4, Page 2, Column 12
- (7) = (3) x (5) x (6); IELR = 4-yr avg - selected

Support for IELR - Medical - 2012

Derivation of Ultimate Trended Medical Loss Ratio
 Trending to December 31, 2012

Policy Year	(1) Number of Years to 12/31/12	(2) Annual Severity Trend	(3) Severity Trend Factor	(4) Annual Frequency Trend	(5) Frequency Trend Factor
2008	4.0000	13.1%	1.6363	-6.0%	0.7807
2009	3.0000	13.1%	1.4467	-6.0%	0.8306
2010	2.0000	13.1%	1.2792	-6.0%	0.8836
2011	1.0000	13.1%	1.1310	-6.0%	0.9400

Policy Year	(6) Selected Ult. Loss Ratio	(7) Trended Selected Ult. Loss Ratio
2008	0.3430	0.4382
2009	0.3815	0.4584
2010	0.4766	0.5387
2011	0.4857	0.5164
4-yr avg - Selected		0.4879

Notes:

- (1) Difference between 12/31/xx and 12/31/12, in years
- (2) from INS Exhibit 3, Page 2, Selected Column 12
- (3) = [1.0 + (2)] ^ (1)
- (4) from INS Exhibit 3, Page 1, Selected Column 4
- (5) = [1.0 + (4)] ^ (1)
- (6) From INS Exhibit 4, Page 2, Column 12
- (7) = (3) x (5) x (6); IELR = 4-yr avg - selected

