

PENNSYLVANIA COMPENSATION RATING BUREAU

Indicated Change in Loss Cost

Page 1 presents the overall indicated change in loss costs.

Derivation of the indemnity and medical trend factors and trended loss ratios shown on page 1 is presented on page 2. Severity ratios, defined herein as loss ratios adjusted by dividing out the frequency component, for both indemnity and medical, have been fitted using a seven point exponential curve. Severity trend factors are calculated by fitting severity ratios to curves using a least squares regression analysis and comparing the fitted values at 4/1/14 to the fitted values at the midpoints of the latest three available policy years. Frequency trend factors are derived on page 3. The resulting severity and frequency trend factors are then applied to the latest three available policy year loss ratios to generate projected ultimate trended loss ratios.

As described in Exhibit 8, staff has selected an annual frequency trend of -5.1%. Page 3 shows the derivation of overall frequency trend factors for each of the latest three available policy years.

INDICATED CHANGE IN LOSS COSTS

		<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(1)	Policy Year 2008 Ratio of Loss to Expected Loss	0.5170	0.5094	1.0264
(2)	Policy Year 2009 Ratio of Loss to Expected Loss	0.4990	0.4958	0.9948
(3)	Policy Year 2010 Ratio of Loss to Expected Loss	0.4906	0.5219	1.0125
(4)	Average (Midpoint = 1/1/2010)	0.5022	0.5090	1.0112
(5)	Policy Year 2008 Ratio Trended to 4/1/2014 +	0.4791	0.4832	0.9623
(6)	Policy Year 2009 Ratio Trended to 4/1/2014 +	0.4692	0.4751	0.9443
(7)	Policy Year 2010 Ratio Trended to 4/1/2014 +	0.4680	0.5051	0.9731
(8)	Average at 4/1/2014	0.4721	0.4878	0.9599
(9)	Indicated Change in Loss Costs	0.4721	0.4878	0.9599

CHANGES IN MANUAL LOSS COST LEVEL BY INDUSTRY GROUP

		<u>Mfg.</u>	<u>Cont.</u>	<u>Other</u>	<u>Total</u>
(10)	Current Collectible Premium Ratio	1.0276	1.0838	1.0150	
(11)	Anticipated Collectible Premium Ratio	1.0368	1.0883	1.0148	
(12)	Final Indicated Change in Manual Loss Cost Level (9T) * (11) / (10)	0.9685	0.9639	0.9597	0.9623

+ Refer to pages 12.2 and 12.3

DETERMINATION OF TREND

INDEMNITY

Policy Year	2004	2005	2006	2007	2008	2009	2010
Actual Loss Ratio	0.5532	0.5162	0.5070	0.5290	0.5170	0.4990	0.4906
Normalized Frequency	0.7191	0.6675	0.6430	0.6059	0.5590	0.5402	0.5319
Severity Loss Ratio	0.7693	0.7733	0.7885	0.8731	0.9249	0.9237	0.9224
x	1	2	3	4	5	6	7
y	0.7693	0.7733	0.7885	0.8731	0.9249	0.9237	0.9224

7 Point Exponential Regression: $y = 0.731313 * 1.038564 ^x$

Policy Year	Severity Trend Factor (1)	# of years to 4/1/14 (2)	Severity Trend to 4/1/14 (3) = (1) ^ (2)	Frequency Trend Factor (4) #
2008	1.0386	5.2500	1.2200	0.7597
2009	1.0386	4.2500	1.1746	0.8005
2010	1.0386	3.2500	1.1310	0.8436

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2008	0.5170	0.9268	0.4791
2009	0.4990	0.9403	0.4692
2010	0.4906	0.9541	0.4680

MEDICAL

Policy Year	2004	2005	2006	2007	2008	2009	2010
Actual Loss Ratio	0.5555	0.5220	0.5061	0.5379	0.5094	0.4958	0.5219
Normalized Frequency	0.7191	0.6675	0.6430	0.6059	0.5590	0.5402	0.5319
Severity Loss Ratio	0.7725	0.7820	0.7871	0.8878	0.9113	0.9178	0.9812
x	1	2	3	4	5	6	7
y	0.7725	0.7820	0.7871	0.8878	0.9113	0.9178	0.9812

7 Point Exponential Regression: $y = 0.725706 * 1.043200 ^x$

Policy Year	Severity Trend Factor (1)	# of years to 4/1/13 (2)	Severity Trend to 4/1/13 (3) = (1) ^ (2)	Frequency Trend Factor (4) #
2008	1.0432	5.2500	1.2486	0.7597
2009	1.0432	4.2500	1.1969	0.8005
2010	1.0432	3.2500	1.1473	0.8436

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2008	0.5094	0.9486	0.4832
2009	0.4958	0.9581	0.4751
2010	0.5219	0.9679	0.5051

See page 12.3

DETERMINATION OF TREND

Claim Frequency

Policy Year Frequency per \$1 million of Expected Losses
{1 = PY 1999, 12 = PY 2010}

Policy Year	Claim Frequency	Normalized Frequency
1999	27.73	1.0000
2000	26.01	0.9380
2001	23.97	0.8644
2002	23.00	0.8294
2003	21.08	0.7602
2004	19.94	0.7191
2005	18.51	0.6675
2006	17.83	0.6430
2007	16.80	0.6059
2008	15.50	0.5590
2009	14.98	0.5402
2010	14.75	0.5319

Policy Year	2004	2005	2006	2007	2008	2009	2010
x	1	2	3	4	5	6	7
y	0.7191	0.6675	0.6430	0.6059	0.5590	0.5402	0.5319

7 Point Exponential Regression: $y = 0.747461 * 0.948928 ^ x$

SELECTED FREQUENCY TREND FACTOR

-5.1%

Policy Year	Frequency Trend Factor (1)	# of years to 4/1/14 (2)	Frequency Trend to 4/1/14 (3) = (1)^(2)
2008	0.9490	5.2500	0.7597
2009	0.9490	4.2500	0.8005
2010	0.9490	3.2500	0.8436