

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 as well as a 6 of 7 (2001 – 2006) 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 4/1/011 to the fitted values at the midpoints of the latest three available policy years. The average of the 7 point and the 6 of 7 point trend factors was selected. 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 -5.9%. 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 2005 Ratio of Loss to Expected Loss	0.5293	0.5056	1.0349
(2)	Policy Year 2006 Ratio of Loss to Expected Loss	0.5346	0.4855	1.0201
(3)	Policy Year 2007 Ratio of Loss to Expected Loss	0.5694	0.5194	1.0888
(4)	Average (Midpoint = 1/1/2007)	0.5444	0.5035	1.0479
(5)	Policy Year 2005 Ratio Trended to 4/1/2011 +	0.4930	0.4920	0.9850
(6)	Policy Year 2006 Ratio Trended to 4/1/2011 +	0.5047	0.4750	0.9797
(7)	Policy Year 2007 Ratio Trended to 4/1/2011 +	0.5449	0.5107	1.0556
(8)	Average at 4/1/2011	0.5142	0.4926	1.0068
(9)	Indicated Change in Loss Costs	0.5142	0.4926	1.0068

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	1.0463	1.0951	1.0399	
(11)	Anticipated Collectible Premium Ratio	1.0291	1.0842	1.0231	
(12)	Final Indicated Change in Manual Loss Cost Level (9T) * (11) / (10)	0.9902	0.9968	0.9905	0.9917

+ Refer to pages 12.2 and 12.3

DETERMINATION OF TREND

INDEMNITY

Policy Year	2001	2002	2003	2004	2005	2006	2007
Actual Loss Ratio	0.5849	0.5767	0.5434	0.5623	0.5293	0.5346	0.5694
Normalized Frequency	0.7211	0.6919	0.6353	0.6020	0.5567	0.5363	0.5074
Severity Loss Ratio	0.8111	0.8335	0.8553	0.9341	0.9508	0.9968	1.1222
x	1	2	3	4	5	6	7
y	0.8111	0.8335	0.8553	0.9341	0.9508	0.9968	1.1222

7 Point Exponential Regression: $y = 0.752339 * 1.05269 ^ x$
 6 of 7 (2001-2006) Point Exponential Regression: $y = 0.768745 * 1.04420 ^ x$
 Selected Average Severity Trend : $(0.05269 + 0.04420) / 2 = 0.0484$

Policy Year	Severity Trend Factor (1)	# of years to 4/1/11 (2)	Severity Trend to 4/1/11 (3) = (1)^(2)	Frequency Trend Factor (4) #
2005	1.0484	5.2500	1.2816	0.7267
2006	1.0484	4.2500	1.2225	0.7723
2007	1.0484	3.2500	1.1660	0.8207

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3)*(4)	Trended Loss Ratio (7) = (5) * (6)
2005	0.5293	0.9314	0.4930
2006	0.5346	0.9441	0.5047
2007	0.5694	0.9570	0.5449

MEDICAL

Policy Year	2001	2002	2003	2004	2005	2006	2007
Actual Loss Ratio	0.5107	0.5208	0.5135	0.5459	0.5056	0.4855	0.5194
Normalized Frequency	0.7211	0.6919	0.6353	0.6020	0.5567	0.5363	0.5074
Severity Loss Ratio	0.7082	0.7527	0.8083	0.9068	0.9082	0.9053	1.0236
x	1	2	3	4	5	6	7
y	0.7082	0.7527	0.8083	0.9068	0.9082	0.9053	1.0236

7 Point Exponential Regression: $y = 0.679671 * 1.05846 ^ x$
 6 of 7 (2001-2006) Point Exponential Regression: $y = 0.683952 * 1.05597 ^ x$
 Selected Average Severity Trend : $(0.05846 + 0.05597) / 2 = 0.0572$

Policy Year	Severity Trend Factor (1)	# of years to 4/1/11 (2)	Severity Trend to 4/1/11 (3) = (1)^(2)	Frequency Trend Factor (4) #
2005	1.0572	5.2500	1.3391	0.7267
2006	1.0572	4.2500	1.2667	0.7723
2007	1.0572	3.2500	1.1981	0.8207

Trended Loss Ratio

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3)*(4)	Trended Loss Ratio (7) = (5) * (6)
2005	0.5056	0.9732	0.4920
2006	0.4855	0.9783	0.4750
2007	0.5194	0.9833	0.5107

See page 12.3 for column (4).

DETERMINATION OF TREND

Claim Frequency

Policy Year Frequency per \$1 million of Expected Losses
{1 = PY 1996, 12 = PY 2007}

Policy Year	Claim Frequency	Normalized Frequency
1996	31.80	1.0000
1997	30.10	0.9465
1998	27.99	0.8802
1999	26.52	0.8340
2000	24.85	0.7815
2001	22.93	0.7211
2002	22.00	0.6919
2003	20.20	0.6353
2004	19.14	0.6020
2005	17.70	0.5567
2006	17.05	0.5363
2007	16.13	0.5074

Policy Year	2001	2002	2003	2004	2005	2006	2007
x	1	2	3	4	5	6	7
y	0.7211	0.6919	0.6353	0.6020	0.5567	0.5363	0.5074

7 Point Exponential Regression: $y = 0.768007 * 0.941227 ^ x$

SELECTED FREQUENCY TREND FACTOR

-5.9%

Policy Year	Frequency Trend Factor (1)	# of years to 4/1/11 (2)	Frequency Trend to 4/1/11 (3) = (1)^(2)
2005	0.9410	5.2500	0.7267
2006	0.9410	4.2500	0.7723
2007	0.9410	3.2500	0.8207