

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 4/1/07 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 -6.2%. 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 2001 Ratio of Loss to Expected Loss	0.4873	0.4376	0.9249
(2) Policy Year 2002 Ratio of Loss to Expected Loss	0.4780	0.4447	0.9227
(3) Policy Year 2003 Ratio of Loss to Expected Loss	0.4501	0.4408	0.8909
(4) Average (Midpoint = 1/1/2003)	0.4718	0.4410	0.9128
(5) Policy Year 2001 Ratio Trended to 4/1/2007 +	0.4900	0.4367	0.9267
(6) Policy Year 2002 Ratio Trended to 4/1/2007 +	0.4801	0.4439	0.9240
(7) Policy Year 2003 Ratio Trended to 4/1/2007 +	0.4517	0.4402	0.8919
(8) Average at 4/1/2007	0.4739	0.4403	0.9142
(9) Indicated Change in Loss Costs	0.4739	0.4403	0.9142

**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	1.1115	1.1044	1.0717	
(11) Anticipated Collectible Premium Ratio	1.1192	1.1190	1.0821	
(12) Final Indicated Change in Manual Loss Cost Level (9T) * (11) / (10)	0.9205	0.9263	0.9231	0.9229

+ Refer to pages 12.2 and 12.3

**DETERMINATION OF TREND**

**INDEMNITY**

Policy Year	1997	1998	1999	2000	2001	2002	2003
Actual Loss Ratio	0.4619	0.4512	0.4931	0.5127	0.4873	0.4780	0.4501
Normalized Frequency	0.6371	0.5939	0.5622	0.5249	0.4882	0.4675	0.4305
Severity Loss Ratio	0.7250	0.7597	0.8771	0.9768	0.9982	1.0225	1.0455
<b>x</b>	1	2	3	4	5	6	7
<b>y</b>	0.7250	0.7597	0.8771	0.9768	0.9982	1.0225	1.0455

7 Point Exponential Regression:  $y = 0.69889 * 1.06723 ^ x$

Policy Year	Fitted Value @ Midpoint of PY (1)	Fitted Value @ 4/1/06 (2)	Severity Trend Factor (3) = (2) / (1)	Frequency Trend Factor (4) #
2001	0.9066	1.2758	1.4072	0.7146
2002	0.9676	1.2758	1.3185	0.7618
2003	1.0326	1.2758	1.2355	0.8122

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3)*(4)	Trended Loss Ratio (7) = (5) * (6)
2001	0.4873	1.0056	0.4900
2002	0.4780	1.0044	0.4801
2003	0.4501	1.0035	0.4517

**MEDICAL**

Policy Year	1997	1998	1999	2000	2001	2002	2003
Actual Loss Ratio	0.4321	0.4494	0.4617	0.4739	0.4376	0.4447	0.4408
Normalized Frequency	0.6371	0.5939	0.5622	0.5249	0.4882	0.4675	0.4305
Severity Loss Ratio	0.6782	0.7567	0.8212	0.9028	0.8964	0.9512	1.0239
<b>x</b>	1	2	3	4	5	6	7
<b>y</b>	0.6782	0.7567	0.8212	0.9028	0.8964	0.9512	1.0239

7 Point Exponential Regression:  $y = 0.66241 * 1.06567 ^ x$

Policy Year	Fitted Value @ Midpoint of PY (1)	Fitted Value @ 4/1/06 (2)	Severity Trend Factor (3) = (2) / (1)	Frequency Trend Factor (4) #
2001	0.8543	1.1930	1.3965	0.7146
2002	0.9104	1.1930	1.3104	0.7618
2003	0.9702	1.1930	1.2296	0.8122

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3)*(4)	Trended Loss Ratio (7) = (5) * (6)
2001	0.4376	0.9979	0.4367
2002	0.4447	0.9983	0.4439
2003	0.4408	0.9987	0.4402

# See page 12.3 for column (4).

## DETERMINATION OF TREND

### Claim Frequency

Policy Year Frequency per \$1 million of Expected Losses  
{1 = PY 1992, 12 = PY 2003}

Policy Year	Claim Frequency	Normalized Frequency
1992	37.28	1.0000
1993	34.63	0.9289
1994	30.97	0.8307
1995	27.58	0.7398
1996	25.12	0.6738
1997	23.75	0.6371
1998	22.14	0.5939
1999	20.96	0.5622
2000	19.57	0.5249
2001	18.20	0.4882
2002	17.43	0.4675
2003	16.05	0.4305

Policy Year	1997	1998	1999	2000	2001	2002	2003
<b>x</b>	1	2	3	4	5	6	7
<b>y</b>	0.6371	0.5939	0.5622	0.5249	0.4882	0.4675	0.4305

7 Point Exponential Regression:  $y = 0.67833 * 0.937881 ^ x$

### SELECTED FREQUENCY TREND FACTOR

-6.2%

Policy Year	Frequency Trend Factor (1)	# of years to 4/1/06 (2)	Frequency Trend to 4/1/06 (3) = (1)^(2)
2001	0.9380	5.2500	0.7146
2002	0.9380	4.2500	0.7618
2003	0.9380	3.2500	0.8122