

PENNSYLVANIA COMPENSATION RATING BUREAU

Indicated Change in Loss Cost

Page 1

Page 1 presents the overall indicated change in loss costs. Derivation of the trended loss ratios on page 1 are shown on pages 2 and 3.

Page 2

Derivation of trend factors and trended loss ratios are presented on page 2 for Indemnity (top) and Medical (bottom).

Indemnity severity ratios, defined herein as loss ratios adjusted by dividing out the frequency component, have been fitted using a seven point linear regression and medical severity ratios are fitted using an eight 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 4/1/03 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 three most recent available policy year loss ratios to generate projected ultimate trended loss ratios.

Page 3

As described in Exhibit 8, staff has selected an annual frequency trend of -4.3% from 1/1/00 to 12/31/00, -3.0% from 1/1/01 to 12/31/01 and -1.0% from 1/1/02 to 4/1/03. Page 3 derives overall frequency trend factors for each of the latest three available policy years.

EXHIBIT I

INDICATED CHANGE IN LOSS COSTS

| | <u>Indemnity</u> | <u>Medical</u> | <u>Total</u> |
|---|------------------|----------------|--------------|
| (1) Policy Year 1997 Ratio of Loss to Expected Loss | 0.5193 | 0.4446 | 0.9639 |
| (2) Policy Year 1998 Ratio of Loss to Expected Loss | 0.4886 | 0.4401 | 0.9287 |
| (3) Policy Year 1999 Ratio of Loss to Expected Loss | 0.5018 | 0.4292 | 0.9310 |
| (4) Average (Midpoint = 1/1/1999) | 0.5032 | 0.4380 | 0.9412 |
| (5) Policy Year 1997 Ratio Trended to 4/1/2003 + | 0.4989 | 0.5516 | 1.0505 |
| (6) Policy Year 1998 Ratio Trended to 4/1/2003 + | 0.4802 | 0.5330 | 1.0132 |
| (7) Policy Year 1999 Ratio Trended to 4/1/2003 + | 0.5030 | 0.5053 | 1.0083 |
| (8) Average at 4/1/2003 | 0.4940 | 0.5300 | 1.0240 |
| (9) Savings at 9/1/1993 | 0.9943 | 1.0000 | |
| (10) Act 57 Savings | 1.0000 | 1.0000 | |
| (11) Combined Impact: Act 44 & Act 57 (9) * (10) | 0.9943 | 1.0000 | 0.9973 |
| (12) Indicated Change in Loss Costs (8) * (11) | 0.4912 | 0.5300 | 1.0212 |

CHANGES IN MANUAL LOSS COST LEVEL BY INDUSTRY GROUP

| | <u>Mfg.</u> | <u>Cont.</u> | <u>Other</u> | <u>Total</u> |
|--|-------------|--------------|--------------|--------------|
| (13) Current Collectible Premium Ratio | 1.1057 | 1.0809 | 1.0579 | 1.0753 |
| (14) Anticipated Collectible Premium Ratio | 1.0888 | 1.0698 | 1.0554 | 1.0672 |
| (15) Final Indicated Change in Manual Loss Cost Level (12T) * (14) / (13) | 1.0056 | 1.0107 | 1.0188 | 1.0135 |

+ Refer to pages 12.2 and 12.3

DETERMINATION OF TREND

INDEMNITY

| Policy Year | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|
| Actual Loss Ratio | 0.6683 | 0.6500 | 0.5983 | 0.4888 | 0.5193 | 0.4886 | 0.5018 |
| Normalized Frequency | 0.7461 | 0.6675 | 0.5980 | 0.5336 | 0.4934 | 0.4681 | 0.4458 |
| Severity Loss Ratio | 0.8957 | 0.9738 | 1.0005 | 0.9160 | 1.0524 | 1.0438 | 1.1255 |

| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|--------|--------|--------|--------|--------|--------|--------|
| y | 0.8957 | 0.9738 | 1.0005 | 0.9160 | 1.0524 | 1.0438 | 1.1255 |

7 Point Linear Regression: $y = 0.8752 + 0.031489 * x$

| Policy Year | Fitted Value @ Midpoint of PY (1) | Fitted Value @ 4/1/03 (2) | Severity Trend Factor (3) = (2) / (1) | Frequency Trend Factor (4) # |
|-------------|-----------------------------------|---------------------------|---------------------------------------|------------------------------|
| 1997 | 1.0326 | 1.1980 | 1.1602 | 0.8282 |
| 1998 | 1.0641 | 1.1980 | 1.1258 | 0.8731 |
| 1999 | 1.0956 | 1.1980 | 1.0935 | 0.9167 |

Trended Loss Ratio

| Policy Year | Actual Loss Ratio (5) | Combined Trend Factor (6) = (3)*(4) | Trended Loss Ratio (7) = (5) * (6) |
|-------------|-----------------------|-------------------------------------|------------------------------------|
| 1997 | 0.5193 | 0.9609 | 0.4989 |
| 1998 | 0.4886 | 0.9829 | 0.4802 |
| 1999 | 0.5018 | 1.0024 | 0.5030 |

MEDICAL

| Policy Year | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Actual Loss Ratio | 0.4736 | 0.4639 | 0.4471 | 0.4464 | 0.4128 | 0.4446 | 0.4401 | 0.4292 |
| Normalized Frequency | 0.8079 | 0.7461 | 0.6675 | 0.5980 | 0.5336 | 0.4934 | 0.4681 | 0.4458 |
| Severity Loss Ratio | 0.5862 | 0.6217 | 0.6698 | 0.7465 | 0.7735 | 0.9011 | 0.9401 | 0.9627 |

| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| y | 0.5862 | 0.6217 | 0.6698 | 0.7465 | 0.7735 | 0.9011 | 0.9401 | 0.9627 |

8 Point Exponential Regression: $y = 0.5397 * 1.080019 ^ x$

| Policy Year | Fitted Value @ Midpoint of PY (1) | Fitted Value @ 4/1/03 (2) | Severity Trend Factor (3) = (2) / (1) | Frequency Trend Factor (4) # |
|-------------|-----------------------------------|---------------------------|---------------------------------------|------------------------------|
| 1997 | 0.8565 | 1.2831 | 1.4981 | 0.8282 |
| 1998 | 0.9251 | 1.2831 | 1.3870 | 0.8731 |
| 1999 | 0.9991 | 1.2831 | 1.2843 | 0.9167 |

Trended Loss Ratio

| Policy Year | Actual Loss Ratio (5) | Combined Trend Factor (6) = (3)*(4) | Trended Loss Ratio (7) = (5) * (6) |
|-------------|-----------------------|-------------------------------------|------------------------------------|
| 1997 | 0.4446 | 1.2407 | 0.5516 |
| 1998 | 0.4401 | 1.2110 | 0.5330 |
| 1999 | 0.4292 | 1.1773 | 0.5053 |

See page 12.3 for column (4).

DETERMINATION OF TREND

Claim Frequency

Policy Year Frequency per \$1 million of Expected Losses

{1 = PY 1988, 12 = PY 1999}

TREND FACTOR TO 1/1/90

| Policy Year | Claim Frequency | Normalized Frequency | Trend Factor to 1/1/00 |
|-------------|-----------------|----------------------|------------------------|
| 1988 | 47.06 | 1.0000 | 0.4458 |
| 1989 | 46.74 | 0.9932 | 0.4489 |
| 1990 | 44.19 | 0.9390 | 0.4748 |
| 1991 | 40.90 | 0.8691 | 0.5129 |
| 1992 | 38.02 | 0.8079 | 0.5518 |
| 1993 | 35.11 | 0.7461 | 0.5975 |
| 1994 | 31.41 | 0.6674 | 0.6680 |
| 1995 | 28.14 | 0.5980 | 0.7455 |
| 1996 | 25.11 | 0.5336 | 0.8355 |
| 1997 | 23.22 | 0.4934 | 0.9035 |
| 1998 | 22.03 | 0.4681 | 0.9524 |
| 1999 | 20.98 | 0.4458 | 1.0000 |

TREND FACTOR FROM 1/1/00 TO 4/1/03

| | | |
|-----|--|--------|
| (1) | Selected Annual Trend Factor from 1/1/00 to 12/31/00 | 0.9570 |
| (2) | Selected Annual Trend Factor from 1/1/01 to 12/31/01 | 0.9700 |
| (3) | Selected Annual Trend Factor from 1/1/02 to 4/1/03 | 0.9900 |
| (4) | Selected Trend Factor from 1/1/00 to 4/1/03 | 0.9167 |

TOTAL FREQUENCY TREND FACTOR TO 4/1/03

| Policy Year | Trend to 1/1/00 | Trend from 1/1/00 - 4/1/03 | Total to 4/1/03 |
|-------------|-----------------|----------------------------|-----------------|
| 1996 | 0.9035 | 0.9167 | 0.8282 |
| 1997 | 0.9524 | 0.9167 | 0.8731 |
| 1998 | 1.0000 | 0.9167 | 0.9167 |