

PENNSYLVANIA COMPENSATION RATING BUREAU

State and Hazard Group Relativities

The attached exhibit pages present an analysis of Pennsylvania State and Hazard Group relativities.

Page 1 shows the indicated State and Hazard Group Relativities for seven Hazard Groups.

PENNSYLVANIA
 State and Hazard Group Relativities
 April 1, 2018 Filing

Calculation of PA Hazard Group Relativities

| Injury | (1) Incurred Losses | (2) # Claims | (3) Average Severity (1) / (2) | (4) NCCI Average Severity + | (5) Indicated Relativities (4T) / (3i) | (6) Adjusted Current Relativities Col(C) below | (7) Credibility ++ | (8) Credibility Weighted Relativities (5)*(7)+(6)*[1-(7)] |
|---------------------------|---------------------------|-----------------|---|--------------------------------------|---|---|--------------------------|--|
| (i) Hazard Group A | 260,677,470 | 6,497 | 40,123 | | 1.49 | 1.50 | 0.2047 | 1.50 |
| (ii) Hazard Group B | 1,443,118,400 | 25,574 | 56,429 | | 1.06 | 1.04 | 0.4062 | 1.05 |
| (iii) Hazard Group C | 2,790,600,162 | 45,304 | 61,597 | | 0.97 | 0.97 | 0.5406 | 0.97 |
| (iv) Hazard Group D | 1,213,747,781 | 18,338 | 66,188 | | 0.90 | 0.88 | 0.3440 | 0.89 |
| (v) Hazard Group E | 2,471,358,466 | 29,556 | 83,616 | | 0.71 | 0.74 | 0.4367 | 0.73 |
| (vi) Hazard Group F | 1,544,362,853 | 13,287 | 116,231 | | 0.51 | 0.53 | 0.2928 | 0.52 |
| (vii) Hazard Group G | 366,456,006 | 2,720 | 134,726 | | 0.44 | 0.45 | 0.1325 | 0.45 |
| Total - All Hazard Groups | 10,090,321,138 | 141,276 | 71,423 | 59,736 | | | | |

Calculation of Current PA Adjusted Average Severities

| Injury | (A) PA Current Relativity | (B) Adjustment Factor # | (C) Adjusted Current Relativities (A) *(B) |
|--------------------|---------------------------------|----------------------------------|---|
| (a) Hazard Group A | 1.71 | 0.8776 | 1.50 |
| (b) Hazard Group B | 1.19 | 0.8776 | 1.04 |
| (c) Hazard Group C | 1.10 | 0.8776 | 0.97 |
| (d) Hazard Group D | 1.00 | 0.8776 | 0.88 |
| (e) Hazard Group E | 0.84 | 0.8776 | 0.74 |
| (f) Hazard Group F | 0.60 | 0.8776 | 0.53 |
| (g) Hazard Group G | 0.51 | 0.8776 | 0.45 |

Notes:

+ Countrywide Average Severity of NCCI states

++ Full credibility equals 155,000 claims for each Hazard Group. $Z = (\text{calculated \# claims} / 155,000)^{0.5}$

Change in Countrywide Overall Average Cost / Change in PA Overall Average Cost = 0.9952/1.1341