NCRB

**NORTH CAROLINA RATE BUREAU**
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July 22, 2004

CIRCULAR LETTER TO ALL MEMBER COMPANIES

Re: Workers Compensation Insurance

Item U-1388 – 2004 Update to
Retrospective Rating Plan Parameters

The Bureau has adopted and the North Carolina Commissioner of Insurance has approved changes to the Expected Loss Ranges and State Hazard Group Relativities.

The attached Filing Memorandum describes the changes which have been approved to become effective July 1, 2004, applicable to new and renewal business.

Sincerely,

Sue Taylor

Director of Workers Compensation

ST:dg

C-04-6

## FILING MEMORANDUM

## ITEM R-1388—2004 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

**(To be effective 12:01 a.m. on July 1, 2004, applicable to new and renewal business only.)**

## PURPOSE

The purpose of this item is to update the Expected Loss Ranges and State Hazard Group Relativities in the ***Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance*****.**

## BACKGROUND

Retrospective Rating is a plan for adjusting the risk premium of a policy according to the loss experience during the effective period of the policy. At the simplest level, an insured's retrospective premium is determined by the formula **R = (B + cL)t,** where

| | | |
|---|---|---|
| R | = | Retrospective Premium, subject to minimum and maximum amounts |
| B | = | Basic Premium |
| c | = | Loss Conversion Factor, generally reflecting loss adjustment expense |
| L | = | Actual Incurred Loss during the effective policy period |
| t | = | Tax Multiplier |

The retrospective premium, R, is not known until after the policy has expired and the actual losses are fully developed.

The basic premium contains provisions for the expenses of the carriers. It also includes a net insurance charge, which contains a charge to compensate for the possibility that R will exceed the maximum premium amount. Similarly, there is a savings resulting from the possibility that R will be less than the minimum premium amount. The net insurance charge is the difference between the charge for the maximum and the savings from the minimum.

### Expected Loss Ranges

The Table of Insurance Charges contains the excess ratios needed to quantify the insurance charge and savings described above. The ratio of actual losses to expected losses, the entry ratio, is used to look up the values in the Table. The charges depend not only on the maximum and minimum subject losses, but also on the size of the insured. The variation in the loss ratios, hence the charges, of the larger employers that expect many losses should be much lower than the variation for smaller employers.

As inflation increases claim size, there is an apparent growth in the size of the insured, measured in expected losses, but no *real* growth in the size of the insured, measured in the expected number of claims. To correct for the impact of loss size inflation, NCCI is proposing that the Table of Expected Loss Ranges be updated for the trend in average size of loss. The last time such an update was made was in 2003 (Item R-1385—2003 Update to Retrospective Rating Plan Parameters). The current Table of Expected Loss Ranges is based on a projected annual increase in severity of 5% from January 14, 2000 to December 1, 2004. We have since observed an actual annualized growth in severity of 10.9% from January 14, 2000 to June 22, 2000, and we project an annual growth in severity of 6% from June 22, 2000 to July 1, 2005. The new table incorporates both these observed and projected changes in severity.

### State Hazard Group Relativities

The variation in the loss ratios of employers in the lower hazard groups should be smaller than the variation for employers in the higher hazard groups. The State Hazard Group Relativity Factors adjust for this difference by placing lower hazard group employers in a higher Expected Loss Size Range and higher hazard group employers in a lower Expected Loss Size Range than would otherwise be the case. This adjustment affects the column selection in the Table of Insurance Charges, which then impacts the basic premium portion of the retrospective policy premium.

The State Hazard Group Relativities should be updated regularly due to changes in the circumstances (changes in state statutory benefit levels, inflation, etc.) underlying each state's severity.

## PROPOSAL

It is proposed that the ***Retrospective Rating Plan*** be amended as contained in the attached exhibits.

### Expected Loss Ranges

This filing updates the Table of Expected Loss Ranges for entry into the Table of Insurance Charges. The proposed ranges are found in Exhibit 2.

### State Hazard Group Relativities

This filing also updates the State Hazard Group Relativities of the ***Retrospective Rating Plan*** for each state. Exhibit 1 provides a description of the development of the relativities. As explained in the exhibit, individual state severities, as well as countrywide severities, are used in the calculation of the relativities.

The proposed relativities are found in Exhibit 3.

## IMPACT

### Expected Loss Ranges

The proposed Expected Loss Ranges are necessary to maintain the aggregate expected balance between the retrospectively rated premium and the guaranteed cost premium. If these ranges were not updated, there would be a natural slippage caused by inflation over time because risks would have an apparent growth in size as seen by increasing expected losses, but no real growth in size as seen by their expected number of claims.

### State Hazard Group Relativities

Retrospective rating should produce premium that is equitably distributed to all insured employers, but on average close to the guaranteed cost in the approved rate. The object of this change is to maintain the aggregate expected balance, but the impact will vary slightly for individual insured employers. Thus, insurance charges and premiums will be higher for some insureds and lower for others. For most of the insured employers electing retrospective rating, the impact on final premium from these changes will be quite small.

The improved equitability from this change will result in slightly lower average insurance charges for some states, and slightly higher for others. However, the statewide impact will be negligible. The program is designed to be revenue-neutral countrywide.

## IMPLEMENTATION

Exhibit 1 displays the development of State Hazard Group Relativities. Exhibits 2 and 3 detail the changes made to the ***Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance.***

## EXHIBIT 1

## DEVELOPMENT OF STATE HAZARD GROUP RELATIVITIES

**Step 1.** Individual state severities are calculated for each hazard group.

**Step 2.** The severities are weighted with the countrywide severities by hazard group using a credibility that varies by state. For this purpose, we regard 155,000 claims as fully credible, and use the square root rule to compute partial credibilities.

**Step 3.** Credibility weighted severities for each state hazard group are produced. A new countrywide average severity is calculated by taking the weighted average of the formula for state severities using claim counts as weights.

**Step 4.** The relativities are calculated by dividing the countrywide severity by the individual state hazard group severities.

**Example: State X**

| **Step 1** | **Hazard Group** | **State X** | **Countrywide** |
|---|---|---|---|
| Severities | 1 | 21,361 | 25,738 |
| | 2 | 23,085 | 28,311 |
| | 3 | 33,771 | 45,018 |
| | 4 | 45,265 | 65,042 |

**Step 2** **Claim Count** **59,672**

**Credibility** = $(59{,}672 / 155{,}000)^{0.5} = 0.62$

| **Step 3** | **Hazard Group** | **State X** | | |
|---|---|---|---|---|
| Cred. Wtd. | 1 | 23,024 | = | 0.62 x 21,361 + 0.38 x 25,738 |
| Severities | 2 | 25,071 | | |
| | 3 | 38,045 | | |
| | 4 | 52,780 | | |

**Countrywide Overall** **35,289**

| **Step 4** | **Hazard Group** | **State X** | | |
|---|---|---|---|---|
| Relativities | 1 | 1.53 | = | 35,289 / 23,024 |
| | 2 | 1.41 | | |
| | 3 | 0.93 | | |
| | 4 | 0.67 | | |

**Note:** The underlying data source for the above calculations is the ***Workers Compensation Statistical Plan (WCSP),*** excluding medical-only claims. The ***WCSP*** data for each state is adjusted accordingly, as reflected in the data underlying the Excess Loss Factor (ELF) calculation.

## EXHIBIT 2

### RETROSPECTIVE RATING PLAN MANUAL
### 2004 EXPECTED LOSS RANGES
### EFFECTIVE 7/1/04

| Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values | Expected Loss Group | Range Rounded Values |
|---|---|---|---|---|---|
| 95 | 643— 1,003 | 65 | 53,905— 58,219 | 35 | 672,306— 754,844 |
| 94 | 1,004— 1,486 | 64 | 58,220— 62,880 | 34 | 754,845— 847,519 |
| 93 | 1,487— 1,962 | 63 | 62,881— 67,914 | 33 | 847,520— 966,428 |
| 92 | 1,963— 2,594 | 62 | 67,915— 73,350 | 32 | 966,429— 1,110,847 |
| 91 | 2,595— 3,375 | 61 | 73,351— 79,222 | 31 | 1,110,848— 1,276,849 |
| 90 | 3,376— 4,075 | 60 | 79,223— 85,580 | 30 | 1,276,850— 1,467,659 |
| 89 | 4,076— 4,919 | 59 | 85,581— 92,534 | 29 | 1,467,660— 1,744,627 |
| 88 | 4,920— 5,710 | 58 | 92,535— 99,909 | 28 | 1,744,628— 2,086,194 |
| 87 | 5,711— 6,628 | 57 | 99,910— 107,646 | 27 | 2,086,195— 2,494,638 |
| 86 | 6,629— 7,688 | 56 | 107,647— 115,984 | 26 | 2,494,639— 3,075,371 |
| 85 | 7,689— 8,695 | 55 | 115,985— 124,969 | 25 | 3,075,372— 3,913,499 |
| 84 | 8,696— 9,829 | 54 | 124,970— 135,124 | 24 | 3,913,500— 4,980,041 |
| 83 | 9,830— 11,100 | 53 | 135,125— 146,146 | 23 | 4,980,042— 6,363,618 |
| 82 | 11,101— 12,351 | 52 | 146,147— 158,070 | 22 | 6,363,619— 8,142,851 |
| 81 | 12,352— 13,742 | 51 | 158,071— 170,961 | 21 | 8,142,852— 10,419,549 |
| 80 | 13,743— 15,287 | 50 | 170,962— 184,485 | 20 | 10,419,550— 13,332,799 |
| 79 | 15,288— 17,008 | 49 | 184,486— 199,046 | 19 | 13,332,800— 17,060,577 |
| 78 | 17,009— 18,769 | 48 | 199,047— 214,861 | 18 | 17,060,578— 23,402,105 |
| 77 | 18,770— 20,663 | 47 | 214,862— 233,758 | 17 | 23,402,106— 34,611,525 |
| 76 | 20,664— 22,751 | 46 | 233,759— 254,315 | 16 | 34,611,526— 51,190,173 |
| 75 | 22,752— 25,001 | 45 | 254,316— 276,681 | 15 | 51,190,174— 75,709,857 |
| 74 | 25,002— 27,372 | 44 | 276,682— 302,352 | 14 | 75,709,858— 111,974,276 |
| 73 | 27,373— 29,966 | 43 | 302,353— 330,838 | 13 | 111,974,277— 165,609,059 |
| 72 | 29,967— 32,811 | 42 | 330,839— 362,010 | 12 | 165,609,060— 259,241,432 |
| 71 | 32,812— 35,815 | 41 | 362,011— 399,071 | 11 | 259,241,433— 410,223,772 |
| 70 | 35,816— 39,068 | 40 | 399,072— 441,013 | 10 | 410,223,773— 649,138,303 |
| 69 | 39,069— 42,611 | 39 | 441,014— 487,363 | 9 | 649,138,304— & over |
| 68 | 42,612— 46,201 | 38 | 487,364— 538,584 | | |
| 67 | 46,202— 49,903 | 37 | 538,585— 598,787 | | |
| 66 | 49,904— 53,904 | 36 | 598,788— 672,305 | | |

## EXHIBIT 3

## NORTH CAROLINA

## HAZARD GROUP RELATIVITIES

## EFFECTIVE 7/1/04

| Hazard Group I | Hazard Group II | Hazard Group III | Hazard Group IV |
|---|---|---|---|
| 1.05 | 0.94 | 0.59 | 0.40 |