

PENNSYLVANIA COMPENSATION RATING BUREAU  
NCCI Filing Memorandum

Attached are selected portions of an NCCI Filing Memorandum ( ITEM R-1396-2007 Update to Retrospective Rating Plan Parameters). With the exception of the Alabama page showing the derivation of State and Hazard Group Relativities, all state specific pages have been excluded from this attachment.

The PCRБ is filing the Table of Expected Loss Ranges as shown on page 5 of ITEM R-1396.



# Circular

JULY 6, 2007

ANNOUNCEMENT

CIF-2007-05

## Countrywide—Item R-1396—2007 Update to Retrospective Rating Plan Parameters

### ACTION NEEDED

Please review the changes outlined in the attachments to this circular. Also review the *Status of Item Filings* circular for state approval of this item. Refer to the *Filing Guide for Rates and Forms* for direction on state-specific filing requirements.

**Caution:** When this filing circular was published, the proposed changes filed with the regulator were **not yet approved**. This information is provided for your convenience and analysis. Please use the information “as is,” and do not rely on the data until filings have been approved by the regulator.

### BACKGROUND

The purpose of this item is to update the Expected Loss Ranges (ELRs) and State Hazard Group Relativities in NCCI’s *Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance*. It has been proposed that the update for ELRs and State Hazard Group Relativities be effective 12:01 a.m. on January 1, 2008, applicable to new and renewal voluntary policies in all states except Hawaii and Virginia. In Hawaii, the effective date is determined upon regulatory approval of the individual carrier’s election to adopt this change. In Virginia, this item will be implemented for policies effective on or after 12:01 a.m., January 1, 2008.

In addition, this item updates Excess Loss Factors (ELFs) for loss cost states in NCCI’s *Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance*. The ELFs for loss cost states will be effective 12:01 a.m. on the date shown at the top of **Exhibits 6–7** for each individual state, applicable to new and renewal voluntary policies. In Hawaii, the effective date is determined upon regulatory approval of the individual carrier’s election to adopt this change. In Virginia, these changes will become effective for policies effective on or after 12:01 a.m. on April 1, 2008.

### IMPACT

#### Expected Loss Ranges

The proposed changes to the 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. These changes are expected to be revenue neutral.

**Exhibit 1** provides the proposed update to the Table of Expected Loss Ranges for entry into the Table of Insurance Charges.

#### 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 premium. The objective 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 is expected to be minimal.

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.

**Exhibit 2** provides the proposed update to the State Hazard Group Relativities of the Retrospective Rating Plan for the seven hazard groups.

**Exhibit 3** provides the proposed update to the State Hazard Group Relativities of the Retrospective Rating Plan for the four hazard groups.

**Exhibits 4 and 5** provide descriptions of the development of the relativities for the seven and the four hazard groups, respectively. As explained in these exhibits, individual state severities, as well as countrywide severities, are reflected in the calculation of the relativities.

**Excess Loss Factors**

The proposed ELF's are necessary to maintain the aggregate expected balance between the retrospectively rated premium and the guaranteed cost premium. If the ELF's were not updated, there would be a natural slippage caused by inflation acting over time to increase the percentage of losses over any fixed loss limit. The proposed ELF's also reflect the updated mix of injury types. These changes are expected to have no impact on overall premium levels. In states for which loss costs are developed rather than final rates, this filing updates the ELF's that are used with an optional loss limitation in the Retrospective Rating Plan.

The proposed ELF's for loss cost states are found in **Exhibit 6** and **Exhibit 7**. For states where final rates are developed, updated ELF's will be included in the state's next rate filing.

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**NCCI ACTION**

NCCI will release updated national and state special pages for the *Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance* upon individual state approval.

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**PERSON TO CONTACT**

If you have any questions, please contact:  
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Boca Raton, FL 33487  
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Boca Raton, FL 33487  
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## FILING MEMORANDUM

### ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

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#### PURPOSE

The purpose of this item is to update the Expected Loss Ranges and State Hazard Group Relativities in NCCI's *Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance*. In addition, updated Excess Loss Factors (ELFs) are included for loss cost states.

#### 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 carrier. It also includes a net insurance charge, which results from the maximum and minimum limitations on the retrospective premium. The net insurance charge reflects the charge to compensate for the possibility that R will exceed the maximum premium amount. It also reflects the 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.

The Retrospective Rating Plan contains an optional provision—an individual loss limitation—which limits the amount of loss arising out of any one accident that will be used in the calculation of retrospective premium adjustments. The charge for limiting losses is determined by application of an ELF.

#### 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 the loss limit to expected losses—the entry ratio—is used to look up the values in the Table of Insurance Charges. The charges depend not only on the maximum and minimum subject losses, but also on the size of the insured. This is because the expected variation in losses is lower for larger employers.

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## FILING MEMORANDUM

### ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

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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 2006 (Item B-1403—Revision to Hazard Groups and Update to Retrospective Rating Plan Parameters). The current Table of Expected Loss Ranges is based on a projected annual increase in severity of 9% from February 15, 2003 to January 1, 2008. NCCI has observed an actual annualized growth in severity of 6.2% from February 15, 2003 to March 26, 2004, and projects an annual growth in severity of 8.5% from March 26, 2004 to January 1, 2009. The new table incorporates both of these observed and projected changes in severity.

#### **State Hazard Group Relativities**

The variation in the loss ratios of employers in the lower hazard groups generally 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 to reflect changes in the circumstances (i.e. state statutory benefit levels, inflation, etc.) underlying each state's severity.

#### **Excess Loss Factors**

The ELFs vary by loss limitation and hazard group. The variation in ELFs across hazard groups reflects the varying degrees of severity exposure to occupational hazards inherent to operations associated with each classification. ELFs need to be updated for two reasons:

1. ELFs are computed from excess ratios giving the percentage of losses expected to be above a given limit. For any fixed limit, inflation will increase the percentage of losses above that limit and so excess ratios and ELFs need to be updated regularly to reflect this.
2. Overall excess ratios are computed as a weighted average of injury type excess ratios. Thus, excess ratios, and consequently ELFs, need to be updated regularly for changes in the mix of injury types.

The proposed state ELFs are based on the data underlying the currently approved NCCI loss cost filing. This data was trended forward to the effective date of the next anticipated NCCI loss cost filing and the proposed ELFs were then computed in the same way as the currently approved ELFs.

## **PROPOSAL**

It is proposed that the attached exhibits, showing the revisions to NCCI's *Retrospective Rating Plan Manual*, be adopted. The exhibits provide the following:

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## FILING MEMORANDUM

### ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

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#### **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 1**.

#### **State Hazard Group Relativities**

This filing updates the State Hazard Group Relativities of the Retrospective Rating Plan. The proposed State Hazard Group Relativities are found in **Exhibit 2** for the seven hazard groups and **Exhibit 3** for the four hazard groups. **Exhibit 4** provides a description of the development of the relativities for the seven hazard groups and **Exhibit 5** provides a description of the development of the relativities for the four hazard groups. As explained in these exhibits, individual state severities, as well as countrywide severities, are reflected in the calculation of the relativities.

#### **Excess Loss Factors**

In states for which loss costs are developed rather than final rates, this filing updates the ELF's that are used with an optional loss limitation in the Retrospective Rating Plan. The proposed ELF's for loss cost states are found in **Exhibit 6** and **Exhibit 7**. For states where final rates are developed, updated ELF's will be included in the state's next rate filing.

### **IMPACT**

#### **Expected Loss Ranges**

The proposed changes to the 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. These changes are expected to be revenue neutral.

#### **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 premium. The objective 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 is expected to be minimal.

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.

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## FILING MEMORANDUM

### ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

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#### Excess Loss Factors

The proposed ELF's are necessary to maintain the aggregate expected balance between the retrospectively rated premium and the guaranteed cost premium. If the ELF's were not updated, there would be a natural slippage caused by inflation acting over time to increase the percentage of losses over any fixed loss limit. The proposed ELF's also reflect the updated mix of injury types. These changes are expected to have no impact on overall premium levels.

#### IMPLEMENTATION

The Expected Loss Ranges and State Hazard Group Relativities are being filed to become effective on the same date in all states. The updated Expected Loss Ranges do not vary by state and the updated State Hazard Group Relativities for a particular state are dependent upon the values in the other states. A common effective date is consistent with all prior filings to update the Retrospective Rating Plan Parameters (other than B-1403 which required different effective dates due to the initial implementation of new hazard groups).

The Expected Loss Ranges and State Hazard Group Relativities will be effective 12:01 a.m. on January 1, 2008, applicable to new and renewal voluntary policies.

#### Exceptions:

- In Hawaii, the effective date is determined upon regulatory approval of the individual carrier's election to adopt this change.
- In Virginia, these changes will become effective for policies effective on or after 12:01 a.m. on January 1, 2008.

The Excess Loss Factors (ELF's) vary by state and are independent of the ELF's in the other states. This provides the flexibility to vary the effective date for the ELF's by state. The ELF's are being filed to be effective with a state's next anticipated loss cost filing. This effective date approach is consistent with all prior filings of ELF's and allows carriers and employers to consider the changes in ELF's in conjunction with the changes in a state's loss costs. This approach is also consistent with the effective date of the deductible values that will be included in the state's loss cost filing (where applicable), which also relies on this information.

The ELF's for loss cost states will be effective 12:01 a.m. on the date shown at the top of **Exhibits 6–7** for each individual state, applicable to new and renewal voluntary policies.

#### Exceptions:

- In Hawaii, the effective date is determined upon regulatory approval of the individual carrier's election to adopt this change.
- In Virginia, these changes will become effective for policies effective on or after 12:01 a.m. on April 1, 2008.
- In states that have final rates published, updated ELF's will be included in the state's next rate filing.

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ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

EXHIBIT 1

RETROSPECTIVE RATING PLAN MANUAL  
2008 EXPECTED LOSS RANGES  
EFFECTIVE JANUARY 1, 2008

Expected Loss Group	Range Rounded Values	Expected Loss Group	Range Rounded Values	Expected Loss Group	Range Rounded Values
95	985 — 1,537	65	82,577 — 89,187	35	1,029,916 — 1,156,359
94	1,538 — 2,276	64	89,188 — 96,327	34	1,156,360 — 1,298,329
93	2,277 — 3,006	63	96,328 — 104,038	33	1,298,330 — 1,480,488
92	3,007 — 3,974	62	104,039 — 112,366	32	1,480,489 — 1,701,726
91	3,975 — 5,169	61	112,367 — 121,361	31	1,701,727 — 1,956,028
90	5,170 — 6,243	60	121,362 — 131,102	30	1,956,029 — 2,248,333
89	6,244 — 7,535	59	131,103 — 141,754	29	2,248,334 — 2,672,625
88	7,536 — 8,747	58	141,755 — 153,053	28	2,672,626 — 3,195,877
87	8,748 — 10,153	57	153,054 — 164,905	27	3,195,878 — 3,821,580
86	10,154 — 11,777	56	164,906 — 177,679	26	3,821,581 — 4,711,215
85	11,778 — 13,319	55	177,680 — 191,443	25	4,711,216 — 5,995,158
84	13,320 — 15,057	54	191,444 — 206,999	24	5,995,159 — 7,629,014
83	15,058 — 17,005	53	207,000 — 223,883	23	7,629,015 — 9,748,539
82	17,006 — 18,921	52	223,884 — 242,150	22	9,748,540 — 12,474,179
81	18,922 — 21,052	51	242,151 — 261,898	21	12,474,180 — 15,961,893
80	21,053 — 23,419	50	261,899 — 282,616	20	15,961,894 — 20,424,753
79	23,420 — 26,056	49	282,617 — 304,923	19	20,424,754 — 26,135,402
78	26,057 — 28,752	48	304,924 — 329,150	18	26,135,403 — 35,850,102
77	28,753 — 31,654	47	329,151 — 358,098	17	35,850,103 — 53,022,012
76	31,655 — 34,853	46	358,099 — 389,589	16	53,022,013 — 78,419,139
75	34,854 — 38,300	45	389,590 — 423,852	15	78,419,140 — 115,981,280
74	38,301 — 41,931	44	423,853 — 463,178	14	115,981,281 — 171,535,390
73	41,932 — 45,906	43	463,179 — 506,816	13	171,535,391 — 253,699,472
72	45,907 — 50,264	42	506,817 — 554,570	12	253,699,473 — 397,136,574
71	50,265 — 54,866	41	554,571 — 611,345	11	397,136,575 — 628,429,113
70	54,867 — 59,848	40	611,346 — 675,595	10	628,429,114 — 994,426,545
69	59,849 — 65,277	39	675,596 — 746,600	9	994,426,546 — & over
68	65,278 — 70,775	38	746,601 — 825,066		
67	70,776 — 76,448	37	825,067 — 917,292		
66	76,449 — 82,576	36	917,293 — 1,029,915		



## ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

## EXHIBIT 2

**RETROSPECTIVE RATING PLAN MANUAL  
STATE HAZARD GROUP RELATIVITIES  
EFFECTIVE JANUARY 1, 2008**

State	Hazard Group						
	A	B	C	D	E	F	G
AK	1.60	1.20	1.07	0.96	0.84	0.68	0.53
AL	1.53	1.15	1.02	0.92	0.79	0.64	0.48
AR	1.89	1.42	1.26	1.13	0.98	0.79	0.59
AZ	1.64	1.22	1.09	0.98	0.85	0.69	0.53
CO	1.79	1.36	1.21	1.09	0.95	0.77	0.58
CT	1.69	1.26	1.12	1.01	0.87	0.70	0.54
DC	1.70	1.27	1.12	1.00	0.86	0.69	0.52
FL	1.72	1.31	1.17	1.06	0.92	0.75	0.55
GA	1.33	1.00	0.89	0.80	0.69	0.56	0.43
HI	2.14	1.60	1.43	1.29	1.12	0.91	0.71
IA	1.84	1.38	1.24	1.11	0.96	0.79	0.61
ID	1.85	1.40	1.25	1.14	0.99	0.81	0.62
IL	1.34	1.03	0.93	0.84	0.73	0.60	0.47
IN	2.09	1.60	1.44	1.31	1.15	0.95	0.75
KS	1.77	1.35	1.20	1.09	0.94	0.77	0.59
KY	1.35	1.00	0.89	0.80	0.68	0.55	0.41
LA	1.51	1.12	1.00	0.91	0.79	0.64	0.49
MD	1.74	1.30	1.16	1.04	0.90	0.73	0.56
ME	1.67	1.25	1.11	1.00	0.87	0.71	0.55
MI	2.03	1.52	1.37	1.25	1.09	0.90	0.70
MO	2.07	1.59	1.43	1.29	1.11	0.91	0.71
MS	1.75	1.31	1.17	1.06	0.92	0.75	0.58
MT	1.57	1.18	1.05	0.95	0.82	0.66	0.51
NC	1.14	0.86	0.76	0.69	0.59	0.48	0.37
NE	1.67	1.26	1.13	1.01	0.87	0.71	0.55
NH	1.69	1.26	1.12	1.01	0.87	0.71	0.54
NM	1.86	1.40	1.25	1.13	0.98	0.79	0.61
NV	1.86	1.39	1.23	1.11	0.95	0.77	0.57
OK	1.82	1.38	1.23	1.10	0.95	0.77	0.59
OR	2.14	1.61	1.42	1.28	1.10	0.88	0.66
RI	2.18	1.64	1.46	1.32	1.14	0.93	0.72
SC	1.38	1.05	0.94	0.84	0.73	0.59	0.45
SD	1.82	1.37	1.21	1.09	0.94	0.76	0.58
TN	1.64	1.24	1.11	1.00	0.87	0.71	0.55
UT	1.94	1.46	1.29	1.17	1.01	0.82	0.61
VA	1.49	1.11	0.99	0.89	0.77	0.63	0.48
VT	1.70	1.28	1.14	1.03	0.89	0.72	0.55
WI	2.27	1.69	1.52	1.37	1.19	0.98	0.76

ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

EXHIBIT 3

RETROSPECTIVE RATING PLAN MANUAL  
STATE HAZARD GROUP RELATIVITIES  
EFFECTIVE JANUARY 1, 2008

State	Hazard Group			
	1*	2*	3*	4*
AK	1.29	1.04	0.76	0.53
AL	1.23	0.98	0.72	0.48
AR	1.52	1.22	0.88	0.59
AZ	1.31	1.06	0.77	0.53
CO	1.46	1.17	0.86	0.58
CT	1.34	1.09	0.79	0.54
DC	1.37	1.08	0.78	0.52
FL	1.42	1.13	0.84	0.55
GA	1.07	0.86	0.63	0.43
HI	1.72	1.38	1.02	0.71
IA	1.47	1.20	0.87	0.61
ID	1.49	1.21	0.90	0.62
IL	1.08	0.89	0.67	0.47
IN	1.69	1.40	1.05	0.75
KS	1.43	1.16	0.85	0.59
KY	1.06	0.85	0.62	0.41
LA	1.21	0.97	0.71	0.49
MD	1.39	1.12	0.82	0.56
ME	1.33	1.08	0.79	0.55
MI	1.63	1.33	1.00	0.70
MO	1.69	1.39	1.02	0.71
MS	1.40	1.13	0.84	0.58
MT	1.27	1.02	0.74	0.51
NC	0.91	0.74	0.53	0.37
NE	1.34	1.09	0.79	0.55
NH	1.34	1.08	0.79	0.54
NM	1.50	1.21	0.88	0.61
NV	1.49	1.19	0.86	0.57
OK	1.47	1.19	0.86	0.59
OR	1.73	1.37	0.98	0.66
RI	1.75	1.41	1.04	0.72
SC	1.12	0.91	0.66	0.45
SD	1.46	1.18	0.85	0.58
TN	1.31	1.08	0.78	0.55
UT	1.56	1.25	0.91	0.61
VA	1.20	0.96	0.70	0.48
VT	1.36	1.10	0.80	0.55
WI	1.77	1.47	1.08	0.76

\* Carriers that elect to use NCCI's four hazard groups must make a filing in each state to adopt the filed four hazard groups referenced in this item. If a carrier does not file to elect the four hazard groups, they are considered to have accepted the seven hazard groups.

**ITEM R-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS**

**EXHIBIT 5**

**DEVELOPMENT OF ALABAMA HAZARD GROUP RELATIVITIES  
FOR HAZARD GROUPS 1 TO 4\***

- 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, 155,000 claims are regarded as fully credible and the square root rule is used 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.

<u>Step 1</u>	<u>Hazard Group</u>	<u>Alabama</u>	<u>Countrywide</u>
Severities	1	52,108	40,512
	2	65,201	50,474
	3	89,229	69,170
	4	136,067	100,992

<u>Step 2</u>	Claim Count	=	25,742	
	Credibility	=	$(25,742 / 155,000)^{0.5}$	= 0.408

<u>Step 3</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Credibility	1	45,237	= (0.408)(52,108) + (0.592)(40,512)
Weighted	2	56,476	
Severities	3	77,345	
	4	115,286	

Countrywide Overall: 55,578

<u>Step 4</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Relativities	1	1.23	= 55,578 / 45,237
	2	0.98	
	3	0.72	
	4	0.48	

Note: The underlying data source for the above calculations is NCCI's **URE 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

\* Carriers that elect to use NCCI's four hazard groups must make a filing in each state to adopt the filed four hazard groups referenced in this item. If a carrier does not file to elect the four hazard groups, they are considered to have accepted the seven hazard groups.