

SERFF Tracking Number: XLAM-125862142 State: Arkansas
First Filing Company: Greenwich Insurance Company, ... State Tracking Number: EFT \$25
Company Tracking Number: 08MD-WC-WC54-MU-AR
TOI: 16.0 Workers Compensation Sub-TOI: 16.0002 Employers Liability WC
Product Name: Workers Compensation
Project Name/Number: Adoption of Retrospective State Hazard Group Relativities/08MD-WC-WC54-MU-AR

Filing at a Glance

Companies: Greenwich Insurance Company, XL Insurance America, Inc. (formerly Winterthur International America Insurance Company), XL Specialty Insurance Company

Product Name: Workers Compensation SERFF Tr Num: XLAM-125862142 State: Arkansas
TOI: 16.0 Workers Compensation SERFF Status: Closed State Tr Num: EFT \$25
Sub-TOI: 16.0002 Employers Liability WC Co Tr Num: 08MD-WC-WC54-MU-AR State Status: Fees verified and received
Filing Type: Rate Co Status: Reviewer(s): Betty Montesi, Carol Stiffler, Brittany Yielding
Author: Jill Kelly Disposition Date: 10/16/2008
Date Submitted: 10/16/2008 Disposition Status: Approved
Effective Date Requested (New): 01/01/2009 Effective Date (New): 01/01/2009
Effective Date Requested (Renewal): 01/01/2009 Effective Date (Renewal):
State Filing Description:

General Information

Project Name: Adoption of Retrospective State Hazard Group Relativities Status of Filing in Domicile: Not Filed
Project Number: 08MD-WC-WC54-MU-AR Domicile Status Comments:
Reference Organization: NCCI Reference Number: Item R-1398
Reference Title: Advisory Org. Circular: CIF-2008-11
Filing Status Changed: 10/16/2008
State Status Changed: 10/16/2008 Deemer Date:
Corresponding Filing Tracking Number:
Filing Description:
Greenwich Insurance Company, XL Insurance America, Inc. and XL Specialty Insurance Company are hereby filing to adopt NCCI Item R-1398 – 2008 Update to Retrospective Rating Plan Parameters – State Hazard Group Relatives.

We propose an effective date of January 1, 2009.

<i>SERFF Tracking Number:</i>	<i>XLAM-125862142</i>	<i>State:</i>	<i>Arkansas</i>
<i>First Filing Company:</i>	<i>Greenwich Insurance Company, ...</i>	<i>State Tracking Number:</i>	<i>EFT \$25</i>
<i>Company Tracking Number:</i>	<i>08MD-WC-WC54-MU-AR</i>		
<i>TOI:</i>	<i>16.0 Workers Compensation</i>	<i>Sub-TOI:</i>	<i>16.0002 Employers Liability WC</i>
<i>Product Name:</i>	<i>Workers Compensation</i>		
<i>Project Name/Number:</i>	<i>Adoption of Retrospective State Hazard Group Relativities/08MD-WC-WC54-MU-AR</i>		

Company and Contact

Filing Contact Information

Jill Kelly, State Filings Analyst	Jill.Kelly@xlgroup.com
1201 North Market Street, Suite 501	(302) 661-7090 [Phone]
Wilmington , DE 19801	(302) 778-4190[FAX]

Filing Company Information

Greenwich Insurance Company	CoCode: 22322	State of Domicile: Delaware
1201 North Market street	Group Code: 1285	Company Type:
Suite 501		
Wilmington, DE 19801	Group Name:	State ID Number:
(866) 304-3079 ext. [Phone]	FEIN Number: 95-1479095	

XL Insurance America, Inc. (formerly Winterthur International America Insurance Company)	CoCode: 24554	State of Domicile: Delaware
1201 North Market street	Group Code: 1285	Company Type:
Suite 501		
Wilmington, DE 19801	Group Name:	State ID Number:
(800) 394-3909 ext. [Phone]	FEIN Number: 75-6017952	

XL Specialty Insurance Company	CoCode: 37885	State of Domicile: Delaware
1201 N. Market Street	Group Code: 1285	Company Type:
Suite 501		
Wilmington, DE 19801	Group Name:	State ID Number:
(800) 394-3909 ext. [Phone]	FEIN Number: 85-0277191	

Filing Fees

Fee Required?	Yes
Fee Amount:	\$25.00
Retaliatory?	No
Fee Explanation:	
Per Company:	No

SERFF Tracking Number: XLAM-125862142 State: Arkansas
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Correspondence Summary

Dispositions

Status	Created By	Created On	Date Submitted
Approved	Carol Stiffler	10/16/2008	10/16/2008

SERFF Tracking Number: XLAM-125862142 State: Arkansas
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Disposition

Disposition Date: 10/16/2008
Effective Date (New): 01/01/2009
Effective Date (Renewal):
Status: Approved
Comment:

Rate data does NOT apply to filing.

Overall Rate Information for Multiple Company Filings

Overall Percentage Rate Indicated For This Filing	0.000%
Overall Percentage Rate Impact For This Filing	0.000%
Effect of Rate Filing-Written Premium Change For This Program	\$0
Effect of Rate Filing - Number of Policyholders Affected	0

SERFF Tracking Number: *XLAM-125862142* State: *Arkansas*
 First Filing Company: *Greenwich Insurance Company, ...* State Tracking Number: *EFT \$25*
 Company Tracking Number: *08MD-WC-WC54-MU-AR*
 TOI: *16.0 Workers Compensation* Sub-TOI: *16.0002 Employers Liability WC*
 Product Name: *Workers Compensation*
 Project Name/Number: *Adoption of Retrospective State Hazard Group Relativities/08MD-WC-WC54-MU-AR*

Item Type	Item Name	Item Status	Public Access
Supporting Document	Uniform Transmittal Document-Property & Casualty	Approved	Yes
Supporting Document	NAIC Loss Cost Filing Document for Workers' Compensation	Approved	Yes
Supporting Document	NAIC loss cost data entry document	Approved	Yes
Supporting Document	Circular	Approved	Yes

SERFF Tracking Number: *XLAM-125862142* *State:* *Arkansas*
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Rate Information

Rate data does NOT apply to filing.

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Supporting Document Schedules

Bypassed -Name:	Uniform Transmittal Document- Property & Casualty	Review Status: Approved	10/16/2008
Bypass Reason:	n/a		
Comments:			
Bypassed -Name:	NAIC Loss Cost Filing Document for Workers' Compensation	Review Status: Approved	10/16/2008
Bypass Reason:	n/a		
Comments:			
Bypassed -Name:	NAIC loss cost data entry document	Review Status: Approved	10/16/2008
Bypass Reason:	n/a		
Comments:			
Satisfied -Name:	Circular	Review Status: Approved	10/16/2008
Comments:			
Attachment:			
CIF-2008-11.pdf			



Circular

JULY 1, 2008

ANNOUNCEMENT

CIF-2008-11

Countrywide—Item R-1398—2008 Update to Retrospective Rating Plan Parameters—State Hazard Group Relativities

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.

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 the filings have been approved by the regulator.

BACKGROUND The purpose of this item is to update the 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 State Hazard Group Relativities be effective 12:01 a.m. on January 1, 2009, 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. on April 1, 2009.

IMPACT 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 1 provides the proposed update to the State Hazard Group Relativities of the Retrospective Rating Plan for the seven hazard groups.

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

Exhibits 3 and 4 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.

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.

**PERSON TO
CONTACT**

If you have any questions, please contact:
Customer Service Center
NCCI, Inc.
901 Peninsula Corporate Circle
Boca Raton, FL 33487
800-NCCI-123 (800-622-4123)

Technical Contact:
Casey Stevens
NCCI, Inc.
901 Peninsula Corporate Circle
Boca Raton, FL 33487
561-893-3064

FILING MEMORANDUM

ITEM R-1398—2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS—STATE HAZARD GROUP RELATIVITIES

(To be effective 12:01 a.m. on January 1, 2009, applicable to new and renewal voluntary policies only.)

PURPOSE

This item updates the State Hazard Group Relativities in NCCI's *Retrospective Rating Plan Manual for Workers Compensation and Employers Liability Insurance*.

BACKGROUND

The Retrospective Rating Plan adjusts 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 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.

State Hazard Group Relativities

The variation in the loss ratios for 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

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FILING MEMORANDUM

ITEM R-1398—2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS—STATE HAZARD GROUP RELATIVITIES

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 (e.g., state statutory benefit levels, inflation, etc.) underlying each state's severity.

PROPOSAL

It is proposed that the attached exhibits, showing the revisions to NCCI's *Retrospective Rating Plan Manual*, be adopted. This filing updates the State Hazard Group Relativities of the Retrospective Rating Plan. The exhibits provide the following:

- **Exhibit 1** for the State Hazard Group Relativities—seven hazard groups
- **Exhibit 2** for the State Hazard Group Relativities—four hazard groups
- **Exhibit 3** provides a description of the development of the relativities for the seven hazard groups
- **Exhibit 4** 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 used in the calculation of the relativities.

IMPACT

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 object of this change is to maintain the aggregate expected balance, although the impact will vary slightly for individual insured employers. Therefore, 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 equity afforded by retrospective rating from this change will result in slightly lower average insurance charges for some states, and slightly higher charges for others. However, the statewide impact will be negligible. The program is designed to be revenue-neutral countrywide.

IMPLEMENTATION

The State Hazard Group Relativities will be effective 12:01 a.m. on January 1, 2009, applicable to new and renewal voluntary policies only.

Exceptions:

- In Hawaii, the effective date is determined upon regulatory approval of the individual carrier's election to adopt these changes.

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FILING MEMORANDUM

**ITEM R-1398—2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS—STATE
HAZARD GROUP RELATIVITIES**

- In Virginia, these changes will become effective for policies effective on or after 12:01 a.m. April 1, 2009.

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ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 1

RETROSPECTIVE RATING PLAN MANUAL
STATE HAZARD GROUP RELATIVITIES

State	Hazard Group						
	A	B	C	D	E	F	G
AK	1.75	1.31	1.17	1.05	0.91	0.74	0.56
AL	1.61	1.20	1.06	0.95	0.82	0.66	0.49
AR	1.94	1.45	1.28	1.15	0.99	0.80	0.59
AZ	1.71	1.27	1.13	1.01	0.87	0.70	0.52
CO	1.87	1.41	1.25	1.13	0.97	0.78	0.59
CT	1.70	1.26	1.12	1.00	0.86	0.70	0.52
DC	1.78	1.33	1.17	1.05	0.90	0.73	0.55
FL	1.82	1.39	1.23	1.11	0.96	0.78	0.56
GA	1.45	1.08	0.96	0.86	0.74	0.60	0.46
HI	2.18	1.62	1.45	1.30	1.13	0.92	0.70
IA	1.83	1.37	1.22	1.10	0.95	0.77	0.59
ID	1.89	1.42	1.27	1.15	1.00	0.82	0.62
IL	1.24	0.95	0.86	0.77	0.66	0.54	0.42
IN	2.08	1.58	1.42	1.29	1.13	0.93	0.72
KS	1.77	1.34	1.20	1.08	0.93	0.76	0.58
KY	1.50	1.11	0.98	0.88	0.75	0.61	0.45
LA	1.63	1.21	1.08	0.97	0.84	0.68	0.52
MD	1.75	1.30	1.16	1.04	0.89	0.73	0.55
ME	1.66	1.23	1.10	0.99	0.86	0.70	0.53
MI	2.12	1.59	1.43	1.30	1.13	0.94	0.72
MO	2.14	1.63	1.46	1.31	1.13	0.92	0.70
MS	1.82	1.36	1.21	1.09	0.94	0.77	0.59
MT	1.64	1.23	1.09	0.97	0.84	0.68	0.51
NC	1.25	0.94	0.84	0.75	0.64	0.52	0.40
NE	1.69	1.27	1.13	1.01	0.87	0.71	0.54
NH	1.68	1.24	1.10	0.99	0.86	0.70	0.53
NM	1.77	1.32	1.18	1.06	0.92	0.75	0.58
NV	1.89	1.41	1.25	1.12	0.96	0.77	0.58
OK	1.71	1.29	1.14	1.02	0.88	0.71	0.54
OR	2.18	1.62	1.43	1.28	1.09	0.88	0.64
RI	2.16	1.61	1.43	1.29	1.12	0.91	0.70
SC	1.30	0.98	0.88	0.79	0.68	0.55	0.42
SD	1.85	1.38	1.22	1.10	0.95	0.77	0.58
TN	1.76	1.32	1.18	1.06	0.92	0.74	0.56
UT	1.99	1.49	1.32	1.19	1.02	0.83	0.62
VA	1.40	1.04	0.92	0.83	0.71	0.58	0.43
VT	1.70	1.26	1.12	1.01	0.87	0.71	0.54
WI	2.18	1.62	1.45	1.31	1.13	0.92	0.71

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 2

RETROSPECTIVE RATING PLAN MANUAL
STATE HAZARD GROUP RELATIVITIES

State	Hazard Group			
	1*	2*	3*	4*
AK	1.41	1.13	0.82	0.56
AL	1.28	1.02	0.74	0.49
AR	1.55	1.24	0.89	0.59
AZ	1.37	1.09	0.78	0.52
CO	1.51	1.21	0.88	0.59
CT	1.34	1.08	0.78	0.52
DC	1.43	1.14	0.82	0.55
FL	1.50	1.19	0.87	0.56
GA	1.16	0.93	0.67	0.46
HI	1.74	1.40	1.03	0.70
IA	1.46	1.18	0.86	0.59
ID	1.51	1.23	0.91	0.62
IL	1.00	0.82	0.61	0.42
IN	1.67	1.38	1.03	0.72
KS	1.42	1.16	0.84	0.58
KY	1.18	0.95	0.68	0.45
LA	1.30	1.04	0.76	0.52
MD	1.40	1.12	0.81	0.55
ME	1.32	1.06	0.78	0.53
MI	1.70	1.38	1.04	0.72
MO	1.73	1.41	1.03	0.70
MS	1.45	1.17	0.86	0.59
MT	1.32	1.05	0.75	0.51
NC	1.00	0.81	0.58	0.40
NE	1.35	1.09	0.79	0.54
NH	1.33	1.07	0.78	0.53
NM	1.42	1.14	0.83	0.58
NV	1.51	1.20	0.87	0.58
OK	1.37	1.11	0.80	0.54
OR	1.74	1.38	0.97	0.64
RI	1.72	1.39	1.01	0.70
SC	1.05	0.85	0.62	0.42
SD	1.48	1.18	0.86	0.58
TN	1.41	1.14	0.82	0.56
UT	1.59	1.27	0.92	0.62
VA	1.12	0.89	0.64	0.43
VT	1.34	1.09	0.79	0.54
WI	1.70	1.40	1.03	0.71

* 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-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF ALABAMA HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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	A	39,874	33,011
	B	53,695	44,215
	C	60,904	49,899
	D	67,627	55,494
	E	79,017	64,458
	F	98,357	79,499
	G	136,220	105,328

<u>Step 2</u>	Claim Count	=	23,490
	Credibility	=	$(23,490 / 155,000) ^ 0.5 = 0.389$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Credibility	A	35,683	= (0.389)(39,874) + (0.611)(33,011)
Weighted	B	47,906	
Severities	C	54,183	
	D	60,217	
	E	70,125	
	F	86,840	
	G	117,354	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Relativities	A	1.61	= 57,375 / 35,683
	B	1.20	
	C	1.06	
	D	0.95	
	E	0.82	
	F	0.66	
	G	0.49	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF ALASKA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Alaska</u>	<u>Countrywide</u>
Severities	A	32,025	33,011
	B	43,128	44,215
	C	47,670	49,899
	D	52,571	55,494
	E	60,272	64,458
	F	72,811	79,499
	G	93,043	105,328

<u>Step 2</u>	Claim Count	=	13,456
	Credibility	=	$(13,456 / 155,000) ^ 0.5 = 0.295$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Alaska</u>	
Credibility	A	32,721	= (0.295)(32,025) + (0.705)(33,011)
Weighted	B	43,895	
Severities	C	49,242	
	D	54,633	
	E	63,224	
	F	77,528	
	G	101,709	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Alaska</u>	
Relativities	A	1.75	= 57,375 / 32,721
	B	1.31	
	C	1.17	
	D	1.05	
	E	0.91	
	F	0.74	
	G	0.56	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF ARIZONA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Arizona</u>	<u>Countrywide</u>
Severities	A	33,970	33,011
	B	45,747	44,215
	C	51,724	49,899
	D	57,675	55,494
	E	67,501	64,458
	F	83,942	79,499
	G	114,697	105,328

<u>Step 2</u>	Claim Count	=	43,477
	Credibility	=	$(43,477 / 155,000)^{0.5} = 0.530$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Arizona</u>	
Credibility	A	33,519	= (0.530)(33,970) + (0.470)(33,011)
Weighted	B	45,027	
Severities	C	50,866	
	D	56,649	
	E	66,069	
	F	81,852	
	G	110,290	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Arizona</u>	
Relativities	A	1.71	= 57,375 / 33,519
	B	1.27	
	C	1.13	
	D	1.01	
	E	0.87	
	F	0.70	
	G	0.52	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF ARKANSAS HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>Arkansas</u>	<u>Countrywide</u>
Severities	A	22,586	33,011
	B	29,993	44,215
	C	34,376	49,899
	D	38,405	55,494
	E	45,279	64,458
	F	57,113	79,499
	G	81,352	105,328

<u>Step 2</u>	Claim Count	=	17,127
	Credibility	=	$(17,127 / 155,000)^{0.5} = 0.332$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Arkansas</u>
Credibility	A	29,546 = $(0.332)(22,586) + (0.668)(33,011)$
Weighted	B	39,488
Severities	C	44,739
	D	49,813
	E	58,082
	F	72,057
	G	97,358
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Arkansas</u>
Relativities	A	1.94 = $57,375 / 29,546$
	B	1.45
	C	1.28
	D	1.15
	E	0.99
	F	0.80
	G	0.59

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF COLORADO HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>Colorado</u>	<u>Countrywide</u>
Severities	A	28,894	33,011
	B	37,990	44,215
	C	42,693	49,899
	D	47,627	55,494
	E	55,530	64,458
	F	68,865	79,499
	G	92,287	105,328

<u>Step 2</u>	Claim Count	=	51,420
	Credibility	=	$(51,420 / 155,000)^{0.5} = 0.576$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Colorado</u>
Credibility	A	30,640 = $(0.576)(28,894) + (0.424)(33,011)$
Weighted	B	40,630
Severities	C	45,748
	D	50,963
	E	59,315
	F	73,374
	G	97,816
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Colorado</u>
Relativities	A	1.87 = $57,375 / 30,640$
	B	1.41
	C	1.25
	D	1.13
	E	0.97
	F	0.78
	G	0.59

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF CONNECTICUT HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Connecticut</u>	<u>Countrywide</u>
Severities	A	34,524	33,011
	B	46,780	44,215
	C	52,667	49,899
	D	58,724	55,494
	E	68,617	64,458
	F	84,961	79,499
	G	113,686	105,328

<u>Step 2</u>	Claim Count	=	46,402
	Credibility	=	$(46,402 / 155,000)^{0.5} = 0.547$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Connecticut</u>
Credibility	A	33,839 = $(0.547)(34,524) + (0.453)(33,011)$
Weighted	B	45,619
Severities	C	51,413
	D	57,261
	E	66,733
	F	82,487
	G	109,901
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Connecticut</u>
Relativities	A	1.70 = $57,375 / 33,839$
	B	1.26
	C	1.12
	D	1.00
	E	0.86
	F	0.70
	G	0.52

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF DISTRICT OF COLUMBIA HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>District of Columbia</u>	<u>Countrywide</u>
Severities	A	28,794	33,011
	B	39,569	44,215
	C	44,734	49,899
	D	50,423	55,494
	E	59,522	64,458
	F	73,669	79,499
	G	100,184	105,328

<u>Step 2</u>	Claim Count	=	6,113
	Credibility	=	$(6,113 / 155,000)^{0.5} = 0.199$

<u>Step 3</u>	<u>Hazard Group</u>	<u>District of Columbia</u>
Credibility	A	32,174 = $(0.199)(28,794) + (0.801)(33,011)$
Weighted	B	43,293
Severities	C	48,873
	D	54,487
	E	63,477
	F	78,341
	G	104,307
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>District of Columbia</u>
Relativities	A	1.78 = $57,375 / 32,174$
	B	1.33
	C	1.17
	D	1.05
	E	0.90
	F	0.73
	G	0.55

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF FLORIDA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Florida</u>	<u>Countrywide</u>
Severities	A	31,603	33,011
	B	41,386	44,215
	C	46,744	49,899
	D	51,482	55,494
	E	59,520	64,458
	F	73,886	79,499
	G	102,487	105,328

<u>Step 2</u>	Claim Count	=	197,002	
	Credibility	=	Full Credibility	= 1.000

<u>Step 3</u>	<u>Hazard Group</u>	<u>Florida</u>	
Credibility	A	31,603	= (1.000)(31,603) + (0.000)(33,011)
Weighted	B	41,386	
Severities	C	46,744	
	D	51,482	
	E	59,520	
	F	73,886	
	G	102,487	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Florida</u>	
Relativities	A	1.82	= 57,375 / 31,603
	B	1.39	
	C	1.23	
	D	1.11	
	E	0.96	
	F	0.78	
	G	0.56	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF GEORGIA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Georgia</u>	<u>Countrywide</u>
Severities	A	43,537	33,011
	B	58,211	44,215
	C	65,202	49,899
	D	72,596	55,494
	E	84,475	64,458
	F	104,037	79,499
	G	137,023	105,328

<u>Step 2</u>	Claim Count	=	62,576
	Credibility	=	$(62,576 / 155,000)^{0.5} = 0.635$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Georgia</u>
Credibility	A	39,699 = $(0.635)(43,537) + (0.365)(33,011)$
Weighted	B	53,108
Severities	C	59,623
	D	66,361
	E	77,176
	F	95,090
	G	125,467
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Georgia</u>
Relativities	A	1.45 = $57,375 / 39,699$
	B	1.08
	C	0.96
	D	0.86
	E	0.74
	F	0.60
	G	0.46

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF HAWAII HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Hawaii</u>	<u>Countrywide</u>
Severities	A	16,318	33,011
	B	22,065	44,215
	C	24,221	49,899
	D	26,680	55,494
	E	30,457	64,458
	F	36,454	79,499
	G	45,340	105,328

<u>Step 2</u>	Claim Count	=	24,548
	Credibility	=	$(24,548 / 155,000)^{0.5} = 0.398$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Hawaii</u>	
Credibility	A	26,368	= (0.398)(16,318) + (0.602)(33,011)
Weighted	B	35,400	
Severities	C	39,680	
	D	44,027	
	E	50,927	
	F	62,369	
	G	81,455	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Hawaii</u>	
Relativities	A	2.18	= 57,375 / 26,368
	B	1.62	
	C	1.45	
	D	1.30	
	E	1.13	
	F	0.92	
	G	0.70	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF IDAHO HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Idaho</u>	<u>Countrywide</u>
Severities	A	25,894	33,011
	B	33,594	44,215
	C	36,799	49,899
	D	39,990	55,494
	E	44,946	64,458
	F	53,579	79,499
	G	68,833	105,328

<u>Step 2</u>	Claim Count	=	20,388
	Credibility	=	$(20,388 / 155,000) ^ 0.5 = 0.363$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Idaho</u>	
Credibility	A	30,430	= (0.363)(25,894) + (0.637)(33,011)
Weighted	B	40,363	
Severities	C	45,148	
	D	49,871	
	E	57,381	
	F	70,098	
	G	92,092	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Idaho</u>	
Relativities	A	1.89	= 57,375 / 30,430
	B	1.42	
	C	1.27	
	D	1.15	
	E	1.00	
	F	0.82	
	G	0.62	

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.

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EXHIBIT 3

DEVELOPMENT OF ILLINOIS HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>Illinois</u>	<u>Countrywide</u>
Severities	A	46,117	33,011
	B	60,363	44,215
	C	67,050	49,899
	D	74,620	55,494
	E	86,329	64,458
	F	105,846	79,499
	G	136,038	105,328

<u>Step 2</u>	Claim Count	=	156,629	
	Credibility	=	Full Credibility	= 1.000

<u>Step 3</u>	<u>Hazard Group</u>	<u>Illinois</u>	
Credibility	A	46,117	= (1.000)(46,117) + (0.000)(33,011)
Weighted	B	60,363	
Severities	C	67,050	
	D	74,620	
	E	86,329	
	F	105,846	
	G	136,038	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Illinois</u>	
Relativities	A	1.24	= 57,375 / 46,117
	B	0.95	
	C	0.86	
	D	0.77	
	E	0.66	
	F	0.54	
	G	0.42	

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.

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EXHIBIT 3

DEVELOPMENT OF INDIANA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Indiana</u>	<u>Countrywide</u>
Severities	A	24,485	33,011
	B	31,815	44,215
	C	34,752	49,899
	D	38,092	55,494
	E	43,091	64,458
	F	51,408	79,499
	G	64,204	105,328

<u>Step 2</u>	Claim Count	=	62,654
	Credibility	=	$(62,654 / 155,000) ^ 0.5 = 0.636$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Indiana</u>	
Credibility	A	27,590	= (0.636)(24,485) + (0.364)(33,011)
Weighted	B	36,332	
Severities	C	40,269	
	D	44,430	
	E	50,873	
	F	61,639	
	G	79,183	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Indiana</u>	
Relativities	A	2.08	= 57,375 / 27,590
	B	1.58	
	C	1.42	
	D	1.29	
	E	1.13	
	F	0.93	
	G	0.72	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF IOWA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Iowa</u>	<u>Countrywide</u>
Severities	A	29,722	33,011
	B	39,523	44,215
	C	43,982	49,899
	D	48,947	55,494
	E	56,716	64,458
	F	69,465	79,499
	G	90,103	105,328

<u>Step 2</u>	Claim Count	=	41,098
	Credibility	=	$(41,098 / 155,000)^{0.5} = 0.515$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Iowa</u>	
Credibility Weighted Severities	A	31,317	= (0.515)(29,722) + (0.485)(33,011)
	B	41,799	
	C	46,852	
	D	52,123	
	E	60,471	
	F	74,332	
	G	97,489	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Iowa</u>	
Relativities	A	1.83	= 57,375 / 31,317
	B	1.37	
	C	1.22	
	D	1.10	
	E	0.95	
	F	0.77	
	G	0.59	

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.

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EXHIBIT 3

DEVELOPMENT OF KANSAS HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Kansas</u>	<u>Countrywide</u>
Severities	A	31,621	33,011
	B	40,989	44,215
	C	45,372	49,899
	D	50,486	55,494
	E	58,285	64,458
	F	71,282	79,499
	G	90,800	105,328

<u>Step 2</u>	Claim Count	=	30,168
	Credibility	=	$(30,168 / 155,000)^{0.5} = 0.441$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Kansas</u>
Credibility	A	32,398 = $(0.441)(31,621) + (0.559)(33,011)$
Weighted	B	42,792
Severities	C	47,902
	D	53,285
	E	61,735
	F	75,874
	G	98,919
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Kansas</u>
Relativities	A	1.77 = $57,375 / 32,398$
	B	1.34
	C	1.20
	D	1.08
	E	0.93
	F	0.76
	G	0.58

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF KENTUCKY HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Kentucky</u>	<u>Countrywide</u>
Severities	A	44,651	33,011
	B	60,903	44,215
	C	69,155	49,899
	D	77,291	55,494
	E	90,875	64,458
	F	113,424	79,499
	G	155,423	105,328

<u>Step 2</u>	Claim Count	=	30,592
	Credibility	=	$(30,592 / 155,000)^{0.5} = 0.444$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Kentucky</u>
Credibility	A	38,183 = $(0.444)(44,651) + (0.556)(33,011)$
Weighted	B	51,629
Severities	C	58,454
	D	65,178
	E	76,194
	F	94,570
	G	127,584
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Kentucky</u>
Relativities	A	1.50 = $57,375 / 38,183$
	B	1.11
	C	0.98
	D	0.88
	E	0.75
	F	0.61
	G	0.45

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF LOUISIANA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Louisiana</u>	<u>Countrywide</u>
Severities	A	38,201	33,011
	B	51,471	44,215
	C	57,359	49,899
	D	63,482	55,494
	E	73,309	64,458
	F	89,375	79,499
	G	116,687	105,328

<u>Step 2</u>	Claim Count	=	30,289
	Credibility	=	$(30,289 / 155,000)^{0.5} = 0.442$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Louisiana</u>
Credibility	A	35,305 = $(0.442)(38,201) + (0.558)(33,011)$
Weighted	B	47,423
Severities	C	53,197
	D	59,025
	E	68,370
	F	83,865
	G	110,350
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Louisiana</u>
Relativities	A	1.63 = $57,375 / 35,305$
	B	1.21
	C	1.08
	D	0.97
	E	0.84
	F	0.68
	G	0.52

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF MAINE HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Maine</u>	<u>Countrywide</u>
Severities	A	38,159	33,011
	B	52,036	44,215
	C	57,604	49,899
	D	63,398	55,494
	E	72,666	64,458
	F	87,533	79,499
	G	112,913	105,328

<u>Step 2</u>	Claim Count	=	14,166
	Credibility	=	$(14,166 / 155,000)^{0.5} = 0.302$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Maine</u>	
Credibility	A	34,567	= (0.302)(38,159) + (0.698)(33,011)
Weighted	B	46,580	
Severities	C	52,228	
	D	57,884	
	E	66,939	
	F	81,927	
	G	107,621	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Maine</u>	
Relativities	A	1.66	= 57,375 / 34,567
	B	1.23	
	C	1.10	
	D	0.99	
	E	0.86	
	F	0.70	
	G	0.53	

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.

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EXHIBIT 3

DEVELOPMENT OF MARYLAND HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Maryland</u>	<u>Countrywide</u>
Severities	A	32,555	33,011
	B	44,011	44,215
	C	49,222	49,899
	D	54,917	55,494
	E	63,997	64,458
	F	78,768	79,499
	G	102,685	105,328

<u>Step 2</u>	Claim Count	=	48,376
	Credibility	=	$(48,376 / 155,000)^{0.5} = 0.559$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Maryland</u>
Credibility	A	32,756 = $(0.559)(32,555) + (0.441)(33,011)$
Weighted	B	44,101
Severities	C	49,521
	D	55,172
	E	64,200
	F	79,090
	G	103,852
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Maryland</u>
Relativities	A	1.75 = $57,375 / 32,756$
	B	1.30
	C	1.16
	D	1.04
	E	0.89
	F	0.73
	G	0.55

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.

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EXHIBIT 3

DEVELOPMENT OF MICHIGAN HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Michigan</u>	<u>Countrywide</u>
Severities	A	24,280	33,011
	B	32,544	44,215
	C	35,796	49,899
	D	39,102	55,494
	E	44,313	64,458
	F	52,946	79,499
	G	67,758	105,328

<u>Step 2</u>	Claim Count	=	73,126
	Credibility	=	$(73,126 / 155,000)^{0.5} = 0.687$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Michigan</u>	
Credibility	A	27,014	= (0.687)(24,280) + (0.313)(33,011)
Weighted	B	36,199	
Severities	C	40,212	
	D	44,235	
	E	50,621	
	F	61,260	
	G	79,522	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Michigan</u>	
Relativities	A	2.12	= 57,375 / 27,014
	B	1.59	
	C	1.43	
	D	1.30	
	E	1.13	
	F	0.94	
	G	0.72	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF MISSISSIPPI HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Mississippi</u>	<u>Countrywide</u>
Severities	A	29,504	33,011
	B	39,483	44,215
	C	43,687	49,899
	D	48,169	55,494
	E	55,260	64,458
	F	66,775	79,499
	G	85,381	105,328

<u>Step 2</u>	Claim Count	=	24,839
	Credibility	=	$(24,839 / 155,000) ^ 0.5 = 0.400$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Mississippi</u>
Credibility	A	31,607 = $(0.400)(29,504) + (0.600)(33,011)$
Weighted	B	42,321
Severities	C	47,412
	D	52,562
	E	60,776
	F	74,405
	G	97,343
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Mississippi</u>
Relativities	A	1.82 = $57,375 / 31,607$
	B	1.36
	C	1.21
	D	1.09
	E	0.94
	F	0.77
	G	0.59

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.

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EXHIBIT 3

DEVELOPMENT OF MISSOURI HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Missouri</u>	<u>Countrywide</u>
Severities	A	24,349	33,011
	B	31,491	44,215
	C	35,001	49,899
	D	39,033	55,494
	E	45,224	64,458
	F	55,597	79,499
	G	72,064	105,328

<u>Step 2</u>	Claim Count	=	78,461
	Credibility	=	$(78,461 / 155,000)^{0.5} = 0.711$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Missouri</u>
Credibility	A	26,848 = $(0.711)(24,349) + (0.289)(33,011)$
Weighted	B	35,162
Severities	C	39,300
	D	43,782
	E	50,773
	F	62,493
	G	81,662
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Missouri</u>
Relativities	A	2.14 = $57,375 / 26,848$
	B	1.63
	C	1.46
	D	1.31
	E	1.13
	F	0.92
	G	0.70

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.

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EXHIBIT 3

DEVELOPMENT OF MONTANA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Montana</u>	<u>Countrywide</u>
Severities	A	39,252	33,011
	B	52,362	44,215
	C	59,056	49,899
	D	66,041	55,494
	E	77,353	64,458
	F	96,326	79,499
	G	128,893	105,328

<u>Step 2</u>	Claim Count	=	15,862
	Credibility	=	$(15,862 / 155,000)^{0.5} = 0.320$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Montana</u>	
Credibility	A	35,008	= (0.320)(39,252) + (0.680)(33,011)
Weighted	B	46,822	
Severities	C	52,828	
	D	58,868	
	E	68,583	
	F	84,882	
	G	112,867	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Montana</u>	
Relativities	A	1.64	= 57,375 / 35,008
	B	1.23	
	C	1.09	
	D	0.97	
	E	0.84	
	F	0.68	
	G	0.51	

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.

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EXHIBIT 3

DEVELOPMENT OF NEBRASKA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Nebraska</u>	<u>Countrywide</u>
Severities	A	35,817	33,011
	B	47,100	44,215
	C	52,486	49,899
	D	58,521	55,494
	E	67,927	64,458
	F	83,489	79,499
	G	108,692	105,328

<u>Step 2</u>	Claim Count	=	19,271
	Credibility	=	$(19,271 / 155,000)^{0.5} = 0.353$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Nebraska</u>	
Credibility	A	34,001	= (0.353)(35,817) + (0.647)(33,011)
Weighted	B	45,232	
Severities	C	50,811	
	D	56,561	
	E	65,681	
	F	80,906	
	G	106,514	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Nebraska</u>	
Relativities	A	1.69	= 57,375 / 34,001
	B	1.27	
	C	1.13	
	D	1.01	
	E	0.87	
	F	0.71	
	G	0.54	

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.

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EXHIBIT 3

DEVELOPMENT OF NEVADA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Nevada</u>	<u>Countrywide</u>
Severities	A	26,024	33,011
	B	35,009	44,215
	C	39,792	49,899
	D	44,593	55,494
	E	52,517	64,458
	F	65,726	79,499
	G	90,840	105,328

<u>Step 2</u>	Claim Count	=	22,807
	Credibility	=	$(22,807 / 155,000)^{0.5} = 0.384$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Nevada</u>	
Credibility	A	30,331	= (0.384)(26,024) + (0.616)(33,011)
Weighted	B	40,684	
Severities	C	46,022	
	D	51,312	
	E	59,877	
	F	74,216	
	G	99,771	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Nevada</u>	
Relativities	A	1.89	= 57,375 / 30,331
	B	1.41	
	C	1.25	
	D	1.12	
	E	0.96	
	F	0.77	
	G	0.58	

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.

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EXHIBIT 3

DEVELOPMENT OF NEW HAMPSHIRE HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>New Hampshire</u>	<u>Countrywide</u>
Severities	A	36,016	33,011
	B	49,643	44,215
	C	55,426	49,899
	D	61,417	55,494
	E	71,152	64,458
	F	86,829	79,499
	G	113,652	105,328

<u>Step 2</u>	Claim Count	=	21,098
	Credibility	=	$(21,098 / 155,000)^{0.5} = 0.369$

<u>Step 3</u>	<u>Hazard Group</u>	<u>New Hampshire</u>
Credibility	A	34,120 = $(0.369)(36,016) + (0.631)(33,011)$
Weighted	B	46,218
Severities	C	51,938
	D	57,679
	E	66,928
	F	82,203
	G	108,399
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>New Hampshire</u>
Relativities	A	1.68 = $57,375 / 34,120$
	B	1.24
	C	1.10
	D	0.99
	E	0.86
	F	0.70
	G	0.53

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.

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EXHIBIT 3

DEVELOPMENT OF NEW MEXICO HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>New Mexico</u>	<u>Countrywide</u>
Severities	A	31,192	33,011
	B	41,359	44,215
	C	45,483	49,899
	D	50,327	55,494
	E	57,690	64,458
	F	69,556	79,499
	G	86,733	105,328

<u>Step 2</u>	Claim Count	=	14,836
	Credibility	=	$(14,836 / 155,000)^{0.5} = 0.309$

<u>Step 3</u>	<u>Hazard Group</u>	<u>New Mexico</u>
Credibility Weighted Severities	A	32,449 = $(0.309)(31,192) + (0.691)(33,011)$
	B	43,332
	C	48,533
	D	53,895
	E	62,364
	F	76,423
	G	99,575
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>New Mexico</u>
Relativities	A	1.77 = $57,375 / 32,449$
	B	1.32
	C	1.18
	D	1.06
	E	0.92
	F	0.75
	G	0.58

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 3

DEVELOPMENT OF NORTH CAROLINA HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>North Carolina</u>	<u>Countrywide</u>
Severities	A	53,032	33,011
	B	70,332	44,215
	C	78,764	49,899
	D	87,938	55,494
	E	102,507	64,458
	F	126,606	79,499
	G	165,132	105,328

<u>Step 2</u>	Claim Count	=	65,706
	Credibility	=	$(65,706 / 155,000)^{0.5} = 0.651$

<u>Step 3</u>	<u>Hazard Group</u>	<u>North Carolina</u>
Credibility Weighted Severities	A	46,046 = $(0.651)(53,032) + (0.349)(33,011)$
	B	61,220
	C	68,692
	D	76,618
	E	89,231
	F	110,170
	G	144,266
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>North Carolina</u>
Relativities	A	1.25 = $57,375 / 46,046$
	B	0.94
	C	0.84
	D	0.75
	E	0.64
	F	0.52
	G	0.40

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.

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EXHIBIT 3

DEVELOPMENT OF OKLAHOMA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Oklahoma</u>	<u>Countrywide</u>
Severities	A	34,149	33,011
	B	44,959	44,215
	C	50,352	49,899
	D	56,651	55,494
	E	66,403	64,458
	F	82,311	79,499
	G	107,656	105,328

<u>Step 2</u>	Claim Count	=	47,834
	Credibility	=	$(47,834 / 155,000) ^ 0.5 = 0.556$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Oklahoma</u>
Credibility	A	33,643 = (0.556)(34,149) + (0.444)(33,011)
Weighted	B	44,628
Severities	C	50,150
	D	56,137
	E	65,539
	F	81,061
	G	106,621
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Oklahoma</u>
Relativities	A	1.71 = 57,375 / 33,643
	B	1.29
	C	1.14
	D	1.02
	E	0.88
	F	0.71
	G	0.54

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.

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EXHIBIT 3

DEVELOPMENT OF OREGON HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Oregon</u>	<u>Countrywide</u>
Severities	A	22,718	33,011
	B	30,485	44,215
	C	34,792	49,899
	D	38,881	55,494
	E	45,788	64,458
	F	57,607	79,499
	G	80,979	105,328

<u>Step 2</u>	Claim Count	=	64,534
	Credibility	=	$(64,534 / 155,000)^{0.5} = 0.645$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Oregon</u>	
Credibility	A	26,369	= (0.645)(22,718) + (0.355)(33,011)
Weighted	B	35,356	
Severities	C	40,151	
	D	44,774	
	E	52,411	
	F	65,373	
	G	89,617	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Oregon</u>	
Relativities	A	2.18	= 57,375 / 26,369
	B	1.62	
	C	1.43	
	D	1.28	
	E	1.09	
	F	0.88	
	G	0.64	

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.

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EXHIBIT 3

DEVELOPMENT OF RHODE ISLAND HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Rhode Island</u>	<u>Countrywide</u>
Severities	A	15,265	33,011
	B	20,689	44,215
	C	22,681	49,899
	D	24,906	55,494
	E	28,319	64,458
	F	33,718	79,499
	G	42,256	105,328

<u>Step 2</u>	Claim Count	=	20,332
	Credibility	=	$(20,332 / 155,000)^{0.5} = 0.362$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Rhode Island</u>
Credibility	A	26,584 = $(0.362)(15,265) + (0.638)(33,011)$
Weighted	B	35,694
Severities	C	40,041
	D	44,416
	E	51,369
	F	62,918
	G	82,485
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Rhode Island</u>
Relativities	A	2.16 = $57,375 / 26,584$
	B	1.61
	C	1.43
	D	1.29
	E	1.12
	F	0.91
	G	0.70

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.

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EXHIBIT 3

DEVELOPMENT OF SOUTH CAROLINA HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>South Carolina</u>	<u>Countrywide</u>
Severities	A	55,494	33,011
	B	72,347	44,215
	C	80,986	49,899
	D	89,773	55,494
	E	103,902	64,458
	F	128,360	79,499
	G	169,928	105,328

<u>Step 2</u>	Claim Count	=	38,812
	Credibility	=	$(38,812 / 155,000)^{0.5} = 0.500$

<u>Step 3</u>	<u>Hazard Group</u>	<u>South Carolina</u>
Credibility	A	44,262 = $(0.500)(55,494) + (0.500)(33,011)$
Weighted	B	58,292
Severities	C	65,455
	D	72,647
	E	84,196
	F	103,949
	G	137,654
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>South Carolina</u>
Relativities	A	1.30 = $57,375 / 44,262$
	B	0.98
	C	0.88
	D	0.79
	E	0.68
	F	0.55
	G	0.42

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.

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EXHIBIT 3

DEVELOPMENT OF SOUTH DAKOTA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>South Dakota</u>	<u>Countrywide</u>
Severities	A	24,581	33,011
	B	33,032	44,215
	C	37,128	49,899
	D	41,289	55,494
	E	48,056	64,458
	F	59,265	79,499
	G	80,384	105,328

<u>Step 2</u>	Claim Count	=	8,835
	Credibility	=	$(8,835 / 155,000)^{0.5} = 0.239$

<u>Step 3</u>	<u>Hazard Group</u>	<u>South Dakota</u>
Credibility	A	30,999 = $(0.239)(24,581) + (0.761)(33,011)$
Weighted	B	41,545
Severities	C	46,850
	D	52,103
	E	60,542
	F	74,668
	G	99,373
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>South Dakota</u>
Relativities	A	1.85 = $57,375 / 30,999$
	B	1.38
	C	1.22
	D	1.10
	E	0.95
	F	0.77
	G	0.58

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.

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EXHIBIT 3

DEVELOPMENT OF TENNESSEE HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Tennessee</u>	<u>Countrywide</u>
Severities	A	32,463	33,011
	B	42,772	44,215
	C	47,773	49,899
	D	53,095	55,494
	E	61,548	64,458
	F	75,773	79,499
	G	99,193	105,328

<u>Step 2</u>	Claim Count	=	57,578
	Credibility	=	$(57,578 / 155,000)^{0.5} = 0.609$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Tennessee</u>
Credibility	A	32,677 = $(0.609)(32,463) + (0.391)(33,011)$
Weighted	B	43,335
Severities	C	48,603
	D	54,032
	E	62,685
	F	77,228
	G	101,589
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Tennessee</u>
Relativities	A	1.76 = $57,375 / 32,677$
	B	1.32
	C	1.18
	D	1.06
	E	0.92
	F	0.74
	G	0.56

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.

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EXHIBIT 3

DEVELOPMENT OF UTAH HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Utah</u>	<u>Countrywide</u>
Severities	A	22,782	33,011
	B	30,607	44,215
	C	34,343	49,899
	D	38,119	55,494
	E	44,224	64,458
	F	54,234	79,499
	G	74,313	105,328

<u>Step 2</u>	Claim Count	=	26,488
	Credibility	=	$(26,488 / 155,000)^{0.5} = 0.413$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Utah</u>	
Credibility	A	28,783	= (0.413)(22,782) + (0.587)(33,011)
Weighted	B	38,590	
Severities	C	43,468	
	D	48,311	
	E	56,093	
	F	69,054	
	G	92,507	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Utah</u>	
Relativities	A	1.99	= 57,375 / 28,783
	B	1.49	
	C	1.32	
	D	1.19	
	E	1.02	
	F	0.83	
	G	0.62	

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.

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EXHIBIT 3

DEVELOPMENT OF VERMONT HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Vermont</u>	<u>Countrywide</u>
Severities	A	35,985	33,011
	B	48,788	44,215
	C	54,148	49,899
	D	60,079	55,494
	E	69,414	64,458
	F	84,403	79,499
	G	108,379	105,328

<u>Step 2</u>	Claim Count	=	11,253
	Credibility	=	$(11,253 / 155,000)^{0.5} = 0.269$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Vermont</u>	
Credibility	A	33,813	= (0.269)(35,985) + (0.731)(33,011)
Weighted	B	45,447	
Severities	C	51,044	
	D	56,729	
	E	65,793	
	F	80,820	
	G	106,150	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Vermont</u>	
Relativities	A	1.70	= 57,375 / 33,813
	B	1.26	
	C	1.12	
	D	1.01	
	E	0.87	
	F	0.71	
	G	0.54	

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.

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EXHIBIT 3

DEVELOPMENT OF VIRGINIA HAZARD GROUP RELATIVITIES
FOR HAZARD GROUPS A TO G

- 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>Virginia</u>	<u>Countrywide</u>
Severities	A	47,761	33,011
	B	64,597	44,215
	C	72,871	49,899
	D	80,936	55,494
	E	94,320	64,458
	F	116,736	79,499
	G	157,864	105,328

<u>Step 2</u>	Claim Count	=	45,943
	Credibility	=	$(45,943 / 155,000) ^ 0.5 = 0.544$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Virginia</u>
Credibility	A	41,041 = (0.544)(47,761) + (0.456)(33,011)
Weighted	B	55,312
Severities	C	62,405
	D	69,346
	E	80,716
	F	99,772
	G	133,931
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Virginia</u>
Relativities	A	1.40 = 57,375 / 41,041
	B	1.04
	C	0.92
	D	0.83
	E	0.71
	F	0.58
	G	0.43

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.

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EXHIBIT 3

DEVELOPMENT OF WISCONSIN HAZARD GROUP RELATIVITIES FOR HAZARD GROUPS A TO G

- 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>Wisconsin</u>	<u>Countrywide</u>
Severities	A	25,056	33,011
	B	33,758	44,215
	C	37,539	49,899
	D	41,669	55,494
	E	48,204	64,458
	F	58,831	79,499
	G	76,188	105,328

Step 2	Claim Count	=	109,684
	Credibility	=	$(109,684 / 155,000)^{0.5} = 0.841$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Wisconsin</u>
Credibility	A	26,319 = $(0.841)(25,056) + (0.159)(33,011)$
Weighted	B	35,419
Severities	C	39,502
	D	43,864
	E	50,785
	F	62,113
	G	80,815
	Countrywide Overall:	57,375

<u>Step 4</u>	<u>Hazard Group</u>	<u>Wisconsin</u>
Relativities	A	2.18 = $57,375 / 26,319$
	B	1.62
	C	1.45
	D	1.31
	E	1.13
	F	0.92
	G	0.71

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.

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EXHIBIT 4

**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	49,882	41,374
	2	62,886	51,657
	3	86,857	71,203
	4	136,220	105,328

<u>Step 2</u>	Claim Count	=	23,490	
	Credibility	=	$(23,490 / 155,000)^{0.5}$	= 0.389

<u>Step 3</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Credibility	1	44,686	= (0.389)(49,882) + (0.611)(41,374)
Weighted	2	56,028	
Severities	3	77,297	
	4	117,354	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Alabama</u>	
Relativities	1	1.28	= 57,375 / 44,686
	2	1.02	
	3	0.74	
	4	0.49	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF ALASKA 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>Alaska</u>	<u>Countrywide</u>
Severities	1	39,090	41,374
	2	48,738	51,657
	3	66,552	71,203
	4	93,043	105,328

<u>Step 2</u>	Claim Count	=	13,456	
	Credibility	=	$(13,456 / 155,000)^{0.5}$	= 0.295

<u>Step 3</u>	<u>Hazard Group</u>	<u>Alaska</u>	
Credibility	1	40,701	= (0.295)(39,090) + (0.705)(41,374)
Weighted	2	50,797	
Severities	3	69,833	
	4	101,709	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Alaska</u>	
Relativities	1	1.41	= 57,375 / 40,701
	2	1.13	
	3	0.82	
	4	0.56	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF ARIZONA 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>Arizona</u>	<u>Countrywide</u>
Severities	1	42,391	41,374
	2	53,368	51,657
	3	74,971	71,203
	4	114,697	105,328

<u>Step 2</u>	Claim Count	=	43,477	
	Credibility	=	$(43,477 / 155,000)^{0.5}$	= 0.530

<u>Step 3</u>	<u>Hazard Group</u>	<u>Arizona</u>	
Credibility	1	41,912	= (0.530)(42,391) + (0.470)(41,374)
Weighted	2	52,563	
Severities	3	73,199	
	4	110,290	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Arizona</u>	
Relativities	1	1.37	= 57,375 / 41,912
	2	1.09	
	3	0.78	
	4	0.52	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF ARKANSAS 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>Arkansas</u>	<u>Countrywide</u>
Severities	1	28,206	41,374
	2	35,618	51,657
	3	50,853	71,203
	4	81,352	105,328

<u>Step 2</u>	Claim Count	=	17,127
	Credibility	=	$(17,127 / 155,000)^{0.5} = 0.332$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Arkansas</u>	
Credibility	1	36,997	= (0.332)(28,206) + (0.668)(41,374)
Weighted	2	46,325	
Severities	3	64,438	
	4	97,358	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Arkansas</u>	
Relativities	1	1.55	= 57,375 / 36,997
	2	1.24	
	3	0.89	
	4	0.59	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF COLORADO 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>Colorado</u>	<u>Countrywide</u>
Severities	1	35,432	41,374
	2	44,180	51,657
	3	61,267	71,203
	4	92,287	105,328

<u>Step 2</u>	Claim Count	=	51,420	
	Credibility	=	$(51,420 / 155,000)^{0.5}$	= 0.576

<u>Step 3</u>	<u>Hazard Group</u>	<u>Colorado</u>	
Credibility	1	37,951	= (0.576)(35,432) + (0.424)(41,374)
Weighted	2	47,350	
Severities	3	65,480	
	4	97,816	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Colorado</u>	
Relativities	1	1.51	= 57,375 / 37,951
	2	1.21	
	3	0.88	
	4	0.59	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF CONNECTICUT 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>Connecticut</u>	<u>Countrywide</u>
Severities	1	44,086	41,374
	2	54,431	51,657
	3	75,431	71,203
	4	113,686	105,328

<u>Step 2</u>	Claim Count	=	46,402	
	Credibility	=	$(46,402 / 155,000)^{0.5}$	= 0.547

<u>Step 3</u>	<u>Hazard Group</u>	<u>Connecticut</u>	
Credibility	1	42,858	= (0.547)(44,086) + (0.453)(41,374)
Weighted	2	53,175	
Severities	3	73,517	
	4	109,901	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Connecticut</u>	
Relativities	1	1.34	= 57,375 / 42,858
	2	1.08	
	3	0.78	
	4	0.52	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF DISTRICT OF COLUMBIA 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>District of Columbia</u>	<u>Countrywide</u>
Severities	1	35,048	41,374
	2	45,951	51,657
	3	65,568	71,203
	4	100,184	105,328

<u>Step 2</u>	Claim Count	=	6,113	
	Credibility	=	$(6,113 / 155,000) ^ 0.5 =$	0.199

<u>Step 3</u>	<u>Hazard Group</u>	<u>District of Columbia</u>	
Credibility	1	40,117	= (0.199)(35,048) + (0.801)(41,374)
Weighted	2	50,523	
Severities	3	70,084	
	4	104,307	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>District of Columbia</u>	
Relativities	1	1.43	= 57,375 / 40,117
	2	1.14	
	3	0.82	
	4	0.55	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF FLORIDA 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>Florida</u>	<u>Countrywide</u>
Severities	1	38,135	41,374
	2	48,330	51,657
	3	65,727	71,203
	4	102,487	105,328

<u>Step 2</u>	Claim Count	=	197,002	
	Credibility	=	Full Credibility	= 1.000

<u>Step 3</u>	<u>Hazard Group</u>	<u>Florida</u>	
Credibility	1	38,135	= (1.000)(38,135) + (0.000)(41,374)
Weighted	2	48,330	
Severities	3	65,727	
	4	102,487	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Florida</u>	
Relativities	1	1.50	= 57,375 / 38,135
	2	1.19	
	3	0.87	
	4	0.56	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF GEORGIA 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>Georgia</u>	<u>Countrywide</u>
Severities	1	54,295	41,374
	2	67,286	51,657
	3	93,015	71,203
	4	137,023	105,328

<u>Step 2</u>	Claim Count	=	62,576
	Credibility	=	$(62,576 / 155,000) ^{0.5} = 0.635$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Georgia</u>	
Credibility	1	49,583	= (0.635)(54,295) + (0.365)(41,374)
Weighted	2	61,588	
Severities	3	85,062	
	4	125,467	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Georgia</u>	
Relativities	1	1.16	= 57,375 / 49,583
	2	0.93	
	3	0.67	
	4	0.46	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF HAWAII 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>Hawaii</u>	<u>Countrywide</u>
Severities	1	20,254	41,374
	2	24,883	51,657
	3	32,779	71,203
	4	45,340	105,328

<u>Step 2</u>	Claim Count	=	24,548	
	Credibility	=	$(24,548 / 155,000)^{0.5}$	= 0.398

<u>Step 3</u>	<u>Hazard Group</u>	<u>Hawaii</u>	
Credibility	1	32,969	= (0.398)(20,254) + (0.602)(41,374)
Weighted	2	41,002	
Severities	3	55,912	
	4	81,455	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Hawaii</u>	
Relativities	1	1.74	= 57,375 / 32,969
	2	1.40	
	3	1.03	
	4	0.70	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF IDAHO 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>Idaho</u>	<u>Countrywide</u>
Severities	1	32,104	41,374
	2	37,783	51,657
	3	49,246	71,203
	4	68,833	105,328

<u>Step 2</u>	Claim Count	=	20,388
	Credibility	=	$(20,388 / 155,000)^{0.5} = 0.363$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Idaho</u>	
Credibility	1	38,012	= (0.363)(32,104) + (0.637)(41,374)
Weighted	2	46,625	
Severities	3	63,240	
	4	92,092	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Idaho</u>	
Relativities	1	1.51	= 57,375 / 38,012
	2	1.23	
	3	0.91	
	4	0.62	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF ILLINOIS 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>Illinois</u>	<u>Countrywide</u>
Severities	1	57,519	41,374
	2	69,903	51,657
	3	94,310	71,203
	4	136,038	105,328

<u>Step 2</u>	Claim Count	=	156,629	
	Credibility	=	Full Credibility	= 1.000

<u>Step 3</u>	<u>Hazard Group</u>	<u>Illinois</u>	
Credibility	1	57,519	= (1.000)(57,519) + (0.000)(41,374)
Weighted	2	69,903	
Severities	3	94,310	
	4	136,038	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Illinois</u>	
Relativities	1	1.00	= 57,375 / 57,519
	2	0.82	
	3	0.61	
	4	0.42	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF INDIANA 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>Indiana</u>	<u>Countrywide</u>
Severities	1	30,243	41,374
	2	35,855	51,657
	3	46,767	71,203
	4	64,204	105,328

<u>Step 2</u>	Claim Count	=	62,654	
	Credibility	=	$(62,654 / 155,000) ^{0.5}$	= 0.636

<u>Step 3</u>	<u>Hazard Group</u>	<u>Indiana</u>	
Credibility	1	34,297	= (0.636)(30,243) + (0.364)(41,374)
Weighted	2	41,610	
Severities	3	55,667	
	4	79,183	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Indiana</u>	
Relativities	1	1.67	= 57,375 / 34,297
	2	1.38	
	3	1.03	
	4	0.72	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF IOWA 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>Iowa</u>	<u>Countrywide</u>
Severities	1	37,529	41,374
	2	45,409	51,657
	3	62,676	71,203
	4	90,103	105,328

<u>Step 2</u>	Claim Count	=	41,098	
	Credibility	=	$(41,098 / 155,000) ^{0.5}$	= 0.515

<u>Step 3</u>	<u>Hazard Group</u>	<u>Iowa</u>	
Credibility	1	39,394	= (0.515)(37,529) + (0.485)(41,374)
Weighted	2	48,439	
Severities	3	66,812	
	4	97,489	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Iowa</u>	
Relativities	1	1.46	= 57,375 / 39,394
	2	1.18	
	3	0.86	
	4	0.59	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF KANSAS 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>Kansas</u>	<u>Countrywide</u>
Severities	1	39,145	41,374
	2	47,031	51,657
	3	63,980	71,203
	4	90,800	105,328

<u>Step 2</u>	Claim Count	=	30,168	
	Credibility	=	$(30,168 / 155,000)^{0.5}$	= 0.441

<u>Step 3</u>	<u>Hazard Group</u>	<u>Kansas</u>	
Credibility	1	40,390	= (0.441)(39,145) + (0.559)(41,374)
Weighted	2	49,616	
Severities	3	68,017	
	4	98,919	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Kansas</u>	
Relativities	1	1.42	= 57,375 / 40,390
	2	1.16	
	3	0.84	
	4	0.58	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF KENTUCKY 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>Kentucky</u>	<u>Countrywide</u>
Severities	1	57,752	41,374
	2	71,851	51,657
	3	100,782	71,203
	4	155,423	105,328

<u>Step 2</u>	Claim Count	=	30,592	
	Credibility	=	$(30,592 / 155,000) ^{0.5}$	= 0.444

<u>Step 3</u>	<u>Hazard Group</u>	<u>Kentucky</u>	
Credibility	1	48,650	= (0.444)(57,752) + (0.556)(41,374)
Weighted	2	60,628	
Severities	3	84,344	
	4	127,584	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Kentucky</u>	
Relativities	1	1.18	= 57,375 / 48,650
	2	0.95	
	3	0.68	
	4	0.45	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF LOUISIANA 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>Louisiana</u>	<u>Countrywide</u>
Severities	1	47,264	41,374
	2	59,436	51,657
	3	80,867	71,203
	4	116,687	105,328

<u>Step 2</u>	Claim Count	=	30,289	
	Credibility	=	$(30,289 / 155,000)^{0.5}$	= 0.442

<u>Step 3</u>	<u>Hazard Group</u>	<u>Louisiana</u>	
Credibility	1	43,977	= (0.442)(47,264) + (0.558)(41,374)
Weighted	2	55,095	
Severities	3	75,475	
	4	110,350	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Louisiana</u>	
Relativities	1	1.30	= 57,375 / 43,977
	2	1.04	
	3	0.76	
	4	0.52	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF MAINE 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>Maine</u>	<u>Countrywide</u>
Severities	1	48,802	41,374
	2	59,148	51,657
	3	79,608	71,203
	4	112,913	105,328

<u>Step 2</u>	Claim Count	=	14,166
	Credibility	=	$(14,166 / 155,000)^{0.5} = 0.302$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Maine</u>	
Credibility	1	43,619	= (0.302)(48,802) + (0.698)(41,374)
Weighted	2	53,921	
Severities	3	73,744	
	4	107,621	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Maine</u>	
Relativities	1	1.32	= 57,375 / 43,619
	2	1.06	
	3	0.78	
	4	0.53	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF MARYLAND 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>Maryland</u>	<u>Countrywide</u>
Severities	1	40,778	41,374
	2	50,977	51,657
	3	69,809	71,203
	4	102,685	105,328

<u>Step 2</u>	Claim Count	=	48,376	
	Credibility	=	$(48,376 / 155,000)^{0.5}$	= 0.559

<u>Step 3</u>	<u>Hazard Group</u>	<u>Maryland</u>	
Credibility	1	41,041	= (0.559)(40,778) + (0.441)(41,374)
Weighted	2	51,277	
Severities	3	70,424	
	4	103,852	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Maryland</u>	
Relativities	1	1.40	= 57,375 / 41,041
	2	1.12	
	3	0.81	
	4	0.55	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF MICHIGAN 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>Michigan</u>	<u>Countrywide</u>
Severities	1	30,311	41,374
	2	36,941	51,657
	3	48,142	71,203
	4	67,758	105,328

<u>Step 2</u>	Claim Count	=	73,126	
	Credibility	=	$(73,126 / 155,000)^{0.5}$	= 0.687

<u>Step 3</u>	<u>Hazard Group</u>	<u>Michigan</u>	
Credibility	1	33,775	= (0.687)(30,311) + (0.313)(41,374)
Weighted	2	41,549	
Severities	3	55,364	
	4	79,522	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Michigan</u>	
Relativities	1	1.70	= 57,375 / 33,775
	2	1.38	
	3	1.04	
	4	0.72	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF MISSISSIPPI 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>Mississippi</u>	<u>Countrywide</u>
Severities	1	37,049	41,374
	2	45,067	51,657
	3	60,661	71,203
	4	85,381	105,328

<u>Step 2</u>	Claim Count	=	24,839	
	Credibility	=	$(24,839 / 155,000) ^{0.5}$	= 0.400

<u>Step 3</u>	<u>Hazard Group</u>	<u>Mississippi</u>	
Credibility	1	39,642	= (0.400)(37,049) + (0.600)(41,374)
Weighted	2	49,019	
Severities	3	66,983	
	4	97,343	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Mississippi</u>	
Relativities	1	1.45	= 57,375 / 39,642
	2	1.17	
	3	0.86	
	4	0.59	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF MISSOURI 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>Missouri</u>	<u>Countrywide</u>
Severities	1	29,716	41,374
	2	36,138	51,657
	3	49,505	71,203
	4	72,064	105,328

<u>Step 2</u>	Claim Count	=	78,461
	Credibility	=	$(78,461 / 155,000)^{0.5} = 0.711$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Missouri</u>	
Credibility	1	33,079	= (0.711)(29,716) + (0.289)(41,374)
Weighted	2	40,616	
Severities	3	55,765	
	4	81,662	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Missouri</u>	
Relativities	1	1.73	= 57,375 / 33,079
	2	1.41	
	3	1.03	
	4	0.70	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF MONTANA 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>Montana</u>	<u>Countrywide</u>
Severities	1	48,168	41,374
	2	61,170	51,657
	3	87,467	71,203
	4	128,893	105,328

<u>Step 2</u>	Claim Count	=	15,862	
	Credibility	=	$(15,862 / 155,000)^{0.5}$	= 0.320

<u>Step 3</u>	<u>Hazard Group</u>	<u>Montana</u>	
Credibility	1	43,547	= (0.320)(48,168) + (0.680)(41,374)
Weighted	2	54,700	
Severities	3	76,406	
	4	112,867	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Montana</u>	
Relativities	1	1.32	= 57,375 / 43,547
	2	1.05	
	3	0.75	
	4	0.51	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF NEBRASKA 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>Nebraska</u>	<u>Countrywide</u>
Severities	1	44,636	41,374
	2	53,942	51,657
	3	74,556	71,203
	4	108,692	105,328

<u>Step 2</u>	Claim Count	=	19,271	
	Credibility	=	$(19,271 / 155,000)^{0.5}$	= 0.353

<u>Step 3</u>	<u>Hazard Group</u>	<u>Nebraska</u>	
Credibility	1	42,524	= (0.353)(44,636) + (0.647)(41,374)
Weighted	2	52,463	
Severities	3	72,385	
	4	106,514	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Nebraska</u>	
Relativities	1	1.35	= 57,375 / 42,524
	2	1.09	
	3	0.79	
	4	0.54	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF NEVADA 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>Nevada</u>	<u>Countrywide</u>
Severities	1	32,540	41,374
	2	41,157	51,657
	3	58,485	71,203
	4	90,840	105,328

<u>Step 2</u>	Claim Count	=	22,807
	Credibility	=	$(22,807 / 155,000)^{0.5} = 0.384$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Nevada</u>	
Credibility	1	37,985	= (0.384)(32,540) + (0.616)(41,374)
Weighted	2	47,629	
Severities	3	66,325	
	4	99,771	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Nevada</u>	
Relativities	1	1.51	= 57,375 / 37,985
	2	1.20	
	3	0.87	
	4	0.58	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF NEW HAMPSHIRE 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>New Hampshire</u>	<u>Countrywide</u>
Severities	1	46,554	41,374
	2	56,968	51,657
	3	77,763	71,203
	4	113,652	105,328

<u>Step 2</u>	Claim Count	=	21,098	
	Credibility	=	$(21,098 / 155,000)^{0.5}$	= 0.369

<u>Step 3</u>	<u>Hazard Group</u>	<u>New Hampshire</u>	
Credibility	1	43,285	= (0.369)(46,554) + (0.631)(41,374)
Weighted	2	53,616	
Severities	3	73,623	
	4	108,399	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>New Hampshire</u>	
Relativities	1	1.33	= 57,375 / 43,285
	2	1.07	
	3	0.78	
	4	0.53	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF NEW MEXICO 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>New Mexico</u>	<u>Countrywide</u>
Severities	1	38,092	41,374
	2	46,848	51,657
	3	63,326	71,203
	4	86,733	105,328

<u>Step 2</u>	Claim Count	=	14,836	
	Credibility	=	$(14,836 / 155,000)^{0.5}$	= 0.309

<u>Step 3</u>	<u>Hazard Group</u>	<u>New Mexico</u>	
Credibility	1	40,358	= (0.309)(38,092) + (0.691)(41,374)
Weighted	2	50,169	
Severities	3	68,766	
	4	99,575	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>New Mexico</u>	
Relativities	1	1.42	= 57,375 / 40,358
	2	1.14	
	3	0.83	
	4	0.58	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF NORTH CAROLINA 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>North Carolina</u>	<u>Countrywide</u>
Severities	1	66,279	41,374
	2	81,413	51,657
	3	115,036	71,203
	4	165,132	105,328

<u>Step 2</u>	Claim Count	=	65,706	
	Credibility	=	$(65,706 / 155,000)^{0.5}$	= 0.651

<u>Step 3</u>	<u>Hazard Group</u>	<u>North Carolina</u>	
Credibility	1	57,589	= (0.651)(66,279) + (0.349)(41,374)
Weighted	2	71,031	
Severities	3	99,742	
	4	144,266	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>North Carolina</u>	
Relativities	1	1.00	= 57,375 / 57,589
	2	0.81	
	3	0.58	
	4	0.40	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF OKLAHOMA 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>Oklahoma</u>	<u>Countrywide</u>
Severities	1	42,410	41,374
	2	51,969	51,657
	3	72,771	71,203
	4	107,656	105,328

<u>Step 2</u>	Claim Count	=	47,834	
	Credibility	=	$(47,834 / 155,000)^{0.5}$	= 0.556

<u>Step 3</u>	<u>Hazard Group</u>	<u>Oklahoma</u>	
Credibility	1	41,949	= (0.556)(42,410) + (0.444)(41,374)
Weighted	2	51,830	
Severities	3	72,074	
	4	106,621	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Oklahoma</u>	
Relativities	1	1.37	= 57,375 / 41,949
	2	1.11	
	3	0.80	
	4	0.54	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF OREGON 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>Oregon</u>	<u>Countrywide</u>
Severities	1	28,232	41,374
	2	36,227	51,657
	3	52,199	71,203
	4	80,979	105,328

<u>Step 2</u>	Claim Count	=	64,534	
	Credibility	=	$(64,534 / 155,000)^{0.5}$	= 0.645

<u>Step 3</u>	<u>Hazard Group</u>	<u>Oregon</u>	
Credibility	1	32,894	= (0.645)(28,232) + (0.355)(41,374)
Weighted	2	41,700	
Severities	3	58,941	
	4	89,617	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Oregon</u>	
Relativities	1	1.74	= 57,375 / 32,894
	2	1.38	
	3	0.97	
	4	0.64	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF RHODE ISLAND 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>Rhode Island</u>	<u>Countrywide</u>
Severities	1	19,225	41,374
	2	23,315	51,657
	3	30,841	71,203
	4	42,256	105,328

<u>Step 2</u>	Claim Count	=	20,332	
	Credibility	=	$(20,332 / 155,000) ^ 0.5$	= 0.362

<u>Step 3</u>	<u>Hazard Group</u>	<u>Rhode Island</u>	
Credibility	1	33,352	= (0.362)(19,225) + (0.638)(41,374)
Weighted	2	41,392	
Severities	3	56,584	
	4	82,485	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Rhode Island</u>	
Relativities	1	1.72	= 57,375 / 33,352
	2	1.39	
	3	1.01	
	4	0.70	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

DEVELOPMENT OF SOUTH CAROLINA 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>South Carolina</u>	<u>Countrywide</u>
Severities	1	68,001	41,374
	2	83,693	51,657
	3	115,167	71,203
	4	169,928	105,328

<u>Step 2</u>	Claim Count	=	38,812	
	Credibility	=	$(38,812 / 155,000)^{0.5}$	= 0.500

<u>Step 3</u>	<u>Hazard Group</u>	<u>South Carolina</u>	
Credibility	1	54,698	= (0.500)(68,001) + (0.500)(41,374)
Weighted	2	67,688	
Severities	3	93,203	
	4	137,654	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>South Carolina</u>	
Relativities	1	1.05	= 57,375 / 54,698
	2	0.85	
	3	0.62	
	4	0.42	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF SOUTH DAKOTA 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>South Dakota</u>	<u>Countrywide</u>
Severities	1	30,838	41,374
	2	38,231	51,657
	3	53,441	71,203
	4	80,384	105,328

<u>Step 2</u>	Claim Count	=	8,835	
	Credibility	=	$(8,835 / 155,000) ^{0.5}$	= 0.239

<u>Step 3</u>	<u>Hazard Group</u>	<u>South Dakota</u>	
Credibility	1	38,858	= (0.239)(30,838) + (0.761)(41,374)
Weighted	2	48,451	
Severities	3	66,962	
	4	99,373	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>South Dakota</u>	
Relativities	1	1.48	= 57,375 / 38,858
	2	1.18	
	3	0.86	
	4	0.58	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF TENNESSEE 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>Tennessee</u>	<u>Countrywide</u>
Severities	1	40,491	41,374
	2	49,470	51,657
	3	68,849	71,203
	4	99,193	105,328

<u>Step 2</u>	Claim Count	=	57,578	
	Credibility	=	$(57,578 / 155,000)^{0.5}$	= 0.609

<u>Step 3</u>	<u>Hazard Group</u>	<u>Tennessee</u>	
Credibility	1	40,836	= (0.609)(40,491) + (0.391)(41,374)
Weighted	2	50,324	
Severities	3	69,768	
	4	101,589	
Countrywide Overall:		57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Tennessee</u>	
Relativities	1	1.41	= 57,375 / 40,836
	2	1.14	
	3	0.82	
	4	0.56	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF UTAH 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>Utah</u>	<u>Countrywide</u>
Severities	1	28,833	41,374
	2	35,574	51,657
	3	49,035	71,203
	4	74,313	105,328

<u>Step 2</u>	Claim Count	=	26,488	
	Credibility	=	$(26,488 / 155,000) ^{0.5}$	= 0.413

<u>Step 3</u>	<u>Hazard Group</u>	<u>Utah</u>	
Credibility	1	36,189	= (0.413)(28,833) + (0.587)(41,374)
Weighted	2	45,008	
Severities	3	62,039	
	4	92,507	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Utah</u>	
Relativities	1	1.59	= 57,375 / 36,189
	2	1.27	
	3	0.92	
	4	0.62	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF VERMONT 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>Vermont</u>	<u>Countrywide</u>
Severities	1	46,223	41,374
	2	55,544	51,657
	3	76,588	71,203
	4	108,379	105,328

<u>Step 2</u>	Claim Count	=	11,253	
	Credibility	=	$(11,253 / 155,000)^{0.5}$	= 0.269

<u>Step 3</u>	<u>Hazard Group</u>	<u>Vermont</u>	
Credibility	1	42,680	= (0.269)(46,223) + (0.731)(41,374)
Weighted	2	52,704	
Severities	3	72,654	
	4	106,150	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Vermont</u>	
Relativities	1	1.34	= 57,375 / 42,680
	2	1.09	
	3	0.79	
	4	0.54	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF VIRGINIA 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>Virginia</u>	<u>Countrywide</u>
Severities	1	59,725	41,374
	2	75,359	51,657
	3	105,394	71,203
	4	157,864	105,328

<u>Step 2</u>	Claim Count	=	45,943	
	Credibility	=	$(45,943 / 155,000)^{0.5}$	= 0.544

<u>Step 3</u>	<u>Hazard Group</u>	<u>Virginia</u>	
Credibility	1	51,365	= (0.544)(59,725) + (0.456)(41,374)
Weighted	2	64,561	
Severities	3	89,818	
	4	133,931	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Virginia</u>	
Relativities	1	1.12	= 57,375 / 51,365
	2	0.89	
	3	0.64	
	4	0.43	

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.

ITEM R-1398 - 2008 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS - STATE HAZARD GROUP RELATIVITIES

EXHIBIT 4

**DEVELOPMENT OF WISCONSIN 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>Wisconsin</u>	<u>Countrywide</u>
Severities	1	32,262	41,374
	2	38,922	51,657
	3	52,910	71,203
	4	76,188	105,328

<u>Step 2</u>	Claim Count	=	109,684
	Credibility	=	$(109,684 / 155,000)^{0.5} = 0.841$

<u>Step 3</u>	<u>Hazard Group</u>	<u>Wisconsin</u>	
Credibility	1	33,709	= (0.841)(32,262) + (0.159)(41,374)
Weighted	2	40,944	
Severities	3	55,815	
	4	80,815	
	Countrywide Overall:	57,375	

<u>Step 4</u>	<u>Hazard Group</u>	<u>Wisconsin</u>	
Relativities	1	1.70	= 57,375 / 33,709
	2	1.40	
	3	1.03	
	4	0.71	

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.