

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

EXHIBIT 1

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

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

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

EXHIBIT 2

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

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

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

EXHIBIT 3

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

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

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

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

EXHIBIT 4

**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.

Step 1 Severities	Hazard Group	Michigan	Countrywide
	A	25,288	32,539
	B	33,943	43,252
	C	37,361	48,807
	D	40,796	54,134
	E	46,237	62,589
	F	55,253	77,298
	G	71,020	100,992

Step 2	Claim Count	=	80,055
	Credibility	=	$(80,055 / 155,000) ^ 0.5 = 0.719$

Step 3 Credibility Weighted Severities	Hazard Group	Michigan	
	A	27,328	= (0.719)(25,288) + (0.281)(32,539)
	B	36,562	
	C	40,581	
	D	44,549	
	E	50,837	
	F	61,455	
	G	79,452	
	Countrywide Overall:	55,578	

Step 4 Relativities	Hazard Group	Michigan	
	A	2.03	= 55,578 / 27,328
	B	1.52	
	C	1.37	
	D	1.25	
	E	1.09	
	F	0.90	
	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-1396—2007 UPDATE TO RETROSPECTIVE RATING PLAN PARAMETERS

EXHIBIT 5

**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.

Step 1	Hazard Group	Michigan	Countrywide
Severities	1	31,551	40,512
	2	38,543	50,474
	3	50,198	69,170
	4	71,020	100,982

Step 2	Claim Count	=	80,055	
	Credibility	=	$(80,055 / 155,000) ^{0.5} =$	0.719

Step 3	Hazard Group	Michigan	
Credibility	1	34,072	= (0.719)(31,551) + (0.281)(40,512)
Weighted	2	41,899	
Severities	3	55,535	
	4	79,452	
	Countrywide Overall:	55,578	

Step 4	Hazard Group	Michigan	
Relativities	1	1.63	= 55,578 / 34,072
	2	1.33	
	3	1.00	
	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.