



AMERICAN ACADEMY *of* ACTUARIES

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March 25, 2008

Ms. Anne Kelly, Chair  
Property Risk-Based Capital Working Group  
Capital Adequacy (E) Task Force  
National Association of Insurance Commissioners

**Re: Risk-Based Capital Underwriting Factors September 2007 Report Addendum**

Dear Ms. Kelly:

At your request, I have attached a document with the revised updated factors. Please let me know if you have any questions.

Sincerely,

Alex Krutov, Chair  
American Academy of Actuaries' P/C Risk-Based Capital Committee



AMERICAN ACADEMY *of* ACTUARIES

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**Update to P/C Risk-Based Capital Underwriting Factors Presented to National  
Association of Insurance Commissioners' P/C Risk-Based Capital Working Group**

**March 2008**

This report was prepared by the Academy's P/C Risk-Based Capital Committee.

Alex Krutov, Chair  
Robert Butsic  
Chester Szczepanski  
Nicole Elliott  
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James Hurley  
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Christopher Nyce  
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The American Academy of Actuaries is a national organization formed in 1965 to bring together, in a single entity, actuaries of all specializations within the United States. A major purpose of the Academy is to act as a public information organization for the profession. Academy committees, task forces and work groups regularly prepare testimony and provide information to Congress and senior federal policy-makers, comment on proposed federal and state regulations, and work closely with the National Association of Insurance Commissioners and state officials on issues related to insurance, pensions and other forms of risk financing. The Academy establishes qualification standards for the actuarial profession in the United States and supports two independent boards. The Actuarial Standards Board promulgates standards of practice for the profession, and the Actuarial Board for Counseling and Discipline helps to ensure high standards of professional conduct are met. The Academy also supports the Joint Committee for the Code of Professional Conduct, which develops standards of conduct for the U.S. actuarial profession.



AMERICAN ACADEMY *of* ACTUARIES

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March 17, 2008

Ms. Anne Kelly, Chair  
Property Risk-Based Capital Working Group  
Capital Adequacy (E) Task Force  
National Association of Insurance Commissioners

**Re: Risk-Based Capital Underwriting Factors September 2007 Report Addendum**

Dear Ms. Kelly:

At the request of the National Association of Insurance Commissioners (NAIC), the American Academy of Actuaries' Risk-Based Capital Committee (Committee) provides this addendum to the September 2007 report "An Update to the Risk-Based Capital Underwriting Factors." The Committee was asked to provide the underwriting factors using a cap of 15% instead of 35% as illustrated in the original report. The resultant factors are attached as the revised Appendix 2.

As shown in the revised Appendix 2, nearly 80% of the factors, by count and by weighted RBC charge, would be affected by the 15% cap as compared to only about half being affected by the original 35% cap. This implies, as it did with the original cap, that while this would be an important first step in moving RBC towards statistically derived factors, it would not accomplish this all in one step.

The weighted aggregate impact remains small, from -3.1% using the original cap to -1.4% using the revised cap. Completely uncapped, the overall change would have been about +9%, driven mainly by increases in the reinsurance lines.

As with the original report, the revised Appendix 2 illustrates the impact of the change in factors by line groupings. See Exhibit II. The indicated factors continue to go in the direction of increasing RBC for reinsurers, decreasing RBC for personal lines insurers, and maintaining a fairly moderate level for commercial lines and medical malpractice insurers.

Sincerely,

Alex Krutov, Chair  
American Academy of Actuaries' P/C Risk-Based Capital Committee

**American Academy of Actuaries**  
**Risk Based Capital Subgroup on Pricing & Reserving Charges**  
**Summary of Results - AFTER Capping and Minimums - Revised Methodology**

Appendix 2

Exhibit I

**(for example purposes only)**

Line	Line Letter	New Values (After minimums and capping)				Current Values				Change in Charge weighted by Industry Premiums/Reserves		
		Reserving		Loss and		Reserving		Loss and LAE		Impact from	Impact from	Combined
		Runoff Ratio	Reserving IIO	LAE Ratio	Premium IIO	Runoff Ratio	Reserving IIO	Ratio	Premium IIO	Reserving	Premium	Change
(1) H/F	A	0.230	0.939	0.927	0.951	0.275	0.928	0.917	0.942	-15.0%	15.0%	4.2%
(2) PPA	B	0.221	0.927	1.014	0.921	0.254	0.921	1.046	0.924	-15.0%	-15.0%	-15.0%
(3) CA	C	0.254	0.909	1.005	0.883	0.287	0.905	1.013	0.900	-15.0%	-15.0%	-15.0%
(4) WC	D	0.310	0.835	1.031	0.832	0.273	0.872	1.008	0.836	-15.0%	15.0%	-7.5%
(5) CMP	E	0.403	0.884	0.924	0.888	0.374	0.880	0.917	0.884	15.0%	15.0%	15.0%
(6) MM Occurrence	F1	0.490	0.869	1.727	0.778	0.709	0.788	1.761	0.719	-15.0%	15.0%	-8.1%
(7) MM CM	F2	0.269	0.893	1.047	0.835	0.346	0.829	1.072	0.800	15.0%	15.0%	15.0%
(8) SL	G	0.242	0.901	0.918	0.897	0.244	0.887	0.917	0.913	15.0%	-15.0%	0.9%
(9) OL	H	0.478	0.862	1.045	0.820	0.520	0.832	1.082	0.808	3.6%	-12.9%	1.1%
(11) Spec Prop	I	0.165	0.966	0.985	0.944	0.160	0.956	1.014	0.949	15.0%	-15.0%	-8.1%
(12) Auto Phys Damage	J	0.135	0.975	0.847	0.972	0.160	0.970	0.853	0.968	-15.0%	-3.8%	-5.1%
(10) Fidelity & Surety	K	0.280	0.957	0.863	0.921	0.269	0.942	0.875	0.913	15.0%	-7.2%	9.7%
(13) Other	L	0.164	0.964	0.876	0.956	0.160	0.954	0.867	0.952	15.0%	15.0%	15.0%
(15) International	M	0.327	0.877	1.169	0.901	0.327	0.864	1.169	0.879	12.1%	9.1%	10.9%
(16) Rein Property & Financial	N&P	0.256	0.901	1.273	0.884	0.313	0.849	1.224	0.879	15.0%	15.0%	15.0%
(17) Reinsurance Liab	O	0.678	0.834	1.354	0.810	0.838	0.733	1.379	0.762	15.0%	15.0%	15.0%
(18) Products Liability	R	0.571	0.838	1.164	0.778	0.532	0.832	1.095	0.808	15.0%	15.0%	15.0%
(14) Fin & Mort	S	0.150	0.962	1.400	0.916	0.160	0.942	1.400	0.913	15.0%	0.8%	0.8%
Reserve/Premium Weighted Change										0.0%	-0.6%	-1.4%

Underwriting Expense Ratio  
25.5%

Percentage change in estimated impact using industry factors alone

	Reserve	Premium	Total
HO/PPA/APD	-15.0%	-7.2%	-9.9%
CMP/WC/CA/OL/SP/PL	0.5%	-4.3%	-0.7%
Reinsurance	15.0%	15.0%	15.0%
Medical Malpractice	-5.1%	15.0%	0.0%
Overall	0.2%	-3.9%	-1.4%

American Academy of Actuaries

Risk Based Capital Subgroup on Pricing & Reserving Charges

Summary of Results - BEFORE Capping and Minimums - Revised Methodology

Appendix 2

Exhibit II

(for example purposes only)

Line	Line Letter	New Values (before minimums and capping)				Current Values				Impact from Reserving	Impact from Premium
		Reserving RBC charge	Reserving IIO	Premium RBC Charge	Premium IIO	Reserving RBC charge	Reserving IIO	Premium RBC Charge	Premium IIO		
(1) H/F	A	0.177	0.939	0.963	0.951	0.275	0.928	0.917	0.942	-42.3%	43.5%
(2) PPA	B	0.128	0.927	0.946	0.921	0.254	0.921	1.046	0.924	-70.3%	-43.1%
(3) CA	C	0.238	0.909	1.005	0.883	0.287	0.905	1.013	0.9	-24.1%	-15.0%
(4) WC	D	0.274	0.835	1.053	0.832	0.273	0.872	1.008	0.836	-42.0%	33.9%
(5) CMP	E	0.439	0.884	0.935	0.888	0.374	0.88	0.917	0.884	30.3%	30.2%
(6) MM Occurrence	F1	0.323	0.869	2.060	0.778	0.709	0.788	1.761	0.719	-56.9%	64.8%
(7) MM CM	F2	0.283	0.893	1.620	0.835	0.346	0.829	1.072	0.8	25.7%	439.8%
(8) SL	G	0.249	0.901	0.910	0.897	0.244	0.887	0.917	0.913	20.3%	-22.7%
(9) OL	H	0.478	0.862	1.045	0.820	0.520	0.832	1.082	0.808	3.6%	-12.9%
(11) Spec Prop	I	0.290	0.966	0.798	0.944	0.160	0.956	1.014	0.949	125.4%	-96.2%
(12) Auto Phys Damage	J	0.096	0.975	0.847	0.972	0.160	0.97	0.853	0.968	-45.5%	-3.8%
(10) Fidelity & Surety	K	0.427	0.957	0.856	0.921	0.269	0.942	0.875	0.913	87.1%	-19.6%
(13) Other	L	0.361	0.964	0.959	0.956	0.160	0.954	0.867	0.952	192.5%	113.9%
(15) International	M	0.327	0.877	1.169	0.901	0.327	0.864	1.169	0.879	12.1%	9.1%
(16) Rein Property & Financial	N&P	0.742	0.901	1.830	0.884	0.313	0.849	1.224	0.879	396.7%	164.0%
(17) Reinsurance Liab	O	0.849	0.834	1.552	0.810	0.838	0.733	1.379	0.762	56.1%	67.4%
(18) Products Liability	R	1.488	0.838	1.380	0.778	0.532	0.832	1.095	0.808	294.9%	135.4%
(14) Fin & Mort	S	0.160	0.962	1.400	0.916	0.160	0.942	1.400	0.913	25.4%	0.8%

Underwriting Expense Ratio  
25.5%

**American Academy of Actuaries**  
**Risk Based Capital Subgroup on Pricing & Reserving Charges**  
**Development of Capped Factors - Revised Methodology**  
**15%**

Appendix 2

Exhibit III

(for example purposes only)

**Development of Proposed with Minimums and Capping**

Line	Line Letter	Proposed Values - Before Capping								Current Values						Reserve Charge		Premium Charge	
		Aggregate Loss & LAE	Net Written Premium 2005	Reserve Runoff Ratio	Reserving IIO	Reserve Runoff Ratio Before Cap. with Min	Premium Loss and LAE Ratio	Premium IIO	Premium Charge Before Cap. with Min	Reserve Runoff Ratio	Reserving IIO	Reserve Charge	Premium Loss and LAE Ratio	Premium IIO	Premium Charge	Current	Indicated Capped	Current	Indicated Capped
(1) H/F	A	19,852,268	54,800,315	0.177	0.939	0.106	0.963	0.951	0.170	0.275	0.928	0.183	0.917	0.942	0.119	0.183	0.156	0.119	0.137
(2) PPA	B	85,172,579	94,860,497	0.128	0.927	0.050	0.946	0.921	0.126	0.254	0.921	0.155	1.046	0.924	0.222	0.155	0.132	0.222	0.188
(3) CA	C	25,944,273	19,766,966	0.238	0.909	0.125	1.005	0.883	0.142	0.287	0.905	0.165	1.013	0.900	0.167	0.165	0.140	0.167	0.142
(4) WC	D	129,490,920	48,860,164	0.274	0.835	0.064	1.053	0.832	0.131	0.273	0.872	0.110	1.008	0.836	0.098	0.110	0.094	0.098	0.112
(5) CMP	E	36,578,767	29,645,006	0.439	0.884	0.273	0.935	0.888	0.085	0.374	0.880	0.209	0.917	0.884	0.066	0.209	0.240	0.066	0.075
(6) MM Occurrence	F1	11,831,384	2,332,329	0.323	0.869	0.149	2.060	0.778	0.859	0.709	0.788	0.347	1.761	0.719	0.521	0.347	0.295	0.521	0.599
(7) MM CM	F2	17,498,277	7,782,258	0.283	0.893	0.146	1.620	0.835	0.608	0.346	0.829	0.116	1.072	0.800	0.113	0.116	0.133	0.113	0.129
(8) SL	G	6,521,213	6,450,843	0.249	0.901	0.124	0.910	0.897	0.071	0.244	0.887	0.103	0.917	0.913	0.092	0.103	0.119	0.092	0.078
(9) OL	H	108,313,309	39,533,685	0.478	0.862	0.274	1.045	0.820	0.113	0.520	0.832	0.265	1.082	0.808	0.129	0.265	0.274	0.129	0.113
(11) Spec Prop	I	15,184,142	25,690,669	0.290	0.966	0.246	0.798	0.944	0.050	0.160	0.956	0.109	1.014	0.949	0.217	0.109	0.125	0.217	0.185
(12) Auto Phys Damage	J	5,694,477	71,886,152	0.096	0.975	0.068	0.847	0.972	0.078	0.160	0.970	0.125	0.853	0.968	0.081	0.125	0.106	0.081	0.078
(10) Fidelity & Surety	K	4,498,952	5,064,801	0.427	0.957	0.366	0.856	0.921	0.050	0.269	0.942	0.195	0.875	0.913	0.054	0.195	0.225	0.054	0.050
(13) Other	L	5,223,907	13,452,554	0.361	0.964	0.312	0.959	0.956	0.172	0.160	0.954	0.107	0.867	0.952	0.080	0.107	0.123	0.080	0.092
(15) International	M	635,439	230,162	0.327	0.877	0.164	1.169	0.901	0.308	0.327	0.864	0.147	1.169	0.879	0.283	0.147	0.164	0.283	0.308
(16) Rein Property & Financial	N&P	12,020,001	4,340,816	0.742	0.901	0.570	1.830	0.884	0.874	0.313	0.849	0.115	1.224	0.879	0.331	0.115	0.132	0.331	0.381
(17) Reinsurance Liab	O	44,160,796	3,095,066	0.849	0.834	0.542	1.552	0.810	0.512	0.838	0.733	0.347	1.379	0.762	0.306	0.347	0.399	0.306	0.352
(18) Products Liability	R	16,625,011	3,521,836	1.488	0.838	1.085	1.380	0.778	0.329	0.532	0.832	0.275	1.095	0.808	0.140	0.275	0.316	0.140	0.161
(14) Fin & Mort	S	27,816	7,435,150	0.160	0.962	0.116	1.400	0.916	0.537	0.160	0.942	0.093	1.400	0.913	0.533	0.093	0.107	0.533	0.537
		545,273,531	438,749,267																

Selections:			
Percentile Selected	87.5%	Minimum Charge Applied	0.050
Industry Underwriting Expense OUE	25.5%		

