

PENNSYLVANIA COMPENSATION RATING BUREAU

Loss Elimination Ratios

The attached pages show the derivation of loss elimination ratios applicable to small deductible coverages.

The analysis incorporates revised classification hazard group assignments and expands the number of hazard groups to seven (A-G). An analysis is also presented that combined the seven hazard groups into four (1-4).

The method used is very similar to that employed in the calculation of excess loss factors and also relies solely on Pennsylvania experience. Within each hazard group, excess ratios by type of injury are weighted together to derive average excess ratios as shown on page 2.

Since the Pennsylvania loss distribution did not break at \$1,000, factors derived from the general methodology which related the excess ratio for the \$1,000 limit to those at \$5,000 and \$10,000 were used to estimate the \$1,000 figure for the Pennsylvania data. The excess factors were then adjusted to reflect the inclusion of loss based assessments in Bureau loss costs (col. (6) - (9)). Columns (10) through (13) of page 3 show the resulting excess factors.

Page 1 shows the proposed loss elimination ratios which are the complement of the excess loss factors from page 3 and compares the proposed 2009 loss elimination ratios with factors derived using data consistent with the 2008 filing but modified to reflect the revised hazard group assignments. The percentage changes thus show the impact on loss elimination ratios as if the new approach had been employed in the 2008 filing as well.

Page 4, 5 and 6 are comparable to pages 1, 2 and 3 although based on revised hazard groups 1, 2, 3 and 4. Page 7 compares the loss elimination ratios for hazard groups 1-4 with actual loss elimination ratios for the original hazard groups I – IV, all based on the 2008 filing material.

PENNSYLVANIA  
SMALL DEDUCTIBLE PROGRAM  
PROPOSED EFFECTIVE DATE: 4/1/09

Deductible Level	Proposed Loss Elimination Ratios							Indicated (4/1/08) Loss Elimination Ratios Based on new HG definition							Percentage Change						
	Hazard Group							Hazard Group							Hazard Group						
	A	B	C	D	E	F	G	A	B	C	D	E	F	G	A	B	C	D	E	F	G
\$ 1,000	6.3%	5.5%	5.3%	4.6%	3.6%	3.1%	3.0%	6.7%	6.1%	5.7%	4.8%	3.7%	3.1%	2.7%	-6.0%	-9.8%	-7.0%	-4.2%	-2.7%	0.0%	11.1%
\$ 5,000	23.4%	20.2%	18.9%	16.5%	12.8%	10.6%	9.8%	24.5%	21.9%	20.0%	16.9%	13.4%	10.6%	8.6%	-4.5%	-7.8%	-5.5%	-2.4%	-4.5%	0.0%	14.0%
\$ 10,000	29.8%	26.1%	24.0%	21.4%	17.3%	14.4%	12.7%	31.9%	28.4%	26.0%	22.4%	18.5%	14.6%	11.7%	-6.6%	-8.1%	-7.7%	-4.5%	-6.5%	-1.4%	8.5%

SMALL DEDUCTIBLE CREDIT FACTORS  
PENNSYLVANIA Effective:4/1/09  
Excess Loss Factors Calculation

LOSS LIMIT	DEATH				PT				PP				TT				(1)	(2)	(3)	(4)	(5)
	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	AVE. EX. RAT.	P.L.R. EXCL. ASSES.	IND. ELF 1X2	FLAT FACTOR	FINAL ELF 3+4
Hazard Group A																					
\$1,000	0.00	0.010	0.9967	0.0100	0.00	0.032	0.9995	0.0320	0.01	0.527	0.9940	0.5238	0.07	0.303	0.9330	0.2827	0.8485	0.986	0.837	0.005	0.842
\$2,000	0.01		0.9943	0.0099	0.00		0.9990	0.0320	0.01		0.9880	0.5206	0.14		0.8713	0.2640	0.8265		0.815	0.005	0.820
\$5,000	0.02		0.9869	0.0099	0.00		0.9975	0.0319	0.03		0.9704	0.5114	0.34		0.7225	0.2189	0.7721		0.761	0.005	0.766
\$10,000	0.03		0.9747	0.0100	0.01		0.9950	0.0320	0.06		0.9424	0.4970	0.69		0.5552	0.1680	0.7070		0.697	0.005	0.702
Hazard Group B																					
\$1,000	0.00	0.009	0.9969	0.0090	0.00	0.034	0.9996	0.0340	0.01	0.584	0.9945	0.5808	0.07	0.265	0.9351	0.2478	0.8716	0.986	0.859	0.005	0.864
\$2,000	0.01		0.9945	0.0090	0.00		0.9991	0.0340	0.01		0.9890	0.5776	0.13		0.8751	0.2319	0.8525		0.841	0.005	0.846
\$5,000	0.01		0.9876	0.0089	0.00		0.9978	0.0339	0.03		0.9729	0.5682	0.33		0.7294	0.1933	0.8043		0.793	0.005	0.798
\$10,000	0.03		0.9762	0.0090	0.00		0.9956	0.0340	0.06		0.9473	0.5532	0.67		0.5638	0.1490	0.7450		0.735	0.005	0.740
Hazard Group C																					
\$1,000	0.00	0.009	0.9970	0.0090	0.00	0.036	0.9996	0.0360	0.01	0.619	0.9950	0.6159	0.06	0.230	0.9371	0.2155	0.8764	0.986	0.864	0.005	0.869
\$2,000	0.01		0.9948	0.0090	0.00		0.9992	0.0360	0.01		0.9900	0.6128	0.13		0.8787	0.2021	0.8599		0.848	0.005	0.853
\$5,000	0.01		0.9883	0.0089	0.00		0.9980	0.0359	0.03		0.9753	0.6037	0.32		0.7361	0.1693	0.8178		0.806	0.005	0.811
\$10,000	0.03		0.9775	0.0090	0.00		0.9960	0.0360	0.05		0.9517	0.5890	0.65		0.5724	0.1320	0.7660		0.755	0.005	0.760
Hazard Group D																					
\$1,000	0.00	0.014	0.9972	0.0140	0.00	0.048	0.9996	0.0480	0.00	0.624	0.9954	0.6211	0.06	0.230	0.9391	0.2160	0.8991	0.986	0.887	0.005	0.892
\$2,000	0.01		0.9951	0.0139	0.00		0.9993	0.0480	0.01		0.9909	0.6183	0.12		0.8823	0.2029	0.8831		0.871	0.005	0.876
\$5,000	0.01		0.9889	0.0138	0.00		0.9982	0.0479	0.02		0.9774	0.6099	0.31		0.7426	0.1708	0.8424		0.831	0.005	0.836
\$10,000	0.03		0.9788	0.0140	0.00		0.9965	0.0480	0.05		0.9558	0.5960	0.62		0.5809	0.1340	0.7920		0.781	0.005	0.786
Hazard Group E																					
\$1,000	0.00	0.017	0.9973	0.0170	0.00	0.057	0.9997	0.0570	0.00	0.670	0.9958	0.6672	0.06	0.199	0.9410	0.1873	0.9285	0.986	0.916	0.005	0.921
\$2,000	0.00		0.9953	0.0169	0.00		0.9994	0.0570	0.01		0.9917	0.6644	0.12		0.8858	0.1763	0.9146		0.902	0.005	0.907
\$5,000	0.01		0.9895	0.0168	0.00		0.9984	0.0569	0.02		0.9794	0.6562	0.30		0.7491	0.1491	0.8790		0.867	0.005	0.872
\$10,000	0.02		0.9800	0.0170	0.00		0.9968	0.0570	0.04		0.9596	0.6430	0.60		0.5894	0.1170	0.8340		0.822	0.005	0.827
Hazard Group F																					
\$1,000	0.00	0.020	0.9974	0.0199	0.00	0.077	0.9997	0.0770	0.00	0.695	0.9962	0.6924	0.06	0.163	0.9429	0.1537	0.9430	0.986	0.930	0.005	0.935
\$2,000	0.00		0.9956	0.0199	0.00		0.9994	0.0770	0.01		0.9924	0.6897	0.12		0.8891	0.1449	0.9315		0.918	0.005	0.923
\$5,000	0.01		0.9901	0.0198	0.00		0.9986	0.0769	0.02		0.9812	0.6819	0.29		0.7555	0.1231	0.9017		0.889	0.005	0.894
\$10,000	0.02		0.9811	0.0200	0.00		0.9972	0.0770	0.04		0.9631	0.6690	0.59		0.5978	0.0970	0.8630		0.851	0.005	0.856
Hazard Group G																					
\$1,000	0.00	0.029	0.9975	0.0289	0.00	0.139	0.9997	0.1390	0.00	0.662	0.9965	0.6597	0.06	0.120	0.9447	0.1134	0.9410	0.986	0.928	0.005	0.933
\$2,000	0.00		0.9958	0.0289	0.00		0.9995	0.1389	0.01		0.9931	0.6574	0.11		0.8924	0.1071	0.9323		0.919	0.005	0.924
\$5,000	0.01		0.9906	0.0287	0.00		0.9987	0.1388	0.02		0.9828	0.6506	0.28		0.7617	0.0914	0.9095		0.897	0.005	0.902
\$10,000	0.02		0.9822	0.0280	0.00		0.9975	0.1390	0.03		0.9662	0.6400	0.57		0.6061	0.0730	0.8800		0.868	0.005	0.873

Pennsylvania  
Loss Elimination Ratio Study

Loss Limitation	Pennsylvania Excess Ratio (1)
	Implied@1000
\$1,000	0.9644 (a)
\$2,000	0.8879 (b)
\$5,000	0.8497 (b)
\$10,000	0.8014 (b)

Loss Limitation	Pennsylvania Hazard Group Per - Claim Factors							LBA Factor = 0.9858							ELF adjusted for LBA's & Risk Load							
	HG A	HG B	HG C	HG D	HG E	HG F	HG G	HG A	HG B	HG C	HG D	HG E	HG F	HG G	HG A	HG B	HG C	HG D	HG E	HG F	HG G	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(6)	(7)	(8)	(9)	(6)	(7)	(8)	(10)	(11)	(12)	(13)	Columns (2)-(5) + 0.005 (Max Adj = 1/2 ELF)			
	(2)*LBA	(3)*LBA	(4)*LBA	(5)*LBA	(6)*LBA	(7)*LBA	(8)*LBA	(2)*LBA	(3)*LBA	(4)*LBA	(5)*LBA	(6)*LBA	(7)*LBA	(8)*LBA	(2)*LBA	(3)*LBA	(4)*LBA	(5)*LBA	(6)*LBA	(7)*LBA	(8)*LBA	
\$1,000	0.9449	0.9532	0.9555	0.9629	0.9729	0.9782	0.9785	0.9315	0.9397	0.9419	0.9492	0.9591	0.9643	0.9646	0.937	0.945	0.947	0.954	0.964	0.969	0.970	
\$5,000	0.7721	0.8043	0.8178	0.8424	0.8790	0.9017	0.9095	0.7611	0.7929	0.8062	0.8304	0.8665	0.8889	0.8966	0.766	0.798	0.811	0.835	0.872	0.894	0.902	
\$10,000	0.7070	0.7450	0.7660	0.7920	0.8340	0.8630	0.8800	0.6970	0.7344	0.7551	0.7808	0.8222	0.8507	0.8675	0.702	0.739	0.760	0.786	0.827	0.856	0.873	

- (a) Selected
- (b) From the Pennsylvania Empirical Loss Distribution

PENNSYLVANIA  
 SMALL DEDUCTIBLE PROGRAM  
 PROPOSED EFFECTIVE DATE: 4/1/09

Deductible Level	Proposed Loss Elimination Ratios				Indicated (4/1/08) Loss Elimination Ratios based on new HG Definition				Percentage Change			
	Hazard Group				Hazard Group				Hazard Group			
	1	2	3	4	1	2	3	4	1	2	3	4
\$ 1,000	5.7%	5.1%	3.4%	3.0%	6.2%	5.4%	3.5%	2.7%	-8.1%	-5.6%	-2.9%	11.1%
\$ 5,000	20.7%	18.1%	12.1%	9.8%	22.3%	19.1%	12.4%	8.6%	-7.2%	-5.2%	-2.4%	14.0%
\$ 10,000	26.6%	23.2%	16.3%	12.7%	29.1%	24.9%	17.1%	11.8%	-8.6%	-6.8%	-4.7%	7.6%

SMALL DEDUCTIBLE CREDIT FACTORS

PENNSYLVANIA Effective:4/1/09

Excess Loss Factors Calculation

LOSS LIMIT	DEATH				PT				PP				TT				(1) AVE. EX. RAT.	(2) P.L.R. EXCL. ASSES.	(3) IND. ELF 1X2	(4) FLAT FACTOR	(5) FINAL ELF 3+4
	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.	RATIO TO AVE.	INJ. WGT.	EXCESS RATIO	EXCESS RATIO X INJ. WT.					
Hazard Group 1																					
\$1,000	0.00	0.009	0.9969	0.0090	0.00	0.034	0.9995	0.0340	0.01	0.575	0.9944	0.5718	0.07	0.271	0.935	0.2533	0.8681	0.986	0.856	0.005	0.861
\$2,000	0.01		0.9945	0.0090	0.00		0.9991	0.0340	0.01		0.9889	0.5686	0.13		0.874	0.2369	0.8485		0.837	0.005	0.842
\$5,000	0.01		0.9875	0.0089	0.00		0.9977	0.0339	0.03		0.9726	0.5592	0.34		0.728	0.1972	0.7992		0.788	0.005	0.793
\$10,000	0.03		0.9759	0.0090	0.00		0.9955	0.0340	0.06		0.9466	0.5440	0.67		0.562	0.1520	0.7390		0.729	0.005	0.734
Hazard Group 2																					
\$1,000	0.00	0.011	0.9971	0.0110	0.00	0.040	0.9996	0.0400	0.00	0.620	0.9951	0.6170	0.06	0.230	0.938	0.2157	0.8837	0.986	0.871	0.005	0.876
\$2,000	0.01		0.9949	0.0109	0.00		0.9992	0.0400	0.01		0.9902	0.6139	0.13		0.880	0.2023	0.8671		0.855	0.005	0.860
\$5,000	0.01		0.9885	0.0109	0.00		0.9981	0.0399	0.02		0.9759	0.6051	0.32		0.738	0.1697	0.8256		0.814	0.005	0.819
\$10,000	0.03		0.9780	0.0110	0.00		0.9962	0.0400	0.05		0.9529	0.5910	0.64		0.575	0.1320	0.7740		0.763	0.005	0.768
Hazard Group 3																					
\$1,000	0.00	0.018	0.9973	0.0180	0.00	0.064	0.9997	0.0640	0.00	0.679	0.9960	0.6763	0.06	0.186	0.942	0.1751	0.9334	0.986	0.920	0.005	0.925
\$2,000	0.00		0.9954	0.0179	0.00		0.9994	0.0640	0.01		0.9919	0.6735	0.12		0.887	0.1649	0.9203		0.907	0.005	0.912
\$5,000	0.01		0.9898	0.0178	0.00		0.9985	0.0639	0.02		0.9801	0.6655	0.30		0.751	0.1397	0.8869		0.874	0.005	0.879
\$10,000	0.02		0.9804	0.0180	0.00		0.9970	0.0640	0.04		0.9609	0.6520	0.60		0.592	0.1100	0.8440		0.832	0.005	0.837
Hazard Group 4																					
\$1,000	0.00	0.029	0.9975	0.0289	0.00	0.139	0.9997	0.1390	0.00	0.662	0.9965	0.6597	0.06	0.120	0.945	0.1134	0.9410	0.986	0.928	0.005	0.933
\$2,000	0.00		0.9958	0.0289	0.00		0.9995	0.1389	0.01		0.9931	0.6574	0.11		0.892	0.1071	0.9323		0.919	0.005	0.924
\$5,000	0.01		0.9906	0.0287	0.00		0.9987	0.1388	0.02		0.9828	0.6506	0.28		0.762	0.0914	0.9095		0.897	0.005	0.902
\$10,000	0.02		0.9822	0.0280	0.00		0.9975	0.1390	0.03		0.9662	0.6400	0.57		0.606	0.0730	0.8800		0.868	0.005	0.873

Pennsylvania  
Loss Elimination Ratio Study

Loss Limitation	Pennsylvania Excess Ratio (1)	
	Implied @ 1,000	
\$1,000	0.9644	(a)
\$2,000	0.8879	(b)
\$5,000	0.8497	(b)
\$10,000	0.8014	(b)

Loss Limitation	Pennsylvania Hazard Group Per - Claim Factors				ELF adjusted for LBA's LBA Factor = 0.9858				ELF adjusted for LBA's & Risk Load			
	HG 1 (2)	HG 2 (3)	HG 3 (4)	HG 4 (5)	HG 1 (6) (2)*LBA	HG 2 (7) (3)*LBA	HG 3 (8) (4)*LBA	HG 4 (9) (5)*LBA	HG 1 (10)	HG 2 (11)	HG 3 (12)	HG 4 (13)
\$1,000	0.9519	0.9578	0.9747	0.9785	0.9384	0.9442	0.9609	0.9646	0.943	0.949	0.966	0.970
\$5,000	0.7992	0.8256	0.8869	0.9095	0.7879	0.8139	0.8743	0.8966	0.793	0.819	0.879	0.902
\$10,000	0.7390	0.7740	0.8440	0.8800	0.7285	0.7630	0.8320	0.8675	0.734	0.768	0.837	0.873

Columns (2)-(5) + 0.005 (Max Adj = 1/2 ELF)

(a) Selected

(b) From the Pennsylvania Empirical Loss Distribution

PENNSYLVANIA  
SMALL DEDUCTIBLE PROGRAM

Deductible Level	Indicated (4/1/08) Loss Elimination Ratios based on new HG Definition				Current(4/1/08) Loss Elimination Ratios based on current HG definition				Percentage Change			
	Hazard Group				Hazard Group				Hazard Group			
	1	2	3	4	I	II	III	IV	1-I	2-II	3-III	4-IV
\$ 1,000	6.2%	5.4%	3.5%	2.7%	6.8%	5.3%	4.0%	2.8%	-8.8%	1.9%	-12.5%	-3.6%
\$ 5,000	22.3%	19.1%	12.4%	8.6%	24.9%	18.5%	14.3%	9.2%	-10.4%	3.2%	-13.3%	-6.5%
\$ 10,000	29.1%	24.9%	17.1%	11.8%	32.4%	24.4%	19.3%	12.9%	-10.2%	2.0%	-11.4%	-8.5%