



**THE WORKERS' COMPENSATION  
RATING AND INSPECTION BUREAU OF MASSACHUSETTS**

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September 17, 1999

**CIRCULAR LETTER NO. 1834**

***To All Members and Subscribers of the Bureau:***

**RETROSPECTIVE RATING PLAN CHANGES  
EFFECTIVE SEPTEMBER 1, 1999**

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The Commissioner of Insurance has approved changes in Retrospective Rating Plan parameters effective 12:01 A.M., September 1, 1999, applicable to new and renewal policies, concurrent with the general revision of rates.

The changes and corresponding exhibits used to produce these values follow.

- Exhibit 1 Table of Compensation Expense Ratios - Type A Premium Discount
- Exhibit 2 Table of Compensation Expense Ratios - Type B Premium Discount
- Exhibit 3 Table of Compensation Expense Ratios - Type A Premium Discount-  
Allocated Loss Adjustment Expense [ALAE] Option
- Exhibit 4 Table of Compensation Expense Ratios - Type B Premium Discount-  
Allocated Loss Adjustment Expense [ALAE] Option
- Exhibit 5 Expense Provisions Underlying the Retrospective Rating Plan  
The Expected Loss Ratio is changed to **.618**  
The State Tax Multiplier is changed to **1.033**  
The Loss Conversion Factor is changed to **1.255**
- Exhibit 6 Expense Provisions Underlying the ALAE Option of the Retrospective  
Rating Plan  
The ALAE Option Expected Loss and ALAE Ratio is changed to **.704**  
The ALAE Option State Tax Multiplier is changed to **1.033**  
The ALAE Option Loss Conversion Factor is changed to **1.102**

Exhibit 7 Calculation of the Provision For Residual Market Subsidy

Reprinted Retrospective Rating Plan manual pages will be distributed in due course.

ROBERT S. ROESCH  
Assistant Vice President  
and Associate Actuary

*RSR/dc*  
*Enclosures*

**MASSACHUSETTS WORKERS' COMPENSATION**  
**Table of Compensation Expense Ratios**  
**Type A Discount**

*Excluding Taxes, but Including Profit and Contingencies*

**Effective September 1, 1999**

<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>
0 - 10,057	0.350	18,129 - 18,509	0.310	102,518 - 116,019	0.270
10,058 - 10,173	0.349	18,510 - 18,906	0.309	116,020 - 133,617	0.269
10,174 - 10,292	0.348	18,907 - 19,321	0.308	133,618 - 157,507	0.268
10,293 - 10,413	0.347	19,322 - 19,754	0.307	157,508 - 191,801	0.267
10,414 - 10,538	0.346	19,755 - 20,208	0.306	191,802 - 206,522	0.266
10,539 - 10,665	0.345	20,209 - 20,682	0.305	206,523 - 215,167	0.265
10,666 - 10,796	0.344	20,683 - 21,179	0.304	215,168 - 224,567	0.264
10,797 - 10,930	0.343	21,180 - 21,701	0.303	224,568 - 234,825	0.263
10,931 - 11,067	0.342	21,702 - 22,249	0.302	234,826 - 246,066	0.262
11,068 - 11,208	0.341	22,250 - 22,826	0.301	246,067 - 258,438	0.261
11,209 - 11,353	0.340	22,827 - 23,433	0.300	258,439 - 272,119	0.260
11,354 - 11,501	0.339	23,434 - 24,073	0.299	272,120 - 287,329	0.259
11,502 - 11,653	0.338	24,074 - 24,750	0.298	287,330 - 304,341	0.258
11,654 - 11,809	0.337	24,751 - 25,465	0.297	304,342 - 323,494	0.257
11,810 - 11,970	0.336	25,466 - 26,223	0.296	323,495 - 345,219	0.256
11,971 - 12,135	0.335	26,224 - 27,028	0.295	345,220 - 370,073	0.255
12,136 - 12,304	0.334	27,029 - 27,883	0.294	370,074 - 398,783	0.254
12,305 - 12,479	0.333	27,884 - 28,795	0.293	398,784 - 432,322	0.253
12,480 - 12,658	0.332	28,796 - 29,768	0.292	432,323 - 472,020	0.252
12,659 - 12,842	0.331	29,769 - 30,809	0.291	472,021 - 519,747	0.251
12,843 - 13,032	0.330	30,810 - 31,925	0.290	519,748 - 578,210	0.250
13,033 - 13,228	0.329	31,926 - 33,126	0.289	578,211 - 651,493	0.249
13,229 - 13,430	0.328	33,127 - 34,420	0.288	651,494 - 746,048	0.248
13,431 - 13,638	0.327	34,421 - 35,820	0.287	746,049 - 872,709	0.247
13,639 - 13,852	0.326	35,821 - 37,338	0.286	872,710 - 1,051,172	0.246
13,853 - 14,073	0.325	37,339 - 38,991	0.285	1,051,173 - 1,321,388	0.245
14,074 - 14,302	0.324	38,992 - 40,797	0.284	1,321,389 - 1,756,574	0.244
14,303 - 14,538	0.323	40,798 - 42,778	0.283	1,756,575 - 1,908,387	0.243
14,539 - 14,782	0.322	42,779 - 44,961	0.282	1,908,388 - 2,088,923	0.242
14,783 - 15,034	0.321	44,962 - 47,379	0.281	2,088,924 - 2,307,186	0.241
15,035 - 15,295	0.320	47,380 - 50,072	0.280	2,307,187 - 2,576,382	0.240
15,296 - 15,566	0.319	50,073 - 53,090	0.279	2,576,383 - 2,916,693	0.239
15,567 - 15,846	0.318	53,091 - 56,495	0.278	2,916,694 - 3,360,589	0.238
15,847 - 16,136	0.317	56,496 - 60,366	0.277	3,360,590 - 3,963,854	0.237
16,137 - 16,437	0.316	60,367 - 64,807	0.276	3,963,855 - 4,831,091	0.236
16,438 - 16,749	0.315	64,808 - 69,954	0.275	4,831,092 - 6,184,085	0.235
16,750 - 17,074	0.314	69,955 - 75,988	0.274	6,184,086 - 8,589,719	0.234
17,075 - 17,412	0.313	75,989 - 83,161	0.273	8,589,720 - 14,058,551	0.233
17,413 - 17,763	0.312	83,162 - 91,831	0.272	14,058,552 - 38,693,808	0.232
17,764 - 18,128	0.311	91,832 - 102,517	0.271	38,693,809 and OVER	0.231

Note: Above table based on the following discounts:

First	10,000	0.0%
Next	190,000	9.1%
Next	1,550,000	11.3%
Over	1,750,000	12.3%

**MASSACHUSETTS WORKERS' COMPENSATION**  
**Table of Compensation Expense Ratios**  
**Type B Discount**

*Excluding Taxes, but Including Profit and Contingencies*

**Effective September 1, 1999**

<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>						
0	-	10,102	0.350	19,851	-	20,682	0.325	238,705	-	257,918	0.300
10,103	-	10,313	0.349	20,683	-	21,586	0.324	257,919	-	280,496	0.299
10,314	-	10,533	0.348	21,587	-	22,573	0.323	280,497	-	307,406	0.298
10,534	-	10,763	0.347	22,574	-	23,655	0.322	307,407	-	340,027	0.297
10,764	-	11,002	0.346	23,656	-	24,845	0.321	340,028	-	380,394	0.296
11,003	-	11,253	0.345	24,846	-	26,162	0.320	380,395	-	431,635	0.295
11,254	-	11,516	0.344	26,163	-	27,626	0.319	431,636	-	498,832	0.294
11,517	-	11,791	0.343	27,627	-	29,264	0.318	498,833	-	590,807	0.293
11,792	-	12,079	0.342	29,265	-	31,107	0.317	590,808	-	724,368	0.292
12,080	-	12,382	0.341	31,108	-	33,199	0.316	724,369	-	935,953	0.291
12,383	-	12,701	0.340	33,200	-	35,593	0.315	935,954	-	1,322,148	0.290
12,702	-	13,036	0.339	35,594	-	38,358	0.314	1,322,149	-	1,814,219	0.289
13,037	-	13,390	0.338	38,359	-	41,590	0.313	1,814,220	-	1,993,772	0.288
13,391	-	13,763	0.337	41,591	-	45,416	0.312	1,993,773	-	2,212,770	0.287
13,764	-	14,158	0.336	45,417	-	50,017	0.311	2,212,771	-	2,485,814	0.286
14,159	-	14,576	0.335	50,018	-	55,655	0.310	2,485,815	-	2,835,729	0.285
14,577	-	15,019	0.334	55,656	-	62,726	0.309	2,835,730	-	3,300,293	0.284
15,020	-	15,490	0.333	62,727	-	71,856	0.308	3,300,294	-	3,946,894	0.283
15,491	-	15,992	0.332	71,857	-	84,095	0.307	3,946,895	-	4,908,597	0.282
15,993	-	16,528	0.331	84,096	-	101,361	0.306	4,908,598	-	6,489,942	0.281
16,529	-	17,100	0.330	101,362	-	127,547	0.305	6,489,943	-	9,574,419	0.280
17,101	-	17,714	0.329	127,548	-	171,977	0.304	9,574,420	-	18,246,383	0.279
17,715	-	18,373	0.328	171,978	-	207,751	0.303	18,246,384	-	193,581,395	0.278
18,374	-	19,083	0.327	207,752	-	222,155	0.302	193,581,396	-	and OVER	0.277
19,084	-	19,850	0.326	222,156	-	238,704	0.301				

Note: Above table based on the following discounts:

First	10,000	0.0%
Next	190,000	5.1%
Next	1,550,000	6.5%
Over	1,750,000	7.5%

**MASSACHUSETTS WORKERS' COMPENSATION****Table of Compensation Expense Ratios****Type A Discount *with ALAE OPTION****Excluding Allocated LAE and Taxes, but Including Profit and Contingencies***Effective September 1, 1999**

<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>
0 - 10,057	0.264	18,129 - 18,509	0.224	102,518 - 116,019	0.184
10,058 - 10,173	0.263	18,510 - 18,906	0.223	116,020 - 133,617	0.183
10,174 - 10,292	0.262	18,907 - 19,321	0.222	133,618 - 157,507	0.182
10,293 - 10,413	0.261	19,322 - 19,754	0.221	157,508 - 191,801	0.181
10,414 - 10,538	0.260	19,755 - 20,208	0.220	191,802 - 206,522	0.180
10,539 - 10,665	0.259	20,209 - 20,682	0.219	206,523 - 215,167	0.179
10,666 - 10,796	0.258	20,683 - 21,179	0.218	215,168 - 224,567	0.178
10,797 - 10,930	0.257	21,180 - 21,701	0.217	224,568 - 234,825	0.177
10,931 - 11,067	0.256	21,702 - 22,249	0.216	234,826 - 246,066	0.176
11,068 - 11,208	0.255	22,250 - 22,826	0.215	246,067 - 258,438	0.175
11,209 - 11,353	0.254	22,827 - 23,433	0.214	258,439 - 272,119	0.174
11,354 - 11,501	0.253	23,434 - 24,073	0.213	272,120 - 287,329	0.173
11,502 - 11,653	0.252	24,074 - 24,750	0.212	287,330 - 304,341	0.172
11,654 - 11,809	0.251	24,751 - 25,465	0.211	304,342 - 323,494	0.171
11,810 - 11,970	0.250	25,466 - 26,223	0.210	323,495 - 345,219	0.170
11,971 - 12,135	0.249	26,224 - 27,028	0.209	345,220 - 370,073	0.169
12,136 - 12,304	0.248	27,029 - 27,883	0.208	370,074 - 398,783	0.168
12,305 - 12,479	0.247	27,884 - 28,795	0.207	398,784 - 432,322	0.167
12,480 - 12,658	0.246	28,796 - 29,768	0.206	432,323 - 472,020	0.166
12,659 - 12,842	0.245	29,769 - 30,809	0.205	472,021 - 519,747	0.165
12,843 - 13,032	0.244	30,810 - 31,925	0.204	519,748 - 578,210	0.164
13,033 - 13,228	0.243	31,926 - 33,126	0.203	578,211 - 651,493	0.163
13,229 - 13,430	0.242	33,127 - 34,420	0.202	651,494 - 746,048	0.162
13,431 - 13,638	0.241	34,421 - 35,820	0.201	746,049 - 872,709	0.161
13,639 - 13,852	0.240	35,821 - 37,338	0.200	872,710 - 1,051,172	0.160
13,853 - 14,073	0.239	37,339 - 38,991	0.199	1,051,173 - 1,321,388	0.159
14,074 - 14,302	0.238	38,992 - 40,797	0.198	1,321,389 - 1,756,574	0.158
14,303 - 14,538	0.237	40,798 - 42,778	0.197	1,756,575 - 1,908,387	0.157
14,539 - 14,782	0.236	42,779 - 44,961	0.196	1,908,388 - 2,088,923	0.156
14,783 - 15,034	0.235	44,962 - 47,379	0.195	2,088,924 - 2,307,186	0.155
15,035 - 15,295	0.234	47,380 - 50,072	0.194	2,307,187 - 2,576,382	0.154
15,296 - 15,566	0.233	50,073 - 53,090	0.193	2,576,383 - 2,916,693	0.153
15,567 - 15,846	0.232	53,091 - 56,495	0.192	2,916,694 - 3,360,589	0.152
15,847 - 16,136	0.231	56,496 - 60,366	0.191	3,360,590 - 3,963,854	0.151
16,137 - 16,437	0.230	60,367 - 64,807	0.190	3,963,855 - 4,831,091	0.150
16,438 - 16,749	0.229	64,808 - 69,954	0.189	4,831,092 - 6,184,085	0.149
16,750 - 17,074	0.228	69,955 - 75,988	0.188	6,184,086 - 8,589,719	0.148
17,075 - 17,412	0.227	75,989 - 83,161	0.187	8,589,720 - 14,058,551	0.147
17,413 - 17,763	0.226	83,162 - 91,831	0.186	14,058,552 - 38,693,808	0.146
17,764 - 18,128	0.225	91,832 - 102,517	0.185	38,693,809 - and OVER	0.145

Note: Above table based on the following discounts:

First	10,000	0.0%
Next	190,000	9.1%
Next	1,550,000	11.3%
Over	1,750,000	12.3%

**MASSACHUSETTS WORKERS' COMPENSATION****Table of Compensation Expense Ratios****Type B Discount with ALAE OPTION***Excluding Allocated LAE and Taxes, but Including Profit and Contingencies***Effective September 1, 1999**

<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>	<u>Standard Premium</u>	<u>Expense Ratio</u>
0 - 10,102	0.264	19,851 - 20,682	0.239	238,705 - 257,918	0.214
10,103 - 10,313	0.263	20,683 - 21,586	0.238	257,919 - 280,496	0.213
10,314 - 10,533	0.262	21,587 - 22,573	0.237	280,497 - 307,406	0.212
10,534 - 10,763	0.261	22,574 - 23,655	0.236	307,407 - 340,027	0.211
10,764 - 11,002	0.260	23,656 - 24,845	0.235	340,028 - 380,394	0.210
11,003 - 11,253	0.259	24,846 - 26,162	0.234	380,395 - 431,635	0.209
11,254 - 11,516	0.258	26,163 - 27,626	0.233	431,636 - 498,832	0.208
11,517 - 11,791	0.257	27,627 - 29,264	0.232	498,833 - 590,807	0.207
11,792 - 12,079	0.256	29,265 - 31,107	0.231	590,808 - 724,368	0.206
12,080 - 12,382	0.255	31,108 - 33,199	0.230	724,369 - 935,953	0.205
12,383 - 12,701	0.254	33,200 - 35,593	0.229	935,954 - 1,322,148	0.204
12,702 - 13,036	0.253	35,594 - 38,358	0.228	1,322,149 - 1,814,219	0.203
13,037 - 13,390	0.252	38,359 - 41,590	0.227	1,814,220 - 1,993,772	0.202
13,391 - 13,763	0.251	41,591 - 45,416	0.226	1,993,773 - 2,212,770	0.201
13,764 - 14,158	0.250	45,417 - 50,017	0.225	2,212,771 - 2,485,814	0.200
14,159 - 14,576	0.249	50,018 - 55,655	0.224	2,485,815 - 2,835,729	0.199
14,577 - 15,019	0.248	55,656 - 62,726	0.223	2,835,730 - 3,300,293	0.198
15,020 - 15,490	0.247	62,727 - 71,856	0.222	3,300,294 - 3,946,894	0.197
15,491 - 15,992	0.246	71,857 - 84,095	0.221	3,946,895 - 4,908,597	0.196
15,993 - 16,528	0.245	84,096 - 101,361	0.220	4,908,598 - 6,489,942	0.195
16,529 - 17,100	0.244	101,362 - 127,547	0.219	6,489,943 - 9,574,419	0.194
17,101 - 17,714	0.243	127,548 - 171,977	0.218	9,574,420 - 18,246,383	0.193
17,715 - 18,373	0.242	171,978 - 207,751	0.217	18,246,384 - 193,581,395	0.192
18,374 - 19,083	0.241	207,752 - 222,155	0.216	193,581,396 - and OVER	0.191
19,084 - 19,850	0.240	222,156 - 238,704	0.215		

Note: Above table based on the following discounts:

First	10,000	0.0%
Next	190,000	5.1%
Next	1,550,000	6.5%
Over	1,750,000	7.5%

## Massachusetts Workers' Compensation

Effective September 1, 1999

Expense Provisions Underlying the Proposed Retrospective Rating Plans

(1) Expected Loss and LAE Ratio (adjusted for Residual Market Subsidy)	77.6%
$1 - [(4) + (5) + (7)]$	
(2) Loss Adjustment Expense (as percentage of losses)	25.5%
(3) <b>Expected Loss without LAE</b> $(1)/[1 + (2)]$	<b>61.8%</b>
<b>Tax Multiplier</b>	<b>1.033</b>
$1 / (1 - [(5) + (6) + (7)])$	
<b>Expenses excluding Premium Taxes but including LAE</b>	<b>35.0%</b>
$1 - [(3) + (5) + (6) + (7)]$	
Acquisition and Field Supervision (Net of Premium Discount)	9.3%
Fixed Expenses (Net of Premium Discount)	7.8%
Premium Discount <sup>1</sup>	7.0%
Premium Taxes (Net of Premium Discount) <sup>1</sup>	2.1%
<u>Profit and Contingencies</u>	<u>-4.7%</u>
(4) Total Expenses	21.5%
(5) Residual Market Subsidy	1.2%
(6) Premium Tax Rate	2.3%
(7) Insolvency Fund Assessment	-0.3%

Premium Discount Schedule

<u>Layer of Premium</u>	<u>Premium Discounts</u>	
	<u>Type A</u> <u>Discount</u>	<u>Type B</u> <u>Discount</u>
First \$ 10,000	0.0 %	0.0 %
Next 190,000	9.1	5.1
Next 1,550,000	11.3	6.5
Over 1,750,000	12.3	7.5

<sup>1</sup> Average Voluntary Premium Discount as a Percent of Standard Premium / (1 + Average ARAP Surcharge) = 7.4% / (1 + 5.9%) = 7.0%. (Section VI-I) The average premium discount is larger for the voluntary than for the total market, so the premium taxes are slightly lower for the voluntary market than for the total market : 2.3% X [1.00 - Premium Discount (Voluntary Mkt.)] = 2.3% X (1 - 7.0%) = 2.1%.

Massachusetts Workers' Compensation

**Effective September 1, 1999**

Expense Provisions Underlying the **ALAE Option** of the  
Proposed Retrospective Rating Plans

(1)	Expected Loss without Loss Adjustment Expense	61.8%
(2)	Provision for Allocated ALAE (as percentage of losses)	13.9%
	<b>Expected Loss plus Allocated LAE Ratio</b>	<b>70.4%</b>
	(1) X [1 + (2)]	
(3)	Loss Adjustment Expense	25.5%
	<b>Loss Conversion Factor</b>	<b>1.102</b>
	[1 + (3)] / [1 + (2)]	
	<b>Tax Multiplier</b>	<b>1.033</b>
(4)	Expenses excluding Premium Taxes but including LAE	35.0%
	<b>Expenses including all Unallocated LAE but excluding Allocated LAE and Premium Taxes</b>	<b>26.4%</b>
	(4) - [(2) X (1)]	



Massachusetts Workers' Compensation

**Effective September 1, 1999**

Calculation of the Provision for the Residual Market Subsidy

(1)	Expected Loss Ratio (without loss adjustment expense)	63.1%
(2)	Residual Market Loss Ratio ÷ Full Coverage Voluntary Ratio	1.40
(3)	Residual Market Premium ÷ Full Coverage Voluntary Market Premium	0.081
(4)	Provision for Premium Discounts	6.6%
(5)	Residual Market Premium ÷ Voluntary Assessable Premium	0.066
(6)	Provision for Loss Adjustment Expense	1.255
(7)	Effective Residual Market Surcharge	0.0%
(8)	Factor to take into account Basic Premium	0.80
(9)	Retro Provision for the Residual Market Subsidy	<b>1.2%</b>

(7) While a 2% Residual Market surcharge was requested in the rate filing, no surcharge was approved by the Commissioner of Insurance.

(8) From the filing for the provision for the Residual Market Subsidy effective 1/1/89.

$$(9) = (5) \times (8) \times \left\{ \frac{(1) \times (6) \times [(2) - 1]}{1 + [(2) \times (3)]} - (4) - \frac{(7)}{1 + (3) + [(3) \times (7)]} \right\}$$