

**MASSACHUSETTS WORKERS
COMPENSATION ADVISORY COUNCIL**

**Proposed Changes to Sections 34 and 35 of Chapter 152 of the Massachusetts
General Laws**

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**MASSACHUSETTS WORKERS
COMPENSATION ADVISORY COUNCIL**

**Proposed Changes to Sections 34 and 35 of Chapter 152 of the Massachusetts
General Laws**

EXECUTIVE SUMMARY

PURPOSE AND SCOPE

Massachusetts Workers Compensation Advisory Council (the Council) engaged Tillinghast – Towers Perrin (Tillinghast) to evaluate proposed changes to Sections 34 and 35 of Chapter 152 of the General Laws of the Commonwealth. Specifically, we were requested to evaluate the proposed impact of a number of alternate scenarios under consideration by various interested parties. Descriptions of the relevant provisions of Chapter 152 which affect the results are contained in the Executive Summary section of this report.

DISTRIBUTION AND USE

We have prepared this report for the Council to assist it in evaluating the impact of the proposed changes in Sections 34 and 35. We understand that copies of our report will also be provided to the Joint Committee on Commerce and Labor. In addition, we understand that under the Freedom of Information Act, this report may become public information available on request to anyone. In such an instance, we request that a list of recipients be provided to Tillinghast periodically. Permission is hereby granted for this distribution on the condition that the entire report is distributed rather than any excerpt. Third parties should recognize that the furnishing of this report is not a substitute for their own due diligence and

should place no reliance on this report or the data contained herein that would result in the creation of any duty or liability by Tillinghast to the third party.

Any reference to Tillinghast in relation to this report in any reports, accounts, or other published documents or any verbal reference issued by the Council is not authorized without our prior written consent.

The exhibits attached in support of our recommendations and findings are an integral part of this report. These sections have been prepared so that our actuarial assumptions and judgments are documented. Judgments about the conclusions drawn in this report should be made only after considering the report in its entirety. We remain available to answer any questions that may arise regarding this report. We assume that the user of this report will seek such explanation on any matter in question.

Our conclusions and recommendations are predicated on a number of assumptions as to future conditions and events. Those assumptions, which are documented in subsequent sections of this report, must be understood in order to place our conclusions in their appropriate context. In addition, our work is subject to inherent limitations, which are also discussed in the report.

RELIANCES AND LIMITATIONS

In this review we relied without verification or audit upon information supplied to us by the Council. We also relied, without verification or audit, upon information collected by the Workers Compensation Rating and Inspection Bureau of Massachusetts (the WCRIBM). We did, however, review the information provided to us for reasonableness.

The estimation of future workers compensation claim costs, particularly under scenarios which reflect an expansion of benefits, is subject to potentially large errors of estimation. For example, there are a number of areas where the available data is sparse and where significant judgments had to be made; to the extent that future emergence is different than we assumed, our projections may prove incorrect. In addition, there are a number of behavioral effects associated with revising benefit levels (e.g., “incentives” to extend or reduce duration on benefit). These effects can have a significant impact on costs, but are not considered in our model. In addition, workers compensation costs are subject to overall economic conditions. To the extent that there are significant changes in the Commonwealth’s economy prospectively (i.e., changes in employment levels), the results contained in this analysis may be affected. Although we believe we have carried out our analysis using reasonable actuarial methods, it should be recognized that actual future costs may deviate substantially from the specific estimates contained herein.

FINDINGS

The following sections provide background on the key issues concerning our analysis and summarize our findings.

1. Background

The Council asked us to estimate the impact on workers compensation costs under twelve alternative scenarios with respect to benefits under Section 34 (temporary total) and Section 35 (permanent partial) of Chapter 152 of the Massachusetts General Laws. These scenarios are detailed in the following table using the Council's nomenclature, along with the provisions under the current law (Chapter 398 (c.398) enacted in December 1991). An explanation of the key terms follows the table.

Scenario	Section 34		Section 35		
	Compensation Rate (% of weekly wage)	Maximum Duration (weeks)	Compensation Rate (% of weekly wage)	Maximum Duration (weeks)	Cap on 75% of Section 34 Benefits
A	66-2/3	260	66-2/3	600	No
B	66-2/3	156	66-2/3	260	No
C	66-2/3	260	66-2/3	600	Yes
D	66-2/3	156	66-2/3	260	Yes
E	60	260	60	600	Yes
F	60	156	60	260	No
G	60	260	60	600	No
H	63	260	63	600	No
I	63	156	63	260	No
J	63	156	63	260	Yes
K	63	260	63	600	Yes
L	60	156	60	364	No
Current Law	60	156	60	260	Yes

All of the above variations relate to changing the compensation rate or the benefit duration. Details on these items are as follows.

- **Compensation Rate** - Currently a worker receiving Section 34 benefits receives 60% of his/her average weekly wage, subject to minimum and maximum provisions. The minimum compensation rate is 20% of the statewide average weekly wage (SAWW), while the maximum compensation rate is equal to the SAWW, which was \$666 effective October 1, 1997. However, if an employee's average weekly wage is less than 20% of the minimum weekly compensation

rate, the worker receives his/her average weekly wage as a Section 34 benefit.

Under Section 35, an injured employee receives 60% of the difference in his/her average weekly wage before injury and after injury; the maximum compensation rate under this section is capped at 75% of the comparable Section 34 benefit. In addition, if Section 35 benefits plus post-injury weekly earnings are greater than twice the SAWW, the Section 35 benefit is reduced. These caps were introduced as part of c.398; previously Section 35 benefits were capped at the SAWW. There is no minimum weekly compensation rate under Section 35.

For both sections, the 60% compensation rate was implemented as part of the c.398 revisions in 1991; previously the compensation rate for Sections 34 and 35 was 66-2/3%.

- **Duration** - Presently the maximum duration of benefits under Section 34 is 156 weeks; this was reduced from 260 weeks under c.398. The maximum duration under Section 35 is 260 weeks, unless an employee has suffered a permanent loss of at least 75% of any bodily function or sense, developed a permanently life threatening physical condition or contracted a permanently disabling occupational disease which is of a physical nature and cause. In these cases, benefits under Section 35 are limited to 520 weeks. Section 35 durations were capped at 600 weeks prior to the implementation of c.398.

In addition c.398 imposed an aggregate duration of 364 weeks for the combination of Section 34 and 35 benefits, unless an injured worker was eligible for 520 weeks of Section 35 benefits. In that case the aggregate duration for Section 34 and 35 benefits is capped at 520 weeks.

2. Evaluation of Council Scenarios

For each of the Council scenarios, we estimate the impact on system costs of changing the compensation rate and/or the benefit durations. We use the term costs to refer to expenditures related to workers compensation benefits.

Summary of Impact of Proposed Benefit Changes						
Scenario	Compensation Rate	Durations		Section 35 Cap	Overall Impact Assuming No Change in Utilization	Overall Impact Assuming 5% Increase in Utilization
		Section 34	Section 35			
A	66-2/3	260	600	No	14.2%	15.0%
B	66-2/3	156	260	No	3.4%	3.6%
C	66-2/3	260	600	Yes	13.9%	14.6%
D	66-2/3	156	260	Yes	3.1%	3.3%
E	60	260	600	Yes	10.4%	11.0%
F	60	156	260	No	0.2%	0.2%
G	60	260	600	No	10.6%	11.2%
H	63	260	600	No	12.3%	12.9%
I	63	156	260	No	1.7%	1.7%
J	63	156	260	Yes	1.4%	1.5%
K	63	260	600	Yes	12.0%	12.7%
L	60	156	364	No	0.7%	0.7%

Some key points to note in reviewing these results are as follows.

- Scenario A, which is equivalent to the pre c.398 benefits and House Bill 1441, has the most significant impact on costs. In total, we estimate that costs would increase by 14% under this scenario, assuming no increase in utilization. The biggest increase is associated with Section 34 benefits, and reflects the impact of extended durations, as well as a higher compensation rate.
- Extending durations has a more significant impact on costs than changing the compensation rate.
- Removing the Section 35 cap has a relatively minimal impact on overall costs. This is because relatively few claimants are subject to this cap, based on the distribution of injured workers weekly wages. For example, less than 4% of injured workers earn more than two times the SAWW (where the second tier of capping applies).
- An increase in benefit levels may have an impact on utilization levels of the workers compensation system. This is not considered in the first column of results. Given that an expansion in benefits is more likely to produce an increase in utilization than a decrease, this suggests that these results could prove optimistic. The second column of results assumes a uniform 5% increase in utilization across all scenarios, although the actual utilization impacts are likely to vary across scenarios. For example, if the expansion in benefits were significant enough to reverse the utilization effect of c.398 (an example which has more likelihood under Scenario A than under Scenario F), the increase in costs could be significantly higher. In particular, if utilization were to increase 20%, the overall cost increase under Scenario A could be in excess of 17%.

However, there are also a number of offsetting factors which could affect ultimate utilization, including employers' loss control and safety programs, return to work, light duty arrangements, and a more "managed" medical approach.

- The above estimates will not translate directly into rate level effects for a number of reasons including
 - ✓ benefit levels are only one of the factors which affect premium levels; and
 - ✓ the actual rate decision is often negotiated
- The overall cost estimates are dependent on the weights applied to each section. These weights are based on the 1997 WCRIBM filing. To the extent that the prospective distribution by injury type is consistent with the 1989-1991 level, our estimates will be understated. For example, if the percentage of benefits represented by Section 34 and 35 payments increased by 25% over the level assumed, overall costs would increase by about 18% (assuming no change in utilization).
- c.398 eliminated cost of living adjustments (COLA's) for permanent partial claims. (Section 34 claimants never received COLA's.) Our analysis does not contemplate the restoration of COLA's under any scenario.
- There are a number of key assumptions underlying our results, which are discussed in the Methodology section. These assumptions should be reviewed for a better understanding of the findings shown above.

The Joint Committee on Commerce and Labor of the Commonwealth of Massachusetts is also considering scenarios which would vary the compensation rate by benefit section (i.e., 63% for Section 34/60% for Section 35 or 60% for Section 34/63% for Section 35). We did not consider these benefit structures in our analysis for three reasons.

- Varying compensation rates by Section creates behavioral incentives which cannot be captured in the type of pricing model we constructed.
- Very few states vary the compensation rate by injury status (i.e., temporary total or permanent partial) so that there is relatively little data which can be used to estimate the impact of these changes.
- In general, there is an expectation that an injured worker would receive a greater benefit when he/she is completely unable to work (e.g., treated as a temporary total) then when he/she has returned to work with some earning capacity (e.g., eligible for Section 35 benefits).

3. Impact by Employer Risk Financing Technique

The Council asked that we consider the impact of the various scenarios for insured employers relative to individual self-insurers or self-insurance group members. Our analysis was based on insured employers' data (given the Council's time frames); however, one would expect that changes in benefit levels would affect similarly situated employers in a similar manner. The factors that would have a more significant impact on a particular employers' costs include:

- ✓ The availability of light duty/return to work programs. In the absence of these types of programs, an increase in compensation rates or benefit durations could lead to an increase in employer costs.
- ✓ An employers compensation levels. For example, if all injured workers currently receive the maximum compensation rate, increasing the compensation rate (as a percentage of average weekly wages) would not effect current costs.
- ✓ The impact of loss control programs. An employer with higher injury frequencies or a greater percentage of serious injuries could experience cost increases if either the compensation rate or the benefit duration increased. To the extent these can be mitigated or managed through the employers loss prevention/control efforts, the employer's costs may be less effected by statutory changes.
- ✓ The manner in which claims are handled. To the extent that a self-insurer (either individual or group) has better control over claims handling than an insured employer, the employer could be less adversely effected under scenarios where there is a significant expansion of benefits.

4. Impact on Residual Market

The Council also asked us to comment on the potential impact of these proposed changes on the Residual Market. Presently the Residual Market is at its lowest level (as a percentage of written premium) since the early 1980's, due to favorable market results in the recent past. To the extent that benefit expansions are implemented in 1997 or 1998 and it is perceived that premium levels do not adequately reflect the associated

costs, these changes could cause the size of the Residual Market to increase. If pricing is considered to be in line with costs, these changes may not have a significant overall impact on the Residual Market. However, these impacts may differ significantly for an individual employer, depending on an insurer's perception of the employer's premium level relative to its estimated costs under the revised benefit structure.

**MASSACHUSETTS WORKERS
COMPENSATION ADVISORY COUNCIL**

**Proposed Changes to Sections 34 and 35 of Chapter 152 of the Massachusetts
General Laws**

METHODOLOGY

OVERVIEW

The following sections present a detailed description of our analysis of the proposed legislative changes. The key steps in the process were:

- derive distributions of injured workers' weekly wages, and durations of benefit;
- combine the wage and duration distributions to estimate claim costs under the current law (c.398);
- vary the model assumptions to reflect the scenarios proposed by the Council; and
- weight the results by injury type to derive an overall result.

Details on each of these steps is as follows. We conclude the section with a discussion of the other assumptions underlying our analysis.

- **Wage and Duration Distributions** - Wage and duration distributions were derived from the August 1997 WCRIBM rate filing. We note that the duration distributions are based on the Detailed Claim Call for accident years October 1981 - September 1987 (major permanent partial) and October 1986 - September 1988 (temporary total and minor permanent partial), which reflect greater benefit durations than are allowed

under the current law. However, these distributions are not unreasonable to use with respect to evaluating benefits under scenarios which propose extending durations beyond the c.398 levels. We also note that no claimants would yet be effected by the aggregate duration cap on Section 34 and 35 benefits (364 or 520 weeks) imposed by c.398 in 1991.

Exhibits 2 through 5 summarize the various distributions used in the model. Details are as follows.

Exhibit Number	Description
2	Injured Workers Wage Distribution
3	Temporary Total Claims - Distribution of Duration
4	Major Permanent Partial Claims - Distribution of Healing Period and Partial Benefit Duration
5	Minor Permanent Partial Claims - Distribution of Healing Period and Partial Benefit Duration

- **Combination of Distributions** - We combined the distributions to estimate benefit costs under the current law using the following steps.
 - ✓ Each percentile of the wage distribution is multiplied by the SAWW to calculate the average wages for that band. These wages are then multiplied by the compensation rates to determine an average benefit, which is further subject to the minimum and maximum compensation rates. We assume that the overall wage distribution for all workers is appropriate for evaluating benefits under each section of the law (i.e., there is no difference in the pre-injury average

weekly wage of a worker receiving Section 34 benefits relative to one receiving Section 35 benefits). We have no data to test the reasonableness of this assumption but note that it is typically used in workers compensation pricing.

- ✓ The distribution of compensation rates is combined with the duration distributions to estimate the average claim cost under the current law. Duration caps are applied, both by section, and in aggregate. The sum product of the distributions is the basis for estimating costs under the current law and any proposed changes. Using a simplified example, this approach can be illustrated as follows.
 - assume 1/2 of claimants receive \$200 as a compensation rate and 1/2 receive \$400; and
 - assume that 1/2 of claimants are on Section 34 for 156 weeks and 1/2 are on Section 34 for 260 weeks.

The average cost of Section 34 benefits based on these assumptions is as follows.

Benefit Rate	Weeks on Benefit	Average Cost - c. 398	Average Cost - pre c.398
\$200	156	\$31,200	\$31,200
	260	31,200	52,000
\$400	156	62,400	62,400
	260	62,400	104,000
Overall	—	\$46,800	\$62,400

Under c.398, the average cost for either duration is the same, due to the duration cap on Section 34 benefits. The table above also shows how the average cost would be calculated under the pre c.398 duration (which is equivalent to the Council's Scenario A).

In the model we assume that the wage and duration distributions are independent, that is, a workers' duration on benefit is not affected by his/her wage level. In practice, there are likely to be situations where this assumption is violated (i.e., a highly compensated worker may experience a shorter duration on benefit since his/her compensation rate may be significantly less than his/her salary, while a lower paid worker may stay on benefit longer). These effects, however, are subject to a number of additional factors which are not considered in the modeling process (e.g., income tax effects, presence of other earners, possibility for "undocumented wages"). Since these factors will have various and non-quantifiable effects on the analysis, we believe it is not unreasonable to assume that the distributions are independent.

- **Varying Assumptions** - To evaluate the various alternative scenarios developed by the Council, we modify the following variables.
 - ✓ **Compensation Rate** - We vary the compensation rate from 60% to either 63% or 66-2/3%. The minimum and maximum provisions are identical under all scenarios.
 - ✓ **Duration** - We modify the Section 34/35 benefit durations of 156/260 weeks to 260/600 weeks as appropriate. In modeling the 156/260 week scenarios, we also apply the 364/520 week aggregate duration cap on Section 34 and 35

benefits. We also assume that 25% of injured workers will be eligible for the extended duration (520 weeks).

- ✓ **Section 35 Cap** - We remove the cap on Section 35 benefits (whereby they are restricted to 75% of the Section 34 benefit and reduced if the total of the post-injury earnings and benefits are more than double the SAWW) where appropriate under each of the scenarios.

- **Weighting of Results** - We calculate average claim costs for three categories of claimants (temporary total, major permanent partial, and minor permanent partial) since this is the basis that the WCRIBM uses to compile data. The results are then weighted as follows.

Category	Weight
Temporary Total	33.5%
Major Permanent Partial	64.4%
Minor Permanent Partial	2.1%
Total	100.0%

The weights are based on information provided by the WCRIBM. This results in a combined cost impact, which is a weighted average of the change in costs for each injury type reviewed (i.e., Sections 34 and 35 only). We also calculate an overall effect by weighting the Section 34 and 35 cost changes and assuming no cost change for other injury types.

Although we show results by injury type, the results are not independent. For example, if only Section 34 benefits were changed, the actual cost impact would probably be greater than projected because there would likely be increased utilization of these benefits.

OTHER ASSUMPTIONS

There are several other assumptions underlying the modeling process.

- **Benefit During Healing Period** - We assume that permanent partial claimants will receive temporary total benefits for the duration of the healing period.
- **Social Security** - We have included no provision for a Social Security offset for two reasons
 - ✓ workers compensation is primary to Social Security; and
 - ✓ workers receiving benefits under either Section 34 or 35 are unlikely to be eligible for Social Security Disability benefits, given the eligibility requirements for these benefits.
- **Mortality and Morbidity** - We have assumed no impact for mortality and morbidity. Since the average age of an injured worker in Massachusetts is 35 for non-serious injuries and 39 for serious injuries, this should not have a significant impact on results (unless there is a significant variation in age by injury type; again we do not have data to test the reasonableness of this assumption but note that generally workers compensation pricing uses equivalent age distributions for each injury type).
- **Dependents Benefits** - We have not considered the impact of dependents benefits in

the analysis for two reasons:

- ✓ they would not change under any of the proposed scenarios; and
 - ✓ these benefits are generally minimal relative to the benefits received by injured workers.
-
- **Inflation** - We have assumed an SAWW of \$666 in projecting future costs, based on data as of October 1997. To the extent that future inflation varies significantly from the assumed level, our results may be understated. This is particularly true for scenarios where the duration on benefits is extended, relative to current law.
 - **Behavioral Impacts/External Factors** - We have made no explicit adjustments in our analysis to reflect these types of factors (e.g., “incentives” to remain on benefit if durations/compensation rates are increased or changes in the macroeconomic structure). These types of changes are beyond the scope of this analysis and the data available to evaluate these effects is limited. We did estimate cost impacts assuming a 5% increase in utilization overall.
 - **Basis of Data Compilation** - The data used for evaluating the impact of the proposed law changes is compiled on a different basis than the statutory benefit definitions (i.e., the proposed law changes affect Section 35, where the available data is sorted by insurers’ injury definitions(major permanent partial and minor permanent partial)). We assume that the definitions used to identify claimants by injury type are consistent with the descriptions under each of the sections of the law and that the combination of the major and minor permanent partial claimants represents a reasonably proxy for Section 35 claimants. The two categories are distinguished by the severity of the

injury. We also note that temporary total refers to injured workers receiving benefits under Section 34. Over time, the injured worker could move to permanent total status (Section 34A) if he/she is unable to return to work or to Section 35, if he/she is determined to be partially disabled.

- **Lump Sum Payments** - Our estimates of the cost impact of the proposed benefit changes presumes that benefits will be paid out according to the benefits schedule. Since a large percentage of claims are settled through lump sum agreements, actual claim costs can be as much a function of employer/employee negotiations as they are of the statutory benefit schedules.
- **Independence of Distributions** - Throughout our analysis, we have assumed that the individual distributions are independent. In practice it is likely that there is some correlation between distributions (i.e., claimants with longer durations of total benefits will likely have longer durations of partial benefits). There is very little data available to quantify the impact of this assumption.
- **Weights by Benefit Type** - The weights by benefit type are derived from the 1997 WCRIBM filing. The estimated effects of the proposed changes are highly sensitive to these assumptions. If the future distribution of benefits is at the 1989-1991 level, our cost estimates are likely to be understated.
- **Schedule Benefits** - Our analysis did not consider schedule benefits, since they would not be revised under any of the proposed scenarios.
- **Duration Caps** - All scenarios with the current duration structure (Section 34 - 156 weeks/Section 35 - 260/520 weeks) were modeled subject to the aggregate duration

the pre c.398 duration scenarios. (Section 34 - 260 weeks/Section 35 - 600 weeks).

Summary of Impact of Proposed Benefit Changes

Scenario	Benefit Level	Durations		Section 35 Cap	Temporary Total	Major Permanent Partial	Minor Permanent Partial	Total	Overall Rate Level Impact
		Section 34	Section 35						
Weights	-	-	-	-	20.6%	39.5%	1.3%	61.4%	
A	66.7%	260	600	No	25.4%	22.5%	10.1%	23.2%	14.2%
B	66.7%	156	260	No	8.9%	3.7%	10.1%	5.6%	3.4%
C	66.7%	260	600	Yes	25.4%	21.7%	9.4%	22.7%	13.9%
D	66.7%	156	260	Yes	8.9%	3.0%	9.4%	5.1%	3.1%
E	60.0%	260	600	Yes	15.2%	18.5%	0.0%	17.0%	10.4%
F	60.0%	156	260	No	0.0%	0.4%	0.5%	0.3%	0.2%
G	60.0%	260	600	No	15.2%	18.9%	0.5%	17.3%	10.6%
H	63.0%	260	600	No	20.0%	20.5%	4.9%	20.0%	12.3%
I	63.0%	156	260	No	4.1%	1.9%	4.9%	2.7%	1.7%
J	63.0%	156	260	Yes	4.1%	1.4%	4.3%	2.4%	1.4%
K	63.0%	260	600	Yes	20.0%	19.9%	4.3%	19.6%	12.0%
L	60.0%	156	364	No	0.0%	1.7%	0.5%	1.1%	0.7%

Note: Scenarios provided by the Massachusetts Workers Compensation Advisory Council.

Weights by injury type are from the August 1997 WCRIBM filing.

Estimated benefit changes are based on a model of benefit level and durations using distributions of injury durations and wages from the August 1997 WCRIBM filing.

Temporary total refers to injured workers receiving benefits under Section 34. Over time, the injured worker could move to permanent total status (Section 34A) or to Section 35.

The combined group of major and minor permanent partial claimants approximates the group of injured workers receiving Section 35 benefits. The two categories are distinguished by the severity of the injury.

The total cost impact shown above is the weighted average of the cost impacts for each injury type reviewed. The results are not independent.

The overall effect is calculated by weighting the total cost impact for Section 34 and 35 and assuming no change for other injury types.

Massachusetts Workers Compensation Advisory Council
Injured Worker Wage Distribution

<u>Percent of SAWW</u>	<u>Percent of Injured Workers</u>	<u>Percent of SAWW</u>	<u>Percent of Injured Workers</u>	<u>Percent of SAWW</u>	<u>Percent of Injured Workers</u>
0.05	0.1068	2.55	99.2172	5.05	99.9357
0.10	0.3511	2.60	99.3278	5.10	99.9390
0.15	0.8384	2.65	99.3962	5.15	99.9415
0.20	1.4357	2.70	99.4464	5.20	99.9438
0.25	2.1432	2.75	99.5127	5.25	99.9453
0.30	2.9058	2.80	99.5551	5.30	99.9483
0.35	3.7375	2.85	99.5867	5.35	99.9488
0.40	4.7328	2.90	99.6240	5.40	99.9498
0.45	6.1073	2.95	99.6515	5.45	99.9508
0.50	8.2201	3.00	99.6742	5.50	99.9539
0.55	11.6032	3.05	99.6888	5.55	99.9552
0.60	15.3290	3.10	99.7116	5.60	99.9559
0.65	20.5672	3.15	99.7288	5.65	99.9569
0.70	25.9600	3.20	99.7427	5.70	99.9584
0.75	32.3089	3.25	99.7614	5.75	99.9607
0.80	37.5110	3.30	99.7825	5.80	99.9623
0.85	42.9709	3.35	99.7922	5.85	99.9656
0.90	48.2321	3.40	99.7995	5.90	99.9674
0.95	53.1109	3.45	99.8141	5.95	99.9684
1.00	58.4036	3.50	99.8211	6.00	99.9701
1.05	62.9643	3.55	99.8308	6.05	99.9712
1.10	67.1858	3.60	99.8403	6.10	99.9722
1.15	70.6767	3.65	99.8457	6.15	99.9727
1.20	74.0989	3.70	99.8511	6.20	99.9734
1.25	77.0678	3.75	99.8575	6.25	99.9753
1.30	79.9516	3.80	99.8616	6.30	99.9758
1.35	82.2534	3.85	99.8657	6.35	99.9763
1.40	84.5435	3.90	99.8731	6.40	99.9775
1.45	86.3620	3.95	99.8774	6.45	99.9780
1.50	87.9326	4.00	99.8800	6.50	99.9816
1.55	89.1240	4.05	99.8835	6.55	99.9831
1.60	90.4193	4.10	99.8871	6.60	99.9848
1.65	91.6370	4.15	99.8949	6.65	99.9851
1.70	92.4497	4.20	99.8970	6.70	99.9861
1.75	93.2448	4.25	99.9000	6.75	99.9871
1.80	93.9290	4.30	99.9033	6.80	99.9877
1.85	94.5674	4.35	99.9058	6.85	99.9892
1.90	95.1329	4.40	99.9086	6.90	99.9897
1.95	95.7436	4.45	99.9091	6.95	99.9902
2.00	96.2339	4.50	99.9122	7.00	99.9917
2.05	96.6383	4.55	99.9142		
2.10	97.1239	4.60	99.9155		
2.15	97.4920	4.65	99.9173		
2.20	97.8424	4.70	99.9197		
2.25	98.1208	4.75	99.9210		
2.30	98.3723	4.80	99.9245		
2.35	98.6285	4.85	99.9277		
2.40	98.8248	4.90	99.9290		
2.45	98.9702	4.95	99.9316		
2.50	99.1283	5.00	99.9337		

Note: From August 1997 WCRIBM filing.

Massachusetts Workers Compensation Advisory Council
 Temporary Total Claims
 Distribution of Duration

<u>Age (Months)</u>	<u>Cumulative Distribution</u>
1	0.269
2	0.433
3	0.517
4	0.574
5	0.614
6	0.649
7	0.677
8	0.701
9	0.720
10	0.735
11	0.747
12	0.759
13	0.768
14	0.776
15	0.783
16	0.790
17	0.796
18	0.800
19	0.804
20	0.808
25	0.837
35	0.857
46	0.867
55	0.879
67	0.892
87	0.913
125	0.946
173	0.968
224	0.983
270	0.997
300	1.000

Note: From August 1997 WCRIBM filing.

Massachusetts Workers Compensation Advisory Council
Major Permanent Partial Claims
Distribution of Healing Period and Partial Benefit Duration

<u>Healing Period</u>		<u>Partial Benefit Duration</u>	
<u>Age</u>	<u>Cumulative</u>	<u>Age</u>	<u>Cumulative</u>
<u>(Months)</u>	<u>Distribution</u>	<u>(Months)</u>	<u>Distribution</u>
0	0.015	13	0.371
15	0.075	37	0.593
39	0.238	55	0.653
55	0.345	65	0.713
65	0.417	74	0.737
75	0.473	86	0.762
86	0.500	96	0.780
97	0.532	105	0.802
105	0.579	116	0.837
116	0.605	126	0.854
126	0.633	138	0.864
135	0.655	146	0.881
146	0.666	158	0.902
160	0.729	186	0.938
191	0.792	217	0.959
226	0.867	279	0.965
269	0.955	316	0.978
300	1.000	372	0.984
		471	0.992
		557	0.995
		842	1.000

Note: From August 1997 WCRIBM filing.

Massachusetts Workers Compensation Advisory Council
 Minor Permanent Partial Claims
 Distribution of Healing Period and Partial Benefit Duration

Healing Period		Partial Benefit Duration	
Age (Months)	Cumulative Distribution	Age (Months)	Cumulative Distribution
0	0.172	1	0.237
1	0.273	2	0.392
2	0.387	3	0.498
3	0.451	4	0.563
4	0.485	5	0.637
5	0.547	6	0.698
6	0.593	7	0.731
7	0.657	8	0.767
8	0.709	9	0.800
9	0.738	10	0.833
10	0.773	11	0.853
11	0.802	12	0.869
12	0.823	13	0.882
13	0.849	14	0.890
14	0.866	15	0.898
15	0.878	18	0.931
18	0.930	25	0.971
23	0.953	35	0.980
29	0.977	45	0.988
33	0.985	58	1.000
44	0.994		
56	1.000		

Note: From August 1997 WCRIBM filing.

**MASSACHUSETTS WORKERS
COMPENSATION ADVISORY COUNCIL**

**Analysis of Proposed Changes to Sections 34 and
35 of Chapter 152 of the Massachusetts General
Laws**

December 1997

Tillinghast - Towers Perrin

December 1, 1997

Mr. Matthew Chafe
Executive Director
Massachusetts Workers Compensation
Advisory Council
600 Washington Street
Boston, MA 02111

Dear Matt:

Enclosed, please find our analysis of the proposed changes to Sections 34 and 35 of Chapter 152 of the Massachusetts General Laws. It has been a pleasure to work on this analysis for the Massachusetts Workers Compensation Advisory Council. Please give either of us a call to discuss any questions you may have after reviewing the report.

Sincerely,



Ann M. Conway, FCAS, MAAA
Consulting Actuary
(617) 638-3774



Stacy L. T. Mina, FCAS, MAAA, CPCU
Consulting Actuary
(617) 638-3911

AMC/SLTM:cem

cc: John P. Tierney - Tillinghast/Boston