Pennsylvania Compensation Rating Bureau

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June 3, 2003

The Honorable M. Diane Koken
Insurance Commissioner
Commonwealth of Pennsylvania
Insurance Department
1311 Strawberry Square
Harrisburg, PA 17120

Attention: Chester J. Szczepanski

RE: Bureau Filing No. 208 – Experience Rating Plan Revisions

Dear Commissioner Koken:

On behalf of the members of the Pennsylvania Compensation Rating Bureau (PCRB), I am
filing herewith a revised Experience Rating Plan (ERP). The PCRB proposes to implement a
revised ERP **effective 12:01 a.m., April 1, 2004** with respect to new and renewal policies
having normal anniversary rating dates on or after that date.

In order to allow the Insurance Department a full opportunity to review the basis for the
proposed ERP, pertinent rating values consistent with the April 1, 2003 Loss Cost Filing are
provided in the supporting information for this filing. These include the ERP Table B, expected
loss cost factors which underlie the ERP Table A expected loss rates used in calculating
expected losses, and collectible premium ratios measuring the off-balance of the plan. The
PCRB will provide updated values as appropriate with its annual loss cost filing, expected to be
made later this year with a proposed effective date of April 1, 2004. The PCRB hopes that the
April 1, 2004 Loss Cost Filing can be prepared and submitted after a decision is rendered on
this filing, so that the form of the April 1, 2004 ERP can be a settled matter before that
subsequent filing is made and reviewed.

This filing represents the culmination of extensive testing and review of the existing ERP and
literally hundreds of possible alternative plans performed by the PCRB over the course of the
past few years. The narrative discussion following will provide background and explanation for
the proposed changes, as well as a guide to your office's review of the supporting information
included in this filing.

Background

On the occasion of each annual loss cost filing in Pennsylvania, the PCRB has prepared and submitted exhibits pertaining to the historical success of the existing ERP in identifying employers that should appropriately receive rating credits and debits, respectively, and the extent to which the magnitude of the assigned credits and debits were consistent with the subsequent loss experience of those risks. In addition, each annual loss cost filing updated most of the ERP parameters based on observed changes in experience statistics such as average claim size.

For several years, the PCRB's review of the ERP's historical performance exhibits has suggested that for larger risks (those employers having premium in excess of $250,000), while properly distinguishing between groups of employers that should receive rating credits and debits, respectively, the ERP has tended to assign higher credibilities than would have been optimal. As a result, employers receiving credits tended to get credits that overstated the extent to which their subsequent experience would be better than average, effectively making them worse-than-average risks after the experience modifications were applied. Similarly, employers receiving debits tended to get debits that overstated the extent to which their subsequent experience would be worse than average, effectively making them better-than-average risks after the experience modifications were applied.

Recognizing that at least portions of the ERP could apparently be improved, the PCRB under-took a comprehensive review of the plan. As analytical tools were developed, the course of this review changed. In final form, the review required and included test applications of hundreds of possible ERPs against actual historical PCRB data covering several rating years and their associated experience periods.

General Description of the Existing ERP

The PCRB's ERP has been in use in substantially its current form for at least three decades. The ERP includes the following key components within its design:

- A historical "experience period" is defined to be used in applying the ERP for a given policy period. Generally, the experience period is three years in duration and ends one year prior to the effective date of the rating being promulgated. Special rules apply to circumstances in which successive policy periods are not each 12 months long. The defined experience period balances two conflicting considerations; first, that of wanting to have a significant amount of experience available upon which rating adjustments may be founded, and second, the desirability of having the experience period be reflective of current experience and thus reasonably responsive to changes in employer practices and conditions over time.

- A minimum qualification is established, defining those employers that will be subject to experience rating. The current Pennsylvania ERP requires that, in order to qualify for experience rating, an employer must have reported sufficient exposures within the rating

- experience period so that extension of those exposures at current PCRB loss costs produces a total expected loss of at least $10,000. This provision is used to avoid attempting to adjust rates on a statistical basis for risks so small that their past experience will provide little or no reliable indication about their likely future experience.

- A procedure is defined for assigning "credibility" to each employer's reported experience in the experience period. Credibility measures the extent to which such experience will be accepted as a direct indication of likely future experience. Because the degree to which random fluctuations occur in an employer's experience over time and the potential effect of unusual individual cases on overall experience for an employer both diminish as the employer becomes larger, credibility generally increases with employer size. Customarily, credibility assignments are limited to a range between 0.00 (assigning no weight whatever to prior employer experience in assigning a future rating to them) to 1.00 (using prior employer experience at face value as the sole basis for assigning a future rating to them).

- A system for limiting the amount of loss attributable to large individual claims or to the aggregate value of multiple claims arising from the same event is applied. This procedure provides an additional safeguard in conjunction with credibility assignments against unacceptable swings in experience modifications occurring because of an isolated loss occurrence.

- An arithmetic formula is used to compute experience modifications. In the current ERP, this formula is as set forth below:

$$\text{Experience Modification} = [AC + ELC + E(1.0000 - C)] / E$$

Where

A = Actual losses as tabulated in accordance with rules of the ERP, including applicable loss limitation

C = Credibility factor obtained from Table B based on the expected losses for the risk computed for the applicable experience period

E = Expected losses for the risk computed for the applicable experience period

LC = Credibility weighted loss limitation charge obtained from Table B based on the expected losses for the risk computed for the applicable experience period.

ERP Features Tested for This Filing

The experience period used by the PCRB in the current ERP is consistent with those in use in most other jurisdictions across the country. Without precluding the possibility of investigating the effects of different experience periods in future filings, the PCRB has not tested such alternatives at this time.

The PCRB did test the results of lowering the minimum qualifications for experience rating from their current and historical level. In simple terms, for risks significantly smaller than those now eligible for experience rating, the PCRB's testing suggested that employer experience is sufficiently inconsistent that no ERP design tested could produce both meaningful and reliable departures from manual rates. Thus, this filing does not propose any changes in the minimum qualification for experience rating.

Both the credibility assignments and the loss limitation provisions of the current ERP were tested at length, and the PCRB has found approaches for both these components of the ERP that produce demonstrably better results than do the current procedures. The proposed ERP incorporates the most effective combination of changes to these plan features identified to date by the PCRB's extensive testing, as described in greater detail below.

The revised credibility assignments and loss limitations proposed in this filing are applied using the same experience modification formula as is used in the current ERP. Different experience modification formulas were not tested in preparation of this filing.

Testing Procedures Used in Support of This Filing

The procedures and steps used in developing and testing possible alternatives to the current ERP Table B are described in attached Exhibits I and II which were previously included as agenda materials presented at the November 2001 and November 2002 meetings of the PCRB Actuarial Committees, respectively. A description of the test statistic employed in this analysis is presented on Page 4 of Exhibit I, and this statistic is further discussed in Exhibit II under the section titled "Method for Comparing Plans – Weighted Test Statistic."

Description of Proposed Credibility Assignment and Loss Limitation Procedures

Exhibits presenting the Table B credibility assignments and loss limitations for both the current plan (Exhibit IIIa) and the proposed plan (Exhibit IIIb) accompany this filing. Exhibit IIIc is a graph comparing the two plans.

Credibility assignments under the proposed plan will continue to be a function of expected losses attributed to each rated employer over the experience period, as is the case for the current ERP. By virtue of comparative results derived in testing many different credibility functions, the proposed ERP is based on a credibility scale that appears to produce better or as effective a process for calculating experience modifications as any other plan tested by the PCRB. The most apparent changes in credibility values occur for the smaller experience-rated

risks, where credibility assignments that used to start at 0.05 now begin at 0.283. For both the current and proposed ERPs, credibility assignments increase as employer size increases. For the current plan credibility values for the largest employers reach a level of 1.000, implying that the reported experience for those employers would be accepted as the sole basis for experience rating their policies for losses below the loss limitation amount. For the proposed ERP, credibility values will never exceed 0.938 regardless of employer size.

In the current ERP loss limitations are an increasing function of employer size, beginning at approximately $50,000 and increasing to $324,000. The proposed ERP applies a flat loss limitation of $42,500 across all sizes of employers.

In combination, these changes make the proposed ERP significantly <u>more</u> responsive to the reported experience of smaller employers than is the current ERP, while reducing the responsiveness of the proposed ERP to the reported experience of larger employers as compared to the current ERP.

Comparison of Performance of Proposed ERP to Current Plan and Alternative Plans

As the PCRB tried different credibility scales and loss limitations, those alternatives that gave improved results as compared to the current plan were retained and refined in additional testing. Other alternatives that did not show improvement over the current plan were set aside.

The test procedure described above was applied for each tested ERP within discrete expected loss size groups, allowing a review of the performance of each test ERP within and between different size groups of employers. To facilitate decision making with respect to the selection of "better" and "worse" ERPs overall, the test statistics thus derived were weighted together across all pertinent size groups using expected losses in each size group as the basis for weighting. ERPs were generally preferred that gave the best overall weighted performance statistic, although the size group detail was intermittently reviewed to make certain that such favorable overall results were representative of performance across the entire spectrum of rated risks and not the consequence of offsetting incongruous and radically different results for separate groups of employers within the ERP.

Ultimately, the PCRB was able to develop a comparison of the proposed ERP to various alternatives that nominally changed either or both the credibility function and/or the loss limitation value in both directions form the proposed ERP and to show that such changes did not tend to improve on the proposed ERP's results. Details of the analysis are presented in the previously mentioned Exhibits I and II.

Transition from the Current ERP to the Proposed ERP

The PCRB is mindful that, despite the demonstrated improvement in the equity and accuracy of the proposed ERP over the current ERP, implementation of a new plan in and of itself will produce some inherent instability of employer experience ratings. The PCRB has considered various approaches to the management of this transition.

One possible approach would be to concurrently compute experience modifications for every eligible employer using both the current and proposed ERPs and impose some transitional limitations on experience modifications produced by the proposed ERP relative to the experience modifications produced by the current ERP. This procedure would be very labor-intensive for the PCRB and might precipitate a good deal of confusion and discontent among employers that became aware that the proposed ERP produced a higher, even if only nominally higher, experience modification than would the current ERP.

Another idea explored by the PCRB was to establish "swing limits" for experience modifications during the transition from the current to the proposed ERP that would temper extreme changes in experience modifications regardless of whether they were due to employer experience, the changes embodied in the proposed ERP or both in some combination. Upon some reflection, the PCRB believes that establishing such swing limits would be helpful and appropriate, even beyond the initial transition period during which employers were first subject to the proposed ERP.

In this filing the PCRB proposes to incorporate swing limitations into its ERP that prevent an employer's experience modification from either increasing or decreasing more than 25 percent between successive annual anniversary rating dates. As discussed above, this provision will initially temper the impact of adopting the proposed ERP and, on a more long term basis, will provide a measure of stability for employers whose indicated experience modifications would otherwise increase or decrease beyond these allowed limits.

Exhibits VIa and VIb present a summary of the impact of the proposed capping procedure by examining the number of risks that would be capped in the proposed ERP and comparing that result to the number of risks that would be capped if the current ERP were applied with a similar capping procedure in place. Exhibit VIa presents the results of employing the capping procedure over consecutive years and indicates that the proposed ERP would limit the swing in modification factors just over twice as often as would the current ERP. However, less than ten percent of the risks capped in the two-year study period would be capped in consecutive years, and the number of risks capped in the same direction in consecutive years would be small. Exhibit VIb shows that between 14 and 15 percent of risks might be expected to have their experience modification factor capped in each year, with approximately two-thirds of those risks being capped in the upward direction.

ERP Collectible Premium Ratios

Virtually all ERPs result in at least a nominal "off-balance" when applied to dynamic groups of insureds over time. In each annual PCRB loss cost filing, the expected results of the ERP are taken into account by adjusting manual loss costs so that the average loss cost after experience rating is in balance with the indicated loss cost in the filing.

In considering proposing a new ERP, the PCRB has tested the effects of the proposed ERP, not only as respects its success in promulgating equitable modifications over time but also with regard to the new ERPs overall effect on collectible loss costs. The PCRB's testing has shown

that the proposed ERP will produce a <u>smaller</u> differential between manual loss costs (the average loss cost in effect before experience rating) and standard loss costs (the average loss cost in effect after experience rating) than has the current ERP. In fact, the average collectible premium ratio underlying April 1, 2003 loss costs was 1.0566 (Exhibit IVa), while the average collectible premium ratio incited under the proposed ERP is 1.0130 (Exhibit IVb). When adjusted for the capping procedure, the proposed ERP collectible premium ratio becomes 1.0423 (Exhibit IVc). Each page of Exhibit IV is based on the combined experience over the latest two years included in this study.

At the time the proposed ERP is implemented, manual loss costs will have to be adjusted so that they provide for the expected off-balance inherent in the proposed ERP rather than the off-balance inherent in the current ERP. Exhibit V presents a calculation of the expected loss cost factors (ELCFs) based on the current (Va), proposed (Vb) and proposed-with-capping (Vc) plans. The ELRFs, when applied to approved classification loss costs, produce ERP Table A values for use in generating expected losses in the rating process.

The PCRB has purposely submitted this filing substantially before the proposed effective date to assure that all necessary review and discussion of this proposal can be concluded substantially in advance of its implementation. As a practical matter, the PCRB and the Insurance Department would both benefit if the final form of a new ERP could be determined before the PCRB prepares and submits its April 1, 2003 Loss Cost Filing. In that scenario, the PCRB could submit and the Insurance Department could review a single set of loss costs reflecting both the necessary changes based on experience analysis and the technical adjustments warranted upon implementation of the new ERP. In order for that described efficiency to be realized, a determination on this filing would be needed by mid-September 2003. Toward that mutual purpose, the PCRB looks forward to assisting the Insurance Department in any possible way as it reviews and considers this proposal.

Sincerely,

Timothy L. Wisecarver
President

TLW/kg

c: Office of the Small Business Advocate

Exhibit I

November 2001 Meeting

PENNSYLVANIA COMPENSATION RATING BUREAU

REVIEW OF BUREAU TESTING OF EXPERIENCE RATING PLAN

At the December 2000 joint meeting of the PCRB Actuarial and Classification & Rating Committees the Bureau presented a review of the preliminary work done regarding staff's study of the experience rating plan. That work has continued and the results to date are herein summarized and will be further discussed at the November 7, 2001 committee meeting.

The initial stage of the analysis focused on the identification of a credibility curve which would more effectively assign credibilities by risk size, retaining other features of the current plan. The first step was to compare the existing credibility table to variations that allowed for greater and/or less credibility for given risk sizes. Nine variations, including the current table, were compared with the resulting test statistics shown in Exhibit 1. A description of the test statistic used is presented immediately following this narrative.

The overall conclusion that was drawn from Exhibit 1 is that, all else remaining consistent with the current plan, credibility for smaller risks should be increased while that of the largest risks needed to be reduced. In Exhibit 1 the credibilities under the existing plan are identified under the heading "Normal". It should be noted that the test statistics over a narrow range of Expected Loss Sizes often suggested a range of reasonable credibility values rather than a clear indication of a single "correct" value.

Based on the indications of Exhibit 1, staff constructed twelve alternative sets of credibility tables (Exhibit 2) and through a curve fitting program fit each table to a set of approximately seventy separate curves. For each table the best fitting (based on r^2) five distinct curves were considered. Ultimately, a curve of the form y = x / (a +b*x + c*(x^0.5)) was ultimately selected and a graph of the resulting credibility function is shown in Exhibit 3.

As a final step in this stage, the selected credibility curve, identified as P0 in Exhibit 4, was tested over a narrow range defined by adding three credibility points to the curve (P0+3) and by subtracting three credibility points from the selected curve (P0-3). While P0 was not consistently the best fit among all the alternatives shown as measured by the test statistics, differences did seem to be fairly evenly distributed about the values for P0.

Having chosen a new credibility table with a measured improvement over the existing credibility table of the current plan, staff proceeded to examine the propriety of the maximum single loss values incorporated in the current plan. Exhibit 5 summarizes twenty-three separate maximum value functions which were considered in this stage. The

maximum loss value formula within the current plan restricts the impact on experience modification factors of any single loss to 25 points. The maximum value for a single loss is further capped at 1.5 times the statewide average serious loss. The first function (MV 1) of Exhibit 5 is our current procedure and the five additional functions in the first set present variations on the current procedure. The second set of twelve functions represent flat values for all risk sizes. Based on test statistics shown in Exhibit 6, results from the first eighteen functions in Exhibit 5 were used to construct a fitted curve of the form $y = x / (a + b*x - c*(x^{0.5}))$ which is function #19 of Exhibit 5. The remaining four choices of maximum value functions are variations on the fitted curve (#19).

Exhibit 6 presents the test statistics for each of the maximum value functions considered. In addition, the maximum value functions were ranked according to their overall performance. The statistic measuring overall performance compared a functions test statistic with the optimum test statistic value among all twenty-three functions within each expected loss range. These values (function test statistic minus optimum test statistic) were then weighted by expected losses to get an overall value.

A constant maximum single loss value of $50,000 was found to have the best performance statistic over the full range of all risk sizes. Furthermore, within the family of constant value functions it was observed that the ranking steadily improves as one moved from the lowest maximum loss values toward $50,000 and then steadily worsened as one moved toward higher maximum loss values.

Exhibit 7 shows a graph of several maximum value functions considered along with a line showing the optimum test statistic values for each risk size. Function #1 represents our current plan, function #12 is the constant value of $50,000 and function #19 represents the fitted curve selection.

Having modified the existing maximum value loss function, consideration was next given to possible effects of this revision on the performance of the credibility curve chosen in the first stage. Recall that the previously chosen credibility was premised on the maximum loss values of the current plan. A flat $50,000 per claim limit is significantly lower, particularly for larger risk sizes, than the per claim limits of the current plan.

Exhibit 8 compares the test statistics of the credibility function chosen in the initial stage (identified as "C") as well as eleven variations thereof, all against a $50,000 maximum value limit. The results indicate that the generally lower limit of $50,000 tends to allow for the assignment of higher credibilities for larger risk sizes. The credibility curve "C" was therefore adjusted by values ranging from zero for the smallest risks to thirty points for the largest risks. The resulting values were fitted to a curve and are presented in graphical form in Exhibit 9.

It is staff's expectation that the analysis will next proceed by alternating between the testing of credibility values and maximum single loss values with each iteration moving steadily nearer to an optimal combination of credibility and maximum loss values. After settling on those values, staff will test the revised plan against the current plan using an

additional year of experience to verify that the results aren't peculiar to a given set of data.

One final step will be to test the performance of the revised experience rating plan using an exposure base such as payroll as an alternative to expected losses for purposes of assigning credibilitites in the experience rating plan.

EXPERIENCE RATING PLAN STUDY

DESCRIPTION OF TEST STATISTIC

The experience rating plan analysis presented in this discussion and the attendant exhibits make frequent reference to test statistics calculated by Bureau staff. Those test statistics were calculated in the following manner.

Risks were divided for purposes of the testing into quintiles across the range of assigned experience modifications under each alternative version of the Experience Rating Plan. Tests were performed for various expected loss size groups within the overall population of risks insured in 1997. Staff had arranged the quintiles so that approximately 20 percent of expected losses were represented by the risks assigned to each quintile. Because assigned experience modifications tended to cluster in very narrow ranges or even at specific values for some smaller risk size groups, some tests could not accomplish this intended distribution. Consideration had been given to an alternative approach of arranging quintiles so that 20 percent of the number of risks would be assigned to each quintile. While staff preferred the approach based on expected losses, test results had not appeared to be sensitive to these different approaches to organizing the data.

Calculations were done within each quintile of the average loss ratio on two alternative bases, one using manual premium and the other using standard premium. In each test group, the differences between each quintile's loss ratios on these respective bases and the overall loss ratios for the entire group were computed. These differences were then squared, multiplied by a scalar factor of 10,000 and summed across all quintiles. The ratio of these sums of squared differences based on standard premium to the sums of the squared differences based on manual premium was then computed as a test statistic. The smaller the test statistic, the better the Experience Rating Plan under consideration was deemed to have predicted experience and the more equitably it was deemed to have assigned experience modifications.

Exhibit 1

Expected Loss Range	+30%	+15%	Normal	-7%	-15%	-22%	-30%	-40%	-60%
1-11 0 - 3,000	1.0000	1.0000	1.0000	0.5218	0.5218	0.5218	0.5218	0.5218	0.5218

Expected Loss Range	+40%	+30%	+25%	+20%	+15%	+7%	Normal	-15%	-30%
12-15 3,001-5,000	0.2862	1.0000	0.4203	0.2268	0.2249	0.4357	0.8328	0.9768	0.9768
16-20 5,001 - 10,000	0.3686	0.5215	0.3500	0.5567	0.2091	0.4358	0.7664	0.9916	0.9916

Expected Loss Range	+40%	+30%	+25%	+20%	+15%	+7%	Normal	-15%	-30%
21-24 10,001 - 25,000	0.4590	0.3426	0.3484	0.3518	0.3860	0.4739	0.6453	0.9764	0.9764
25-29 25,001 - 50,000	0.1398	0.1180	0.1510	0.1542	0.1821	0.2638	0.3933	0.8675	0.9630
30-34 50,001 - 100,000	0.3667	0.1579	0.3026	0.1340	0.0790	0.2112	0.3026	0.5214	0.9569

	30%	25%	20%	15%
21-22	0.7059	0.6569	0.2810	0.2831
23-24	0.2289	0.2769	0.3175	0.4295
25-26	0.2217	0.1247	0.1842	0.2467
27-29	0.1769	0.2363	0.1995	0.2272
30-31	1.0000	0.8362	0.7630	0.4568
32-34	0.0274	0.0759	0.0620	0.1117

Expected Loss Range	+30%	+15%	+7%	Normal	-5%	-10%	-15%	-22%	-30%
35-36 100,001 - 200,000	1.0000	0.3580	0.5557	0.2212	0.1080	0.1313	0.1912	0.2462	0.4251
37-39 200,001 - 350,000	0.9527	0.3786	0.1394	0.0387	0.0053	0.0482	0.0352	0.1071	0.1980
40-42 350,001 - 500,000	0.5646	0.1304	0.0642	0.0451	0.0741	0.0836	0.1282	0.1997	0.2791

	Normal	-5%	-10%	-15%
35	0.0243	0.1086	0.1538	0.1790
36	0.6154	0.3274	0.1437	0.0686
37	0.1409	0.0782	0.0811	0.0877
38-39	0.0542	0.0256	0.0280	0.0521
40-41	0.1048	0.1850	0.1863	0.2521
42	0.1089	0.1338	0.1177	0.1096

Expected Loss Range	+30%	+15%	+7%	Normal	-7%	-15%	-22%	-30%	-40%
43-47 500,001 - 1,000,000	1.0000	0.9018	0.4596	0.2150	0.1681	0.1292	0.1408	0.1802	0.3134
48-51 1,000,001 - 2,000,000	1.0000	1.0000	0.9247	0.5498	0.3271	0.1298	0.0770	0.1338	0.1449
52-57 2,000,001 - 5,000,000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5156	0.3582	0.2592	0.3085
58-63 over 5,000,000	0.3543	0.3543	0.3543	0.2595	0.3600	0.2047	0.3706	0.2499	0.2284

	-15%	-22%	-30%	-40%
43-45	0.2691	0.2825	0.3333	0.3777
46-47	0.2697	0.1390	0.1756	0.4038
48-49	0.0695	0.0953	0.2297	0.3161
50-51	1.0000	1.0000	0.9020	0.6529
52-54	1.0000	1.0000	0.5277	0.5032
55-57	1.0000	0.0736	1.0000	0.1769
58-60	0.4870	0.2571	0.5273	0.1210
61-63	0.9834	1.0000	0.8253	1.0000

PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
CREDIBILITY RANGES TESTED

Exhibit 2

Exp Loss Range		Test Statistic Reasonable Range Narrow	Broad	1	1A	2	3	3A	3B	4	4A	4B	5	5A	5B
1-11	-	3,000	NA	NA												
12-15	3,001	5,000	20-15	20-15	15	15	15	15	15	15	15	15	15	15	15	15
16-20	5,001	10,000	15	15	15	15	15	15	15	15	15	15	15	15	15	15
21-22	10,001	15,000	20-15	40-7	30	30	30	20	20	20	20	20	20	20	20	20
23-24	15,001	25,000	30-20	40-7	30	30	30	25	25	25	25	25	25	20	20	20
25-26	25,001	35,000	30-15	40-7	30	30	30	25	25	25	25	25	25	20	20	20
27-29	35,001	50,000	30-15	40-7	30	30	30	30	30	30	20	20	20	20	20	20
30-31	50,001	70,000	15	30-15	15	15	15	15	15	15	15	15	15	15	15	15
32-34	70,001	100,000	30-15	30-15	15	15	15	15	15	15	15	15	15	15	15	15
35	100,001	150,000	0-(15)	0-(15)	-5	-5	-5	0	0	0	0	0	0	-5	-5	-5
36	150,001	200,000	(10)-(15)	0-(15)	-5	-5	-5	-10	-10	-10	-10	-10	-10	-5	-5	-5
37	200,001	350,000	0-(15)	7-(22)	-5	-5	-5	-10	-10	-10	-10	-10	-10	-5	-5	-5
38-39	350,001	350,000	0-(15)	7-(22)	-5	-5	-5	-10	-10	-10	-10	-10	-10	-5	-5	-5
40-41	350,001	450,000	0-(15)	15-(15)	0	0		-10	-10	-10	-10	-10	-10	-5	-5	-5
42	450,001	500,000	0-(15)	15-(15)	0	0		-10	-10	-10	-10	-10	-10	-5	-5	-5
43-45	500,001	800,000	(15)-(22)	0-(30)	-15	-15	-15	-15	-15		-15	-15		-15	-15	
46-47	800,001	1,000,000	(22)-(30)	0-(30)	-15	-15	-15	-22	-22		-22	-22		-15	-15	
48-49	1,000,001	1,500,000	(15)-(22)	(15)-(40)	-22	-22	-22	-22	-22		-22	-22		-22	-22	
50-51	1,500,001	2,000,000	NA	(15)-(40)	-22	-22	-22	-22	-22		-22	-22		-22	-22	
52-54	2,000,001	3,500,000	(30)-(40)	(22)-(40)	-30	-30	-30	-30	-30		-30	-30		-30	-30	
55-57	3,500,001	5,000,000	(22), (40)	(22)-(40)	-30	-30	-30	-30	-30		-30	-30		-30	-30	
58-60	5,000,001	8,000,000	(22), (40)	(15)-(40)	-15			-40			-40			-30		
61-63	8,000,001	higher	NA	(15)-(40)	-15			-40			-40			-30		

EXPERIENCE RATING PLAN STUDY - SELECTED CREDIBILITY CURVE (P0)

Legend:
- Input Data •
- $x/(a+b*x+c*sqr(x))$ —

Y-axis: Credibility

X-axis: Expected Losses
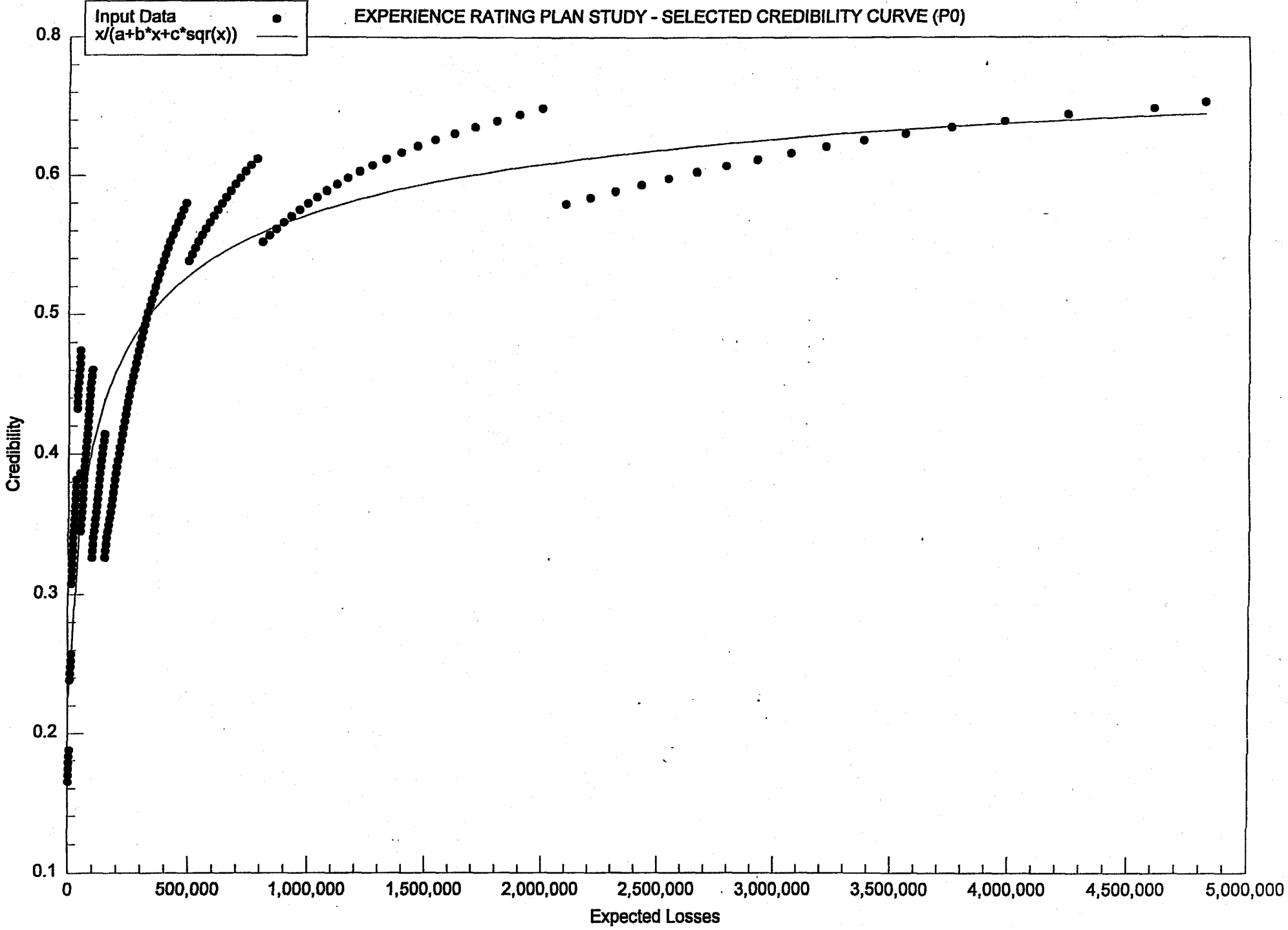
EXPERIENCE RATING PLAN STUDY - SELECTED CREDIBILITY CURVE (P0)
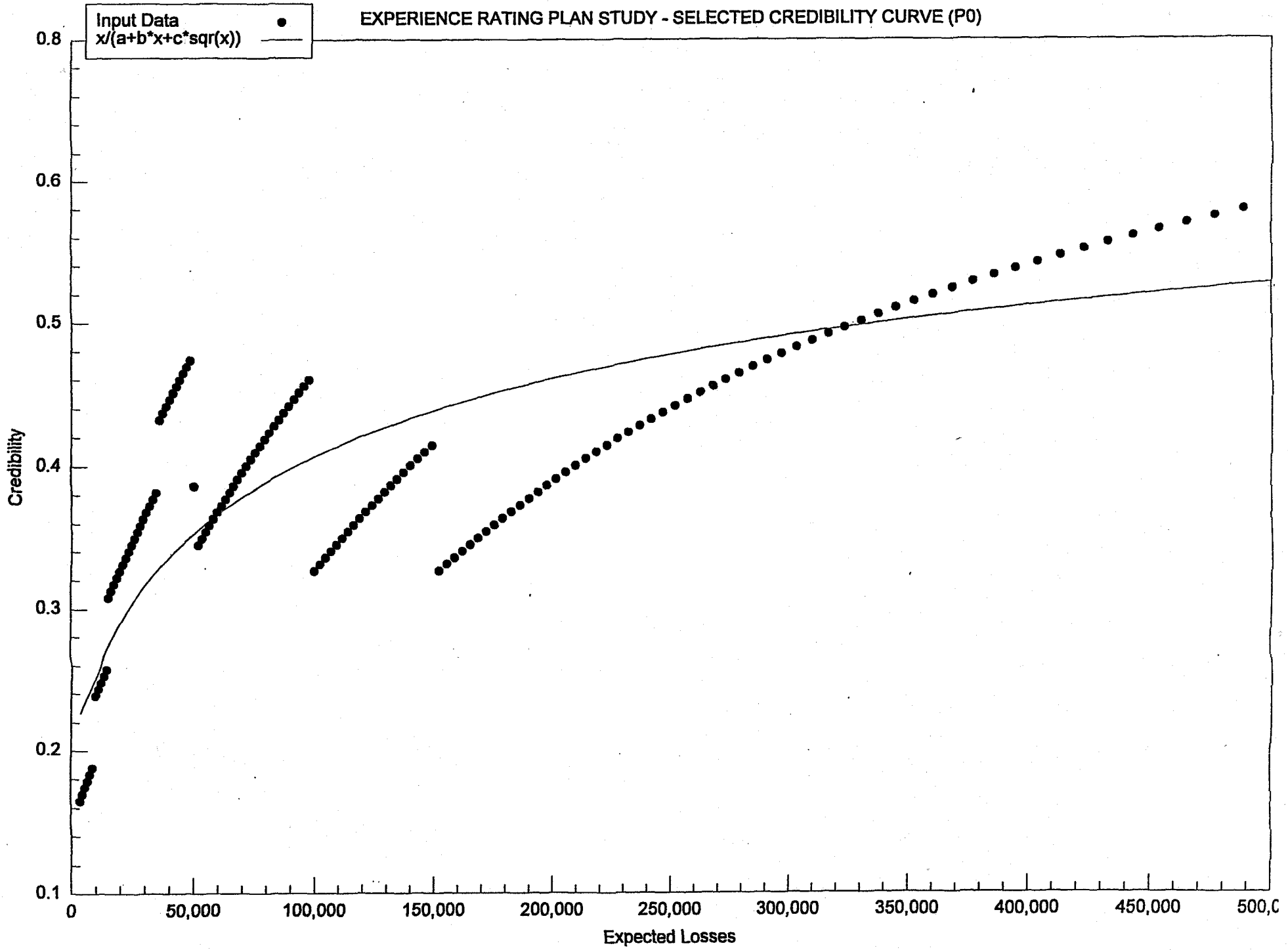
PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
TEST STATISTICS OF CREDIBILITY ABOUT SELECTED P0

Exhibit 4

	Expected Loss Range	M3	P0	P3
12-15	3,001-5,000	0.3134	0.5299	0.3594
16-20	5,001 - 10,000	0.2348	0.7050	0.3405
21-24	10,001 - 25,000	0.2399	0.3066	0.3275
25-29	25,001 - 50,000	0.1449	0.1621	0.2043
30-34	50,001 - 100,000	0.0838	0.1988	0.1371
21-22	10,001 - 15,000	0.3072	0.4522	0.5534
23-24	15,001 - 25,000	0.2039	0.2853	0.2828
25-26	25,001 - 35,000	0.2684	0.2116	0.5512
27-29	35,001 - 50,000	0.2670	0.2404	0.2846
30-31	50,001 - 70,000	0.3519	0.5076	0.5592
32-34	70,001 - 100,000	0.1485	0.1512	0.1209
35-36	100,001 - 200,000	0.1396	0.0883	0.2993
37-39	200,001 - 350,000	0.0566	0.0023	0.0410
40-42	350,001 - 500,000	0.1435	0.1185	0.0949
35	100,001 - 150,000	0.1545	0.0333	0.0503
36	150,001 - 200,000	0.3102	0.5471	0.5772
37	200,001 - 250,000	0.7160	0.1377	0.1261
38-39	250,001 - 350,000	0.0380	0.0231	0.0718
40-41	350,001 - 450,000	0.2190	0.2186	0.1887
42	450,001 - 500,000	0.2075	0.1780	0.0822
43-47	500,001 - 1,000,000	0.1428	0.1094	0.1083
48-51	1,000,001 - 2,000,000	0.0603	0.0774	0.0875
52-57	2,000,001 - 5,000,000	0.3280	0.3908	0.4888
58-63	over 5,000,000	0.3347	0.3171	0.3341
43-45	500,001 - 800,000	0.2535	0.2617	0.3361
46-47	800,001 - 1,000,000	0.3287	0.1348	0.1308
48-49	1,000,001 - 1,500,000	0.0568	0.0746	0.1331
50-51	1,500,001 - 2,000,000	0.8537	0.9887	1.0938
52-54	2,000,001 - 3,500,000	0.5219	1.1543	1.2917
55-57	3,500,001 - 5,000,000	0.4392	0.8720	0.3773
58-60	5,000,001 - 8,000,000	0.5284	0.5276	0.5261
61-63	8,000,001 & over	0.7901	0.7918	0.7877

EXPERIENCE RATING PLAN STUDY
TESTED MAXIMUM VALUES

MV #	allowable swing	K	Cap Max
1	0.25	1.5	1 m
2	0.45	5	1 m
3	0.35	5	0.8 m
4	0.25	5	0.6 m
5	0.15	5	0.5 m
6	0.05	5	0.4 m

MaxVal = AllowableSwing*ExpLoss/Credibility
Subject to: (1) Average Serious Claim * K
                   (2) Selected Cap Max

$ Flat amt

7	2,500
8	5,000
9	10,000
10	15,000
11	25,000
12	50,000
13	100,000
14	200,000
15	350,000
16	500,000
17	750,000
18	1,000,000

Uses fitted max values

19	$f(x) = x / (0.0001319 + 0.0001954 * x - 0.0003180 * sqr(x))$
20	$1.2 * f(x)$
21	$1.1 * f(x)$
22	$0.9 * f(x)$
23	$0.8 * f(x)$

Exhibit 6

PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
RANKING OF MAXIMUM VALUE TRIALS

EL Slot	Expected Loss Range	Expected Losses	Wts by Section	Wts. 12-63	Wts. 21-63	MV 1 0.25 1.5 1 m	MV 2 0.45 5 1 m	MV 3 0.35 5 0.8 m	MV 4 0.25 5 0.6 m	MV 5 0.15 5 0.5 m	MV 6 0.05 5 0.4 m	MV 7 2,500	MV 8 5,000	MV 9 10,000	MV 10 15,000	MV 11 25,000	MV 12 50,000	MV 13 100,000
12-15	3,001-5,000	20,787,579	32.6%	2.1%		0.5738	0.4739	0.5236	0.5738	0.7176	0.8536	0.8002	0.6849	0.5909	0.5329	0.4513	0.3157	0.2192
16-20	5,001 - 10,000	42,953,401	67.4%	4.3%		0.4966	0.3831	0.4767	0.4966	0.6417	0.8280	0.7721	0.6220	0.4985	0.4522	0.3579	0.2315	0.2063
	Wtd Test Statistic (12-20)					0.3826	0.2735	0.3528	0.3826	0.5272	0.6971	0.6421	0.5033	0.3894	0.3393	0.2491	0.1197	0.0713
	Rank					12	9	11	12	21	23	22	18	14	10	7	4	3
21-24	10,001 - 25,000	85,374,434	31.1%	8.5%	9.0%	0.4064	0.2370	0.3828	0.4064	0.5216	0.7275	0.7401	0.6226	0.4716	0.3893	0.3030	0.3433	0.3777
25-29	25,001 - 50,000	84,091,901	30.6%	8.3%	8.9%	0.2044	0.0954	0.1736	0.2044	0.3457	0.5920	0.7295	0.6089	0.4798	0.3321	0.2096	0.1664	0.1898
30-34	50,001 - 100,000	105,471,885	38.4%	10.5%	11.2%	0.2049	0.1818	0.1261	0.2049	0.3214	0.5577	0.7187	0.6294	0.5034	0.3707	0.2782	0.1117	0.2312
	Wtd Test Statistic (21-34)					0.1217	0.0269	0.0747	0.1217	0.2454	0.4753	0.5830	0.4754	0.3407	0.2190	0.1193	0.0547	0.1184
	Rank					9	1	4	9	14	18	23	19	15	13	7	2	6
35-36	100,001 - 200,000	114,959,440	41.8%	11.4%	12.2%	0.1306	0.2417	0.4065	0.1306	0.0759	0.3695	0.4714	0.3430	0.2532	0.2274	0.1655	0.1050	0.3263
37-39	200,001 - 350,000	96,603,027	35.1%	9.6%	10.2%	0.0263	0.0303	0.0299	0.0263	0.0733	0.2947	0.7121	0.5895	0.5038	0.4081	0.3093	0.1587	0.0404
40-42	350,001 - 500,000	63,739,442	23.2%	6.3%	6.8%	0.1094	0.0791	0.0936	0.1094	0.1795	0.3791	0.7742	0.6959	0.5914	0.5394	0.4680	0.3260	0.2052
	Wtd Test Statistic (35-42)					0.0636	0.1043	0.1764	0.0636	0.0734	0.3199	0.6004	0.4857	0.3939	0.3375	0.2605	0.1495	0.1724
	Rank					4	9	12	4	7	19	23	22	21	20	14	10	11
43-47	500,001 - 1,000,000	113,855,889	28.9%	11.3%	12.1%	0.1411	0.1820	0.1198	0.1937	0.0790	0.2402	0.6695	0.5870	0.5243	0.4156	0.3964	0.2260	0.0867
48-51	1,000,001 - 2,000,000	80,340,563	20.4%	8.0%	8.5%	0.0113	0.1472	0.0641	0.1172	0.0907	0.0906	0.7371	0.6420	0.5630	0.4503	0.3887	0.2776	0.1334
52-57	2,000,001 - 5,000,000	94,956,294	24.1%	9.4%	10.1%	0.9657	1.0884	0.8838	0.8685	0.9633	0.4743	0.8968	0.6691	0.7123	0.5922	0.4915	0.3215	0.6702
58-63	over 5,000,000	104,520,247	26.6%	10.4%	11.1%	0.3706	0.3180	0.3175	0.3246	0.3235	0.3135	0.7353	0.6587	0.5386	0.4733	0.3526	0.2394	0.2179
	Wtd Test Statistic (43-63)					0.2350	0.2901	0.2057	0.2361	0.2201	0.1461	0.6161	0.4976	0.4419	0.3411	0.2667	0.1236	0.1323
	Rank					14	18	10	15	11	5	23	22	21	20	16	1	2
	Wtd Test Statistic (12-63)					0.1666	0.1665	0.1713	0.1670	0.2064	0.3183	0.6044	0.4886	0.3978	0.3067	0.2236	0.1116	0.1356
	Rank					8	7	10	9	11	17	23	22	21	16	14	1	3
	Wtd Test Statistic (21-63)					0.1520	0.1593	0.1590	0.1525	0.1847	0.2927	0.6019	0.4876	0.3984	0.3045	0.2219	0.1111	0.1400
	Rank					7	10	9	8	11	15	23	22	21	17	13	2	5

Shaded area represents optimum.

Exhibit 6

PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
RANKING OF MAXIMUM VALUE TRIALS

EL Slot	Expected Loss Range	Expected Losses	Wts by Section	Wts. 12-63	Wts. 21-63	MV 14 200,000	MV 15 350,000	MV 16 500,000	MV 17 750,000	MV 18 1,000,000	MV 20 1.2*f(x)	MV 21 1.1*f(x)	MV 19 f(x)	MV 22 0.9*f(x)	MV 23 0.8*f(x)
12-15	3,001-5,000	20,787,579	32.6%	2.1%		0.2190	0.2586	0.3617	0.3788	0.3725	0.7595	0.7659	0.7733	0.7771	0.8099
16-20	5,001 - 10,000	42,953,401	67.4%	4.3%		0.1502	0.3714	0.4082	0.1006	0.3651	0.5243	0.5261	0.5691	0.5837	0.5925
	Wtd Test Statistic (12-20)					0.0334	0.1954	0.2538	0.0521	0.2283	0.4618	0.4651	0.4965	0.5076	0.5242
	Rank					1	5	8	2	6	15	16	17	19	20
21-24	10,001 - 25,000	85,374,434	31.1%	8.5%	9.0%	0.7444	0.5674	0.6288	0.6407	0.6116	0.3631	0.3513	0.3509	0.3922	0.4330
25-29	25,001 - 50,000	84,091,901	30.6%	8.3%	8.9%	0.2793	0.3101	0.4443	0.4350	0.4003	0.1330	0.1744	0.2146	0.2108	0.2462
30-34	50,001 - 100,000	105,471,885	38.4%	10.5%	11.2%	0.5689	0.7710	0.8450	0.9841	1.0533	0.1659	0.2724	0.2674	0.1319	0.2745
	Wtd Test Statistic (21-34)					0.3892	0.4212	0.5097	0.5639	0.5708	0.0714	0.1213	0.1316	0.0912	0.1694
	Rank					16	17	20	21	22	3	8	11	5	12
35-36	100,001 - 200,000	114,959,440	41.8%	11.4%	12.2%	0.4371	0.6716	0.6794	0.6874	0.7095	0.0613	0.0707	0.1365	0.1952	0.0116
37-39	200,001 - 350,000	96,603,027	35.1%	9.6%	10.2%	0.0386	0.0580	0.0701	0.0317	0.0468	0.0489	0.0447	0.0195	0.0233	0.0724
40-42	350,001 - 500,000	63,739,442	23.2%	6.3%	6.8%	0.1028	0.0764	0.0669	0.0598	0.0606	0.1126	0.1230	0.1442	0.1369	0.1476
	Wtd Test Statistic (35-42)					0.1943	0.2930	0.2983	0.2865	0.3012	0.0433	0.0482	0.0717	0.0959	0.0389
	Rank					13	16	17	15	18	2	3	6	8	1
43-47	500,001 - 1,000,000	113,855,889	28.9%	11.3%	12.1%	0.0889	0.0967	0.1272	0.1718	0.1793	0.0664	0.0548	0.0610	0.0281	0.0607
48-51	1,000,001 - 2,000,000	80,340,563	20.4%	8.0%	8.5%	0.0405	0.0406	0.1154	0.1281	0.1801	0.0197	0.0294	0.0421	0.0364	0.0342
52-57	2,000,001 - 5,000,000	94,956,294	24.1%	9.4%	10.1%	0.7195	0.8960	0.9431	0.8255	0.9435	0.8894	0.9168	0.9093	0.8388	0.8388
58-63	over 5,000,000	104,520,247	26.6%	10.4%	11.1%	0.2734	0.3466	0.3235	0.3544	0.3561	0.3028	0.3435	0.3420	0.9356	0.1940
	Wtd Test Statistic (43-63)					0.1406	0.2049	0.2342	0.2296	0.2712	0.1787	0.1947	0.1969	0.3268	0.1389
	Rank					4	9	13	12	17	6	7	8	19	3
	Wtd Test Statistic (12-63)					0.2163	0.2874	0.3281	0.3251	0.3584	0.1303	0.1517	0.1638	0.2109	0.1443
	Rank					13	15	19	18	20	2	5	6	12	4
	Wtd Test Statistic (21-63)					0.2287	0.2936	0.3331	0.3435	0.3672	0.1080	0.1306	0.1413	0.1908	0.1186
	Rank					14	16	18	19	20	1	4	6	12	3

Shaded area represents optimum.

Exhibit 7

PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
OPTIMUM MAXIMUM VALUES

- **#1**   **#12**   **#19**   **Opt**
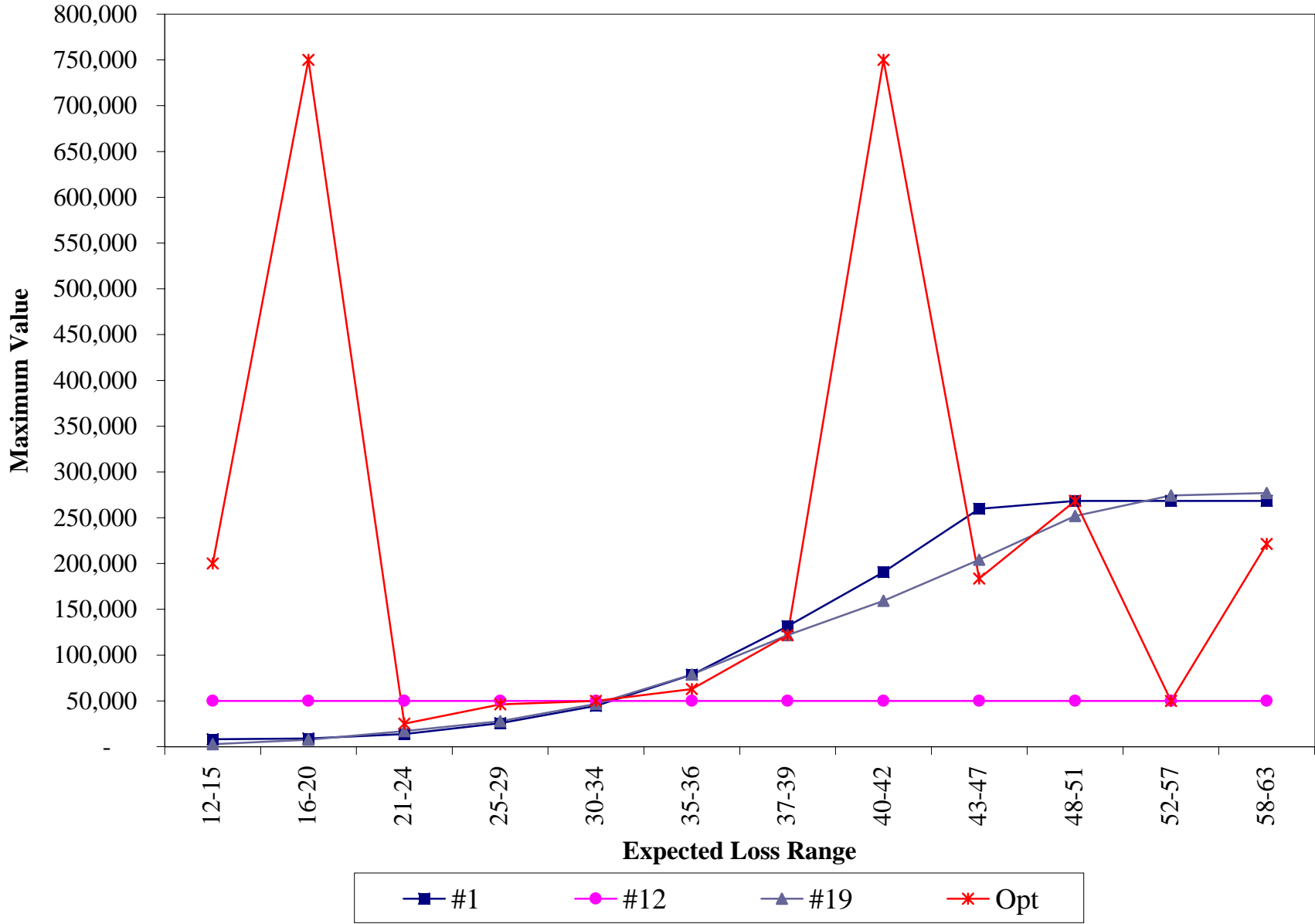
Exhibit 8

PENNSYLVANIA COMPENSATION RATING BUREAU
EXPERIENCE RATING PLAN STUDY
CREDIBILITY TRIALS WITH MAXIMUM VALUE OF $50,000

	Expected Loss Range	Allowable swing K Cap Max / Range of credibility	C - .20	C - .10	C - .05	MV 12	C + .05	C + .10	C + .15	C + .20	C + .25	C + .30	C + .40	C + .50
			50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
12-15	3,001-5,000	0.100 - 0.150	0.9229	0.7632	0.5613	0.3157	0.1880	0.0666	0.0706	0.5528	0.4654	0.3312	0.7588	6.9047
16-20	5,001 - 10,000	0.150 - 0.260	0.8095	0.4587	0.3328	0.2315	0.2162	0.1514	0.0875	0.4277	0.1408	0.2917	0.2472	0.5219
21-24	10,001 - 25,000	0.265 - 0.320	0.5938	0.3926	0.3866	0.3433	0.3153	0.1918	0.3420	0.3662	0.4542	0.3982	0.3041	0.4257
25-29	25,001 - 50,000	0.320 - 0.375	0.4350	0.2246	0.1865	0.1664	0.1233	0.1064	0.0534	0.0836	0.0778	0.1291	0.2427	0.4288
30-34	50,001 - 100,000	0.375 - 0.430	0.4039	0.2811	0.1725	0.1117	0.1973	0.0765	0.0825	0.0707	0.1012	0.1172	0.1866	0.3116
21-22	10,001 - 15,000	0.265 - 0.285	0.5429	0.5154	0.6764	0.4291	0.4562	0.8717	0.5813	0.4356	0.8230	0.7616	0.6109	1.0990
23-24	15,001 - 25,000	0.285 - 0.320	0.5721	0.4346	0.3033	0.2798	0.1859	0.1737	0.2562	0.1989	0.3237	0.3246	0.2488	0.3359
25-26	25,001 - 35,000	0.320 - 0.345	0.4538	0.2887	0.1951	0.2191	0.2643	0.1835	0.1121	0.1859	0.0931	0.2956	0.2578	0.4458
27-29	35,001 - 50,000	0.345 - 0.375	0.4284	0.2650	0.2279	0.1851	0.3339	0.1063	0.0720	0.3304	0.0986	0.1924	0.4327	0.4710
30-31	50,001 - 70,000	0.375 - 0.400	0.3935	0.3714	0.1568	0.1317	0.3258	0.2068	0.2930	0.3175	0.5305	0.6285	0.9685	1.3669
32-34	70,001 - 100,000	0.400 - 0.430	0.4693	0.3291	0.2743	0.2406	0.1871	0.1520	0.1291	0.0918	0.0788	0.0499	0.0497	0.0605
35-36	100,001 - 200,000	0.430 - 0.490	0.2577	0.1197	0.0586	0.1050	0.0737	0.0857	0.1527	0.3816	0.4115	0.7962	0.9369	1.4674
37-39	200,001 - 350,000	0.490 - 0.535	0.3783	0.2550	0.2062	0.1587	0.1374	0.0927	0.0632	0.0578	0.0321	0.0312	0.0587	0.0862
40-42	350,001 - 500,000	0.535 - 0.565	0.5080	0.4063	0.3661	0.3260	0.2841	0.2484	0.2292	0.1975	0.1683	0.1453	0.1019	0.1013
35	100,001 - 150,000	0.430 - 0.465	0.3112	0.2482	0.0739	0.0377	0.3513	0.0696	0.1649	0.2066	0.2847	0.5053	0.8291	1.3164
36	150,001 - 200,000	0.465. - 0.490	0.1978	0.1201	0.0896	0.1220	0.1351	0.2019	0.3115	0.2868	0.4406	0.5773	1.1716	1.7870
37	200,001 - 250,000	0.490 - 0.510	0.4069	0.2485	0.1886	0.1872	0.1197	0.1622	0.0564	0.0962	0.0281	0.0409	0.0975	0.2513
38-39	250,001 - 350,000	0.510 - 0.535	0.4167	0.2999	0.2521	0.1963	0.1798	0.1415	0.0966	0.0982	0.0679	0.0647	0.0691	0.0532
40-41	350,001 - 450,000	0.535 - 0.555	0.5613	0.4830	0.4382	0.3964	0.3723	0.3247	0.3064	0.2612	0.2527	0.2321	0.1947	0.1632
42	450,001 - 500,000	0.555 - 0.565	0.4638	0.3567	0.3198	0.2761	0.2498	0.2082	0.1894	0.1616	0.1344	0.1205	0.0835	0.0873
43-47	500,001 - 1,000,000	0.565 - 0.610	0.3757	0.3224	0.2699	0.2260	0.2115	0.1322	0.1260	0.0991	0.0771	0.0403	0.0279	0.0253
48-51	1,000,001 - 2,000,000	0.610 - 0.650	0.4143	0.3306	0.2980	0.2776	0.2326	0.2041	0.1851	0.1657	0.1070	0.1185	0.1087	0.1087
52-57	2,000,001 - 5,000,000	0.655 - 0.690	0.4562	0.3252	0.3821	0.3215	0.4056	0.4039	0.1875	0.2744	0.6102	0.3992	0.3502	0.3502
58-63	over 5,000,000	0.690 - 0.700	0.5247	0.2505	0.2528	0.2394	0.2109	0.2927	0.2323	0.2895	0.2965	0.3553	0.3557	0.4563
43-45	500,001 - 800,000	0.565 - 0.595	0.4217	0.2665	0.2216	0.1908	0.1693	0.1270	0.1108	0.0628	0.0653	0.0491	0.1111	0.0941
46-47	800,001 - 1,000,000	0.595 - 0.610	0.4652	0.3775	0.4074	0.3078	0.3450	0.2371	0.2752	0.1867	0.2326	0.1281	0.0980	0.1267
48-49	1,000,001 - 1,500,000	0.610 - 0.635	0.4661	0.3938	0.3437	0.3878	0.2508	0.3020	0.2497	0.2165	0.1662	0.1563	0.0916	0.0916
50-51	1,500,001 - 2,000,000	0.635 - 0.650	0.4920	0.2623	0.4455	0.3480	0.3345	0.4051	0.3242	0.3845	0.3575	0.4533	0.4543	0.4543
52-54	2,000,001 - 3,500,000	0.650 -0.675	0.8734	0.7936	1.0332	0.9390	0.9871	1.3332	1.2163	1.0034	2.2496	1.6635	1.9173	1.9173
55-57	3,500,001 - 5,000,000	0.675 - 0.690	0.7249	0.7213	0.6525	0.6924	0.5945	0.5730	0.6320	0.3899	0.5443	0.5355	0.5355	0.5355
58-60	5,000,001 - 8,000,000	0.690 -0.700	0.4083	0.3412	0.3228	0.3170	0.2687	0.4911	0.4215	0.2757	0.4878	0.4732	0.4732	0.4732
61-63	8,000,001 & over	0.700	2.2932	0.3707	0.3637	0.3566	0.3499	0.3436	0.3369	1.5114	0.3247	0.3190	0.3190	0.3190

EXPERIENCE RATING PLAN STUDY - SELECTED CREDIBILITY CURVE WITH MAXIMUM VALUE OF $50,000
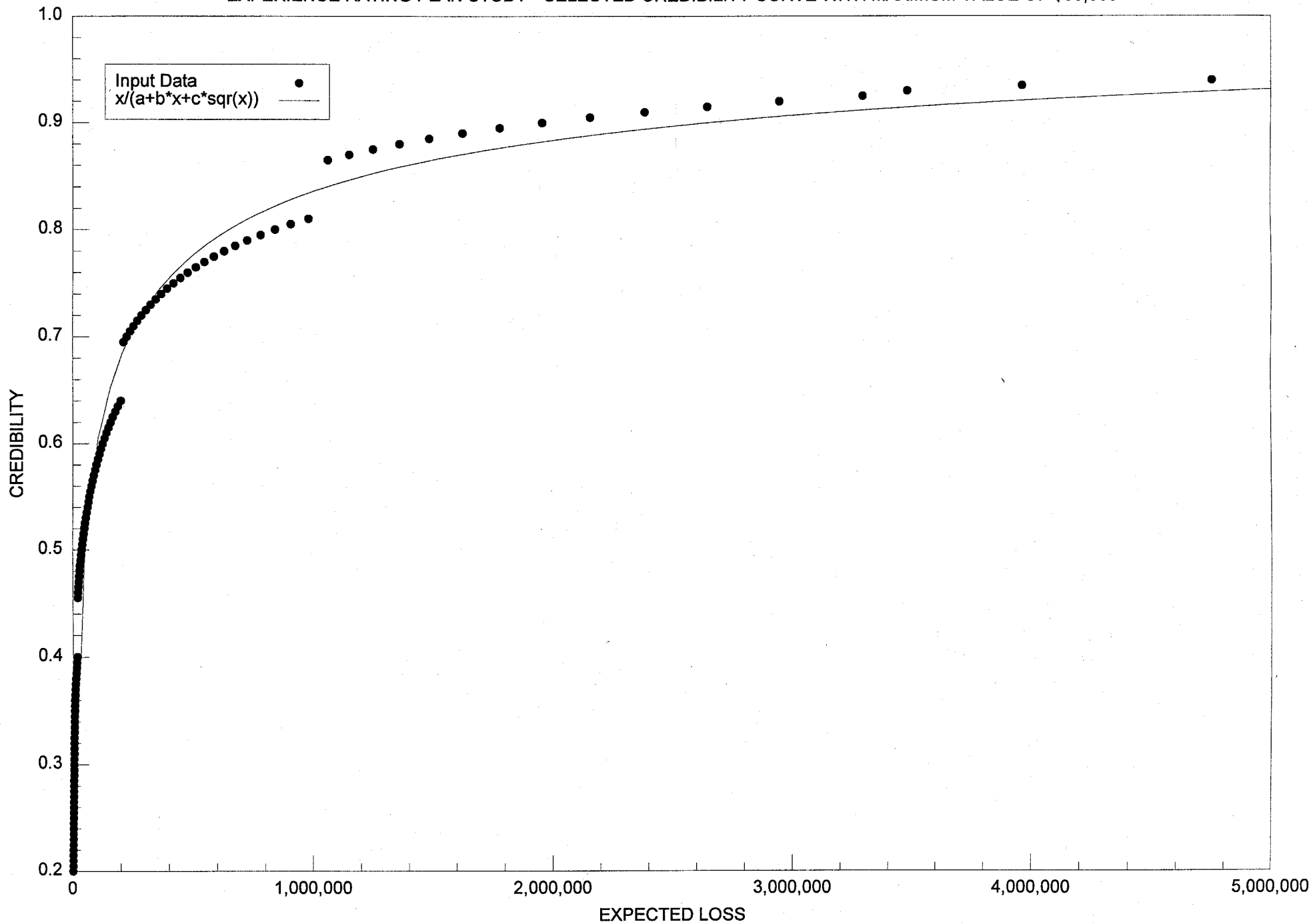
EXPERIENCE RATING PLAN STUDY - SELECTED CREDIBILITY CURVE WITH MAXIMUM VALUE OF $50,000

Input Data ●
x/(a+b*x+c*sqr(x))

CREDIBILITY

EXPECTED LOSS

Exhibit II

November 2002 Meeting
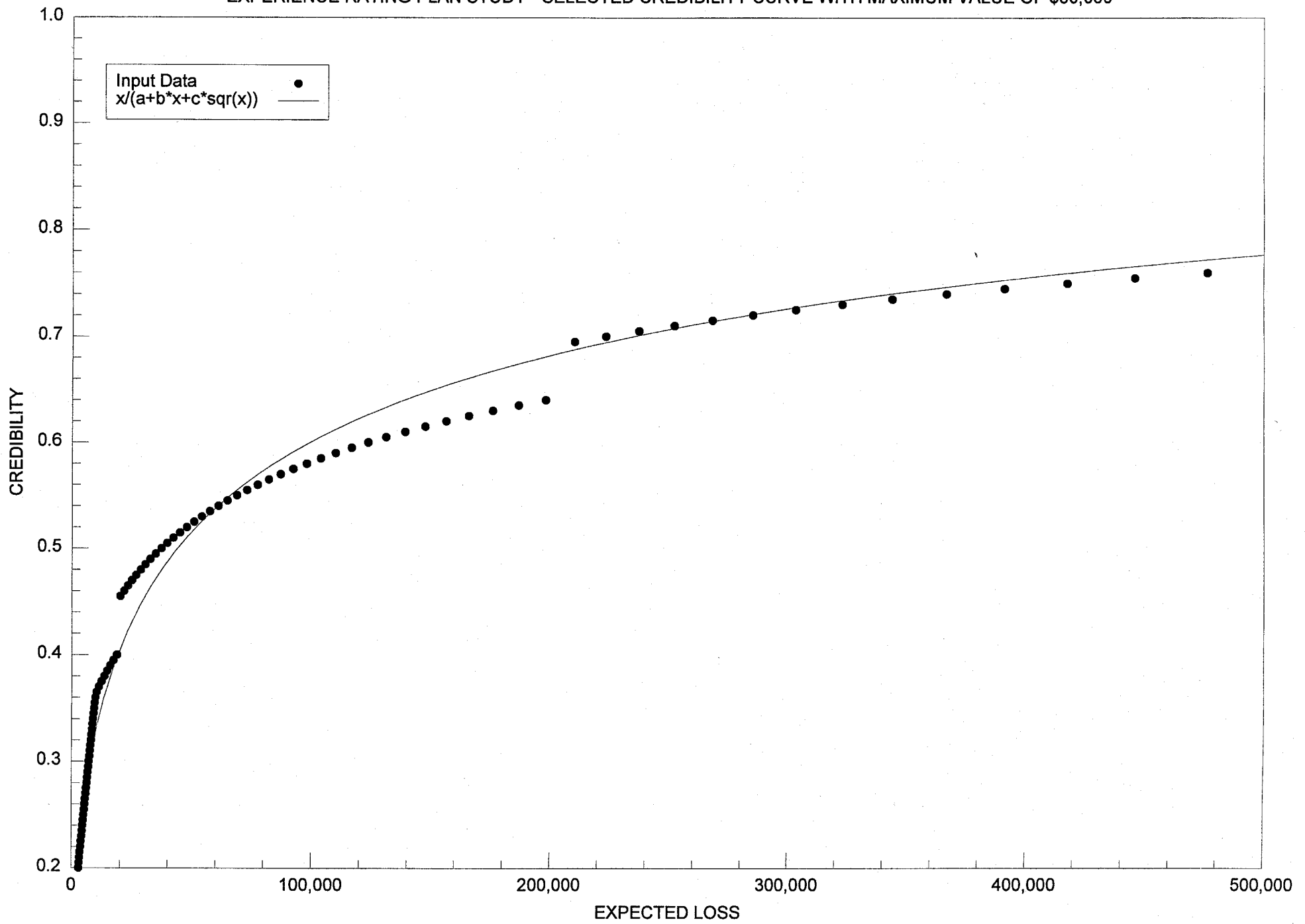
PENNSYLVANIA COMPENSATION RATING BUREAU

REVIEW OF BUREAU TEST OF EXPERIENCE RATING PLAN

Staff presented a summary of work to date in our testing of the Experience Rating Plan at the November, 2001 Actuarial and Classification & Rating Committee meeting. At that time a method was described for the calculation of a test statistic which was used for comparing alternative Experience Rating Plans using various credibility curves and maximum single loss (MSL) values. The presentations also show the approach used for deriving what was considered the optimum credibility curve and MSL choice. The analysis focused on the single rating year 1997.

The Bureau has expanded that analysis and the results are presented herein.

The primary goal was to expand the analysis beyond a single year to determine if the results would be consistent over a longer period. It was determined that a three year period covering rating years 1997, 1998 and 1999 would be used.

It had also been observed that the experience for risks below the current experience rating plan eligibility threshold of $10,000 in expected losses was not suitable for the measuring of our test statistics which rely on a reasonable separation of the experience into quintiles based on experience modification ranges. It was not unusual to have a majority of the risks clustered in a very narrow experience modification factor range. It was therefore decided to proceed with our analysis exclusive of risks with expected losses below the current eligibility point.

In this discussion, the selected credibility curve resulting from our November 2001 presentation is referred to as P1 and had a MSL value of $50,000 per claim.

The general approach to reviewing and testing of plan alternatives was to test variations in MSL against a credibility curve and then, after selecting a MSL, to test that against variations in the previously selected credibility curves, recognizing interrelationship of the credibility curve and MSL value. Our expanded review of rating plan alternatives continued this approach although the results are presented on a collective basis.

Method for Comparing Plans – Weighted Test Statistic
In order to compare the overall performance of alternative rating plans, the Bureau employed a weighted test statistic. Test statistics, as described in our November, 2001 presentation, were calculated for ranges of risk sizes based on expected losses. These statistics were used to compare the relative performance of different plans within common risk size ranges.

To compare the overall performance of alternative plans, the Bureau developed a weighted test statistic. The weighted test statistic is calculated by giving a weight to the adjusted individual test statistic for each risk size with the weight based on expected losses for that size group. The adjusted test statistics represent the difference within each risk size group between the calculated test statistic and the optimal test statistic across all plan alternatives. A weighted average is then calculated across all size groups to provide a single comparative measure of the performance of a rating plan. The various test plans can then be ranked based on this weighted test statistic. Exhibit 1a and 1b show examples of the derived weighted test statistics.

Exhibits 2, 3, 4, and 5 present a summary of results for tested alternative plans. Exhibit 2 shows a three year summary of results. Page 2a shows results over all risk sizes, pages 2b, 2c and 2d show results for smaller groupings of risk sizes. The top portion of each page shows the rankings of 41 tested plans. The

bottom portion shows the actual weighted test statistic values. For the three year summary, the weighted test statistic value is simply the sum of the values for the individual years. Exhibits 3, 4 and 5 show results for rating years 1999, 1998, and 1997 respectively.

The best performing plans are clustered in a range with the credibility curve P1-10 (credibility equals P1-0.10) to P1 and with MSLs ranging from 35,000 to 50,000. All alternatives tested represented an improvement over the current plan.

Within that clustering of best testing plans, the Bureau examined the performance of those plans in greater detail by comparing actual (standard basis) loss ratios and manual loss ratios by risk size and differentiating between credit and debit risks. Results are shown in Exhibit 6.

Staff chose a MSL value of $42,500 as a reasonable compromise among the most promising plan alternatives. We further fine-tuned the credibility curve by adjusting the P1 values by risk size so as to minimize the spread of results in actual loss ratios as presented on Exhibit 6. The shaded areas of that exhibit represent Bureau selections. The resulting curve, identified at P1-Int (interpolated) represents staffs proposed credibility curve with a MSL of $42,500.

A copy of Table B (experience rating plan rating values) for the current plan at April 1, 1999 and the proposed plan also at April 1, 1999 are presented as Exhibit 7 and 8 respectively.

Payroll-based Credibility
The Bureau's current classification rating procedure relies on payroll as the basis for the determination of credibility. It is our intention to also consider the possible use of payroll as the basis for credibility in the experience rating plan.

In this review, we compared our selected expected loss-based credibility curve (P1-Int) using a MSL of $42,500 with a similar plan but based on a payroll-based credibility curve.

The payroll credibility curve was constructed by adjusting the expected loss curve by a scalar factor representing the relationship between payroll and expected losses for all risks included. The scalar factor (payroll 00's / expected losses) was 0.6887 suggesting that an expected loss eligibility point of $10,000 was equivalent to a payroll eligibility point of $688,800 (Exhibit 9).

To maintain a consistent body of risks on an expected loss and payroll basis, all risks with expected losses of $10,000 or more but payroll less than $688,800 were excluded from the data base. This represented a loss of approximately 25% of risks, 2% of payroll and 5% of expected losses.

The method for calculating test statistics and weighted test statistics was employed to compare the two approaches. Weighted test statistics were calculated for each method using both payroll and expected losses as weights. Results are shown in Exhibit 10. Note that the composition of risks within size ranges for the two methods do not match.

Exhibit 11 presents comparisons of loss ratios over selected risk size ranges for credit and debit risks.

Staff is not recommending implementation of a payroll based credibility curve at this time but believes that further investigation in this area is warranted.

WEIGHTED TEST STATISTICS
(X-OPTIMAL)

1999						50P1N15	50P1N10	50P1N05	50P1	50P1P05	50P1P10	Optimal
EL Slot	Expected Loss Range	Expected Losses	Wts by Section	Wts. 12-63	Wts. 21-63							
21-24	10,001 - 25,000	90,538,812	32.9%	9.5%	10.2%	-	0.1140	0.0242	0.2700	0.4478	0.3133	-
25-29	25,001 - 50,000	86,013,740	31.2%	9.0%	9.7%	0.1761	0.3449	0.1933	0.2080	0.5780	0.2334	-
30-34	50,001 - 100,000	98,777,214	35.9%	10.3%	11.1%	0.2038	0.0194	0.2110	0.0567	0.4376	0.3021	-
	Wtd Test Statistic (21-34)					0.1281	0.1521	0.1440	0.1741	0.4848	0.2843	-
	Rank					16	20	19	24	41	32	
35-36	100,001 - 200,000	105,055,388	39.1%	11.0%	11.8%	0.1654	0.1211	0.1212	0.0534	0.0380	0.0362	-
37-39	200,001 - 350,000	99,897,758	37.2%	10.5%	11.2%	0.2579	0.2458	0.2075	0.2298	0.1632	0.2275	-
40-42	350,001 - 500,000	63,492,958	23.7%	6.6%	7.1%	0.4129	0.5731	0.3585	0.3997	0.4154	0.4364	-
	Wtd Test Statistic (35-42)					0.2585	0.2746	0.2095	0.2011	0.1740	0.2022	-
	Rank					32	36	24	21	13	22	
43-47	500,001 - 1,000,000	99,371,569	28.8%	10.4%	11.2%	0.1680	0.1604	0.0839	0.1070	0.0657	0.0251	-
48-51	1,000,001 - 2,000,000	84,744,873	24.6%	8.9%	9.5%	0.9391	0.4209	1.9314	1.6760	2.9788	3.1417	-
52-57	2,000,001 - 5,000,000	86,795,543	25.2%	9.1%	9.8%	0.3462	0.3140	0.3521	0.2638	0.2201	0.1981	-
58-63	over 5,000,000	74,094,620	21.5%	7.8%	8.3%	0.1935	0.6604	0.6836	0.2259	0.5393	0.6346	-
	Wtd Test Statistic (43-63)					0.4083	0.3708	0.7350	0.5582	0.9231	0.9665	-
	Rank					15	10	31	22	34	38	
	Wtd Test Statistic (21-63)					0.2755	0.2733	0.3918	0.3302	0.5592	0.5222	-
	Rank					16	14	28	23	39	37	
	Total(21-63)	888,782,475										

WEIGHTED TEST STATISTICS
(OPTIMAL)

1999			Wts by Section	Wts. 12-63	Wts. 21-63	50P1N15	50P1N10	50P1N05	50P1	50P1P05	50P1P10	Optimal
EL Slot	**Expected Loss Range**	**Expected Losses**										
21-24	10,001 - 25,000	90,538,812	32.9%	9.5%	10.2%	0.1359	0.2499	0.1601	0.4059	0.5836	0.4492	0.1359
25-29	25,001 - 50,000	86,013,740	31.2%	9.0%	9.7%	0.3103	0.4791	0.3275	0.3422	0.7122	0.3676	0.1342
30-34	50,001 - 100,000	98,777,214	35.9%	10.3%	11.1%	0.2997	0.1153	0.3069	0.1525	0.5335	0.3980	0.0959
	Wtd Test Statistic (21-34)					0.2491	0.2731	0.2650	0.2951	0.6058	0.4053	0.1210
	Rank					16	20	19	24	41	32	
35-36	100,001 - 200,000	105,055,388	39.1%	11.0%	11.8%	0.1823	0.1380	0.1381	0.0702	0.0549	0.0531	0.0169
37-39	200,001 - 350,000	99,897,758	37.2%	10.5%	11.2%	0.3263	0.3141	0.2759	0.2982	0.2316	0.2959	0.0684
40-42	350,001 - 500,000	63,492,958	23.7%	6.6%	7.1%	0.5108	0.6710	0.4564	0.4976	0.5133	0.5343	0.0979
	Wtd Test Statistic (35-42)					0.3137	0.3299	0.2648	0.2563	0.2292	0.2575	0.0552
	Rank					32	36	24	21	13	22	
43-47	500,001 - 1,000,000	99,371,569	28.8%	10.4%	11.2%	0.2001	0.1924	0.1160	0.1390	0.0978	0.0572	0.0320
48-51	1,000,001 - 2,000,000	84,744,873	24.6%	8.9%	9.5%	1.4619	0.9437	2.4542	2.1988	3.5016	3.6645	0.5228
52-57	2,000,001 - 5,000,000	86,795,543	25.2%	9.1%	9.8%	0.3800	0.3478	0.3859	0.2976	0.2539	0.2319	0.0338
58-63	over 5,000,000	74,094,620	21.5%	7.8%	8.3%	0.1949	0.6618	0.6850	0.2273	0.5407	0.6359	0.0014
	Wtd Test Statistic (43-63)					0.5549	0.5175	0.8816	0.7048	1.0698	1.1131	0.1466
	Rank					15	10	31	22	34	38	
	Wtd Test Statistic (21-63)					0.3863	0.3841	0.5026	0.4410	0.6700	0.6330	0.1108
	Rank					16	14	28	23	39	37	
	Total(21-63)	888,782,475										

Test Year - Combined 1997, 1998 & 1999

Ranges 21-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			30						
25,000		24	21	10					
35,000	15	8	5	2	13	27	20		
42,500	31	7	4	18	11				6
50,000	9	1	3	25	17	34			
57,500	16	12	28	32	35				
65,000		22	33	14	23				
75,000		19	29	36	39				
87,500			26	38					
100,000			37	40					

Ranges 21-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								1.6389	
15,000			0.9515						
25,000		0.8252	0.7834	0.6597					
35,000	0.7267	0.6562	0.6301	0.5410	0.7060	0.8706	0.7683		
42,500	0.9586	0.6530	0.6098	0.7498	0.6780				0.6498
50,000	0.6591	0.5283	0.5684	0.8455	0.7462	1.0987			
57,500	0.7416	0.7006	0.8969	0.9831	1.1299				
65,000		0.7863	1.0184	0.7260	0.8213				
75,000		0.7643	0.9298	1.2020	1.4928				
87,500			0.8601	1.4662					
100,000			1.2043	1.6048					

Experience Rating Plan Study - Test Statistics

Test Year - Combined 1997, 1998 & 1999

Ranges 21-34   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								20	
15,000			17						
25,000		13	9	7					
35,000	15	12	8	16	18	27	22		
42,500	19	5	14	21	23				11
50,000	6	2	1	24	4	34			
57,500	25	10	30	28	35				
65,000		26	29	3	33				
75,000		32	31	36	39				
87,500			38	40					
100,000			37	41					

Ranges 21-34   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								1.0319	
15,000			0.8674						
25,000		0.7983	0.7467	0.6096					
35,000	0.8562	0.7900	0.6895	0.8628	0.8778	1.3697	1.1730		
42,500	0.9306	0.5472	0.7986	1.1240	1.1751				0.7776
50,000	0.6072	0.3683	0.3082	1.1892	0.5461	1.7397			
57,500	1.3189	0.7699	1.6182	1.5154	1.9214				
65,000		1.3395	1.5395	0.4467	1.7160				
75,000		1.6915	1.6608	1.9360	2.7876				
87,500			2.0805	2.9136					
100,000			2.0480	3.1187					

Experience Rating Plan Study - Test Statistics

Test Year - Combined 1997, 1998 & 1999

Ranges 35-42   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								21	
15,000			41						
25,000		39	37	35					
35,000	34	16	23	3	14	19	22		
42,500	40	31	27	8	5				6
50,000	32	33	20	24	25	15			
57,500	29	12	18	9	11				
65,000		4	2	17	13				
75,000		1	7	36	26				
87,500			10	28					
100,000			30	38					

Ranges 35-42   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.4279	
15,000			0.9455						
25,000		0.6972	0.6452	0.5902					
35,000	0.5787	0.3901	0.4356	0.2616	0.3649	0.4085	0.4289		
42,500	0.8181	0.4907	0.4495	0.3280	0.2891				0.3118
50,000	0.5065	0.5703	0.4266	0.4370	0.4372	0.3729			
57,500	0.4757	0.3491	0.4062	0.3322	0.3399				
65,000		0.2711	0.2343	0.3953	0.3500				
75,000		0.1901	0.3190	0.6137	0.4432				
87,500			0.3326	0.4721					
100,000			0.4907	0.6797					

Experience Rating Plan Study - Test Statistics

Test Year - Combined 1997, 1998 & 1999

Ranges 43-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			28						
25,000		27	25	13					
35,000	12	14	11	5	19	21	9		
42,500	31	22	6	16	7				18
50,000	17	8	23	24	34	37			
57,500	4	26	10	30	35				
65,000		15	39	38	3				
75,000		2	20	29	40				
87,500			1	33					
100,000			32	36					

Ranges 43-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								3.0179	
15,000			1.0199						
25,000		0.9478	0.9182	0.7576					
35,000	0.7424	0.7595	0.7345	0.5112	0.8410	0.8523	0.7283		
42,500	1.1001	0.8558	0.5902	0.7979	0.6056				0.8226
50,000	0.8153	0.6246	0.8919	0.8980	1.1459	1.1822			
57,500	0.5098	0.9274	0.7336	1.0938	1.1483				
65,000		0.7637	1.2346	1.2097	0.4993				
75,000		0.4920	0.8500	1.0633	1.3349				
87,500			0.3362	1.1456					
100,000			1.1262	1.1659					

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Test Year 1999

Ranges 21-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			21						
25,000		24	13	11					
35,000	8	6	5	1	27	25	17		
42,500	32	10	7	22	15				20
50,000	16	14	28	23	39	37			
57,500	2	26	19	33	31				
65,000		18	30	36	12				
75,000		4	29	9	40				
87,500			3	35					
100,000			38	34					

Ranges 21-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.7867	
15,000			0.3101						
25,000		0.3315	0.2680	0.2540					
35,000	0.2313	0.2095	0.2059	0.1443	0.3738	0.3431	0.2878		
42,500	0.4777	0.2500	0.2102	0.3163	0.2751				0.3037
50,000	0.2755	0.2733	0.3918	0.3302	0.5592	0.5222			
57,500	0.1885	0.3618	0.2947	0.4920	0.4701				
65,000		0.2926	0.4635	0.5138	0.2611				
75,000		0.2002	0.4080	0.2360	0.5982				
87,500			0.1931	0.5073					
100,000			0.5223	0.4938					

Experience Rating Plan Study - Test Statistics

Test Year 1999

Ranges 21-34   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								27	
15,000			12						
25,000		21	4	2					
35,000	10	8	1	3	26	17	14		
42,500	39	5	9	11	18				7
50,000	16	20	19	24	41	32			
57,500	6	15	13	28	25				
65,000		22	23	31	37				
75,000		30	35	38	36				
87,500			29	33					
100,000			34	40					

Ranges 21-34   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.2570	
15,000			0.1097						
25,000		0.1589	0.0457	0.0376					
35,000	0.1046	0.0711	0.0343	0.0431	0.2248	0.1289	0.1104		
42,500	0.4151	0.0610	0.0786	0.1073	0.1386				0.0683
50,000	0.1281	0.1521	0.1440	0.1741	0.4848	0.2843			
57,500	0.0665	0.1249	0.1097	0.2584	0.1856				
65,000		0.1647	0.1730	0.2775	0.3737				
75,000		0.2746	0.3394	0.3969	0.3590				
87,500			0.2649	0.2904					
100,000			0.3263	0.4209					

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Experience Rating Plan Study - Test Statistics

Test Year 1999

Ranges 35-42   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								39	
15,000			41						
25,000		40	38	37					
35,000	34	7	20	2	28	30	17		
42,500	33	31	27	16	8				15
50,000	32	36	24	21	13	22			
57,500	29	26	18	23	14				
65,000		5	4	9	6				
75,000		1	12	3	11				
87,500			10	19					
100,000			25	35					

Ranges 35-42   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.3179	
15,000			0.4252						
25,000		0.3187	0.3068	0.3000					
35,000	0.2681	0.1412	0.1975	0.1072	0.2349	0.2437	0.1830		
42,500	0.2632	0.2556	0.2319	0.1796	0.1471				0.1793
50,000	0.2585	0.2746	0.2095	0.2011	0.1740	0.2022			
57,500	0.2427	0.2282	0.1873	0.2077	0.1743				
65,000		0.1349	0.1253	0.1484	0.1361				
75,000		0.0900	0.1658	0.1098	0.1570				
87,500			0.1565	0.1877					
100,000			0.2196	0.2691					

Experience Rating Plan Study - Test Statistics

Test Year 1999

Ranges 43-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			12						
25,000		17	16	13					
35,000	8	11	9	5	26	25	19		
42,500	29	14	7	24	18				23
50,000	15	10	31	22	34	38			
57,500	4	28	21	32	35				
65,000		20	37	39	6				
75,000		3	27	2	40				
87,500			1	36					
100,000			33	30					

Ranges 43-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								1.5834	
15,000			0.3819						
25,000		0.4808	0.4169	0.3928					
35,000	0.3049	0.3742	0.3508	0.2548	0.6037	0.5946	0.5133		
42,500	0.6983	0.3985	0.2996	0.5925	0.4858				0.5915
50,000	0.4083	0.3708	0.7350	0.5582	0.9231	0.9665			
57,500	0.2448	0.6584	0.5285	0.9047	0.9322				
65,000		0.5198	0.9634	0.9918	0.2702				
75,000		0.2273	0.6546	0.2063	1.1384				
87,500			0.1651	0.9344					
100,000			0.9192	0.7314					

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Test Year 1998

Ranges 21-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								24	
15,000			22						
25,000		16	17	10					
35,000	18	13	14	19	11	33	26		
42,500	6	8	12	21	15				9
50,000	5	4	1	20	2	34			
57,500	30	7	35	23	38				
65,000		25	31	3	29				
75,000		28	27	32	39				
87,500			37	40					
100,000			36	41					

Ranges 21-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.3863	
15,000			0.3653						
25,000		0.3098	0.3214	0.2631					
35,000	0.3233	0.2999	0.3000	0.3366	0.2669	0.4515	0.4012		
42,500	0.2224	0.2342	0.2699	0.3537	0.3048				0.2487
50,000	0.2199	0.1279	0.0891	0.3520	0.0943	0.4700			
57,500	0.4313	0.2269	0.4823	0.3817	0.5458				
65,000		0.3893	0.4429	0.1071	0.4186				
75,000		0.4165	0.4051	0.4481	0.7050				
87,500			0.5106	0.7552					
100,000			0.5007	0.7554					

Experience Rating Plan Study - Test Statistics

Test Year 1998

Ranges 21-34   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								7	
15,000			12						
25,000		10	13	9					
35,000	14	16	15	20	19	30	24		
42,500	5	8	18	22	21				17
50,000	6	4	2	23	1	34			
57,500	27	11	35	26	38				
65,000		25	32	3	29				
75,000		31	28	33	39				
87,500			37	41					
100,000			36	40					

Ranges 21-34   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.3672	
15,000			0.4875						
25,000		0.4584	0.5493	0.4179					
35,000	0.5499	0.5779	0.5689	0.7387	0.6397	1.1889	1.0568		
42,500	0.3169	0.3700	0.6126	0.9230	0.9114				0.5809
50,000	0.3292	0.0831	0.0587	0.9294	0.0062	1.3461			
57,500	1.0855	0.4805	1.3873	1.0773	1.5961				
65,000		1.0573	1.2596	0.0601	1.1859				
75,000		1.2032	1.1376	1.2767	2.1327				
87,500			1.5369	2.3130					
100,000			1.4918	2.3020					

Experience Rating Plan Study - Test Statistics

Test Year 1998

Ranges 35-42   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								17	
15,000			41						
25,000		40	38	36					
35,000	39	32	30	27	8	19	22		
42,500	31	29	25	20	14				13
50,000	34	37	28	21	35	7			
57,500	26	16	11	1	9				
65,000		23	2	33	5				
75,000		4	12	6	18				
87,500			3	15					
100,000			10	24					

Ranges 35-42   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.0579	
15,000			0.3016						
25,000		0.2037	0.1668	0.1514					
35,000	0.1710	0.1277	0.1241	0.1167	0.0392	0.0618	0.0667		
42,500	0.1242	0.1202	0.0789	0.0624	0.0475				0.0471
50,000	0.1419	0.1595	0.1201	0.0652	0.1439	0.0328			
57,500	0.1084	0.0555	0.0444	0.0158	0.0417				
65,000		0.0673	0.0202	0.1358	0.0300				
75,000		0.0279	0.0453	0.0307	0.0600				
87,500			0.0232	0.0539					
100,000			0.0435	0.0689					

Experience Rating Plan Study - Test Statistics

Test Year 1998

Ranges 43-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			40						
25,000		39	37	36					
35,000	38	33	35	31	25	29	26		
42,500	34	32	24	21	1				23
50,000	30	20	2	17	11	19			
57,500	28	27	13	16	14				
65,000		12	22	10	15				
75,000		8	9	18	7				
87,500			4	6					
100,000			3	5					

Ranges 43-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.6413	
15,000			0.3188						
25,000		0.2752	0.2629	0.2282					
35,000	0.2640	0.2171	0.2265	0.1955	0.1540	0.1840	0.1546		
42,500	0.2227	0.2151	0.1523	0.1399	0.0384				0.1472
50,000	0.1942	0.1375	0.0887	0.1288	0.1230	0.1335			
57,500	0.1769	0.1619	0.1245	0.1285	0.1275				
65,000		0.1242	0.1401	0.1203	0.1279				
75,000		0.1114	0.1195	0.1326	0.1070				
87,500			0.0978	0.1010					
100,000			0.0923	0.0988					

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Exhibit 5

Experience Rating Plan Study - Test Statistics

Test Year 1997

Ranges 21-63   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								40	
15,000			38						
25,000		33	35	24					
35,000	31	25	20	1	2	3	4		
42,500	37	30	22	5	9				8
50,000	29	21	6	28	7	12			
57,500	19	14	18	13	16				
65,000		10	15	11	23				
75,000		26	17	41	34				
87,500			27	36					
100,000			32	39					

Ranges 21-63   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.4659	
15,000			0.2761						
25,000		0.1840	0.1941	0.1426					
35,000	0.1721	0.1468	0.1242	0.0601	0.0653	0.0761	0.0793		
42,500	0.2585	0.1688	0.1297	0.0798	0.0981				0.0974
50,000	0.1638	0.1271	0.0875	0.1632	0.0926	0.1065			
57,500	0.1218	0.1119	0.1199	0.1094	0.1140				
65,000		0.1044	0.1120	0.1051	0.1416				
75,000		0.1476	0.1167	0.5180	0.1896				
87,500			0.1565	0.2037					
100,000			0.1814	0.3555					

Test Year 1997

Ranges 21-34   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			36						
25,000		29	23	24					
35,000	32	21	7	5	2	3	1		
42,500	31	14	11	8	17				18
50,000	22	19	9	6	4	13			
57,500	27	26	16	28	20				
65,000		15	10	12	25				
75,000		33	30	35	38				
87,500			37	39					
100,000			34	40					

Ranges 21-34   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.4077	
15,000			0.2702						
25,000		0.1810	0.1517	0.1540					
35,000	0.2018	0.1410	0.0863	0.0810	0.0133	0.0519	0.0058		
42,500	0.1985	0.1161	0.1074	0.0938	0.1251				0.1284
50,000	0.1500	0.1331	0.1055	0.0857	0.0551	0.1093			
57,500	0.1669	0.1646	0.1212	0.1798	0.1398				
65,000		0.1174	0.1069	0.1091	0.1564				
75,000		0.2136	0.1837	0.2625	0.2959				
87,500			0.2788	0.3102					
100,000			0.2299	0.3958					

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Experience Rating Plan Study - Test Statistics

Test Year 1997

Ranges 35-42   Weighted Test Statistic **Rank**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								2	
15,000			35						
25,000		32	30	26					
35,000	27	20	17	1	9	12	33		
42,500	40	18	25	7	10				6
50,000	13	23	11	29	19	24			
57,500	22	3	31	15	21				
65,000		4	8	16	34				
75,000		5	14	41	36				
87,500			28	38					
100,000			37	39					

Ranges 35-42   Weighted Test Statistic **Value**

Maximum Single Loss	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.0521	
15,000			0.2187						
25,000		0.1748	0.1717	0.1388					
35,000	0.1396	0.1212	0.1139	0.0378	0.0908	0.1031	0.1792		
42,500	0.4307	0.1149	0.1387	0.0860	0.0944				0.0855
50,000	0.1061	0.1361	0.0970	0.1708	0.1192	0.1379			
57,500	0.1246	0.0654	0.1745	0.1087	0.1239				
65,000		0.0690	0.0887	0.1112	0.1839				
75,000		0.0723	0.1078	0.4732	0.2261				
87,500			0.1529	0.2305					
100,000			0.2276	0.3417					

Test Year 1997

Ranges 43-63   Weighted Test Statistic **Rank**

Maximum Single Loss	Credibility Table								
	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								41	
15,000			38						
25,000		33	36	26					
35,000	31	30	29	3	12	7	1		
42,500	32	37	27	4	10				13
50,000	35	23	5	34	18	11			
57,500	14	20	9	2	15				
65,000		24	25	17	19				
75,000		28	8	40	16				
87,500			6	21					
100,000			22	39					

Ranges 43-63   Weighted Test Statistic **Value**

Maximum Single Loss	Credibility Table								
	P1-15	P1-10	P1-5	P1	P1+5	P1+10	P1+15	Current	Int
Current								0.7933	
15,000			0.3191						
25,000		0.1917	0.2384	0.1366					
35,000	0.1735	0.1682	0.1572	0.0609	0.0833	0.0737	0.0604		
42,500	0.1791	0.2422	0.1383	0.0655	0.0815				0.0839
50,000	0.2129	0.1162	0.0682	0.2111	0.0998	0.0822			
57,500	0.0881	0.1071	0.0806	0.0606	0.0887				
65,000		0.1196	0.1311	0.0976	0.1011				
75,000		0.1534	0.0758	0.7244	0.0895				
87,500			0.0732	0.1102					
100,000			0.1146	0.3356					

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Exhibit 6

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1997, 1998 & 1999 COMBINED

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 35	Credits	1.09	0.96	1.04	0.90	1.04	0.89	1.13	0.96	0.98	0.83	0.85	0.72	0.94	0.80
P1 - 10	Charges	1.27	1.78	1.14	1.56	1.07	1.40	1.15	1.43	1.12	1.37	1.04	1.24	1.08	1.33
	Total	1.14	1.14	1.08	1.09	1.05	1.07	1.14	1.16	1.05	1.05	0.94	0.91	1.00	0.99
MV 35	Credits	1.12	0.96	1.07	0.91	1.07	0.89	1.16	0.96	1.02	0.85	0.88	0.74	0.98	0.81
P1 - 5	Charges	1.20	1.78	1.09	1.55	1.05	1.41	1.14	1.45	1.09	1.35	1.02	1.22	1.06	1.32
	Total	1.15	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.06	1.05	0.95	0.91	1.01	0.99
MV 35	Credits	1.11	0.94	1.15	0.96	1.14	0.94	1.17	0.97	1.08	0.89	0.96	0.78	1.04	0.85
P1	Charges	1.19	1.78	0.98	1.41	0.96	1.31	1.12	1.47	1.00	1.31	0.90	1.12	0.96	1.24
	Total	1.14	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.04	1.05	0.93	0.91	1.00	0.99
MV 42.5	Credits	1.10	0.96	1.07	0.92	1.06	0.89	1.14	0.95	1.00	0.84	0.88	0.73	0.96	0.81
P1 - 10	Charges	1.24	1.81	1.09	1.55	1.05	1.42	1.15	1.47	1.11	1.38	1.03	1.23	1.07	1.33
	Total	1.14	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.05	1.05	0.94	0.91	1.01	0.99
MV 42.5	Credits	1.14	0.96	1.10	0.92	1.09	0.89	1.17	0.95	1.02	0.84	0.89	0.73	0.98	0.81
P1 - 5	Charges	1.17	1.81	1.04	1.55	1.01	1.42	1.12	1.47	1.09	1.38	1.02	1.23	1.05	1.33
	Total	1.15	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.05	1.05	0.95	0.91	1.01	0.99
MV 42.5	Credits	1.18	0.96	1.14	0.92	1.13	0.89	1.21	0.95	1.04	0.84	0.91	0.73	1.01	0.81
P1	Charges	1.08	1.81	0.98	1.55	0.97	1.42	1.09	1.47	1.06	1.38	1.00	1.23	1.02	1.33
	Total	1.15	1.14	1.07	1.09	1.05	1.07	1.14	1.16	1.05	1.05	0.95	0.91	1.01	0.99
MV 50	Credits	1.12	0.97	1.08	0.92	1.08	0.89	1.18	0.96	1.03	0.84	0.89	0.73	0.98	0.81
P1 - 10	Charges	1.20	1.82	1.07	1.57	1.02	1.43	1.11	1.46	1.09	1.37	1.02	1.24	1.05	1.33
	Total	1.14	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.06	1.05	0.94	0.91	1.02	0.99
MV 50	Credits	1.16	0.97	1.11	0.92	1.11	0.90	1.21	0.96	1.05	0.84	0.91	0.73	1.00	0.81
P1 - 5	Charges	1.12	1.82	1.02	1.57	0.99	1.43	1.09	1.46	1.07	1.38	1.01	1.23	1.03	1.33
	Total	1.15	1.14	1.08	1.09	1.06	1.07	1.15	1.16	1.06	1.05	0.95	0.91	1.02	0.99

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1999

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 35	Credits	0.98	0.87	1.18	1.03	1.13	0.97	1.14	0.96	1.06	0.91	0.99	0.84	1.04	0.89
P1 - 10	Charges	1.24	1.71	1.23	1.66	1.03	1.35	1.13	1.42	1.25	1.52	1.15	1.35	1.16	1.42
	Total	1.06	1.05	1.20	1.20	1.09	1.10	1.14	1.15	1.16	1.17	1.06	1.02	1.10	1.08
MV 35	Credits	1.03	0.88	1.24	1.04	1.17	0.96	1.18	0.96	1.15	0.95	1.05	0.86	1.10	0.91
P1 - 5	Charges	1.18	1.72	1.18	1.67	1.03	1.38	1.15	1.47	1.25	1.53	1.19	1.43	1.18	1.47
	Total	1.07	1.05	1.22	1.20	1.11	1.10	1.16	1.15	1.19	1.17	1.10	1.02	1.13	1.08
MV 35	Credits	1.03	0.87	1.24	1.03	1.18	0.97	1.19	0.96	1.09	0.90	1.02	0.84	1.08	0.89
P1	Charges	1.12	1.71	1.13	1.66	0.97	1.35	1.09	1.42	1.22	1.53	1.12	1.35	1.12	1.42
	Total	1.06	1.05	1.19	1.20	1.08	1.10	1.13	1.15	1.16	1.17	1.06	1.02	1.10	1.08
MV 42.5	Credits	0.99	0.87	1.22	1.04	1.14	0.95	1.15	0.95	1.10	0.91	1.02	0.85	1.07	0.89
P1 - 10	Charges	1.24	1.78	1.18	1.67	1.04	1.40	1.16	1.49	1.27	1.56	1.18	1.42	1.18	1.48
	Total	1.06	1.05	1.21	1.20	1.10	1.10	1.15	1.15	1.18	1.17	1.08	1.02	1.11	1.08
MV 42.5	Credits	1.02	0.87	1.25	1.04	1.17	0.95	1.17	0.95	1.12	0.91	1.04	0.85	1.09	0.89
P1 - 5	Charges	1.17	1.78	1.13	1.67	1.00	1.40	1.13	1.49	1.25	1.56	1.17	1.42	1.16	1.48
	Total	1.07	1.05	1.21	1.20	1.10	1.10	1.15	1.15	1.18	1.17	1.09	1.02	1.12	1.08
MV 42.5	Credits	1.05	0.87	1.29	1.04	1.21	0.96	1.20	0.95	1.14	0.91	1.05	0.85	1.11	0.89
P1	Charges	1.11	1.78	1.08	1.67	0.97	1.39	1.10	1.49	1.22	1.56	1.15	1.42	1.13	1.48
	Total	1.07	1.05	1.21	1.20	1.10	1.10	1.15	1.15	1.18	1.17	1.09	1.02	1.12	1.08
MV 50	Credits	1.02	0.88	1.24	1.05	1.17	0.96	1.18	0.95	1.12	0.92	1.04	0.85	1.09	0.90
P1 - 10	Charges	1.18	1.75	1.15	1.67	1.01	1.39	1.13	1.49	1.25	1.56	1.17	1.43	1.16	1.48
	Total	1.07	1.05	1.21	1.20	1.10	1.10	1.15	1.15	1.18	1.17	1.09	1.02	1.12	1.08
MV 50	Credits	1.05	0.88	1.28	1.05	1.20	0.96	1.21	0.95	1.15	0.92	1.06	0.85	1.11	0.90
P1 - 5	Charges	1.11	1.75	1.09	1.67	0.97	1.39	1.10	1.49	1.22	1.56	1.16	1.43	1.14	1.48
	Total	1.07	1.05	1.21	1.20	1.10	1.10	1.15	1.15	1.18	1.17	1.10	1.02	1.12	1.08

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1998

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 35	Credits	1.30	1.15	1.12	0.97	0.96	0.82	1.26	1.07	0.89	0.76	0.82	0.70	0.94	0.80
P1 - 10	Charges	1.33	1.87	1.00	1.37	0.95	1.25	1.12	1.41	1.01	1.24	1.00	1.20	1.02	1.26
	Total	1.31	1.31	1.07	1.09	0.95	0.97	1.19	1.21	0.95	0.95	0.90	0.88	0.98	0.97
MV 35	Credits	1.33	1.15	1.14	0.97	0.98	0.82	1.28	1.07	0.92	0.77	0.84	0.70	0.95	0.80
P1 - 5	Charges	1.26	1.88	0.95	1.37	0.92	1.25	1.10	1.41	0.99	1.23	0.99	1.20	1.00	1.26
	Total	1.31	1.31	1.07	1.09	0.95	0.97	1.19	1.21	0.95	0.95	0.91	0.88	0.98	0.97
MV 35	Credits	1.31	1.08	1.39	1.15	1.19	0.98	1.28	1.06	1.11	0.92	1.06	0.88	1.14	0.94
P1	Charges	1.32	1.87	0.69	0.95	0.69	0.95	1.11	1.54	0.71	1.01	0.67	0.90	0.75	1.02
	Total	1.32	1.31	1.09	1.09	0.97	0.97	1.21	1.21	0.94	0.95	0.89	0.88	0.97	0.97
MV 42.5	Credits	1.31	1.14	1.14	0.98	0.98	0.82	1.26	1.05	0.93	0.78	0.84	0.70	0.95	0.80
P1 - 10	Charges	1.32	1.94	0.95	1.36	0.92	1.27	1.13	1.44	0.97	1.22	1.00	1.21	1.01	1.27
	Total	1.31	1.31	1.07	1.09	0.95	0.97	1.19	1.21	0.95	0.95	0.91	0.88	0.98	0.97
MV 42.5	Credits	1.35	1.14	1.18	0.98	1.00	0.82	1.29	1.05	0.95	0.78	0.85	0.70	0.97	0.80
P1 - 5	Charges	1.24	1.93	0.90	1.36	0.89	1.26	1.10	1.44	0.96	1.22	0.99	1.21	0.99	1.27
	Total	1.31	1.31	1.06	1.09	0.95	0.97	1.19	1.21	0.95	0.95	0.91	0.88	0.98	0.97
MV 42.5	Credits	1.43	1.14	1.25	0.98	1.06	0.82	1.35	1.05	0.98	0.78	0.87	0.70	1.01	0.80
P1	Charges	1.10	1.93	0.83	1.36	0.83	1.26	1.05	1.44	0.93	1.22	0.97	1.21	0.95	1.27
	Total	1.31	1.31	1.06	1.09	0.95	0.97	1.19	1.21	0.95	0.95	0.92	0.88	0.98	0.97
MV 50	Credits	1.32	1.14	1.15	0.98	0.99	0.82	1.29	1.06	0.94	0.78	0.85	0.70	0.97	0.80
P1 - 10	Charges	1.30	1.98	0.93	1.38	0.91	1.28	1.10	1.44	0.97	1.23	1.00	1.22	1.00	1.28
	Total	1.31	1.31	1.06	1.09	0.95	0.97	1.19	1.21	0.96	0.95	0.92	0.88	0.98	0.97
MV 50	Credits	1.36	1.14	1.19	0.98	1.02	0.82	1.33	1.06	0.96	0.77	0.86	0.70	0.99	0.80
P1 - 5	Charges	1.21	1.98	0.88	1.38	0.87	1.28	1.07	1.44	0.95	1.23	0.99	1.22	0.98	1.28
	Total	1.31	1.31	1.06	1.09	0.95	0.97	1.19	1.21	0.96	0.95	0.92	0.88	0.98	0.97

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1997

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 35	Credits	0.99	0.87	0.82	0.71	1.02	0.88	1.02	0.86	0.98	0.84	0.74	0.64	0.85	0.73
P1 - 10	Charges	1.24	1.76	1.20	1.64	1.24	1.60	1.19	1.47	1.07	1.32	0.98	1.17	1.07	1.30
	Total	1.07	1.07	0.96	0.96	1.12	1.12	1.10	1.12	1.03	1.04	0.85	0.83	0.95	0.93
MV 35	Credits	1.01	0.88	0.84	0.71	1.05	0.88	1.04	0.86	1.00	0.84	0.75	0.62	0.86	0.73
P1 - 5	Charges	1.17	1.75	1.15	1.64	1.20	1.60	1.16	1.46	1.05	1.31	0.94	1.11	1.02	1.25
	Total	1.06	1.07	0.95	0.96	1.12	1.12	1.10	1.12	1.02	1.04	0.84	0.83	0.94	0.93
MV 35	Credits	1.03	0.88	0.84	0.71	1.05	0.88	1.04	0.86	1.03	0.84	0.78	0.62	0.89	0.73
P1	Charges	1.12	1.75	1.14	1.64	1.20	1.60	1.15	1.46	1.01	1.31	0.91	1.11	1.00	1.25
	Total	1.06	1.07	0.95	0.96	1.12	1.12	1.10	1.12	1.02	1.04	0.85	0.83	0.94	0.95
MV 42.5	Credits	1.02	0.89	0.84	0.72	1.06	0.90	1.03	0.86	0.97	0.81	0.76	0.63	0.87	0.73
P1 - 10	Charges	1.17	1.73	1.16	1.65	1.19	1.59	1.16	1.47	1.07	1.34	0.94	1.11	1.03	1.26
	Total	1.06	1.07	0.96	0.96	1.12	1.12	1.10	1.12	1.03	1.04	0.85	0.83	0.94	0.93
MV 42.5	Credits	1.05	0.89	0.86	0.72	1.09	0.90	1.05	0.86	0.99	0.81	0.77	0.63	0.88	0.73
P1 - 5	Charges	1.10	1.73	1.10	1.65	1.15	1.59	1.14	1.47	1.06	1.34	0.93	1.11	1.01	1.26
	Total	1.06	1.07	0.95	0.96	1.12	1.12	1.10	1.12	1.02	1.04	0.85	0.83	0.95	0.93
MV 42.5	Credits	1.08	0.89	0.89	0.72	1.12	0.90	1.08	0.86	1.01	0.81	0.78	0.63	0.90	0.73
P1	Charges	1.03	1.73	1.06	1.65	1.11	1.59	1.11	1.47	1.04	1.34	0.92	1.11	0.99	1.26
	Total	1.06	1.07	0.95	0.96	1.12	1.12	1.10	1.12	1.02	1.04	0.85	0.83	0.95	0.93
MV 50	Credits	1.03	0.90	0.85	0.72	1.08	0.90	1.08	0.89	1.01	0.83	0.77	0.63	0.89	0.73
P1 - 10	Charges	1.13	1.74	1.15	1.68	1.17	1.61	1.12	1.45	1.04	1.33	0.94	1.12	1.01	1.26
	Total	1.06	1.07	0.96	0.96	1.12	1.12	1.10	1.12	1.03	1.04	0.85	0.83	0.95	0.93
MV 50	Credits	1.06	0.90	0.87	0.72	1.11	0.90	1.11	0.89	1.03	0.83	0.78	0.63	0.91	0.73
P1 - 5	Charges	1.06	1.74	1.09	1.69	1.13	1.61	1.09	1.45	1.02	1.33	0.93	1.12	0.99	1.26
	Total	1.06	1.07	0.96	0.96	1.12	1.12	1.10	1.12	1.03	1.04	0.86	0.83	0.95	0.93

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Exhibit 7

Effective Date: April 1, 1999
Table B - Current
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
–	1,435	–	35,900	0.000
1,436	2,040	–	48,000	0.000
2,405	3,000	–	48,233	0.000
3,001	4,372	0.020	48,475	0.007
4,373	5,372	0.025	48,730	0.009
5,373	6,381	0.030	48,975	0.011
6,382	7,402	0.035	49,229	0.013
7,403	8,432	0.040	49,488	0.015
8,433	9,474	0.045	49,744	0.016
9,475	10,527	0.050	50,005	0.018
10,528	11,591	0.055	50,273	0.020
11,592	12,666	0.060	50,538	0.022
12,667	13,752	0.065	50,808	0.023
13,753	14,851	0.070	51,079	0.025
14,852	15,961	0.075	51,357	0.027
15,962	17,083	0.080	51,634	0.028
17,084	18,218	0.085	51,915	0.030
18,219	19,365	0.090	52,200	0.032
19,366	20,525	0.095	52,489	0.033
20,526	21,698	0.100	52,780	0.035
21,699	22,884	0.105	53,076	0.037
22,885	24,084	0.110	53,375	0.038
24,085	25,296	0.115	53,676	0.040
25,297	26,523	0.120	53,979	0.041
26,524	27,764	0.125	54,288	0.043
27,765	29,019	0.130	54,600	0.044
29,020	30,289	0.135	54,917	0.046
30,290	31,573	0.140	55,236	0.047
31,574	32,873	0.145	55,559	0.049
32,874	34,188	0.150	55,885	0.050
34,189	35,518	0.155	56,216	0.052
35,519	36,865	0.160	56,550	0.053
36,866	38,227	0.165	56,889	0.055
38,228	39,606	0.170	57,231	0.056
39,607	41,002	0.175	57,579	0.058
41,003	42,415	0.180	57,929	0.059

Effective Date: April 1, 1999
Table B - Current
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
42,416	43,845	0.185	58,285	0.060
43,846	45,293	0.190	58,645	0.062
45,294	46,759	0.195	59,009	0.063
46,760	48,244	0.200	59,378	0.064
48,245	49,747	0.205	59,751	0.066
49,748	51,269	0.210	60,130	0.067
51,270	52,811	0.215	60,513	0.068
52,812	54,372	0.220	60,900	0.069
54,373	55,954	0.225	61,293	0.071
55,955	57,556	0.230	61,691	0.072
57,557	59,179	0.235	62,094	0.073
59,180	60,824	0.240	62,502	0.074
60,825	62,491	0.245	62,916	0.075
62,492	64,180	0.250	63,336	0.076
64,181	65,891	0.255	63,761	0.078
65,892	67,626	0.260	64,191	0.079
67,627	69,385	0.265	64,628	0.080
69,386	71,167	0.270	65,071	0.081
71,168	72,975	0.275	65,520	0.082
72,976	74,807	0.280	65,975	0.083
74,808	76,666	0.285	66,436	0.084
76,667	78,550	0.290	66,904	0.085
78,551	80,462	0.295	67,379	0.086
80,463	82,400	0.300	67,860	0.087
82,401	84,367	0.305	68,348	0.088
84,368	86,363	0.310	68,844	0.088
86,364	88,387	0.315	69,346	0.089
88,388	90,442	0.320	69,855	0.090
90,443	92,527	0.325	70,373	0.091
92,528	94,643	0.330	70,898	0.092
94,644	96,791	0.335	71,431	0.093
96,792	98,972	0.340	71,972	0.093
98,973	101,187	0.345	72,522	0.094
101,188	103,435	0.350	73,080	0.095
103,436	105,719	0.355	73,646	0.095
105,720	108,038	0.360	74,222	0.096

7.2

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
108,039	110,394	0.365	74,806	0.097
110,395	112,788	0.370	75,400	0.097
112,789	115,220	0.375	76,003	0.098
115,221	117,691	0.380	76,616	0.098
117,692	120,203	0.385	77,239	0.099
120,204	122,756	0.390	77,872	0.100
122,757	125,352	0.395	78,516	0.100
125,353	127,991	0.400	79,170	0.101
127,992	130,674	0.405	79,835	0.101
130,675	133,403	0.410	80,512	0.101
133,404	136,179	0.415	81,200	0.102
136,180	139,003	0.420	81,900	0.102
139,004	141,877	0.425	82,612	0.102
141,878	144,801	0.430	83,337	0.103
144,802	147,777	0.435	84,075	0.103
147,778	150,806	0.440	84,825	0.103
150,807	153,890	0.445	85,589	0.104
153,891	157,031	0.450	86,367	0.104
157,032	160,229	0.455	87,160	0.104
160,230	163,487	0.460	87,967	0.104
163,488	166,807	0.465	88,789	0.104
166,808	170,189	0.470	89,627	0.104
170,190	173,635	0.475	90,481	0.104
173,636	177,149	0.480	91,351	0.104
177,150	180,731	0.485	92,238	0.104
180,732	184,383	0.490	93,142	0.104
184,384	188,108	0.495	94,064	0.104
188,109	191,909	0.500	95,005	0.104
191,910	195,786	0.505	95,964	0.104
195,787	199,743	0.510	96,944	0.104
199,744	203,781	0.515	97,943	0.104
203,782	207,905	0.520	98,963	0.103
207,906	212,115	0.525	100,005	0.103
212,116	216,416	0.530	101,069	0.103
216,417	220,810	0.535	102,156	0.103
220,811	225,300	0.540	103,267	0.102

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
225,301	229,889	0.545	104,401	0.102
229,890	234,580	0.550	105,561	0.102
234,581	239,378	0.555	106,748	0.101
239,379	244,285	0.560	107,961	0.101
244,286	249,305	0.565	109,202	0.100
249,306	254,443	0.570	110,471	0.100
254,444	259,703	0.575	111,771	0.099
259,704	265,089	0.580	113,102	0.099
265,090	270,605	0.585	114,465	0.098
270,606	276,257	0.590	115,861	0.097
276,258	282,049	0.595	117,292	0.097
282,050	287,986	0.600	118,758	0.096
287,987	294,075	0.605	120,261	0.095
294,076	300,322	0.610	121,803	0.095
300,323	306,731	0.615	123,385	0.094
306,732	313,310	0.620	125,008	0.093
313,311	320,066	0.625	126,676	0.093
320,067	327,006	0.630	128,388	0.092
327,007	334,137	0.635	130,146	0.091
334,138	341,468	0.640	131,954	0.090
341,469	349,006	0.645	133,813	0.090
349,007	356,762	0.650	135,725	0.089
356,763	364,744	0.655	137,692	0.088
364,745	372,962	0.660	139,717	0.087
372,963	381,428	0.665	141,803	0.086
381,429	390,152	0.670	143,952	0.085
390,153	399,146	0.675	146,167	0.084
399,147	408,424	0.680	148,451	0.083
408,425	417,999	0.685	150,807	0.082
418,000	427,885	0.690	153,240	0.081
427,886	438,098	0.695	155,753	0.080
438,099	448,654	0.700	158,349	0.079
448,655	459,572	0.705	161,033	0.078
459,573	470,869	0.710	163,810	0.077
470,870	482,565	0.715	166,685	0.076
482,566	494,684	0.720	169,661	0.074

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
494,685	507,247	0.725	172,747	0.073
507,248	520,279	0.730	175,947	0.072
520,280	533,809	0.735	179,267	0.071
533,810	547,863	0.740	182,715	0.070
547,864	562,474	0.745	186,298	0.068
562,475	577,676	0.750	190,025	0.067
577,677	593,504	0.755	193,904	0.066
593,505	609,999	0.760	197,945	0.065
610,000	627,203	0.765	202,158	0.063
627,204	645,164	0.770	206,553	0.062
645,165	663,932	0.775	211,145	0.061
663,933	683,562	0.780	215,945	0.060
683,563	704,117	0.785	220,968	0.058
704,118	725,662	0.790	226,231	0.057
725,663	748,271	0.795	231,751	0.056
748,272	772,024	0.800	237,546	0.055
772,025	797,012	0.805	243,639	0.054
797,013	823,332	0.810	250,053	0.052
823,333	851,095	0.815	256,814	0.051
851,096	880,422	0.820	263,951	0.050
880,423	911,448	0.825	271,496	0.049
911,449	944,327	0.830	279,484	0.048
944,328	979,230	0.835	287,958	0.047
979,231	1,016,348	0.840	296,961	0.046
1,016,349	1,055,901	0.845	306,546	0.045
1,055,902	1,098,135	0.850	316,770	0.044
1,098,136	1,143,332	0.855	324,000	0.043
1,143,333	1,191,817	0.860	324,000	0.044
1,191,818	1,243,961	0.865	324,000	0.044
1,243,962	1,300,195	0.870	324,000	0.044
1,300,196	1,361,019	0.875	324,000	0.044
1,361,020	1,427,020	0.880	324,000	0.045
1,427,021	1,498,888	0.885	324,000	0.045
1,498,889	1,577,441	0.890	324,000	0.045
1,577,442	1,663,658	0.895	324,000	0.045
1,663,659	1,755,877	0.900	324,000	0.046

Expected Losses (1)		Credibility "C" (2)	Maximum Value of one Accident (3)	Weighted Maximum Value Charge "L" * "C" (4)
1,755,878	1,850,530	0.905	324,000	0.046
1,850,531	1,947,778	0.910	324,000	0.046
1,947,779	2,047,846	0.915	324,000	0.046
2,047,847	2,150,996	0.920	324,000	0.047
2,150,997	2,257,530	0.925	324,000	0.047
2,257,531	2,367,805	0.930	324,000	0.047
2,367,806	2,482,247	0.935	324,000	0.047
2,482,248	2,601,365	0.940	324,000	0.048
2,601,366	2,725,785	0.945	324,000	0.048
2,725,786	2,856,285	0.950	324,000	0.048
2,856,286	2,993,854	0.955	324,000	0.048
2,993,855	3,139,783	0.960	324,000	0.049
3,139,784	3,295,811	0.965	324,000	0.049
3,295,812	3,464,379	0.970	324,000	0.049
3,464,380	3,649,108	0.975	324,000	0.049
3,649,109	3,855,787	0.980	324,000	0.050
3,855,788	4,094,809	0.985	324,000	0.050
4,094,810	4,388,868	0.990	324,000	0.050
4,388,869	4,815,969	0.995	324,000	0.050
4,815,970	and over	1.000	324,000	0.051

Exhibit 8

Effective Date: April 1, 1999
Selected Table B - P1 Interpolated @ MV $42,500
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
3,001	3,059	0.177	42,500	0.071
3,060	3,273	0.180	42,500	0.072
3,274	3,487	0.185	42,500	0.074
3,488	3,700	0.190	42,500	0.076
3,701	3,914	0.194	42,500	0.078
3,915	4,128	0.198	42,500	0.079
4,129	4,341	0.202	42,500	0.081
4,342	4,555	0.206	42,500	0.083
4,556	4,769	0.210	42,500	0.084
4,770	4,982	0.214	42,500	0.086
4,983	5,196	0.218	42,500	0.087
5,197	5,410	0.221	42,500	0.089
5,411	5,623	0.225	42,500	0.090
5,624	5,837	0.228	42,500	0.091
5,838	6,051	0.231	42,500	0.093
6,052	6,264	0.234	42,500	0.094
6,265	6,478	0.237	42,500	0.095
6,479	6,692	0.240	42,500	0.096
6,693	6,905	0.243	42,500	0.097
6,906	7,119	0.246	42,500	0.099
7,120	7,333	0.249	42,500	0.100
7,334	7,546	0.252	42,500	0.101
7,547	7,760	0.254	42,500	0.102
7,761	7,974	0.257	42,500	0.103
7,975	8,187	0.260	42,500	0.104
8,188	8,401	0.262	42,500	0.105
8,402	8,615	0.265	42,500	0.106
8,616	8,828	0.267	42,500	0.107
8,829	9,042	0.269	42,500	0.108
9,043	9,256	0.272	42,500	0.109
9,257	9,469	0.274	42,500	0.110
9,470	9,683	0.276	42,500	0.111
9,684	10,000	0.279	42,500	0.112

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
10,001	10,706	0.283	42,500	0.114
10,707	11,784	0.287	42,500	0.115
11,785	12,909	0.291	42,500	0.117
12,910	14,085	0.295	42,500	0.118
14,086	15,318	0.299	42,500	0.120
15,319	16,612	0.303	42,500	0.122
16,613	17,971	0.307	42,500	0.123
17,972	19,399	0.311	42,500	0.125
19,400	20,901	0.315	42,500	0.126
20,902	22,481	0.319	42,500	0.128
22,482	24,144	0.324	42,500	0.130
24,145	25,894	0.332	42,500	0.133
25,895	27,737	0.340	42,500	0.136
27,738	29,678	0.348	42,500	0.140
29,679	31,723	0.356	42,500	0.143
31,724	33,877	0.364	42,500	0.146
33,878	36,147	0.372	42,500	0.149
36,148	38,539	0.380	42,500	0.152
38,540	41,061	0.388	42,500	0.156
41,062	43,719	0.395	42,500	0.158
43,720	46,522	0.403	42,500	0.162
46,523	49,479	0.411	42,500	0.165
49,480	52,598	0.418	42,500	0.168
52,599	55,889	0.426	42,500	0.171
55,890	59,363	0.433	42,500	0.174
59,364	63,030	0.441	42,500	0.177
63,031	66,902	0.448	42,500	0.180
66,903	70,993	0.455	42,500	0.183
70,994	75,315	0.463	42,500	0.186

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
75,316	79,884	0.479	42,500	0.192
79,885	84,715	0.495	42,500	0.199
84,716	89,825	0.511	42,500	0.205
89,826	95,232	0.527	42,500	0.211
95,233	100,956	0.543	42,500	0.218
100,957	107,018	0.559	42,500	0.224
107,019	113,442	0.575	42,500	0.231
113,443	120,250	0.591	42,500	0.237
120,251	127,472	0.607	42,500	0.243
127,473	135,135	0.623	42,500	0.250
135,136	143,271	0.640	42,500	0.257
143,272	151,914	0.647	42,500	0.260
151,915	161,102	0.654	42,500	0.262
161,103	170,875	0.661	42,500	0.265
170,876	181,277	0.668	42,500	0.268
181,278	192,356	0.674	42,500	0.270
192,357	204,166	0.681	42,500	0.273
204,167	216,764	0.688	42,500	0.276
216,765	230,212	0.694	42,500	0.278
230,213	244,582	0.701	42,500	0.281
244,583	259,948	0.708	42,500	0.284
259,949	276,396	0.714	42,500	0.286
276,397	294,018	0.721	42,500	0.289
294,019	312,918	0.727	42,500	0.292
312,919	333,209	0.734	42,500	0.294
333,210	355,017	0.740	42,500	0.297
355,018	378,484	0.747	42,500	0.300
378,485	403,765	0.753	42,500	0.302
403,766	431,037	0.759	42,500	0.304
431,038	460,495	0.766	42,500	0.307
460,496	492,358	0.772	42,500	0.310
492,359	526,876	0.779	42,500	0.312
526,877	564,716	0.785	42,500	0.315

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
564,717	605,023	0.791	42,500	0.317
605,024	649,328	0.797	42,500	0.320
649,329	697,647	0.804	42,500	0.322
697,648	750,444	0.810	42,500	0.325
750,445	808,254	0.816	42,500	0.327
808,255	871,689	0.822	42,500	0.330
871,690	941,454	0.828	42,500	0.332
941,455	1,018,369	0.834	42,500	0.335
1,018,370	1,103,385	0.840	42,500	0.337
1,103,386	1,197,614	0.846	42,500	0.339
1,197,615	1,302,362	0.853	42,500	0.342
1,302,363	1,419,169	0.859	42,500	0.345
1,419,170	1,549,860	0.865	42,500	0.347
1,549,861	1,696,617	0.871	42,500	0.349
1,696,618	1,862,053	0.877	42,500	0.352
1,862,054	2,049,330	0.882	42,500	0.354
2,049,331	2,262,294	0.888	42,500	0.356
2,262,295	2,505,662	0.894	42,500	0.359
2,505,663	2,785,266	0.900	42,500	0.361
2,785,267	3,108,385	0.906	42,500	0.363
3,108,386	3,484,193	0.912	42,500	0.366
3,484,194	3,484,194	0.915	42,500	0.367
3,484,195	4,444,019	0.921	42,500	0.369
4,444,020	5,062,803	0.929	42,500	0.373
5,062,804	5,806,851	0.935	42,500	0.375
5,806,852	and over	0.938	42,500	0.376

Interpolated values

8.4

Exhibit 9

Pennsylvania Compensation Rating Bureau
Experience Rating Plan
Payroll Conversion Factor

		# Risks	Payroll	Exp Loss Pay	payr (00) / exp ls
1997	a) All Risks with Expected Losses > 10,000	32,222	202,030,449,656	2,773,842,374	0.7283
	b) Risks with Exp Loss > 10,000 & Payroll < 688,800	7,270	3,270,620,658	110,830,899	0.2951
	c) Risks with Exp Loss > 10,000 & Payroll => 688,800	24,952	198,759,828,998	2,663,011,475	0.7464
	d) c/a	77.4%	98.4%	96.0%	
1998	a) All Risks with Expected Losses > 10,000	31,615	191,212,169,654	2,780,432,797	0.6877
	b) Risks with Exp Loss > 10,000 & Payroll < 688,800	7,768	3,475,169,286	118,496,278	0.2933
	c) Risks with Exp Loss > 10,000 & Payroll => 688,800	23,847	187,737,000,368	2,661,936,519	0.7053
	d) c/a	75.4%	98.2%	95.7%	
1999	a) All Risks with Expected Losses > 10,000	33,434	185,329,748,079	3,068,381,594	0.6040
	b) Risks with Exp Loss > 10,000 & Payroll < 688,800	9,363	4,074,222,107	149,709,751	0.2721
	c) Risks with Exp Loss > 10,000 & Payroll => 688,800	24,071	181,255,525,972	2,918,671,843	0.6210
	d) c/a	72.0%	97.8%	95.1%	
97-99	a) All Risks with Expected Losses > 10,000	97,271	578,572,367,389	8,622,656,765	0.6710
	b) Risks with Exp Loss > 10,000 & Payroll < 688,800	24,401	10,820,012,051	379,036,928	0.2855
	c) Risks with Exp Loss > 10,000 & Payroll => 688,800	72,870	567,752,355,338	8,243,619,837	**0.6887**
	d) c/a	74.9%	98.1%	95.6%	

EL Slot	Expected Loss Range	Expected Loss Wts 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic	Payr Slot	Payroll (00) Range	Expected Loss Wts. 21-63	Test Statistic	Expected Loss Wts 21-63	Test Statistic
12-15	3,001-5,000					12-15	2,067-3,443				
16-20	5,001 - 10,000					16-20	3,444-6,887				
	Wtd Test Statistic (12-20)						Wtd Test Statistic (12-20)				
21-24	10,001 - 25,000	5.3%	2.0121	8.4%	2.0121	21-24	6,888-17,217	9.3%	1.7587	5.9%	1.7587
25-29	25,001 - 50,000	8.5%	0.7679	9.6%	0.7679	25-29	17,218-34,435	9.7%	0.6569	7.1%	0.6569
30-34	50,001 - 100,000	10.7%	0.6100	11.6%	0.6100	30-34	34,436-68,870	11.9%	0.8289	10.3%	0.8289
	Wtd Test Statistic (21-34)		0.9661		1.0606		Wtd Test Statistic (21-34)		1.0532		1.0115
35-36	100,001 - 200,000	12.2%	0.2303	12.9%	0.2303	35-36	68,871-137.740	12.6%	0.3503	11.6%	0.3503
37-39	200,001 - 350,000	10.8%	0.4171	10.8%	0.4171	37-39	137,741-241,045	10.2%	0.6883	10.2%	0.6883
40-42	350,001 - 500,000	7.2%	0.7845	6.6%	0.7845	40-42	241,046-344,350	6.1%	0.7591	6.8%	0.7591
	Wtd Test Statistic (35-42)		0.4287		0.4176		Wtd Test Statistic (35-42)		0.5562		0.5682
43-47	500,001 - 1,000,000	12.5%	0.3244	11.8%	0.3244	43-47	344,351-688,700	12.0%	0.3820	13.3%	0.3820
48-51	1,000,001 - 2,000,000	10.3%	2.6550	8.7%	2.6550	48-51	688,701-1,377,400	10.7%	1.2615	11.6%	1.2615
52-57	2,000,001 - 5,000,000	11.4%	0.9846	9.8%	0.9846	52-57	1,377,401-3,443,500	8.4%	1.0882	10.2%	1.0882
58-63	over 5,000,000	11.1%	0.5593	9.8%	0.5593	58-63	over 3,443500	9.2%	0.5639	13.0%	0.5639
	Wtd Test Statistic (43-63)		1.0793		1.0473		Wtd Test Statistic (43-63)		0.8041		0.7938
	Wtd Test Statistic (12-63)		0.8551		0.8606		Wtd Test Statistic (12-63)		0.8107		0.7797
	Wtd Test Statistic (21-63)		0.8551		0.8606		Wtd Test Statistic (21-63)		0.8107		**0.7797**

1999

EL Slot	Expected Loss Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic	Payr Slot	Payroll (00) Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic
12-15	3,001-5,000					12-15	2,067-3,443				
16-20	5,001 - 10,000					16-20	3,444-6,887				
	Wtd Test Statistic (12-20)						Wtd Test Statistic (12-20)				
21-24	10,001 - 25,000	5.8%	0.3314	8.7%	0.3314	21-24	6,888-17,217	9.1%	0.2191	5.7%	0.2191
25-29	25,001 - 50,000	8.9%	0.2747	9.8%	0.2747	25-29	17,218-34,435	9.5%	0.2536	6.9%	0.2536
30-34	50,001 - 100,000	11.0%	0.1517	11.7%	0.1517	30-34	34,436-68,870	11.8%	0.2121	10.1%	0.2121
	Wtd Test Statistic (21-34)		0.2350		0.2435		Wtd Test Statistic (21-34)		0.2271		0.2263
35-36	100,001 - 200,000	12.0%	0.0726	12.9%	0.0726	35-36	68,871-137.740	12.5%	0.1014	11.6%	0.1014
37-39	200,001 - 350,000	11.2%	0.2621	11.4%	0.2621	37-39	137,741-241,045	10.1%	0.3618	10.1%	0.3618
40-42	350,001 - 500,000	7.2%	0.4584	6.7%	0.4584	40-42	241,046-344,350	5.7%	0.3503	6.6%	0.3503
	Wtd Test Statistic (35-42)		0.2334		0.2257		Wtd Test Statistic (35-42)		0.2451		0.2523
43-47	500,001 - 1,000,000	11.7%	0.1373	11.2%	0.1373	43-47	344,351-688,700	12.2%	0.1798	13.4%	0.1798
48-51	1,000,001 - 2,000,000	10.6%	2.3888	8.8%	2.3888	48-51	688,701-1,377,400	11.0%	0.9919	12.1%	0.9919
52-57	2,000,001 - 5,000,000	11.2%	0.3488	10.3%	0.3488	52-57	1,377,401-3,443,500	8.5%	0.3598	10.3%	0.3598
58-63	over 5,000,000	10.5%	0.1275	8.6%	0.1275	58-63	over 3,443500	9.6%	0.1281	13.1%	0.1281
	Wtd Test Statistic (43-63)		0.7289		0.6998		Wtd Test Statistic (43-63)		0.4212		0.4046
	Wtd Test Statistic (12-63)		0.4532		0.4159		Wtd Test Statistic (12-63)		0.3122		0.3208
	Wtd Test Statistic (21-63)		0.4532		0.4159		Wtd Test Statistic (21-63)		0.3122		0.3208

1998

EL Slot	Expected Loss Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic	Payr Slot	Payroll (00) Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic
12-15	3,001-5,000					12-15	2,067-3,443				
16-20	5,001 - 10,000					16-20	3,444-6,887				
	Wtd Test Statistic (12-20)						Wtd Test Statistic (12-20)				
21-24	10,001 - 25,000	5.4%	1.4414	8.5%	1.4414	21-24	6,888-17,217	9.1%	1.4444	5.8%	1.4444
25-29	25,001 - 50,000	8.6%	0.3446	9.6%	0.3446	25-29	17,218-34,435	9.4%	0.2268	7.0%	0.2268
30-34	50,001 - 100,000	10.7%	0.3661	11.5%	0.3661	30-34	34,436-68,870	12.0%	0.4988	10.3%	0.4988
	Wtd Test Statistic (21-34)		0.5937		0.6666		Wtd Test Statistic (21-34)		0.6978		0.6528
35-36	100,001 - 200,000	12.5%	0.0408	13.0%	0.0408	35-36	68,871-137.740	12.5%	0.0822	11.5%	0.0822
37-39	200,001 - 350,000	10.7%	0.0723	10.7%	0.0723	37-39	137,741-241,045	10.2%	0.2266	10.2%	0.2266
40-42	350,001 - 500,000	6.9%	0.1060	6.6%	0.1060	40-42	241,046-344,350	6.1%	0.1622	6.8%	0.1622
	Wtd Test Statistic (35-42)		0.0669		0.0661		Wtd Test Statistic (35-42)		0.1505		0.1531
43-47	500,001 - 1,000,000	12.9%	0.0871	12.6%	0.0871	43-47	344,351-688,700	11.9%	0.0769	13.3%	0.0769
48-51	1,000,001 - 2,000,000	10.5%	0.0356	8.9%	0.0356	48-51	688,701-1,377,400	10.9%	0.0736	12.1%	0.0736
52-57	2,000,001 - 5,000,000	10.9%	0.4113	9.0%	0.4113	52-57	1,377,401-3,443,500	7.8%	0.2734	10.3%	0.2734
58-63	over 5,000,000	11.0%	0.3060	9.6%	0.3060	58-63	over 3,443500	10.0%	0.3067	12.7%	0.3067
	Wtd Test Statistic (43-63)		0.2064		0.2003		Wtd Test Statistic (43-63)		0.1703		0.1779
	Wtd Test Statistic (12-63)		0.2603		0.2983		Wtd Test Statistic (12-63)		0.3251		0.2809
	Wtd Test Statistic (21-63)		0.2603		0.2983		Wtd Test Statistic (21-63)		0.3251		0.2809

1997

EL Slot	Expected Loss Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic	Payr Slot	Payroll (00) Range	Expected Loss Wts. 21-63	Test Statistic	Payroll Wts. 21-63	Test Statistic
12-15	3,001-5,000					12-15	2,067-3,443				
16-20	5,001 - 10,000					16-20	3,444-6,887				
	Wtd Test Statistic (12-20)						Wtd Test Statistic (12-20)				
21-24	10,001 - 25,000	4.6%	0.2393	8.0%	0.2393	21-24	6,888-17,217	9.5%	0.0953	6.2%	0.0953
25-29	25,001 - 50,000	7.9%	0.1486	9.2%	0.1486	25-29	17,218-34,435	10.1%	0.1764	7.4%	0.1764
30-34	50,001 - 100,000	10.5%	0.0923	11.6%	0.0923	30-34	34,436-68,870	11.9%	0.1180	10.4%	0.1180
	Wtd Test Statistic (21-34)		0.1409		0.1511		Wtd Test Statistic (21-34)		0.1299		0.1302
35-36	100,001 - 200,000	12.1%	0.1169	12.9%	0.1169	35-36	68,871-137.740	12.9%	0.1668	11.6%	0.1668
37-39	200,001 - 350,000	10.7%	0.0826	10.3%	0.0826	37-39	137,741-241,045	10.2%	0.0999	10.3%	0.0999
40-42	350,001 - 500,000	7.4%	0.2201	6.5%	0.2201	40-42	241,046-344,350	6.4%	0.2466	6.9%	0.2466
	Wtd Test Statistic (35-42)		0.1301		0.1277		Wtd Test Statistic (35-42)		0.1610		0.1618
43-47	500,001 - 1,000,000	12.8%	0.1000	11.7%	0.1000	43-47	344,351-688,700	11.9%	0.1253	13.0%	0.1253
48-51	1,000,001 - 2,000,000	10.1%	0.2306	8.3%	0.2306	48-51	688,701-1,377,400	10.2%	0.1960	10.7%	0.1960
52-57	2,000,001 - 5,000,000	12.1%	0.2245	10.3%	0.2245	52-57	1,377,401-3,443,500	8.9%	0.4550	10.0%	0.4550
58-63	over 5,000,000	11.9%	0.1258	11.2%	0.1258	58-63	over 3,443500	8.0%	0.1291	13.4%	0.1291
	Wtd Test Statistic (43-63)		0.1669		0.1637		Wtd Test Statistic (43-63)		0.2202		0.2127
	Wtd Test Statistic (12-63)		0.1499		0.1495		Wtd Test Statistic (12-63)		0.1741		0.1780
	Wtd Test Statistic (21-63)		0.1499		0.1495		Wtd Test Statistic (21-63)		0.1741		0.1780

Exhibit 11

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1997, 1998 & 1999 COMBINED
COMPARISON OF EXPECTED LOSS AND PAYROLL BASES

CREDIBILITY BASED ON EXPECTED LOSS

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.28	1.10	1.07	0.92	1.06	0.89	1.15	0.95	1.03	0.84	0.90	0.73	0.98	0.80
P1 INT Payroll Subset	Charges	1.31	2.06	1.06	1.53	1.06	1.44	1.15	1.47	1.07	1.38	1.00	1.23	1.05	1.32
Expected Loss Base	Total	1.29	1.29	1.07	1.08	1.06	1.08	1.15	1.16	1.05	1.05	0.95	0.91	1.01	0.99

CREDIBILITY BASED ON PAYROLL

		6,888 - 10,332		10,333 - 17,220		17,221 - 34,440		34,441 - 68,880		68,881 - 170,200		170,201 & Over		All Risks 6,888 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.32	1.10	1.09	0.92	1.06	0.89	1.13	0.95	1.00	0.84	0.89	0.73	0.97	0.80
P1 INT Payroll Subset	Charges	1.23	2.06	1.02	1.53	1.06	1.44	1.15	1.47	1.09	1.38	1.01	1.23	1.05	1.32
Payroll Base	Total	1.29	1.29	1.06	1.08	1.06	1.08	1.14	1.16	1.04	1.05	0.94	0.91	1.01	0.99

SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1999
COMPARISON OF EXPECTED LOSS AND PAYROLL BASES

CREDIBILITY BASED ON EXPECTED LOSS

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.00	0.85	1.18	1.01	1.16	0.97	1.16	0.95	1.13	0.91	1.05	0.85	1.09	0.89
P1 INT Payroll Subset	Charges	1.41	2.12	1.22	1.74	1.04	1.39	1.15	1.49	1.23	1.56	1.15	1.42	1.16	1.48
Expected Loss Base	Total	1.12	1.10	1.19	1.19	1.11	1.11	1.16	1.15	1.18	1.17	1.09	1.02	1.12	1.08

CREDIBILITY BASED ON PAYROLL

		6,888 - 10,332		10,333 - 17,220		17,221 - 34,440		34,441 - 68,880		68,881 - 170,200		170,201 & Over		All Risks 6,888 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.04	0.85	1.20	1.01	1.17	0.98	1.15	0.95	1.10	0.91	1.04	0.85	1.08	0.89
P1 INT Payroll Subset	Charges	1.31	2.12	1.18	1.74	1.04	1.39	1.15	1.49	1.25	1.56	1.16	1.42	1.16	1.48
Payroll Base	Total	1.14	1.10	1.19	1.19	1.11	1.11	1.15	1.15	1.17	1.17	1.09	1.02	1.12	1.08

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EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1998
COMPARISON OF EXPECTED LOSS AND PAYROLL BASES

CREDIBILITY BASED ON EXPECTED LOSS

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.81	1.55	1.12	0.96	0.99	0.83	1.26	1.04	0.96	0.78	0.86	0.70	0.97	0.79
P1 INT Payroll Subset	Charges	1.20	1.92	0.87	1.26	0.95	1.31	1.12	1.45	0.94	1.22	0.98	1.21	0.99	1.26
Expected Loss Base	Total	1.61	1.62	1.02	1.05	0.97	0.99	1.19	1.21	0.95	0.95	0.92	0.88	0.98	0.96

CREDIBILITY BASED ON PAYROLL

		6,888 - 10,332		10,333 - 17,220		17,221 - 34,440		34,441 - 68,880		68,881 - 170,200		170,201 & Over		All Risks 6,888 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.86	1.55	1.14	0.96	0.99	0.83	1.24	1.04	0.93	0.78	0.85	0.70	0.96	0.79
P1 INT Payroll Subset	Charges	1.11	1.92	0.83	1.26	0.95	1.31	1.12	1.45	0.96	1.22	0.98	1.21	0.99	1.26
Payroll Base	Total	1.60	1.62	1.01	1.05	0.97	0.99	1.18	1.21	0.95	0.95	0.91	0.88	0.97	0.96

EXPERIENCE RATING PLAN ANALYSIS
SUMMARY OF ACTUAL LOSS RATIO AND MANUAL LOSS RATIO - 1997
COMPARISON OF EXPECTED LOSS AND PAYROLL BASES

CREDIBILITY BASED ON EXPECTED LOSS

		10 - 15		15 - 25		25 - 50		50 - 100		100 - 250		250 & Over		All Risks 10,000 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.07	0.92	0.89	0.76	1.03	0.87	1.03	0.86	1.00	0.82	0.78	0.63	0.88	0.72
P1 INT Payroll Subset	Charges	1.31	2.13	1.12	1.62	1.21	1.62	1.16	1.47	1.04	1.34	0.92	1.11	1.01	1.25
Expected Loss Base	Total	1.15	1.17	0.97	0.99	1.11	1.12	1.10	1.12	1.02	1.04	0.85	0.83	0.94	0.93

CREDIBILITY BASED ON PAYROLL

		6,888 - 10,332		10,333 - 17,220		17,221 - 34,440		34,441 - 68,880		68,881 - 170,200		170,201 & Over		All Risks 6,888 & Over	
		Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR	Actual LR	Manual LR
MV 42.5	Credits	1.10	0.92	0.90	0.76	1.02	0.87	1.01	0.86	0.96	0.81	0.76	0.63	0.86	0.72
P1 INT Payroll Subset	Charges	1.24	2.13	1.09	1.62	1.21	1.62	1.16	1.47	1.06	1.35	0.93	1.11	1.01	1.25
Payroll Base	Total	1.15	1.17	0.97	0.99	1.11	1.12	1.09	1.12	1.01	1.04	0.85	0.83	0.94	0.93

Effective Date: April 1, 1999
CURRENT TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
–	10,527	0.050	50,005	0.018
10,528	11,591	0.055	50,273	0.020
11,592	12,666	0.060	50,538	0.022
12,667	13,752	0.065	50,808	0.023
13,753	14,851	0.070	51,079	0.025
14,852	15,961	0.075	51,357	0.027
15,962	17,083	0.080	51,634	0.028
17,084	18,218	0.085	51,915	0.030
18,219	19,365	0.090	52,200	0.032
19,366	20,525	0.095	52,489	0.033
20,526	21,698	0.100	52,780	0.035
21,699	22,884	0.105	53,076	0.037
22,885	24,084	0.110	53,375	0.038
24,085	25,296	0.115	53,676	0.040
25,297	26,523	0.120	53,979	0.041
26,524	27,764	0.125	54,288	0.043
27,765	29,019	0.130	54,600	0.044
29,020	30,289	0.135	54,917	0.046
30,290	31,573	0.140	55,236	0.047
31,574	32,873	0.145	55,559	0.049
32,874	34,188	0.150	55,885	0.050
34,189	35,518	0.155	56,216	0.052
35,519	36,865	0.160	56,550	0.053
36,866	38,227	0.165	56,889	0.055
38,228	39,606	0.170	57,231	0.056
39,607	41,002	0.175	57,579	0.058
41,003	42,415	0.180	57,929	0.059
42,416	43,845	0.185	58,285	0.060
43,846	45,293	0.190	58,645	0.062
45,294	46,759	0.195	59,009	0.063
46,760	48,244	0.200	59,378	0.064
48,245	49,747	0.205	59,751	0.066
49,748	51,269	0.210	60,130	0.067

CURRENT TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
51,270	52,811	0.215	60,513	0.068
52,812	54,372	0.220	60,900	0.069
54,373	55,954	0.225	61,293	0.071
55,955	57,556	0.230	61,691	0.072
57,557	59,179	0.235	62,094	0.073
59,180	60,824	0.240	62,502	0.074
60,825	62,491	0.245	62,916	0.075
62,492	64,180	0.250	63,336	0.076
64,181	65,891	0.255	63,761	0.078
65,892	67,626	0.260	64,191	0.079
67,627	69,385	0.265	64,628	0.080
69,386	71,167	0.270	65,071	0.081
71,168	72,975	0.275	65,520	0.082
72,976	74,807	0.280	65,975	0.083
74,808	76,666	0.285	66,436	0.084
76,667	78,550	0.290	66,904	0.085
78,551	80,462	0.295	67,379	0.086
80,463	82,400	0.300	67,860	0.087
82,401	84,367	0.305	68,348	0.088
84,368	86,363	0.310	68,844	0.088
86,364	88,387	0.315	69,346	0.089
88,388	90,442	0.320	69,855	0.090
90,443	92,527	0.325	70,373	0.091
92,528	94,643	0.330	70,898	0.092
94,644	96,791	0.335	71,431	0.093
96,792	98,972	0.340	71,972	0.093
98,973	101,187	0.345	72,522	0.094
101,188	103,435	0.350	73,080	0.095
103,436	105,719	0.355	73,646	0.095
105,720	108,038	0.360	74,222	0.096
108,039	110,394	0.365	74,806	0.097
110,395	112,788	0.370	75,400	0.097
112,789	115,220	0.375	76,003	0.098
115,221	117,691	0.380	76,616	0.098
117,692	120,203	0.385	77,239	0.099

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
120,204	122,756	0.390	77,872	0.100
122,757	125,352	0.395	78,516	0.100
125,353	127,991	0.400	79,170	0.101
127,992	130,674	0.405	79,835	0.101
130,675	133,403	0.410	80,512	0.101
133,404	136,179	0.415	81,200	0.102
136,180	139,003	0.420	81,900	0.102
139,004	141,877	0.425	82,612	0.102
141,878	144,801	0.430	83,337	0.103
144,802	147,777	0.435	84,075	0.103
147,778	150,806	0.440	84,825	0.103
150,807	153,890	0.445	85,589	0.104
153,891	157,031	0.450	86,367	0.104
157,032	160,229	0.455	87,160	0.104
160,230	163,487	0.460	87,967	0.104
163,488	166,807	0.465	88,789	0.104
166,808	170,189	0.470	89,627	0.104
170,190	173,635	0.475	90,481	0.104
173,636	177,149	0.480	91,351	0.104
177,150	180,731	0.485	92,238	0.104
180,732	184,383	0.490	93,142	0.104
184,384	188,108	0.495	94,064	0.104
188,109	191,909	0.500	95,005	0.104
191,910	195,786	0.505	95,964	0.104
195,787	199,743	0.510	96,944	0.104
199,744	203,781	0.515	97,943	0.104
203,782	207,905	0.520	98,963	0.103
207,906	212,115	0.525	100,005	0.103
212,116	216,416	0.530	101,069	0.103
216,417	220,810	0.535	102,156	0.103
220,811	225,300	0.540	103,267	0.102
225,301	229,889	0.545	104,401	0.102
229,890	234,580	0.550	105,561	0.102
234,581	239,378	0.555	106,748	0.101
239,379	244,285	0.560	107,961	0.101

Effective Date: April 1, 1999
CURRENT TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
244,286	249,305	0.565	109,202	0.100
249,306	254,443	0.570	110,471	0.100
254,444	259,703	0.575	111,771	0.099
259,704	265,089	0.580	113,102	0.099
265,090	270,605	0.585	114,465	0.098
270,606	276,257	0.590	115,861	0.097
276,258	282,049	0.595	117,292	0.097
282,050	287,986	0.600	118,758	0.096
287,987	294,075	0.605	120,261	0.095
294,076	300,322	0.610	121,803	0.095
300,323	306,731	0.615	123,385	0.094
306,732	313,310	0.620	125,008	0.093
313,311	320,066	0.625	126,676	0.093
320,067	327,006	0.630	128,388	0.092
327,007	334,137	0.635	130,146	0.091
334,138	341,468	0.640	131,954	0.090
341,469	349,006	0.645	133,813	0.090
349,007	356,762	0.650	135,725	0.089
356,763	364,744	0.655	137,692	0.088
364,745	372,962	0.660	139,717	0.087
372,963	381,428	0.665	141,803	0.086
381,429	390,152	0.670	143,952	0.085
390,153	399,146	0.675	146,167	0.084
399,147	408,424	0.680	148,451	0.083
408,425	417,999	0.685	150,807	0.082
418,000	427,885	0.690	153,240	0.081
427,886	438,098	0.695	155,753	0.080
438,099	448,654	0.700	158,349	0.079
448,655	459,572	0.705	161,033	0.078
459,573	470,869	0.710	163,810	0.077
470,870	482,565	0.715	166,685	0.076
482,566	494,684	0.720	169,661	0.074
494,685	507,247	0.725	172,747	0.073
507,248	520,279	0.730	175,947	0.072
520,280	533,809	0.735	179,267	0.071

Effective Date: April 1, 1999
CURRENT TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
533,810	547,863	0.740	182,715	0.070
547,864	562,474	0.745	186,298	0.068
562,475	577,676	0.750	190,025	0.067
577,677	593,504	0.755	193,904	0.066
593,505	609,999	0.760	197,945	0.065
610,000	627,203	0.765	202,158	0.063
627,204	645,164	0.770	206,553	0.062
645,165	663,932	0.775	211,145	0.061
663,933	683,562	0.780	215,945	0.060
683,563	704,117	0.785	220,968	0.058
704,118	725,662	0.790	226,231	0.057
725,663	748,271	0.795	231,751	0.056
748,272	772,024	0.800	237,546	0.055
772,025	797,012	0.805	243,639	0.054
797,013	823,332	0.810	250,053	0.052
823,333	851,095	0.815	256,814	0.051
851,096	880,422	0.820	263,951	0.050
880,423	911,448	0.825	271,496	0.049
911,449	944,327	0.830	279,484	0.048
944,328	979,230	0.835	287,958	0.047
979,231	1,016,348	0.840	296,961	0.046
1,016,349	1,055,901	0.845	306,546	0.045
1,055,902	1,098,135	0.850	316,770	0.044
1,098,136	1,143,332	0.855	324,000	0.043
1,143,333	1,191,817	0.860	324,000	0.044
1,191,818	1,243,961	0.865	324,000	0.044
1,243,962	1,300,195	0.870	324,000	0.044
1,300,196	1,361,019	0.875	324,000	0.044
1,361,020	1,427,020	0.880	324,000	0.045
1,427,021	1,498,888	0.885	324,000	0.045
1,498,889	1,577,441	0.890	324,000	0.045
1,577,442	1,663,658	0.895	324,000	0.045
1,663,659	1,755,877	0.900	324,000	0.046
1,755,878	1,850,530	0.905	324,000	0.046
1,850,531	1,947,778	0.910	324,000	0.046

CURRENT TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

| Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
1,947,779	2,047,846	0.915	324,000	0.046
2,047,847	2,150,996	0.920	324,000	0.047
2,150,997	2,257,530	0.925	324,000	0.047
2,257,531	2,367,805	0.930	324,000	0.047
2,367,806	2,482,247	0.935	324,000	0.047
2,482,248	2,601,365	0.940	324,000	0.048
2,601,366	2,725,785	0.945	324,000	0.048
2,725,786	2,856,285	0.950	324,000	0.048
2,856,286	2,993,854	0.955	324,000	0.048
2,993,855	3,139,783	0.960	324,000	0.049
3,139,784	3,295,811	0.965	324,000	0.049
3,295,812	3,464,379	0.970	324,000	0.049
3,464,380	3,649,108	0.975	324,000	0.049
3,649,109	3,855,787	0.980	324,000	0.050
3,855,788	4,094,809	0.985	324,000	0.050
4,094,810	4,388,868	0.990	324,000	0.050
4,388,869	4,815,969	0.995	324,000	0.050
4,815,970	and over	1.000	324,000	0.051

Effective Date: April 1, 1999
PROPOSED TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
–	10,706	0.283	42,500	0.114
10,707	11,784	0.287	42,500	0.115
11,785	12,909	0.291	42,500	0.117
12,910	14,085	0.295	42,500	0.118
14,086	15,318	0.299	42,500	0.120
15,319	16,612	0.303	42,500	0.122
16,613	17,971	0.307	42,500	0.123
17,972	19,399	0.311	42,500	0.125
19,400	20,901	0.315	42,500	0.126
20,902	22,481	0.319	42,500	0.128
22,482	24,144	0.324	42,500	0.130
24,145	25,894	0.332	42,500	0.133
25,895	27,737	0.340	42,500	0.136
27,738	29,678	0.348	42,500	0.140
29,679	31,723	0.356	42,500	0.143
31,724	33,877	0.364	42,500	0.146
33,878	36,147	0.372	42,500	0.149
36,148	38,539	0.380	42,500	0.152
38,540	41,061	0.388	42,500	0.156
41,062	43,719	0.395	42,500	0.158
43,720	46,522	0.403	42,500	0.162
46,523	49,479	0.411	42,500	0.165
49,480	52,598	0.418	42,500	0.168
52,599	55,889	0.426	42,500	0.171
55,890	59,363	0.433	42,500	0.174
59,364	63,030	0.441	42,500	0.177
63,031	66,902	0.448	42,500	0.180
66,903	70,993	0.455	42,500	0.183
70,994	75,315	0.463	42,500	0.186
75,316	79,884	0.479	42,500	0.192

Effective Date: April 1, 1999
PROPOSED TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
79,885	84,715	0.495	42,500	0.199
84,716	89,825	0.511	42,500	0.205
89,826	95,232	0.527	42,500	0.211
95,233	100,956	0.543	42,500	0.218
100,957	107,018	0.559	42,500	0.224
107,019	113,442	0.575	42,500	0.231
113,443	120,250	0.591	42,500	0.237
120,251	127,472	0.607	42,500	0.243
127,473	135,135	0.623	42,500	0.250
135,136	143,271	0.640	42,500	0.257
143,272	151,914	0.647	42,500	0.260
151,915	161,102	0.654	42,500	0.262
161,103	170,875	0.661	42,500	0.265
170,876	181,277	0.668	42,500	0.268
181,278	192,356	0.674	42,500	0.270
192,357	204,166	0.681	42,500	0.273
204,167	216,764	0.688	42,500	0.276
216,765	230,212	0.694	42,500	0.278
230,213	244,582	0.701	42,500	0.281
244,583	259,948	0.708	42,500	0.284
259,949	276,396	0.714	42,500	0.286
276,397	294,018	0.721	42,500	0.289
294,019	312,918	0.727	42,500	0.292
312,919	333,209	0.734	42,500	0.294
333,210	355,017	0.740	42,500	0.297
355,018	378,484	0.747	42,500	0.300
378,485	403,765	0.753	42,500	0.302
403,766	431,037	0.759	42,500	0.304
431,038	460,495	0.766	42,500	0.307
460,496	492,358	0.772	42,500	0.310
492,359	526,876	0.779	42,500	0.312
526,877	564,716	0.785	42,500	0.315

Effective Date: April 1, 1999
PROPOSED TABLE B
PENNSYLVANIA EXPERIENCE RATING PLAN

Expected Losses		Credibility "C"	Maximum Value of one Accident	Weighted Maximum Value Charge "L" * "C"
(1)		(2)	(3)	(4)
564,717	605,023	0.791	42,500	0.317
605,024	649,328	0.797	42,500	0.320
649,329	697,647	0.804	42,500	0.322
697,648	750,444	0.810	42,500	0.325
750,445	808,254	0.816	42,500	0.327
808,255	871,689	0.822	42,500	0.330
871,690	941,454	0.828	42,500	0.332
941,455	1,018,369	0.834	42,500	0.335
1,018,370	1,103,385	0.840	42,500	0.337
1,103,386	1,197,614	0.846	42,500	0.339
1,197,615	1,302,362	0.853	42,500	0.342
1,302,363	1,419,169	0.859	42,500	0.345
1,419,170	1,549,860	0.865	42,500	0.347
1,549,861	1,696,617	0.871	42,500	0.349
1,696,618	1,862,053	0.877	42,500	0.352
1,862,054	2,049,330	0.882	42,500	0.354
2,049,331	2,262,294	0.888	42,500	0.356
2,262,295	2,505,662	0.894	42,500	0.359
2,505,663	2,785,266	0.900	42,500	0.361
2,785,267	3,108,385	0.906	42,500	0.363
3,108,386	3,484,193	0.912	42,500	0.366
3,484,194	3,484,194	0.915	42,500	0.367
3,484,195	4,444,019	0.921	42,500	0.369
4,444,020	5,062,803	0.929	42,500	0.373
5,062,804	5,806,851	0.935	42,500	0.375
5,806,852	and over	0.938	42,500	0.376

Exhibit IIIc

Current Credibility Vs Proposed Credibility
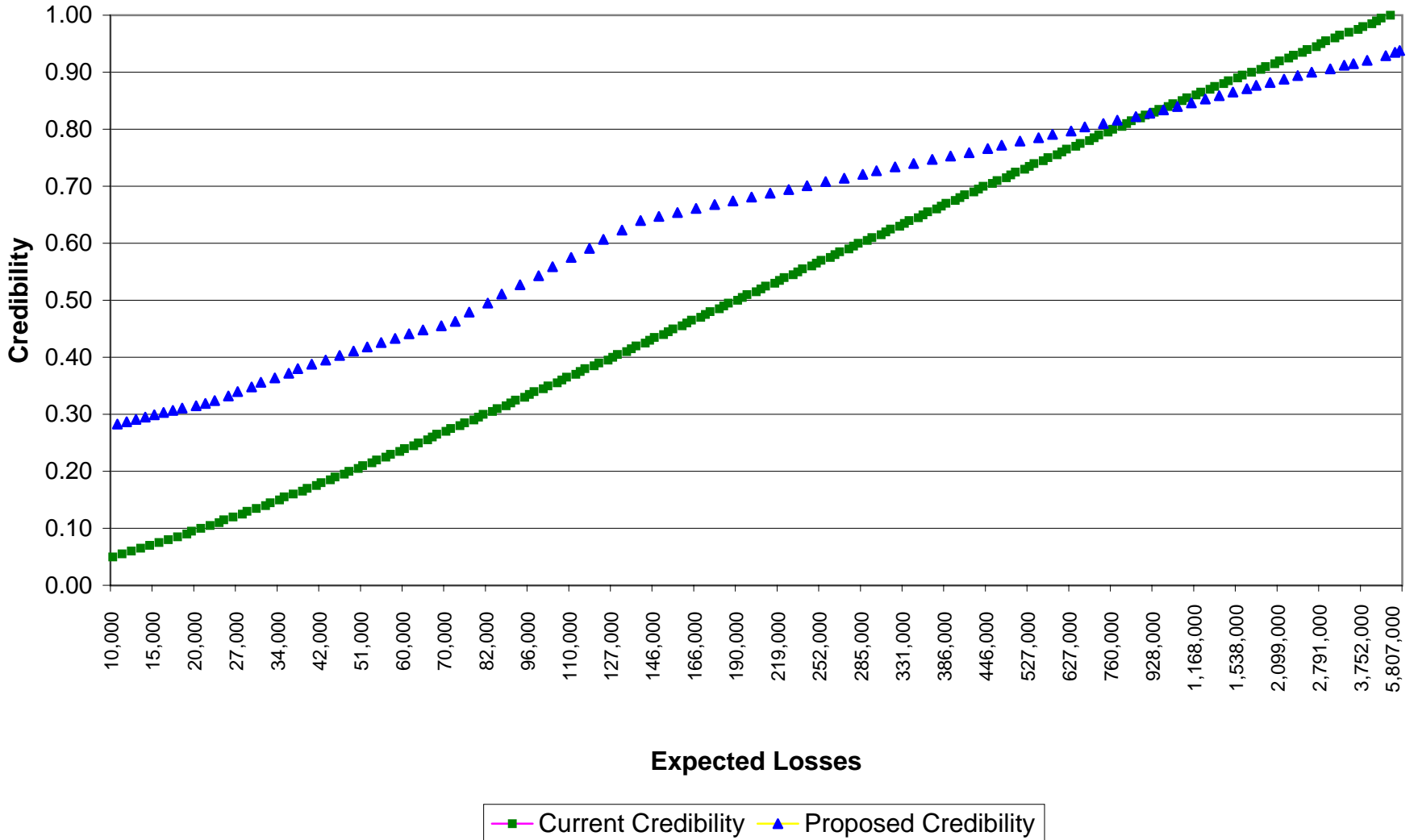
COLLECTIBLE PREMIUM RATIOS *

Current Plan Prior to Capping

Manual Years 1997 & 1998 & 1999 Unit Data

Manual Year	Premium at Manual Rates	Collected Premium (Excluding Constants)	Collectible Premium Ratio (2)/(3)
(1)	(2)	(3)	(4)
		ALL INDUSTRIES	
1998	2,331,721,800	2,213,378,823	1.0535
1999	2,447,001,547	2,309,395,981	1.0596
TOTAL	4,778,723,347	4,522,774,803	1.0566
		MANUFACTURING AND UTILITIES	
1998	639,306,200	594,131,489	1.0760
1999	647,589,670	586,664,393	1.1039
TOTAL	1,286,895,870	1,180,795,882	1.0899
		CONTRACTING AND QUARRYING	
1998	385,038,067	366,988,957	1.0492
1999	427,820,701	409,625,918	1.0444
TOTAL	812,858,768	776,614,875	1.0467
		OTHER INDUSTRIES	
1998	1,307,377,533	1,252,258,377	1.0440
1999	1,371,591,176	1,313,105,669	1.0445
TOTAL	2,678,968,709	2,565,364,047	1.0443

*   Excludes classifications and coverages not subject to experience rating.

COLLECTIBLE PREMIUM RATIOS *

Proposed Plan Prior to Capping

Manual Years 1997 & 1998 & 1999 Unit Data

Manual Year	Premium at Manual Rates	Collected Premium (Excluding Constants)	Collectible Premium Ratio (2)/(3)
(1)	(2)	(3)	(4)
ALL INDUSTRIES			
1998	2,331,721,800	2,318,418,502	1.0057
1999	2,447,001,547	2,399,061,019	1.0200
TOTAL	4,778,723,347	4,717,479,521	1.0130
MANUFACTURING AND UTILITIES			
1998	639,306,200	636,586,824	1.0043
1999	647,589,670	630,622,032	1.0269
TOTAL	1,286,895,870	1,267,208,856	1.0155
CONTRACTING AND QUARRYING			
1998	385,038,067	367,806,428	1.0468
1999	427,820,701	411,013,081	1.0409
TOTAL	812,858,768	778,819,509	1.0437
OTHER INDUSTRIES			
1998	1,307,377,533	1,314,025,249	0.9949
1999	1,371,591,176	1,357,425,906	1.0104
TOTAL	2,678,968,709	2,671,451,155	1.0028

* Excludes classifications and coverages not subject to experience rating.

Exhibit IVc

COLLECTIBLE PREMIUM RATIOS *

Proposed Plan Reflecting Capping of Experience Modification Factors at +/- 25%

Manual Years 1997 & 1998 & 1999 Unit Data

Manual Year (1)	Premium at Manual Rates (2)	Collected Premium (Excluding Constants) (3)	Collectible Premium Ratio (2)/(3) (4)
		ALL INDUSTRIES	
1998	2,331,721,800	2,248,233,725	1.0371
1999	2,447,001,547	2,336,592,538	1.0473
TOTAL	4,778,723,347	4,584,826,264	1.0423
		MANUFACTURING AND UTILITIES	
1998	639,306,200	612,975,148	1.0430
1999	647,589,670	608,823,127	1.0637
TOTAL	1,286,895,870	1,221,798,274	1.0533
		CONTRACTING AND QUARRYING	
1998	385,038,067	359,023,819	1.0725
1999	427,820,701	404,066,296	1.0588
TOTAL	812,858,768	763,090,115	1.0652
		OTHER INDUSTRIES	
1998	1,307,377,533	1,276,234,759	1.0244
1999	1,371,591,176	1,323,703,115	1.0362
TOTAL	2,678,968,709	2,599,937,874	1.0304

*   Excludes classifications and coverages not subject to experience rating

CALCULATION OF EXPECTED LOSS COST FACTORS (a)
Current Plan Prior to Capping

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product (2) * (3) * (4) *(5) * (6)	Expected Loss Cost Factor 1.0 / (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Manufacture and Utilities

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product	Expected Loss Cost Factor
1999	1.0000	1.0000	1.2352	1.0899	1.1241	1.5133	0.6608
2000	1.0000	1.0000	1.3750	1.0899	1.0915	1.6357	0.6114
2001	1.0000	1.0000	1.7509	1.0899	1.0599	2.0226	0.4944

Contracting and Quarrying

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product	Expected Loss Cost Factor
1999	1.0000	1.0000	1.3094	1.0467	1.1241	1.5406	0.6491
2000	1.0000	1.0000	1.4611	1.0467	1.0915	1.6693	0.5991
2001	1.0000	1.0000	1.8058	1.0467	1.0599	2.0033	0.4992

Other Industries

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product	Expected Loss Cost Factor
1999	1.0000	1.0000	1.2436	1.0443	1.1241	1.4599	0.6850
2000	1.0000	1.0000	1.4027	1.0443	1.0915	1.5989	0.6254
2001	1.0000	1.0000	1.7502	1.0443	1.0599	1.9372	0.5162

a Apply to pure Loss Costs (pre-LBA, Merit Rating Plan, PCCPAP and Certified Safety Committee adjustments).

CALCULATION OF EXPECTED LOSS COST FACTORS (a)
Proposed Plan Prior to Capping

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product (2) * (3) * (4) *(5) * (6)	Expected Loss Cost Factor 1.0 / (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Manufacture and Utilities				
1999	1.0000	1.0000	1.2352	1.0155	1.1241	1.4100	0.7092
2000	1.0000	1.0000	1.3750	1.0155	1.0915	1.5241	0.6561
2001	1.0000	1.0000	1.7509	1.0155	1.0599	1.8845	0.5306
			Contracting and Quarrying				
1999	1.0000	1.0000	1.3094	1.0437	1.1241	1.5362	0.6510
2000	1.0000	1.0000	1.4611	1.0437	1.0915	1.6645	0.6008
2001	1.0000	1.0000	1.8058	1.0437	1.0599	1.9976	0.5006
			Other Industries				
1999	1.0000	1.0000	1.2436	1.0028	1.1241	1.4018	0.7134
2000	1.0000	1.0000	1.4027	1.0028	1.0915	1.5353	0.6513
2001	1.0000	1.0000	1.7502	1.0028	1.0599	1.8602	0.5376

a Apply to pure Loss Costs (pre-LBA, Merit Rating Plan, PCCPAP and Certified Safety Committee adjustments).

Exhibit Vc

CALCULATION OF EXPECTED LOSS COST FACTORS (a)
Proposed Plan Reflecting Capping of Experience Modification Factors at +/-25%

Policy Year Beginning 4/1	Act 57 Adjust- ment	Adjust- ment Factor	Loss Ratio Development Factor	Collectible Premium Ratio	Trend Factor	Product (2) * (3) * (4) *(5) * (6)	Expected Loss Cost Factor 1.0 / (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Manufacture and Utilities							
1999	1.0000	1.0000	1.2352	1.0533	1.1241	1.4625	0.6838
2000	1.0000	1.0000	1.3750	1.0533	1.0915	1.5808	0.6326
2001	1.0000	1.0000	1.7509	1.0533	1.0599	1.9547	0.5116
Contracting and Quarrying							
1999	1.0000	1.0000	1.3094	1.0652	1.1241	1.5679	0.6378
2000	1.0000	1.0000	1.4611	1.0652	1.0915	1.6988	0.5887
2001	1.0000	1.0000	1.8058	1.0652	1.0599	2.0388	0.4905
Other Industries							
1999	1.0000	1.0000	1.2436	1.0304	1.1241	1.4404	0.6943
2000	1.0000	1.0000	1.4027	1.0304	1.0915	1.5776	0.6339
2001	1.0000	1.0000	1.7502	1.0304	1.0599	1.9114	0.5232

a Apply to pure Loss Costs (pre-LBA, Merit Rating Plan, PCCPAP and Certified Safety Committee adjustments).

ANALYSIS OF CAPPING RESULTS
EXAMINATION OF RISKS CAPPED AT LEAST ONCE OVER A TWO-YEAR PERIOD

Current

98 v 97 99 v 98	Risks Capped Twice				Total Capped Twice	Capped Once	Grand Total*	
	Min Min	Max Max	Min Max	Max Min				
	36	83	78	95	292	3,931	4,515	4,515

Proposed

98 v 97 99 v 98	Risks Capped Twice				Total Capped Twice	Capped Once	Grand Total*	
	Min Min	Max Max	Min Max	Max Min				
	77	226	163	387	853	9,168	10,874	10,874

*Grand Total = Total capped once + (total capped twice) x 2.

ANALYSIS OF CAPPING RESULTS
SUMMARY OF CURRENT PLAN VERSUS PROPOSED PLAN*

	Current Capped Mods			Proposed Capped Mods			Prop v Curr Capping	
	98C v 97C	99C v 98C	99C v 98C(cap)	98P v 97P	99P v 98P	99P v 98P(cap)	98P v 97C	99P v 98C
Number Capped (Min)	729	779	788	2,013	2,050	2,299	1,197	1,259
Number Capped (Max)	1,538	1,469	1,600	3,343	3,468	4,227	5,064	5,025
Number Capped (Total)	2,267	2,248	2,388	5,356	5,518	6,526	6,261	6,284
Number Uncapped	40,317	42,044	41,904	37,228	38,774	37,766	36,323	38,008
Number No Prior Mod	-	-	-	-	-	-	-	-
Total Number of Risks	42,584	44,292	44,292	42,584	44,292	44,292	42,584	44,292
Capped at Mnimum	1.7%	1.8%	1.8%	4.7%	4.6%	5.2%	2.8%	2.8%
Capped at Maximum	3.6%	3.3%	3.6%	7.9%	7.8%	9.5%	11.9%	11.3%
Total # Risks Capped	5.3%	5.1%	5.4%	12.6%	12.5%	14.7%	14.7%	14.2%

Risks 1997 =   43,904
Risks 3 Yrs =   54,937

* 97C = Manual Year 1997, Current Plan
  97P = Manual Year 1997, Proposed Plan
  98C(cap) = Manual Year 1998, Current Plan, Capped