

**ACTUARIAL AND CLASSIFICATION & RATING COMMITTEES -  
RECORD OF JOINT MEETING**

A meeting of the Actuarial and Classification & Rating Committees of the Pennsylvania Compensation Rating Bureau was held in the Board (Blue) Room, 7th Floor, One South Broad Building, One South Broad Street, Philadelphia, Pennsylvania on Thursday, November 14, 2002 at 10 a.m.

The following members were present:

**Actuarial Committee**

Mr. C. Levitz	Amerihealth Casualty Company
Mr. G. Busche	Continental Casualty Company
Mr. P. Beaudoin	Erie Insurance Company
Mr. R. Whitlock	Harleysville Mutual Insurance Company
Mr. R. Lowe	Hartford Accident & Indemnity Company
Mr. P. DeMallie*	Liberty Mutual Insurance Company
Mr. S. Warfel	PMA Insurance Company
Ms. P. Sealand-Reale	Security Insurance of Hartford
Mr. M. Yingling	Travelers Insurance Company

**Classification and Rating Committee**

Ms. E. O'Hara	American Home Assurance Company
Ms. M. Provasnik	Argonaut Insurance Company
Mr. J. Zoerkler	Harleysville Mutual Insurance Company
Mr. J. Binkowski	Insurance Company of North America
Mr. P. DeMallie*	Liberty Mutual Insurance Company
Not represented	Manufacturer's Association of Berks County
Not represented	Manufacturers Association of South Central Pennsylvania
Not represented	National Federation of Independent Business
Not represented	Pennsylvania Chamber of Business & Industry
Mr. F. Preis	Pennsylvania Food Merchants Association
Not represented	Pennsylvania Retailers' Association
Ms. B. Flaherty	PMA Insurance Company
Mr. P. Brocklebank	Security Insurance of Hartford

Mr. T. Wisecarver	Chair - Ex Officio
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Also present were:

Mr. D. Broadwater	Coal Mine Compensation Rating Bureau of Pennsylvania
Mr. S. Cooley	Duane Morris LLP
Mr. W. Wilkins	Insurance Company of North America

Mr. J. Gradwell	Mercer Risk Finance & Insurance Consulting (Office of Small Business Advocate)
Mr. J. Eddinger	National Council on Compensation Insurance, Inc.
Ms. C. Pennington	Office of Small Business Advocate
Mr. K. Creighton	Pennsylvania Insurance Department
Mr. C. Romberger	Pennsylvania Insurance Department
Mr. C. Szczepanski	Pennsylvania Insurance Department
Mr. C. Gambone	Selective Insurance
Mr. M. Pozaic	State Workers' Insurance Fund
Mr. K. Hildebrand	Zenith Insurance Company
Ms. F. Barton	Bureau Staff
Mr. B. Decker	Bureau Staff
Mr. M. Doyle	Bureau Staff
Mr. D. Rawson	Bureau Staff
Mr. P. Yoon	Bureau Staff

\* Member of both committees

The Antitrust Preamble was read at the beginning of the meeting for the benefit of all participants.

All Committee members and other attendees made self-introductions.

Staff noted the meeting agenda materials provided in advance of the meeting and indicated that the Committee discussion would be organized so as to address specific subject areas incorporated in those materials, supplemented by limited handout materials for the April 1, 2003 Loss Cost Filing and by more substantive handout materials related to the Bureau's study of its Experience Rating Plan. Staff encouraged all Committee members and other attendees to participate in the meeting by raising questions or posing suggestions as those arose during the course of discussion.

The meeting discussion first proceeded to address proposals for miscellaneous Manual amendments addressing appeals procedures, classification procedures for mercantile businesses and stores, workers compensation insurance options for volunteer fire departments and/or volunteer fire companies, assignment of Code 993 and/or Code 994 to policies other than those also including Code 980, and revisions in designated auditable payrolls for specified circumstances in accordance with recent changes in the Pennsylvania Statewide Average Weekly Wage. Staff presented a discussion of the background and substance of these proposals for the benefit of the Committees and other attendees.

Additional Manual and Statistical Plan changes were presented to the Committee as handout materials. Proposed changes included the following revisions to the approved Premium Algorithm:

- Reflecting approval of the Waiver of Subrogation and providing two alternatives for placement of this element in the algorithm. One option treated the Waiver of Subrogation as a rating value subject to further adjustment by application of other subsequent pricing program values. The second option treated the Waiver of Subrogation as a flat charge.
- Consolidating all non-ratable classifications into one area of the algorithm.
- Amending language for the Aircraft Seat Surcharge Exposure to recognize the applicable maximum of ten seats per aircraft.
- Adding Workfare Program Employees to the algorithm.
- Consolidating all non-ratable classification increased limits factors into a single area of the algorithm.
- Revising the algorithm to avoid application of the Premium Discount to Expense Constants.

Additional proposed changes in the Statistical Plan addressed refinements in coding of deductible policies, consistent application of the respective terms “indicator” and “code” throughout the Statistical Plan, and the addition of injury description codes (nature of injury) specific to Hepatitis C, Natural Disaster, Mold and Terrorism. An example was proposed for addition to the Statistical Plan illustrating an anniversary rated policy with Employer Assessment.

Committee consideration of these proposals included a question concerning whether the injury description code for “terrorism” was intended to be limited to the causes of loss that would be covered by the federal backstop provisions of a terrorism insurance bill. Staff noted that New York had initially coded the September 11, 2001 events using the existing code for “criminal act” and that subsequent consideration had suggested a more specific code might be of value. Although the “terrorism” code as proposed did not differentiate between foreign and domestic terrorism, staff noted that events qualifying for payments under the proposed federal backstop legislation would be both certified by the Secretary of the Treasury and separately identified by a Catastrophe Code assigned under procedures agreed to by workers compensation data collection organizations. With the benefit of these respective points of information, it would be possible to separate foreign terrorism losses certified under the federal act from other terrorism losses in a straightforward fashion.

The meeting discussion next proceeded to address the overall loss cost indication. Staff presentation organized this review into the separate technical areas delineated below:

#### Trended Ultimate Loss Ratios - Indemnity

Exhibit 5 was identified as providing historical financial data upon which the proposed filing’s analysis was based. Participants were reminded that for recent loss cost filings the Bureau had adopted an approach of adjusting financial data to “post-law” levels as respects the medical

provisions of Act 44 of 1993 (Act 44) and the indemnity provisions of Act 57 of 1996 (Act 57). It was noted that the limited indemnity provisions of Act 44 had been accounted for in those previous filings by way of a “savings factor” applied to loss ratios initially established on a “pre-law change” basis. Staff indicated that these techniques continued to be used for this proposed filing. This methodology, which offered efficiencies in the overall filing analysis, precluded ongoing revisions of prior estimates of the separate and specific effects of the more substantial effects of those law changes on Pennsylvania workers compensation system costs.

Page 1 of Exhibit 5 provided the two most recent calendar years of premium development data, which staff noted was supplemented by additional older experience taken from previous filings’ documentation for the analysis supporting this proposed filing.

Reported indemnity losses were identified as appearing on Page 3 (case-incurred indemnity loss) and Page 5 (paid indemnity loss) of Exhibit 5. Pages 7 through 16 of Exhibit 5 were noted as presenting details of the adjustment of indemnity experience to a post-Act 57 basis. Adjustments for calendar years prior to 1999 reflected factors derived in previous Bureau filings. The original such adjustments had been prepared using data from the April 1, 1999 Loss Cost Filing. Those adjustments had been balanced so that indications obtained using historical data adjusted to a “post-law” level were comparable to alternative indications derived using historical data stated on a “pre-law” level, in combination with savings factors related to legislation. The adjustment for Calendar Year 2001 was presented in this proposed filing for the first time. This adjustment had been performed in a manner similar to adjustments for prior years and used parameters consistent with those prior adjustments and/or ongoing assumptions about the extent to which data had responded to the effects of the law change.

The adjusted indemnity financial data, stated on a post-Act 57 basis, was shown on Pages 29 (incurred loss) and 31 (paid loss) of Exhibit 5.

A question was posed concerning whether Exhibit 5 included or excluded large deductible business. Staff explained that, consistent with past practice, the financial data used to derive overall indicated loss cost changes excluded large deductible business. It was noted that reporting of large deductible business on a gross basis required the development of values not otherwise commonly computed or retained by companies and, further, that the purchase of large deductible policies was similar to the endeavor of self-insuring and was likely to be contemplated and undertaken by risks differing in terms of experience and loss potential from the remaining smaller accounts whose pricing might be substantially guided by Bureau-filed rating values.

Further questions were asked concerning the volume of experience attributable to large deductible business and whether staff had analyzed the impact of excluding that data from the filing indication. Staff generally recalled that large deductible business had first been written in the early 1990s and had initially represented very limited volume but had then grown to account for approximately one-third of total premium (measured on a gross basis).

Staff noted that, since large deductible data had not been summarized and edited for inclusion in the filing analysis, it was not possible to compute the effects of the missing data on the proposed loss cost change. However, staff noted that in supporting information related to the filing and set

for discussion at a subsequent point(s) in the meeting some comparative analysis of experience, particularly claim frequency experience, was possible between ex-large deductible business and all business, including large deductibles.

A question arose concerning the effect of large deductible data on the determination of classification relativities. Staff noted that all data, including large deductible business on a first-dollar basis, is reported under the approved Statistical Plan and is used in the determination of classification relativities.

Exhibit 6 presented the Bureau's loss development analysis in support of the filing, as well as significant portions of the special trend procedure proposed for use therein. Staff reviewed the pertinent portions of Exhibit 6 and related supporting documentation for indemnity benefits as follows.

Page 6.1 of Exhibit 6 provided premium and/or expected loss development history and estimated ultimate, on-level expected losses for use in computing loss ratios. Pages 6.2 through 6.6 provided steps in the application of incurred and/or paid loss development approaches to indemnity benefits. One of the approaches shown used a case-incurred loss development method to estimate ultimate indemnity losses. A series of additional alternative estimates had been constructed using a combination of paid loss development and case-incurred loss development methods. By applying a paid loss development method to indemnity benefits for varying periods of initial development, then converting cumulative paid losses to equivalent case-incurred losses and applying case-incurred loss development for the remaining development period(s) to ultimate, the Bureau had constructed a series of ultimate indemnity loss estimates. Finally, the Bureau had derived estimates using the average of a case-incurred loss development method and the paid loss development method that relied on the longest available period of paid loss experience (in this case, a paid loss development method applied to 20th report).

Staff was asked what weights had been used in averaging the paid loss and case-incurred loss development methods and which of the various paid loss development methods had been averaged with the case-incurred loss method. The response indicated that equal weights had been given to the paid loss and case-incurred loss development methods in the "average" approach and that the paid loss to 20th report method (the longest available application of the paid loss development method) had been used in conjunction with the case-incurred loss method to produce the average paid and case-incurred indications.

A Committee member observed that for Policy Years 1983 and 1984 the case-incurred loss indications were three to four percent lower than the comparable paid-to-20th report estimates and questioned whether these differences at old maturities suggested a potential problem in the derivation and/or application of tail factors. The questioner opined that paid loss development indications were not subject to variability in case reserve adequacy and/or practices and, thus, might be given preference over case-incurred loss indications in general. Staff replied by pointing out that newer policy years presented much greater differences between paid and case-incurred loss development estimates than did older ones, and thus, consistent with expectations, the results of these different methods were converging as policy years got older. The tail factors applied in the staff analysis were all based on a case-incurred method and were the same for

each variation of loss development analysis. Finally, staff noted that, while case-incurred estimates were subject to influence by some factors not applicable to paid loss data, payments were also subject to changes in timing and amount over time due to such circumstances as staffing levels and company approaches to lump sum settlement options, rendering the question regarding whether one method was inherently preferable to the other at any given point in time subject to considerable uncertainty.

Attendees presented a series of questions pertaining to the availability of various diagnostics of loss development results and staff's opinion concerning the interpretation of such information where available. The principal areas of inquiry and staff replies are presented below.

*Could the Bureau generate claim closure rates from unit statistical data?*

Yes. Staff's review of unit statistical data showed general improvement in closure rates over the past few years. Concurrent with this general acceleration of closure rates, the average indemnity and medical costs of closed claims showed significant increases in recent development periods and across recent policy years.

*Can the Bureau separately look at closure rates for large deductible business and non-large-deductible business?*

The Bureau's unit statistical data can distinguish deductible business from non-deductible business, and, since the volume of small deductible policies is very limited, this is essentially the same as being able to separate large deductible business from non-large deductible business. Staff had separately analyzed claim frequency trends for these separate bodies of experience but had not extended the analysis to closure rates in support of work underlying the proposed filing.

*Had staff reviewed the history of paid-to-incurred ratios in financial data?*

Staff noted that Exhibit 6 included a matrix of paid-to-incurred ratios that compared paid losses at given evaluations to case-incurred losses one year later for several consecutive development periods.

*What contribution had loss development made to the filing indication being suggested by staff?*

Staff felt that the overall loss development component of the proposed filing was very small, with indemnity loss showing a small improvement while medical loss showed a small deterioration. In combination staff had estimated that the loss development component of the filing indication was an increase of only a fraction of one percent.

*How long had the Bureau been using the average of paid and case-incurred loss development methods in support of its filings?*

The April 1, 2003 filing would be the second successive filing using this approach. In previous filings loss development methods using paid loss data for various preliminary periods of time, and then switching the case-incurred loss development for remaining (older) development periods had been selected. The underlying principle for those prior selections had been to use a method with results falling in the mid-range of all methods tested. The average of paid and case-incurred loss development methods was expected to satisfy that criterion as a matter of course.

*Medical case-incurred age-to-age development factors showed a marked upward trend in the proposed filing. Had the Bureau considered using only the most recent diagonal as a possible response to this trend?*

While staff was aware of various alternatives such as selecting the most recent diagonal or even tending age-to-age development factors, those strategies presumed either maintenance of the latest and highest level of observed loss development or continuation of recent trends. Past practice, in times of increasing or declining age-to-age development factors, had been to consistently apply the most recent two-year average factors.

Indemnity age-to-age development factors were perceived by some attendees to be generally higher for recent development periods, and staff was asked whether this might imply a downward bias in estimated ultimate indemnity losses. Staff thought that in some cases the differences at issue were quite small and noted that the claim severities implied by the selected loss development methods were increasing significantly concurrent with a period in which claim closure rates were generally accelerating.

It was suggested that staff consider reviewing data for larger carrier groups separately and perhaps interposing judgments and/or adjustments to those separate databases and then recombining the resulting estimates as a check on the aggregate calculations already performed.

Staff advised attendees that separate analysis of over a dozen large carrier groups was routinely done, primarily as a means of identifying possible anomalies in data and/or unusual divergences of results between groups that might merit some further inquiry or discussion in terms of explanation by the reporting carrier(s). However, staff was dubious about the possibility of performing meaningful independent actuarial reviews of many carrier groups' data as a precursor to annual filings, in light of the resources and time that would likely be required to accomplish this and the ultimate prospect of submitting a filing based on data the Bureau had derived itself rather than obtaining the information from carriers using common reporting forms and procedures.

Exhibit 7 presented the Bureau's derivation of "tail factors" for use in its array of possible loss development methods. The methodology applied had been used in prior PCRB filings in response to recommendations in regulatory examinations. Pages 2, 4, 6 and 8 of this exhibit each provided a tail factor estimate for indemnity benefits based on a different calendar year of development experience. An indemnity tail factor for the proposed filing had been selected as the average of these four separate indications, as summarized on Page 1 of Exhibit 7.

Staff was asked about the handling of paid-to-incurred adjustments in the tail factor calculations presented. It was noted that in all loss development methods tested, up to and including the paid-loss-to-20th report method, the development periods addressed in the tail factors were all measured using the case-incurred loss development method. Thus, adjustments from paid to case-incurred loss had been made in all cases prior to the point of applying tail factors.

Exhibit 8 provided claim frequency experience that the Bureau had used in support of its trend analysis for the proposed filing.

Staff had obtained counts of indemnity claims and exposures (measured by expected losses at a constant set of Bureau loss costs) from unit statistical reports. This data was available by policy year from 1987 through 2000, with the last year having a mid-point of January 1, 2001. Compilations of this experience were provided separately for non-deductible business (Pages 3 and 4 of Exhibit 8) and for all business including deductible coverages (Pages 5 and 6 of Exhibit 8.) Staff had also reviewed trends in claim frequency by industry group, and indications for that review were provided on Pages 8 and 9 of Exhibit 8.

A question was posed concerning how “expected losses” as applied in the Bureau’s analysis of claim frequency were defined. Staff explained that these expected losses were computed by extending exposures reported in unit statistical data times currently-approved Bureau loss costs by classification.

A follow-up question inquired about whether and how expected losses as used by the Bureau took wage inflation into account. Staff noted that, since payroll was the predominant component of workers compensation exposure data, the expected losses would substantially respond to changes in wage levels over time.

Recent PCRB filings had included reference to data provided by the Department of Labor and Industry regarding counts of injuries and illnesses reported in the Commonwealth, together with non-Federal payrolls. The work injuries and illnesses shown in those reports were incidents resulting in lost time beyond the day or shift of occurrence. For this filing no updates had been received from the Department of Labor and Industry since the information that had been provided in support of the PCRB’s April 1, 2002 Loss Cost Filing. Thus, the history of these injury reports and payrolls was available on a calendar year basis from 1985 through 2000 and for the 12-month period ending June 30, 2001.

Staff noted that, in providing its most recent data for counts of injuries and illnesses when the PCRB’s April 1, 2002 Loss Cost Filing was under process of preparation, the Department of Labor and Industry had cautioned the Bureau that this data had been influenced to an unknown extent by changes in reporting practices by some of that Department’s data sources. In the main, the changes so noted were thought by the Department representatives to have involved changing from a practice of reporting only indemnity claims to the intended procedure of included injury and illness reports for any case having lost time beyond the date or shift of occurrence.



Given the caveats applicable to the most recent data from the Department of Labor and Industry and the fact that the PCRБ's unit statistical data was now available for a slightly more current period of time than was the Department of Labor and Industry data (Policy Year 2000, as compared to the 12 months ending June 30, 2001), staff had not included the Labor and Industry data in its review of claim frequency indications for this filing. For informational purposes, however, the historical data from the Department of Labor and Industry was provided on Pages 1 and 2 of Exhibit 8, and a graphical comparison of the claim frequency trends inherent in that data to those reflected in the PCRБ data was set forth on Page 7 of Exhibit 8.

Staff described the proposed filing's approach to trend analysis in the following fashion. Estimated ultimate on-level loss ratios derived in Exhibit 6 had been adjusted for the effects of changes in claim frequency presented in the Bureau data from Exhibit 8. The results of these adjustments were referred to as "severity ratios" and were presented on Page 6.6 of Exhibit 6. The Bureau had then applied its customary linear and exponential trend models to the severity ratios so derived over numbers of data points ranging from four to ten. For each trend model and loss development method in combination, severity trend factors were calculated for each of the three most recent policy years. This severity trend analysis was shown on Pages 6.7 through 6.10 of Exhibit 6.

In Exhibits 9a and 9b, goodness-of-fit tests had been applied to trend models applied to loss ratios (Exhibit 9a) and severity ratios (Exhibit 9b). Exhibits 11a and 11b, respectively, provided further examinations of the effectiveness of trend models by testing predictive abilities of the respective models and trend periods prepared in support of this proposed filing.

For use in conjunction with the indemnity severity trend factors, the Bureau had selected a prospective frequency trend based on non-deductible business over the Policy Years 1996 – 2000 inclusive from Exhibit 8. Actual observed changes in indemnity claim frequency by policy year were used through January 1, 2001, and then a prospective frequency trend of –6.3 percent was used for the period from January 1, 2001 through the mid-point of the prospective rating period (April 1, 2004). The frequency trend factors consistent with this procedure were set forth on Page 6.6 of Exhibit 6.

Indemnity loss ratio trend factors computed as the product of the indemnity severity trend factors and frequency trend factors describe above were shown on Page 6.11 of Exhibit 6. The resulting trended indemnity loss ratios were presented on Pages 6.12 (linear trend model) and 6.13 (exponential trend model).

Exhibit 10 provided graphs of indemnity loss ratios (Page 10.1) and indemnity severity ratios (Page 10.3). In addition, Exhibit 10 provided a graph of indemnity loss ratios, indemnity severity ratios and claim frequency each indexed to a common starting point (January 1, 1988) on Page 10.5. These graphs illustrated the point that historical indemnity claim severity in Pennsylvania had been increasing at a rate approximately offset by continuing improvements in claim frequency.

Pages 6.12 and 6.13 of Exhibit 6 showed arrays of possible trended indemnity loss ratios produced by the methods described above, with the Bureau's selected result highlighted with a border on Page 6.12. The selected result was produced using the average of a case-incurred loss development approach and the paid loss development method to 20th report loss development. A linear five-point severity trend was used in combination with actual frequency trend through January 1, 2001 and the selection of an annual rate of -6.3 percent the period from January 1, 2001 through April 1, 2004.

Staff was asked how the claim frequency trend selected for this filing compared with estimates in use by the National Council on Compensation Insurance, Inc. (NCCI). Staff noted that NCCI collected data across a broad spectrum of jurisdictions and that individual state indications within their various jurisdictions doubtlessly varied. Overall, staff understood that NCCI's long-term analysis disclosed a persistent underlying tendency for claim frequency to decline two-to-three percent per year, measured in terms of indemnity claims per 100,000 workers.

Staff was asked what information it had concerning the potential impact of economic conditions on claim frequency experience and expectations. NCCI's analysis was noted, with the general finding that in times of economic downturns claim frequency changes were somewhat more favorable (tending toward larger-than-normal declines) than in other parts of the economic cycle.

Staff noted that NCCI had collected claim frequency data for Accident Year 2001, and that data showed exceptionally strong declines in claim frequency. Further, the Bureau had conducted a survey of larger carrier groups in preparation for this filing and had received responses regarding claim frequency experience that predominantly reported recent continuing declines of varying degrees in claim frequency.

Staff was asked what claim frequency provisions had been used as part of the April 1, 2002 Loss Cost Filing. The response disclosed that a series of selected claim frequency changes had been used in combination, with the selections and applicable time periods being as follow:

Time Period	Selected Annual Rate of Change in Claim Frequency
Calendar Year 2000	-4.3%
Calendar Year 2001	-3.0%
January 1, 2002 – March 31, 2003	-1.0%

A question arose concerning what provisions the Bureau analysis made for wage inflation in measuring and/or projecting claim frequency. Staff noted that, since payrolls were the primary exposure bases, wage level changes were directly reflected in the expected loss bases used to measure claim frequency in the filing.

Staff was asked to explain the concerns applicable to the alternative claim frequency data obtained from the Department of Labor and Industry. The reply noted that this data was slightly less current than available Bureau unit statistical data and that the Department had expressed concerns that changes in reporting practices were having an unknown but potentially significant effect on the data collected in early 2001.

Some discussion ensued concerning possible changes in wage changes during the prospective trend period for the filing and the ramifications of such changes on projected claim frequencies. As part of this discussion, it was noted that to the extent wage trends did change those changes would be expected to have largely offsetting impacts on claim frequency and claim severity, particularly given the facts that in Pennsylvania no separate “on-level” adjustment for annual changes in benefit minimums and maximums was allowed and noting that medical prices, like indemnity benefit limitations, were indexed to changes in the Statewide Average Weekly Wage.

Staff was asked whether bonuses were included in the wage or payroll data used in the filing. It was thought that these payments were included to the extent that they did not exceed specified reporting limitations, such as executive officer payroll maximums.

A Committee member noted that for informational purposes the claim frequency exhibits could be expanded to include columns specific to changes in prevailing wage levels and “other” changes in payrolls (presumably attributable to changes in the workforce and/or the intensity and duration of work activity).

#### Trended Ultimate Loss Ratios - Medical

Staff indicated that the analysis done for medical losses paralleled that described above for indemnity losses in most important respects. The pertinent exhibit and page references were provided as follow:

<u>Exhibit</u>	<u>Content</u>	<u>Page(s)</u>
5	Medical financial data - Table I reported data	4 (case incurred), 6 (paid)
	Adjustment of medical financial data to post-Act 44 basis	17 through 26
	Adjusted medical financial data	30 (case incurred), 32 (paid)

<u>Exhibit</u>	<u>Content</u>	<u>Page(s)</u>
6	Medical loss development	6.14 through 6.18
	Trending of medical loss ratios and medical severity ratios	6.19 through 6.22
	Medical loss ratio trend factors	6.23
	Trended medical loss ratios	6.24 (linear), 6.25 (exponential)
7	Medical loss development tail factors	Summary on Page 1, detail on Pages 3, 5, 7 and 9
8	Claim frequency	Per indemnity discussion
9a, 9b	Goodness of fit tests 9a for loss ratios, 9b for severity ratios	9a1, 9a4, 9a5, 9a8 and 9a9 9b1, 9b4, 9b5, 9b8 and 9b9
11a, 11b	Retrospective tests of prediction 11a for loss ratios, 11b for severity ratios	11a6 – 11a10 and 11b6 – 11b10
10	Graphs of medical loss ratios	10.2
	Graphs of medical severity ratios	10.4
	Graph of indexed medical loss ratios, severity ratios and frequency trends combined	10.6

Staff noted that the trend model used for medical severity ratios was an exponential fit through the most recent eight policy year data points (Page 6.25 of Exhibit 6).

Indicated Overall Change in Loss Costs

Exhibit 12 of the agenda materials supported this section of the meeting discussion. Staff described the construction and interpretation of Exhibit 12 as follows.

Loss ratios selected for indemnity and medical benefits had been posted for each of the three most recent available completed policy years, i.e., 1998, 1999 and 2000. These loss ratios and the resultant average ratios were shown on Lines (1) through (4) on Page 12.1 of Exhibit 12.

Trended loss ratios based on each of the Policy Years 1998, 1999 and 2000 were presented on Lines (5) through (7) on Page 12.1 of Exhibit 12, with the resultant average trended loss ratio shown on Line (8) of that same page.

The appropriate savings factors for the indemnity provisions of Act 44 of 1993 previously described were shown on Line (9) on Page 12.1 and had been applied to produce Line (12) of that exhibit. This analysis produced an overall collectible loss cost decrease of approximately 5.27 percent.

Staff noted that nominal changes in Experience Rating Plan off-balances differing by industry group had been applied to produce the indicated average changes in manual loss costs shown on Line (15), Page 12.1 of Exhibit 12.

A Committee member commented that the indemnity loss ratios trended from each of the three separate policy years showed a consistent upward trend, with the newest policy year producing the highest projected loss ratio, and questioned whether such a pattern raised questions about the adequacy of the proposed indication, particularly with the indication being for an overall reduction in loss cost levels. It was ultimately agreed that the observed pattern within the indemnity projections could be problematic if it persisted over the course of additional future policy years.

A question was presented asking why severity trends had been measured using different periods of experience for indemnity (five years) and medical (eight years.) Staff pointed to the graphs of loss ratios and severity ratios and explained that, for indemnity severity ratios, there was an apparent qualitative difference in trends in place prior to the most recent five available policy years as compared to the subsequent period, which had led to the selection of the most recent five years for purposes of measuring indemnity severity trend. For medical severity ratios the historical pattern was more consistent, and thus a longer experience period had been selected.

A further question focused on loss ratio trends appearing to be increasing, particularly for recent policy years, while the loss cost indication was for a reduction. Staff noted that overall loss ratio trends in the proposed filing were upward (being slightly negative for indemnity and positive for medical) but that these respective trends were more moderate than had been the case in the previous filing owing to differences in selected claim frequency trend. It was further noted that the claim frequency and claim severity measures used in the proposed filing had been derived from more extensive periods of history than the most recent three available policy years. It was suggested that staff further review the loss ratio trend directions derived using separate severity and frequency trends in comparison to the trend direction suggested by directly analyzing loss ratios themselves.

Staff was asked to explain the differences in loss cost indications presented on Lines 12 and 15 of Exhibit 12. The reply noted that Line 12 represented the indicated collectible loss cost change, while Line 15 provided the appropriate changes in manual loss costs required to accomplish the change shown on Line 12, given expected changes in the off-balances resulting from application of the approved Experience Rating Plan.

Following the discussion of the overall loss cost change indication, the Committees continued discussion of additional topics related to staff analysis or potential areas for additional review supported by agenda materials as outlined below.

### Catastrophe Provisions in Pricing

Staff noted that to date the PCRB had not submitted any filing(s) to establish and/or identify pricing provisions related to terrorism or large-scale natural disasters. As of the date of this meeting, a terrorism insurance measure(s) remained under debate in the U. S. Congress. Staff noted that modeling efforts were in progress within the industry to establish the magnitude and range of potential costs for a sampling of hypothetical events. Various scenarios related to the funding of terrorism and other catastrophic exposures were under discussion, including establishment of surcharges, pooling arrangements on a national or state-specific basis and on both mandatory and voluntary bases. Thus far the only specific provision for terrorism and/or catastrophic events approved for workers compensation pricing of which the PCRB was aware was in the state of New York, in which prevailing rate levels had recently been adjusted so as to be comprised of separate elements for terrorism and natural catastrophes in addition to basic losses and expenses.

A series of questions concerning background information and potential further Bureau actions were asked and answered, as outlined below.

Staff was asked whether it was in possession of materials related to the catastrophe provisions recently filed and approved in New York. Staff answered that it did have much of the supporting information related to the New York analysis, but staff remained somewhat confused about the exact nature of the New York surcharge in terms of whether it involved a loading of three cents, three percent or something different from either of those constructs. Staff was clear that the supporting information originally provided in New York included both foreign and domestic terrorism. It was observed that some bifurcation of the existing New York surcharge could be made if a federal backstop provision limited to acts of foreign terrorism was enacted.

Staff was asked whether Catastrophe Code 48 data (losses attributable to the terrorist attacks of September 11, 2001) had been included in or excluded from the data used to develop the proposed filing. Staff responded that Pennsylvania losses associated with September 11, 2001 had been surprisingly small and that, based on Bureau understanding that all rating organizations intended to exclude those losses from ratemaking, the Catastrophe Code 48 losses had been removed from the data used to prepare the proposed filing. Staff doubted that a revision to include such losses would change any parameter(s) of the proposed filing at the level of accuracy to which the proposals were expressed and was certain that any such change(s) would be extremely small if they, in fact, would occur.

Some attendees opined that, absent some specific pricing mechanism to address terrorism losses, the loss data from Catastrophe Code 48 should be included in supporting information for Bureau filings. In response to a question concerning other jurisdictions' circumstances in this regard, it was noted that only New York was known to have any pricing program specific to terrorism and/or natural catastrophes in place.

Staff's understanding of the prevailing practice regarding Catastrophe Code 48 was questioned, and it was offered that NCCI had included such losses in the data supporting their recent filings. Staff indicated that it would review this matter further subsequent to the meeting.

A question arose concerning the possible enactment of a federal terrorism insurance bill and what response the Bureau was or would be prepared to make toward such an event. Staff noted continuing discussions among workers compensation rating organizations toward the objective of providing prompt and consistent if not identical programs for members wherever possible, but observed that specific responses to some contingencies could not be prepared in final form and/or implemented until details of a specific Congressional action became known.

#### Loss-Based Assessments and Employer Assessment Factor

Exhibit 13 of the agenda material addressed the above referenced items.

Effective October 1, 1999, the provisions for the Administration Fund, Subsequent Injury Fund and Supersedeas Fund previously included in published Bureau loss costs had been removed from those loss costs. Consistent with requirements of H.B. 1027, these amounts were now treated as a separate charge to insured employers collected through insurers. Loss-based assessments applicable to funding for the Office of the Small Business Advocate remained part of published Bureau loss costs under provisions of this law. Also consistent with past practice, the Bureau continued to include offset provisions for merit rating and credits granted under the Certified Safety Committee Program in published and proposed Bureau loss costs.

Exhibit 13 provided parameters used to compute the proposed employer assessment factor effective April 1, 2003 (0.0280) and the proposed loading to Bureau loss costs to provide for Merit Rating Plan credit offset, Certified Safety Committee Program credit offset and the Office of Small Business Advocate funding effective April 1, 2003 (0.0065). Staff noted that the proposed employer assessment factor was reduced from the current level (0.0337) largely due to increasing premium volume in Pennsylvania. The loading in Bureau loss costs for the remaining factors noted above was down nominally from 0.0069.

#### Pennsylvania Construction Classification Premium Adjustment Program (PCCPAP)

Exhibit 14 of the agenda materials was described to all attendees.

The purpose of the PCCPAP program was described as responding to wage differentials within the construction industry, providing a program of premium credits to higher-wage employers. These credits were offset by loadings applied to construction classifications reflecting the portion of employers participating in the program and the average premium credit obtained by those participating businesses, thus maintaining the required premium level in each classification.

The table of qualifying wages applicable to the PCCPAP was regularly amended based on actual changes on statewide average wage levels, with such filings subject to review and approval by the Insurance Department and typically effective each July 1.

Staff noted that the average PCCPAP loading indicated, based on the most recent available data, was nominally lower than that currently in effect (3.23 percent proposed vs. 3.41 percent current). This was attributed to the effects of nominal decreases in participation in the program and/or average credits being generated by participating employers.

Staff noted that the PCCPAP program had been revised effective January 1, 2002 to eliminate adjustment of experience modifications in recognition of the effects of PCCPAP credits as the approved means of avoiding providing redundant credits. The adjustment of experience modifications had been seen as a potential impediment to participation on the program. The revised plan made adjustment within the computation of the credits themselves for the effect of high wages on experience modifications. During the interim period in which available historical data reflected the prior plan and proposed new plan parameters were needed consistent with the revised plan, staff was assuming that the alternative forms of adjustment to coordinate experience rating adjustments with PCCPAP credits were equivalent calculations, the intent of the change approved effective January 1, 2002.

#### Merit Rating Plan

Exhibit 15 of the agenda materials was used as the basis for this discussion.

The Merit Rating Plan was noted as a statutory requirement intended to provide incentive for the maintenance of safe workplaces for businesses too small to qualify for the uniform Experience Rating Plan. Exhibit 15 presented the offset to manual loss costs required to compensate for the net credit received by all eligible employers under this plan, which was shown to have changed only nominally from the level currently in effect (0.35 percent proposed as compared to 0.34 percent currently in effect).

#### Certified Safety Committee Credit Program

Exhibit 16 of the agenda materials addressed recent experience under the Certified Safety Committee Credit Program. Experience was available for Policy Years 1994 - 2000 inclusive.

Staff noted that until mid- to late-1996 this program did not allow employers to qualify for credit in more than one policy period. As a result, 1995, 1996 and 1997 data were expected to understate the prospective experience under this program after Act 57 had provided for up to five annual credit periods for qualifying employers. Subsequently, in 1999 or 2000 some employers began to reach the limit of five years' of credit application under current law. This attrition in eligible employers would continue absent new legislation. Accordingly and based on a review of all available experience, staff had selected a proposed loading to manual loss costs of 0.29 percent to offset the effects of credits given under this program.

#### Size-of-Loss Analyses

PCRB loss cost filings include rating values pertinent to various rating plans affected by the size of loss for individual claims or occurrences insured there under. Some such plans provide limitations applicable to the amount(s) of loss that can be used in computing a retrospective premium. A series of handout exhibits were distributed to attendees and discussed as noted below.

Exhibit 21 presented results of a methodology previously supplied to the PCRB by the NCCI. This method had been used to calculate excess loss (pure premium) factors in some previous PCRB filings. More recent filings had relied heavily on empirical Pennsylvania data as the basis



for these values; however, staff had continued to apply the NCCI methodology in order to review its results, as compared to the empirical indications and in order to be able to use relativities established by the NCCI methods for selected loss values where historical Pennsylvania data was either unavailable or of very limited volume and statistical credibility.

Exhibit 22 presented the most recent available Pennsylvania size-of-loss distribution, derived by tabulating reported loss amounts and developing open claim values so as to produce ultimate loss estimates on a case-by-case basis consistent with the PCRB's analysis of aggregate financial data.

Exhibit 23 showed current and proposed excess loss (pure premium) factors computed using results from Exhibits 21 and 22, together with the indicated percentage changes therein by loss limitation and hazard group.

Size of loss considerations also applied to the determination of state and hazard group relativities that allow a single table of insurance charges and savings to be used in different jurisdictions where benefit levels and statutory provisions may vary significantly. But for some technical differences pertaining to the date to which various calculations are trended, the procedure used to establish these state and hazard group relativities has the same as that used in the NCCI excess loss (pure premium) factor calculation. For this filing, staff proposed a revision to the NCCI credibility-weighting process to recognize the volumes of data available in each hazard group as opposed to the state as a whole. This refinement imparted some additional stability in the indicated state and hazard group relativities for smaller hazard groups (notably Hazard Groups I and IV). Exhibit 24 presented the derivation of state and hazard group relativities for the proposed filing.

Offering of small deductible coverages at certain specified amounts is mandatory in Pennsylvania. PCRB filings provide loss elimination ratios computed consistent with the mandatory deductible levels. A special consideration arose when computing these loss elimination ratios because Pennsylvania's statistical plan does not require separate reporting of losses below \$2,000, but a loss elimination ratio is required at a \$1,000 deductible. With appropriate adjustment, the needed loss elimination ratios were derived as the complements of per-claim excess loss factors at the specified deductible levels of \$1,000, \$5,000 and \$10,000, as shown on Exhibit 25.

Committee consideration of staff discussion of trended ultimate indemnity loss ratios included the following questions raised and answers provided by staff or other meeting participants:

Staff was asked whether the changes in excess loss factors ought to have some threshold level below which the indicated changes should become negative and at which the proposed changes should be essentially zero, particularly in light of the overall indication for a reduction in loss costs. Staff answered to the effect that the overall loss cost indication was negative owing to claim frequency trend, whereas the excess loss factors were sensitive to claim severity distributions and weightings of loss by type. Staff thought that, given the significant positive trends in claim severity, it was not necessarily expected that there would be a balance point below which the excess loss factors should decline. In further response to a question about patterns

seen in past filings with regard to excess loss factors, staff recalled that in the most recent past filing the factors at some lower loss limitations had declined rather than increasing. It was noted that the exhibits pertaining to excess loss factors were presented in a cumulative rather than incremental fashion.

Some Committee members questioned the internal consistency of the proposed excess loss factors, noting apparent shifts in the incremental changes in such charges between adjacent loss limitations and/or counterintuitive comparisons of factors across hazard groups at specific loss limits. Staff agreed to review the underlying data and procedures to determine whether the results could and should be smoothed in some fashion in order to present a more consistent set of excess loss factors.

#### Retrospective Rating Plan Optional Loss Development Factors

Carriers may apply loss development factors to early evaluations in order to include a provision for maturation of loss values at subsequent reports. Exhibit 26 of the agenda materials provided such development factors applicable without limitation of losses, as well as a procedure that could be used to apply excess loss factors to compute appropriate loss development factors for various loss limitations and hazard groups.

#### Hepatitis C Surcharges for Selected Classifications

Staff revisited the circumstances under which the April 1, 2002 filing had been prepared and submitted, noting that legislation enacting a presumption of work-related casualty for Hepatitis C incurred by selected sets of workers (H. B. 1633) had been passed after the filing was in process. Notice of approved April 1, 2002 rating values had included comment to the effect that the approved values did not contain any specific or separate provision for Hepatitis C. Staff had endeavored to construct such a provision for inclusion in this filing.

Analysis had been conducted based on available statistics concerning incidence and existing infection with HCV in the general population had been used in concert with projected costs for Hepatitis C cases in health care workers under various scenarios by an independent consulting group (Milliman U.S.A., formerly Milliman & Robertson, Inc.). These projections had been compared with existing cost estimates for affected classifications and indicated surcharges had been derived. Committee members and other attendees were asked whether they were aware of other sources that might be available offering data or estimates more specific to the population under consideration here (as opposed to the general population at large), and no affirmative responses were forthcoming.

A question was asked about the historic status of Hepatitis C in Pennsylvania, suggesting that this condition had previously been considered compensable under the Workers Compensation Act. Staff agreed with this impression but added that the difference due to the 2001 legislation was that formerly workers were required to prove work relationship to the condition, whereas now employers or insurers would have to disprove such a relationship. It was anticipated that filing workers compensation claims for Hepatitis C would be significantly easier under the new standard than had previously been the case.

Another inquiry went to the issue of the extent to which claims filed in years immediately following the passage of the subject legislation might reflect conditions collectively contracted over the course of many previous years. Staff agreed that the emergence of losses could be concentrated into the periods most closely following enactment, expressing the sentiment that providing some reasonable provision for the added exposure brought about by this law was appropriate, even if details about reporting patterns, incidence and/or cost of treatment could not be obtained in any authoritative forms.

Staff closed this discussion by indicating that consideration of this part of the filing's analysis was ongoing, as staff further reviewed results of the preliminary work and extended its work into some additional areas and/or approaches.

#### Proposed Loss Cost Relativities by Classification

Exhibits 17, 20A, 20B, 20C, 28, 29 and 30 of the agenda materials and the Class Book were reviewed with the attendees as follows:

Exhibit 17 presented a narrative discussion of the procedures applied to derive classification loss cost relativities. Staff noted that these procedures were generally unchanged from those of the most recent previous loss cost filing. With respect to certain "test correction factors" which had historically been applied as matrices of factors differing by type of loss and industry group, the Bureau proposed to continue a transition begun with the April 1, 2001 filing and continued with the April 1, 2002 filing, toward an eventual process of applying test correction factors uniformly across all types of loss and industry groups. In order to limit the transitional effects of such a change, it had been decided in the 2001 filing to accomplish this over a three-year period. The current filing would thus represent the third (and last) step in that process.

Exhibits 20A, 20B and 20C of the agenda materials were offered as summary tabulations based on unit statistical data used to derive certain parameters applied in the determination of classification loss cost relativities.

Exhibit 28 showed proposed classification loss costs and expected loss factors by classification consistent with the proposed overall change in loss cost level. Exhibit 29 provided insight into the derivation of the proposed classification rating values by showing a test of indicated and selected classification rating values, including effects of capping and application of loadings for the various assessments which would remain a part of published Bureau loss costs.

Exhibit 30 showed a histogram of proposed classification rating value changes based on the proposed overall change in loss cost levels. Staff noted that desirable features of classification loss cost changes included relatively narrow distribution around the average change and few, if any, classifications which materially shift from better to worse than average or vice-versa between successive filings.

A Class Book providing detail of historical experience and derivation of proposed rating values had been distributed at the meeting. This exhibit contained tabulations of prior experience data by classification together with the detail of the derivation of individual loss cost proposals in the

draft filing. Staff reviewed the more prevalent types of circumstances precipitating a selection of class rating values different from that produced by application of the loss cost formulae to available experience data. One category in this regard, introduced with the April 1, 2001 filing, was a set of selections which had been made to temper movements in individual class rating values which would have precipitated or extended larger fluctuations above and below the average rating value changes over successive filing revisions.

### Experience Rating Plan

Staff noted that the Committee discussion of the Experience Rating Plan would be organized into two discrete parts. The first portion of the meeting's review would be directed toward maintenance of parameters and procedures pertinent to the existing Experience Rating Plan. The second part of the discussion would address results of extensive testing of the current plan and selected alternative plans that had been recently performed by the PCRB.

#### ***Existing Experience Rating Plan:***

Staff first referred to Exhibits 18, 19, 20A, 20B, 20C and 27 of the agenda materials.

Exhibit 18 showed historical results of applying the Experience Rating Plan over a period of five successive years organized by year, industry group, and premium size and modification range. As had been noted in previous exhibits of this type, risks in excess of \$250,000 in premium across all years and industry groups appeared to have collectively received more responsive adjustments based on their observed favorable or unfavorable historical experience than would have been appropriate to balance these employers' loss ratios with those of all risks as a whole.

Exhibit 19 presented derivation of selected parameters within the current Experience Rating Plan. It was further noted that the collectible premium ratios derived on Page 19.1 of Exhibit 19 were the basis for the relativities by industry group of manual changes in loss costs previously discussed in Exhibit 12.

Exhibits 20A, 20B and 20C provided summary information from unit statistical data that was used in deriving some parameters for the Experience Rating Plan, as well as for the calculation of classification loss cost relativities.

Exhibit 27 provided the proposed Table B or credibility table for the current Experience Rating Plan, consistent with parameters developed in Exhibit 19.

#### ***Testing of Experience Rating Plan Alternatives:***

The Committee was provided handout exhibits addressing results of ongoing testing of experience rating options. Staff reviewed these exhibits as summarized below.

In order to compare different experience rating plan approaches and/or parameters, a procedure for quantifying relative performance of different plan alternatives was needed. For this purpose risks had been divided into quintiles across the range of assigned experience modifications under

each alternative version of the Experience Rating Plan. Tests had been performed for various premium 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. (It was noted that, because assigned experience modifications tended to cluster in very narrow ranges or even at specific values for some smaller premium size groups, some tests could not strictly 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 squared differences based on manual premium was then computed as a test statistic. The smaller this 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.

The above-described tests had been performed for separate size groups of employers within each test of the Experience Rating Plan. In order to derive a simple and meaningful index of plan performance (which could and often did vary by size group) the convention of weighting the separate size-group statistics by the portion of expected loss contained in each group was adopted as an initial basis for comparison of alternative plans.

The testing process had first focused on the existing Experience Rating Plan's credibility assignments. Keeping other features of the plan, such as loss limitations intact, staff had tested a variety of alternative credibility tables using Rating Year 1997 as the test period. That testing had resulted in the construction of a preferred credibility function derived by combining parts of a few alternative curves shown to be particularly effective over certain size ranges of employers.

Once this revised credibility table was in hand, staff had turned to a review of the existing Experience Rating Plan's loss limitations. Various loss limitations were tried, each in conjunction with the newly-designed credibility function. The loss limitation that had appeared best suited to improving the performance of the Experience Rating Plan at this point in the testing was a flat limitation of \$50,000, a value close to the limit embodied in the current Experience Rating Plan for the smallest eligible employers.

Testing had then been extended to an additional rating year, 1998, in order to confirm that the indicated Experience Rating Plan changes were robust across separate rating periods and not simply specific to one given year. Sufficient variability was observed that a third year, 1999, was also used for additional testing.

Staff had subsequently alternated additional testing of alternative credibility assignments and limitations on chargeable losses. Results of these tests had ultimately suggested that a flat limitation of \$42,500, in combination with an amended credibility function constructed using portions of alternative curves that had been specifically tested, was substantially superior to the current plan and either clearly superior to or arguably at least comparable to most other tested alternatives.

The selected revised Experience Rating Plan had also been used as a preliminary basis for testing the use of payroll as an alternative to expected losses as a basis for assigning credibility. Staff noted in this regard that the Bureau's classification pricing procedures have used payroll as the basis for credibility for some time.

The results of this early test were mixed, showing the payroll-based credibility to be better than expected loss for some size ranges of employers and not as good for others. Given that the early tests had required the payroll-based credibility table to retain the shape of the rigorously tested expected loss table, staff felt that these results warranted further investigation through additional testing specifically designed for payroll-based credibilities. However, given the material improvement in Experience Rating Plan performance that could be obtained by use of the proposed revised plan based on expected losses, staff was inclined to complete its testing and measurement of performance of this new plan (including assessment of prevailing off-balances and design of an appropriate transition procedure upon adoption of the revised plan) and submit a filing proposing amendment to the Experience Rating Plan in the near future and before undertaking or completing additional test of payroll-based credibilities.

Staff concluded its description of Experience Rating Plan testing by soliciting questions and comments from the Committees and other attendees.

A question was posed concerning the maximum single loss used in the current Experience Rating Plan. Staff responded that the existing plan used a sliding scale of loss limitation that started at roughly \$50,000 for the smallest and increasing to a level in excess of \$300,000 for the largest risks. These limitations were displayed in Exhibit 27.

A further question was asked concerning the specific credibility function that had been obtained from the testing recently completed of the Experience Rating Plan using expected losses to assign risk credibilities. Staff directed attendees to Exhibit 8 within the handout material related to testing of the November 2002 meeting's discussion of the Bureau testing of the Experience Rating Plan.

There being no further business for the Committees to consider, the meeting was adjourned.

Respectfully submitted,

Timothy L. Wisecarver  
Chair - Ex Officio