

## PENNSYLVANIA COMPENSATION RATING BUREAU

### Evaluation of Pennsylvania Supreme Court ruling in Protz v. WCAB (Derry Area School District)

This exhibit provides a discussion of the analysis of the impact on the indicated change in loss cost level as a result of the Pennsylvania Supreme Court decision in *Protz v. WCAB (Derry Area School District)* issued June 20, 2017 (the Protz decision). This analysis does not address or include a provision for retroactive changes in cost due to the potential for claims that are currently open to be reclassified as permanent, or the potential for claims that have already closed to reopen.

Further, this analysis does not include the impacts on workers compensation system costs if the PCRB could not reasonably estimate them.

The discussion is organized by the following topics:

- Summary of the Protz Decision
- Considerations in Evaluating the Protz Decision
- Indicated Change in Loss Costs
- Adherence to Actuarial Principles and Standards of Practice

### **SUMMARY OF THE PROTZ DECISION**

On June 20, 2017, the Pennsylvania Supreme Court issued its decision in *Protz v. WCAB (Derry Area School District)*, Nos 6 WAP 2016, 7 WAP 2017, holding that Section 306(a.2) of the Workers' Compensation Act (77 P.S. § 511.2) is an unconstitutional delegation of legislative authority. The Court concluded that the entirety of Section 306(a.2) was unconstitutional. Specifically, the Court upheld the Commonwealth Court order declaring that the portion of the Act requiring physicians to apply the methodology set forth in “the most recent edition” of the American Medical Association *Guides to the Evaluation of Permanent Impairment* violates the constitutional requirement that all legislative power “be vested in a General Assembly which shall consist of a Senate and a House of Representatives.” The court did not specify how the ruling should be applied and leaves uncertainty as to whether there will be in-part or in-full retrospective application.

On June 21, 2017, the Pennsylvania Department of Labor & Industry, Bureau of Workers' Compensation announced that, effective immediately, the Bureau of Workers' Compensation would no longer authorize physicians to perform Impairment Rating Evaluations (IREs).

### **CONSIDERATIONS IN EVALUATING THE PROTZ DECISION**

The ruling eliminated a cost containment measure that was put in place in the Pennsylvania system over 20 years ago with the enactment of Act 57 of 1996. Workers compensation industry experts have concluded that IREs significantly reduced uncertainty for the injured worker, the employer and

The calculation of the indicated change is summarized in **Exhibit I**. The distribution of indemnity benefits by injury type underlying the April 1, 2017 loss costs is shown in Column (1). This distribution is based on five years of Unit Statistical Plan data.

Without the IRE process, a portion of claims classified as Major Permanent Partial (Major), Minor Permanent Partial (Minor) and Temporary Total Disability (TT) would have been eligible for PT benefits. To determine the portions of claims by those injury types, the PCRB used the history of injury type development from the PCRB’s 1996 analysis.

The claim development patterns are shown in **Exhibit IV** (pre-Protz) and **Exhibit V** (post-Protz). The factors in these exhibits show the changes by injury type over each of five report levels.<sup>1</sup> Four development stages are displayed, starting with development from first report to second report and ending with development from fourth report to fifth report.

The calculations in **Exhibit IV and V** proceed as follows:

1. For the claims classified as Major at first report, apply the factors in the row for development stage “1 to 2” for Injury Type “Major.”
2. The resulting claim counts appear to the right, and are used in the next development stage, each to the specific row for the injury type. The factors across each row are applied and the result is summed producing claim counts by injury type at the end of the second development stage.
3. The results are used, as in step 2, for the next development stage. This is repeated through the development stage “4 to 5.”
4. For the claims classified as Minor and as TT, follow the same process.

It is important to note that the analysis does not assume the number of claims from 1996, pre-Act 57, will occur today. Rather, the portion of claims that become PT is used to adjust the recent pre-Protz claim distribution to a post-Protz level.

The results are displayed in the following table.

Development from Major, Minor or TT at 1 <sup>st</sup> Report to PT at 5 <sup>th</sup> Report			
Injury Type	Portion that Become PT at 5 <sup>th</sup> Report		
	Pre-Protz	Post-Protz	Change
Major	0.34%	7.75%	7.41%
Minor	0.10%	2.43%	2.33%
TT	0.02%	0.31%	0.29%

The results of the process shown in the table above are shown in **Exhibit II**, and are brought forward to **Exhibit I**, Column 2.

<sup>1</sup> In 1996, Unit Statistical data was collected over five report periods. The first report period is valued as of the 18<sup>th</sup> month following the effective date of a policy. The second through fifth reports occurred annually thereafter. The PCRB now collects data through ten reports.

the employer's insurer regarding the length of time and the costs of workplace injuries. After Act 57, but prior to the Protz decision, when a worker had been out of work due to a workplace injury for 104 weeks, and the worker reached Maximum Medical Improvement (MMI), an IRE could be requested within 60 days. An IRE could be requested after this timeframe, subject to judicial review. If the IRE resulted in an impairment rating of 50% or greater, the injury was classified as a Permanent Total (PT) injury and the worker was eligible to receive wage replacement benefits for the rest of the worker's life. If the IRE produced an impairment rating below 50%, the injury was classified as Permanent Partial and benefits were limited to a maximum of 500 weeks. This IRE process provided a clear path for all involved.

Other tools for managing the length of claims were introduced or strengthened by Act 57. Labor market surveys, light duty work opportunities, comprehensive efforts to help the worker return to work, and the Compromise and Release (C&R) process all contributed to greater certainty for claim outcomes.

The IRE process played two important roles. First, for those claims that had an IRE, the outcome was evident to all parties. Second, the existence of the IRE process provided incentive for return to work, either part-time or full-time, or to settle the claim through the C&R process before an IRE would normally have been requested.

Following Act 44 of 1993 and Act 57, the cost of claims dropped over the next 21 years. With the PCRBR's most recently approved loss cost filing effective April 1, 2017, the cumulative decrease in loss costs since 1997 was 62.3%.

### **Medical Impact**

The Protz decision directly impacts indemnity benefits. While there is no immediate change to payments for medical benefits, an impact to medical costs is expected. Specifically, claimants may change their behavior and attempt to delay reaching MMI in order to continue receiving Temporary Total Disability (TT) indemnity benefits. To the extent claimants are successful at delaying a finding of MMI, a different mix of medical services may be provided, resulting in an increase in medical costs. The PCRBR cannot reliably measure the extent to which this will occur and, therefore, has not included a provision for increased medical costs.

### **INDICATED CHANGE IN LOSS COSTS**

The analysis uses claim development statistics from the pre-Act 57 era in conjunction with claim cost statistics from recent PCRBR filings. This has provided insight into the role of IREs and the other tools created or strengthened by Act 57. The claim cost information reflects a current distribution of exposures across classifications and recent levels of benefits for wage replacement, i.e., indemnity costs.

The indicated change in loss costs results from the PCRBR's analysis of the structure of claims by type of injury, both in 1996, immediately before Act 57, and in 2017, prior to the Protz decision. The 1996 claim structure provides valuable insight into the expected changes in the distribution of claims by type of injury following the Protz decision. The analysis centers on two basic elements: the change in the relative frequency of PT claims and the change in the average cost of claims as injury types change to PT.

The second element of the analysis is the change in claim severity. Here, the PCRB used recent data in order to reflect current wages and the current distribution of injuries by class. **Exhibit III** shows claim data from the April 1, 2017 PCRB loss cost filing, which reflects the average severity by injury type underlying current loss costs. This exhibit shows that the average cost for PT claims is 2.11 times the cost of Major claims, 12.57 times the cost of Minor claims and 45.02 times the cost of TT claims. These three cost factors are brought forward to **Exhibit II**, as well as **Exhibit I**, Column 3.

## **ADHERENCE TO ACTUARIAL PRINCIPLES AND STANDARDS OF PRACTICE**

A fundamental actuarial principle applicable to this memorandum is:

*“A rate is reasonable and not excessive, inadequate or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer.”*

The immediate impact of the Protz decision was inadequacy of current PCRB loss costs. The PCRB analyzed two factors: loss development and claim duration.

When determining loss costs, the PCRB uses standard actuarial methods that allow the use of data from recent policy years. Since it takes many years for claims to be paid and to eventually close, patterns of claim payments and of setting and revising case reserves from past years are used to develop recent claim values to their estimated ultimate levels. This is known as loss development. Loss costs are based on data from the three most recent policy years which have been developed to ultimate using “age to ultimate” loss development factors.

In the years following Act 57, age to ultimate loss development factors declined, contributing to the 62.3% decline in overall loss costs mentioned earlier. In the first ten years following the implementation of Act 57, age to ultimate development factors for paid losses declined by 30% and for incurred losses (paid plus case reserves) by 16%. The age to ultimate development factors continued at this lower level through the April 1, 2017 loss cost filing.

It is reasonable to conclude that there will be a return to claim handling patterns of the Pre-Act 57 era, at least partially. This may produce higher claim costs and, without adjustment for the change, would exacerbate the inadequacy of loss costs.

Similarly, claim duration has dropped significantly from the Pre-Act 57 era. Claim duration is measured as the dollar weighted number of years to payment for all losses attributed to a policy year. In the PCRB’s 1996 analysis, claim duration was 8.4 years. In the analysis underlying current loss costs, claim duration was 4.1 years, or 52% less.

It is reasonable to conclude that with the elimination of the IRE process, and its efficiency in determining the length of time over which benefits would be paid, claims are likely to stay open longer on average, causing total indemnity benefits to rise.

**PENNSYLVANIA COMPENSATION RATING BUREAU**

**Effects of Pennsylvania Supreme Court Decision in Protz v. WCAB**

Type of Injury	Benefit Weight * (1)	Impact of Protz Decision on Permanent Total Frequency ** (2)	Impact of Protz Decision on Average Cost ** (3)	Combined Effect (4)=(1)x(2)x(3)
Death	2.31%		1.0000	0.0231
Permanent Total	1.11%		1.0000	0.0111
Major	49.29%			
Major to Major		92.59%	1.0000	0.4564
Major to Permanent Total		7.41%	2.1140	0.0772
Minor	23.09%			
Minor to Minor		97.67%	1.0000	0.2255
Minor to Permanent Total		2.33%	12.5748	0.0676
Temporary Total	24.21%			
Temporary Total to Temporary Total		99.71%	1.0000	0.2414
Temporary Total to Permanent Total		0.29%	45.0172	0.0315
Impact on Indemnity Loss Cost				1.1337

\* See Exhibit III

\*\* See Exhibit II

## PENNSYLVANIA COMPENSATION RATING BUREAU

### Frequency and Severity Impacts

<b>Major</b>	Increase in Frequency of Permanent Total Claims	
	1a Indicated Ultimate Frequency of PT (Pre-Protz)*	0.34% of Major claims
	1b Indicated Ultimate Frequency of PT (Post-Protz)**	7.75% of Major claims
	1c Claim Frequency Cost Factor (1b-1a)	7.41%
	Increase in Indemnity Cost per Affected Claim	
	2a Ultimate Average Cost - PT ***	447,103
	2b Ultimate Average Cost - Major ***	211,495
	2c Cost Factor (2a/2b)	2.1140
<b>Minor</b>	Increase in Frequency of Permanent Total Claims	
	1a Indicated Ultimate Frequency of PT (Pre-Protz)*	0.10% of Minor claims
	1b Indicated Ultimate Frequency of PT (Post-Protz)**	2.43% of Minor claims
	1c Claim Frequency Cost Factor (1b-1a)	2.33%
	Increase in Indemnity Cost per Affected Claim	
	2a Ultimate Average Cost - PT ***	447,103
	2b Ultimate Average Cost - Minor ***	35,556
	2c Cost Factor (2a/2b)	12.5748
<b>TT</b>	Increase in Frequency of Permanent Total Claims	
	1a Indicated Ultimate Frequency of PT (Pre-Protz)*	0.02% of Temporary Total claims
	1b Indicated Ultimate Frequency of PT (Post-Protz)**	0.31% of Temporary Total claims
	1c Claim Frequency Cost Factor (1b-1a)	0.29%
	Increase in Indemnity Cost per Affected Claim	
	2a Ultimate Average Cost - PT ***	447,103
	2b Ultimate Average Cost - Temporary Total ***	9,932
	2c Cost Factor (2a/2b)	45.0172

\* Exhibit IV

\*\* Exhibit V

\*\*\* Exhibit III

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Type of Injury	Ultimate Claim Amount (Table III-C)	Distribution of Ultimate Claim Amount	Count	Average Cost	PT Average Cost / TOI(i) Average Cost
Death	124,847,100	2.31%	446	279,926	
Permanent Total	59,911,800	1.11%	134	447,103	
Major	2,668,640,900	49.29%	12,618	211,495	2.1140
Minor	1,250,026,100	23.09%	35,157	35,556	12.5748
Temporary Total	1,310,445,400	24.21%	131,944	9,932	45.0172
Total Indemnity	5,413,871,300	100.00%			

Source: PCRB Filing No. C-368 April 1, 2017 Loss Cost Filing

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit IV

Major

**Pre-Protz Basis**

**Claim Development by Injury Type**

DEVELOPMENT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(1)x(3)	(10)=(1)x(4)	(11)=(1)x(5)	(12)=(1)x(6)	(13)=(1)x(7)
<u>STAGE</u>	<u>At 1st Report</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
1 TO 2	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	PT	0.0244	0.8889	0.0278	0.0488	0.0488	PT	0.0	0.0	0.0	0.0	0.0
1 TO 2	<b>2,531</b>	Major	0.0000	0.0012	0.7957	0.1343	0.0687	Major	0.0	3.0	2,013.9	339.9	173.9
1 TO 2	0.0	Minor	0.0001	0.0003	0.1299	0.8221	0.0474	Minor	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	Temp	0.0000	0.0001	0.0228	0.1107	0.8664	Temp	0.0	0.0	0.0	0.0	0.0
								Sum at 2nd Report	0.0	3.0	2,013.9	339.9	173.9
From Sum at 2nd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
2 TO 3	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
2 TO 3	3.0	PT	0.0000	0.9196	0.0625	0.0164	0.0000	PT	0.0	2.8	0.2	0.0	0.0
2 TO 3	2,013.9	Major	0.0000	0.0013	0.9083	0.0559	0.0345	Major	0.0	2.6	1,829.2	112.6	69.5
2 TO 3	339.9	Minor	0.0000	0.0001	0.0649	0.9029	0.0320	Minor	0.0	0.0	22.1	306.9	10.9
2 TO 3	173.9	Temp	0.0000	0.0000	0.0057	0.0134	0.9808	Temp	0.0	0.0	1.0	2.3	170.5
								Sum at 3rd Report	0.0	5.4	1,852.5	421.9	250.9
From Sum at 3rd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
3 TO 4	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
3 TO 4	5.4	PT	0.0000	0.9302	0.0349	0.0349	0.0000	PT	0.0	5.1	0.2	0.2	0.0
3 TO 4	1,852.5	Major	0.0000	0.0009	0.9526	0.0281	0.0184	Major	0.0	1.7	1,764.7	52.1	34.1
3 TO 4	421.9	Minor	0.0000	0.0003	0.0248	0.9603	0.0146	Minor	0.0	0.1	10.5	405.1	6.2
3 TO 4	250.9	Temp	0.0000	0.0000	0.0023	0.0068	0.9909	Temp	0.0	0.0	0.6	1.7	248.6
								Sum at 4th Report	0.0	6.9	1,775.9	459.1	288.9
From Sum at 4th Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
4 TO 5	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
4 TO 5	6.9	PT	0.0000	0.8692	0.1028	0.0187	0.0093	PT	0.0	6.0	0.7	0.1	0.1
4 TO 5	1,775.9	Major	0.0002	0.0015	0.9777	0.0128	0.0078	Major	0.4	2.7	1,736.3	22.7	13.9
4 TO 5	459.1	Minor	0.0000	0.0000	0.0087	0.9842	0.0071	Minor	0.0	0.0	4.0	451.8	3.3
4 TO 5	288.9	Temp	0.0000	0.0000	0.0010	0.0031	0.9958	Temp	0.0	0.0	0.3	0.9	287.6
								Sum at 5th Report	0.4	<b>8.6</b>	1,741.3	475.6	304.8

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Pre-Protz): 8.6 / 2,531 = 0.34%**



**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit IV

Minor

**Claim Development by Injury Type**

**Pre-Protz Basis**

DEVELOPMENT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(1)x(3)	(10)=(1)x(4)	(11)=(1)x(5)	(12)=(1)x(6)	(13)=(1)x(7)
<u>STAGE</u>	<u>At 1st Report</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
1 TO 2	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	PT	0.0244	0.8889	0.0278	0.0488	0.0488	PT	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	Major	0.0000	0.0012	0.7957	0.1343	0.0687	Major	0.0	0.0	0.0	0.0	0.0
1 TO 2	<b>11,733</b>	Minor	0.0001	0.0003	0.1299	0.8221	0.0474	Minor	1.2	3.5	1,524.1	9,645.7	556.1
1 TO 2	0.0	Temp	0.0000	0.0001	0.0228	0.1107	0.8664	Temp	0.0	0.0	0.0	0.0	0.0
								Sum at 2nd Report	1.2	3.5	1,524.1	9,645.7	556.1
From Sum at 2nd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
2 TO 3	1.2	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.2	0.0	0.0	0.0	0.0
2 TO 3	3.5	PT	0.0000	0.9196	0.0625	0.0164	0.0000	PT	0.0	3.2	0.2	0.1	0.0
2 TO 3	1,524.1	Major	0.0000	0.0013	0.9083	0.0559	0.0345	Major	0.0	2.0	1,384.4	85.2	52.6
2 TO 3	9,645.7	Minor	0.0000	0.0001	0.0649	0.9029	0.0320	Minor	0.0	1.0	626.0	8,709.1	308.7
2 TO 3	556.1	Temp	0.0000	0.0000	0.0057	0.0134	0.9808	Temp	0.0	0.0	3.2	7.5	545.5
								Sum at 3rd Report	1.2	6.2	2,013.8	8,801.8	906.7
From Sum at 3rd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
3 TO 4	1.2	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.2	0.0	0.0	0.0	0.0
3 TO 4	6.2	PT	0.0000	0.9302	0.0349	0.0349	0.0000	PT	0.0	5.8	0.2	0.2	0.0
3 TO 4	2,013.8	Major	0.0000	0.0009	0.9526	0.0281	0.0184	Major	0.0	1.8	1,918.3	56.6	37.1
3 TO 4	8,801.8	Minor	0.0000	0.0003	0.0248	0.9603	0.0146	Minor	0.0	2.6	218.3	8,452.4	128.5
3 TO 4	906.7	Temp	0.0000	0.0000	0.0023	0.0068	0.9909	Temp	0.0	0.0	2.1	6.2	898.5
								Sum at 4th Report	1.2	10.2	2,138.9	8,515.3	1,064.0
From Sum at 4th Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
4 TO 5	1.2	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.2	0.0	0.0	0.0	0.0
4 TO 5	10.2	PT	0.0000	0.8692	0.1028	0.0187	0.0093	PT	0.0	8.9	1.0	0.2	0.1
4 TO 5	2,138.9	Major	0.0002	0.0015	0.9777	0.0128	0.0078	Major	0.4	3.2	2,091.2	27.4	16.7
4 TO 5	8,515.3	Minor	0.0000	0.0000	0.0087	0.9842	0.0071	Minor	0.0	0.0	74.1	8,380.8	60.5
4 TO 5	1,064.0	Temp	0.0000	0.0000	0.0010	0.0031	0.9958	Temp	0.0	0.0	1.1	3.3	1,059.6
								Sum at 5th Report	1.6	<b>12.1</b>	2,167.4	8,411.7	1,136.8

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Pre- Protz): 12.1 / 11,733 = 0.10%**

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit IV  
Temp Total  
Pre-Protz Basis

**Claim Development by Injury Type**

DEVELOPMENT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(1)x(3)	(10)=(1)x(4)	(11)=(1)x(5)	(12)=(1)x(6)	(13)=(1)x(7)
<u>STAGE</u>	<u>At 1st Report</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
1 TO 2	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	PT	0.0244	0.8889	0.0278	0.0488	0.0488	PT	0.0	0.0	0.0	0.0	0.0
1 TO 2	<b>0.0</b>	Major	0.0000	0.0012	0.7957	0.1343	0.0687	Major	0.0	0.0	0.0	0.0	0.0
1 TO 2	0.0	Minor	0.0001	0.0003	0.1299	0.8221	0.0474	Minor	0.0	0.0	0.0	0.0	0.0
1 TO 2	<b>88,552</b>	Temp	0.0000	0.0001	0.0228	0.1107	0.8664	Temp	0.0	8.9	2,019.0	9,802.7	76,721.5
								Sum at 2nd Report	0.0	8.9	2,019.0	9,802.7	76,721.5
From Sum at 2nd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
2 TO 3	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
2 TO 3	8.9	PT	0.0000	0.9196	0.0625	0.0164	0.0000	PT	0.0	8.1	0.6	0.1	0.0
2 TO 3	2,019.0	Major	0.0000	0.0013	0.9083	0.0559	0.0345	Major	0.0	2.6	1,833.8	112.9	69.7
2 TO 3	9,802.7	Minor	0.0000	0.0001	0.0649	0.9029	0.0320	Minor	0.0	1.0	636.2	8,850.9	313.7
2 TO 3	76,721.5	Temp	0.0000	0.0000	0.0057	0.0134	0.9808	Temp	0.0	0.0	437.3	1,028.1	75,248.4
								Sum at 3rd Report	0.0	11.7	2,907.9	9,991.9	75,631.7
From Sum at 3rd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
3 TO 4	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
3 TO 4	11.7	PT	0.0000	0.9302	0.0349	0.0349	0.0000	PT	0.0	10.9	0.4	0.4	0.0
3 TO 4	2,907.9	Major	0.0000	0.0009	0.9526	0.0281	0.0184	Major	0.0	2.6	2,770.1	81.7	53.5
3 TO 4	9,991.9	Minor	0.0000	0.0003	0.0248	0.9603	0.0146	Minor	0.0	3.0	247.8	9,595.3	145.9
3 TO 4	75,631.7	Temp	0.0000	0.0000	0.0023	0.0068	0.9909	Temp	0.0	0.0	174.0	514.3	74,943.5
								Sum at 4th Report	0.0	16.5	3,192.2	10,191.7	75,142.9
From Sum at 4th Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
4 TO 5	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
4 TO 5	16.5	PT	0.0000	0.8692	0.1028	0.0187	0.0093	PT	0.0	14.4	1.7	0.3	0.2
4 TO 5	3,192.2	Major	0.0002	0.0015	0.9777	0.0128	0.0078	Major	0.6	4.8	3,121.0	40.9	24.9
4 TO 5	10,191.7	Minor	0.0000	0.0000	0.0087	0.9842	0.0071	Minor	0.0	0.0	88.7	10,030.6	72.4
4 TO 5	75,142.9	Temp	0.0000	0.0000	0.0010	0.0031	0.9958	Temp	0.0	0.0	75.1	232.9	74,827.3
								Sum at 5th Report	0.6	<b>19.2</b>	3,286.6	10,304.8	74,924.7

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Pre-Protz): 19.2 / 88,552 = 0.02%**

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit V

Major

**Post-Protz Basis**

**Claim Development by Injury Type**

DEVELOPMENT STAGE	(1) At 1st Report	(2) <u>Injury Type</u>	(3) <u>Death</u>	(4) <u>PT</u>	(5) <u>Major</u>	(6) <u>Minor</u>	(7) <u>Temp</u>	(8) <u>Injury Type</u>	(9)=(1)x(3) <u>Death</u>	(10)=(1)x(4) <u>PT</u>	(11)=(1)x(5) <u>Major</u>	(12)=(1)x(6) <u>Minor</u>	(13)=(1)x(7) <u>Temp</u>
1-2	0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1-2	0	PT	0.0085	0.8771	0.0720	0.0297	0.0127	PT	0.0	0.0	0.0	0.0	0.0
1-2	<b>2,531</b>	Major	0.0006	0.0291	0.8173	0.1010	0.0517	Major	1.5	73.7	2,068.6	255.6	130.9
1-2	0	Minor	0.0001	0.0040	0.1738	0.7252	0.0964	Minor	0.0	0.0	0.0	0.0	0.0
1-2	0	Temp	0.0000	0.0004	0.0148	0.0253	0.9588	Temp	0.0	0.0	0.0	0.0	0.0
								Sum at 2nd Report	1.5	73.7	2,068.6	255.6	130.9
From Sum at 2nd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
2-3	1.5	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.5	0.0	0.0	0.0	0.0
2-3	73.7	PT	0.0032	0.8738	0.1036	0.0162	0.0032	PT	0.2	64.4	7.6	1.2	0.2
2-3	2,068.6	Major	0.0003	0.0280	0.8824	0.0689	0.0201	Major	0.6	57.9	1,825.3	142.5	41.6
2-3	255.6	Minor	0.0001	0.0035	0.1315	0.8258	0.0389	Minor	0.0	0.9	33.6	211.1	9.9
2-3	130.9	Temp	0.0000	0.0004	0.0092	0.0083	0.9820	Temp	0.0	0.1	1.2	1.1	128.5
								Sum at 3rd Report	2.4	123.2	1,867.8	355.9	180.3
From Sum at 3rd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
3-4	2.4	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	2.4	0.0	0.0	0.0	0.0
3-4	123.2	PT	0.0009	0.8867	0.0945	0.0128	0.0051	PT	0.1	109.3	11.6	1.6	0.6
3-4	1,867.8	Major	0.0002	0.0279	0.9119	0.0443	0.0157	Major	0.4	52.1	1,703.2	82.7	29.3
3-4	355.9	Minor	0.0001	0.0015	0.0680	0.9080	0.0223	Minor	0.0	0.5	24.2	323.2	7.9
3-4	180.3	Temp	0.0000	0.0004	0.0060	0.0039	0.9896	Temp	0.0	0.1	1.1	0.7	178.4
								Sum at 4th Report	2.9	162.0	1,740.1	408.2	216.3
From Sum at 4th Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
4-5	2.9	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	2.9	0.0	0.0	0.0	0.0
4-5	162.0	PT	0.0012	0.8799	0.1074	0.0066	0.0042	PT	0.2	142.5	17.4	1.1	0.7
4-5	1,740.1	Major	0.0004	0.0306	0.9289	0.0287	0.0113	Major	0.7	53.2	1,616.4	49.9	19.7
4-5	408.2	Minor	0.0001	0.0007	0.0258	0.9596	0.0135	Minor	0.0	0.3	10.5	391.7	5.5
4-5	216.3	Temp	0.0000	0.0002	0.0036	0.0016	0.9945	Temp	0.0	0.0	0.8	0.3	215.1
								Sum at 5th Report	3.9	<b>196.1</b>	1,645.1	443.1	240.9

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Post-Protz): 196.1 / 2,531 = 7.75%**

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit V

Minor

**Post-Protz Basis**

**Claim Development by Injury Type**

DEVELOPMENT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(1)x(3)	(10)=(1)x(4)	(11)=(1)x(5)	(12)=(1)x(6)	(13)=(1)x(7)
<u>STAGE</u>	<u>At 1st Report</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
1-2	0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1-2	0	PT	0.0085	0.8771	0.0720	0.0297	0.0127	PT	0.0	0.0	0.0	0.0	0.0
1-2	0	Major	0.0006	0.0291	0.8173	0.1010	0.0517	Major	0.0	0.0	0.0	0.0	0.0
1-2	<b>11,733</b>	Minor	0.0001	0.0040	0.1738	0.7252	0.0964	Minor	1.2	46.9	2,039.2	8,508.8	1,131.1
1-2	0	Temp	0.0000	0.0004	0.0148	0.0253	0.9588	Temp	0.0	0.0	0.0	0.0	0.0
								Sum at 2nd Report	1.2	46.9	2,039.2	8,508.8	1,131.1
From Sum at 2nd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
2-3	1.2	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.2	0.0	0.0	0.0	0.0
2-3	46.9	PT	0.0032	0.8738	0.1036	0.0162	0.0032	PT	0.2	41.0	4.9	0.8	0.2
2-3	2,039.2	Major	0.0003	0.0280	0.8824	0.0689	0.0201	Major	0.6	57.1	1,799.4	140.5	41.0
2-3	8,508.8	Minor	0.0001	0.0035	0.1315	0.8258	0.0389	Minor	0.9	29.8	1,118.9	7,026.5	331.0
2-3	1,131.1	Temp	0.0000	0.0004	0.0092	0.0083	0.9820	Temp	0.0	0.5	10.4	9.4	1,110.7
								Sum at 3rd Report	2.8	128.3	2,933.6	7,177.2	1,482.8
From Sum at 3rd Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
3-4	2.8	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	2.8	0.0	0.0	0.0	0.0
3-4	128.3	PT	0.0009	0.8867	0.0945	0.0128	0.0051	PT	0.1	113.8	12.1	1.6	0.7
3-4	2,933.6	Major	0.0002	0.0279	0.9119	0.0443	0.0157	Major	0.6	81.8	2,675.1	130.0	46.1
3-4	7,177.2	Minor	0.0001	0.0015	0.0680	0.9080	0.0223	Minor	0.7	10.8	488.0	6,516.9	160.1
3-4	1,482.8	Temp	0.0000	0.0004	0.0060	0.0039	0.9896	Temp	0.0	0.6	8.9	5.8	1,467.4
								Sum at 4th Report	4.2	207.0	3,184.2	6,654.3	1,674.2
From Sum at 4th Report													
	Columns (9) to (13)	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>	<u>Injury Type</u>	<u>Death</u>	<u>PT</u>	<u>Major</u>	<u>Minor</u>	<u>Temp</u>
4-5	4.2	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	4.2	0.0	0.0	0.0	0.0
4-5	207.0	PT	0.0012	0.8799	0.1074	0.0066	0.0042	PT	0.2	182.1	22.2	1.4	0.9
4-5	3,184.2	Major	0.0004	0.0306	0.9289	0.0287	0.0113	Major	1.3	97.4	2,957.8	91.4	36.0
4-5	6,654.3	Minor	0.0001	0.0007	0.0258	0.9596	0.0135	Minor	0.7	4.7	171.7	6,385.4	89.8
4-5	1,674.2	Temp	0.0000	0.0002	0.0036	0.0016	0.9945	Temp	0.0	0.3	6.0	2.7	1,665.0
								Sum at 5th Report	6.4	<b>284.6</b>	3,157.7	6,480.9	1,791.6

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Post-Protz): 284.6 / 11,733 = 2.43%**

**PENNSYLVANIA COMPENSATION RATING BUREAU**

Exhibit V  
Temp Total  
Post-Protz Basis

**Claim Development by Injury Type**

DEVELOPMENT STAGE	(1) At 1st Report	(2) Injury Type	(3) Death	(4) PT	(5) Major	(6) Minor	(7) Temp	(8) Injury Type	(9)=(1)x(3) Death	(10)=(1)x(4) PT	(11)=(1)x(5) Major	(12)=(1)x(6) Minor	(13)=(1)x(7) Temp
1-2	0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
1-2	0	PT	0.0085	0.8771	0.0720	0.0297	0.0127	PT	0.0	0.0	0.0	0.0	0.0
1-2	0	Major	0.0006	0.0291	0.8173	0.1010	0.0517	Major	0.0	0.0	0.0	0.0	0.0
1-2	0	Minor	0.0001	0.0040	0.1738	0.7252	0.0964	Minor	0.0	0.0	0.0	0.0	0.0
1-2	<b>88,552</b>	Temp	0.0000	0.0004	0.0148	0.0253	0.9588	Temp	0.0	35.4	1,310.6	2,240.4	84,903.7
								Sum at 2nd Report	0.0	35.4	1,310.6	2,240.4	84,903.7
From Sum at 2nd Report													
	Columns (9) to (13)	Injury Type	Death	PT	Major	Minor	Temp	Injury Type	Death	PT	Major	Minor	Temp
2-3	0.0	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.0	0.0	0.0	0.0	0.0
2-3	35.4	PT	0.0032	0.8738	0.1036	0.0162	0.0032	PT	0.1	31.0	3.7	0.6	0.1
2-3	1,310.6	Major	0.0003	0.0280	0.8824	0.0689	0.0201	Major	0.4	36.7	1,156.4	90.3	26.3
2-3	2,240.4	Minor	0.0001	0.0035	0.1315	0.8258	0.0389	Minor	0.2	7.8	294.6	1,850.1	87.2
2-3	84,903.7	Temp	0.0000	0.0004	0.0092	0.0083	0.9820	Temp	0.0	34.0	781.1	704.7	83,375.4
								Sum at 3rd Report	0.7	109.4	2,235.8	2,645.7	83,489.0
From Sum at 3rd Report													
	Columns (9) to (13)	Injury Type	Death	PT	Major	Minor	Temp	Injury Type	Death	PT	Major	Minor	Temp
3-4	0.7	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	0.7	0.0	0.0	0.0	0.0
3-4	109.4	PT	0.0009	0.8867	0.0945	0.0128	0.0051	PT	0.1	97.0	10.3	1.4	0.6
3-4	2,235.8	Major	0.0002	0.0279	0.9119	0.0443	0.0157	Major	0.4	62.4	2,038.9	99.0	35.1
3-4	2,645.7	Minor	0.0001	0.0015	0.0680	0.9080	0.0223	Minor	0.3	4.0	179.9	2,402.3	59.0
3-4	83,489.0	Temp	0.0000	0.0004	0.0060	0.0039	0.9896	Temp	0.0	33.4	500.9	325.6	82,620.7
								Sum at 4th Report	1.5	196.8	2,730.0	2,828.3	82,715.4
From Sum at 4th Report													
	Columns (9) to (13)	Injury Type	Death	PT	Major	Minor	Temp	Injury Type	Death	PT	Major	Minor	Temp
4-5	1.5	Death	1.0000	0.0000	0.0000	0.0000	0.0000	Death	1.5	0.0	0.0	0.0	0.0
4-5	196.8	PT	0.0012	0.8799	0.1074	0.0066	0.0042	PT	0.2	173.2	21.1	1.3	0.8
4-5	2,730.0	Major	0.0004	0.0306	0.9289	0.0287	0.0113	Major	1.1	83.5	2,535.9	78.4	30.8
4-5	2,828.3	Minor	0.0001	0.0007	0.0258	0.9596	0.0135	Minor	0.3	2.0	73.0	2,714.1	38.2
4-5	82,715.4	Temp	0.0000	0.0002	0.0036	0.0016	0.9945	Temp	0.0	16.5	297.8	132.3	82,260.4
								Sum at 5th Report	3.2	<b>275.2</b>	2,927.8	2,926.1	82,330.3

Source: Unit Statistical Data

**Indicated Ultimate Frequency of PT (Post- Protz): 275.2 / 88,552 = 0.31%**