

**COAL MINE COMPENSATION RATING BUREAU
OF PENNSYLVANIA**

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EXECUTIVE DIRECTOR

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November 21, 2017

The Honorable Jessica K. Altman
Acting Insurance Commissioner
Pennsylvania Insurance Department
1311 Strawberry Square
Harrisburg, PA 17120

Attention: Mark Lersch, Director Bureau of Property & Casualty

RE: Proposal CM-1-2017
Revised Loss Costs for Traumatic, State Occupational Disease
And Federal Occupational Disease
To Be Effective: April 1, 2018

Dear Commissioner Altman:

Enclosed for your review and approval is the annual filing of Loss Costs by the Coal Mine Compensation Rating Bureau of Pennsylvania (“Bureau”). This filing is made in accordance with Article VII of the Pennsylvania Workers’ Compensation Act.

Exhibit I-A-M displays the proposed changes by classification and by coverage. Overall, the proposed change in Manual Loss Costs is -2.1%. By coverage, the proposal requests a change of -0.2% for Traumatic, a change of -11.5% for State Occupational Disease (“SOD”) and a change of -7.2% for Federal Occupational Disease (“FOD”).

The Proposed Traumatic Loss Costs are decreasing overall by \$0.01 from \$5.15 to \$5.14. The overall experience is being driven by the following considerations:

- Indemnity Loss Development Factors changed modestly
 - Increasing about 1% for Accident Years for 2012 to 2014, but
 - Decreasing 2.1% for 2015 and 5.4% for 2016.
- Indemnity Loss Trend Annual Factor increased from -1.1% to -0.9%. Consequently, Indemnity Loss Trend Factors increased from 0.6% to 1.4%.
- Medical Loss Development Factors decreased for all years ranging from -4.3% for Accident Year 2012 to -7.1% for Accident Year 2016.
- Medical Loss Trend Annual Factor decreased from -1.2% to -2.0%. Consequently, Medical Loss Trend Factors decreased from -2.2% to -5.3%.
- The replacement of Accident Year 2011 experience with Accident Year 2016 experience in the five (5) year Traumatic Loss Cost analysis.
 - For the April 1, 2017 filing, the Accident Year 2011 Loss Cost was estimated to be \$4.40.
 - For the April 1, 2018 filing, the Accident Year 2016 Loss Cost is estimated to be \$6.04 with most of the change in the estimated Indemnity Loss Cost.

- The Indemnity estimates for each of the five (5) years in the Traumatic Loss Cost analysis have been increased by 13.37% as an adjustment for the Protz decision. See Appendix B to the Actuarial Report for additional information on this decision and the related loss adjustment.

The Proposed SOD Loss Costs are decreasing overall by \$0.07 from \$0.61 to \$0.54. The overall experience is being driven by the following considerations.

- For all classes combined, claim frequency changed by +3%.
- For all classes combined, claim severity changed by -19%.

The Proposed FOD Loss Costs are decreasing overall by \$0.06 from \$0.83 to \$0.77. The overall experience is being driven by the following considerations.

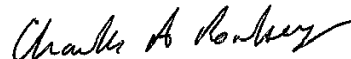
- For all classes combined, Basic claim frequency changed by -12%.
- For all classes combined, Excess claim frequency changed by +1%.
- For all classes combined, Basic claim severity changed by +1%.
- For all classes combined, Excess claim severity changed by +11%.

This Proposal consists of this cover letter, the enclosed Actuarial Report with Appendices A and B and Filing Exhibits. The Filing Exhibits were prepared for the Bureau by Mr. Peter A. Bennett who has extensive experience in this regard. This cover letter and Actuarial Report follow the organization that was used in last year's filing, except that Appendix B was added to the Actuarial Report. The Filing Exhibits are unchanged from last year's filing, except where noted in the Summary of Significant Changes section of the Actuarial Report.

We ask for your approval of this filing on or before February 1, 2018. An approval in this timeframe facilitates the required notices and advanced issuance of revised employer rate cards, noting the applicable loss costs and rating plan values.

The Bureau and its consultants will be pleased to discuss any issues raised by the Department. Please feel free to contact me if additional information or discussion is necessary.

Sincerely,



Charles A. Romberger
Executive Director

Enclosures:

- 1) Three (3) printed copies of the filing (Cover letter, Actuarial Report and Filing Exhibits)
- 2) One (1) electronic copy of the filing on CD in PDF file format
- 3) One (1) electronic copy of the filing Exhibits on CD in Excel file format

**Actuarial Report
Regarding the CMCRB's April 1, 2018 Loss Cost Filing**

Introduction

I, Charles A. ("Chuck") Romberger, am the Executive Director of the Coal Mine Compensation Rating Bureau of Pennsylvania ("CMCRB"). I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. I offer this report in support of the CMCRB's proposed April 1, 2018 Loss Cost Filing. In this filing, the CMCRB proposes revisions to Loss Costs for Traumatic, State Occupational Disease ("SOD") and Federal Occupational Disease ("FOD") classifications under the CMCRB's jurisdiction to be effective April 1, 2018.

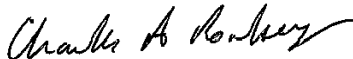
This report and the associated filing exhibits present information that demonstrate the fairness and reasonability of the proposed loss costs and show the CMCRB's continued use of accepted actuarial procedures and application of sound actuarial judgment.

I note that Mr. Peter A. Bennett participated in the preparation of this report and the associated Filing Exhibits. Mr. Bennett has extensive experience in this regard.

The remainder of this report consists of the following sections:

- The Executive Summary provides a discussion about the overall changes in Loss Costs and the sources of those changes contained in this filing by coverage (i.e., Traumatic, SOD and FOD). It also identifies "Other Items" that are typically of interest (e.g., the Employer Assessment Factor).
- The Summary of Significant Changes identifies and briefly discusses the significant changes in methods and assumptions from the CMCRB's prior loss cost filing.
- The Discussion of Filing Exhibits addresses the content of all of the Filing Exhibits and is arranged in Filing Exhibit order.
- The Disclosures section identifies and briefly discusses topics that broadly apply to all areas of this report and that present considerations or limitations related to the use of these findings.
- Appendix A provides a discussion about and exhibits in support of the CMCRB's adjustments for House Bill 1846 of 2014 (HB 1846).
- Appendix B provides a discussion about and exhibits in support of the CMCRB's adjustment concerning the Pennsylvania Supreme Court's decision in Protz v. WCAB.

Sincerely,



Charles A. Romberger, ACAS, MAAA, CPCU, ARM
Executive Director, CMCRB

Executive Summary

This report and the associated filing exhibits provide the CMCRB's proposal for loss costs to be effective on April 1, 2018, which is twelve (12) months from the last approved loss costs. The proposed loss costs are based on the annual review of data by coverage (i.e., Traumatic, SOD, and FOD – Basic and Excess) and by classification for the ten (10) coal mine classifications under the CMCRB's jurisdiction.

For all classifications combined, this filing proposes the following changes in loss costs by coverage and in Total (i.e., all coverages combined). This information can also be found on Exhibit I-A-M, Page 2 (Grand Total section).

	<u>Current Loss Cost</u>	<u>Proposed Loss Cost</u>	<u>Change in Loss Costs</u>
Traumatic	\$ 5.15	\$ 5.14	-0.2%
SOD	0.61	0.54	-11.5%
<u>FOD (Basic & Excess)</u>	<u>0.83</u>	<u>0.77</u>	<u>-7.2%</u>
Total	\$6.59	\$6.45	-2.1%

The remainder of this Executive Summary provides a discussion section for each type of coverage and a discussion section for "Other Items".

Traumatic Loss Costs

The Current Traumatic Loss Cost for all classes combined is \$5.15 based on 2016 payroll distribution. The Proposed level is \$5.14 or a change of -0.2%.

The key drivers of the change to Traumatic Loss Costs can be identified by comparing Exhibit V-B Page 1 for the April 1, 2018 filing to the April 1, 2017 filing. These drivers include:

- Indemnity Loss Development Factors changed modestly
 - Increasing about 1% for Accident Years for 2012 to 2014, but
 - Decreasing 2.1% for 2015 and 5.4% for 2016.
- Indemnity Loss Trend Annual Factor increased from -1.1% to -0.9%. Consequently, Indemnity Loss Trend Factors increased from 0.6% to 1.4%.
- Medical Loss Development Factors decreased for all years ranging from -4.3% for Accident Year 2012 to -7.1% for Accident Year 2016.
- Medical Loss Trend Annual Factor decreased from -1.2% to -2.0%. Consequently, Medical Loss Trend Factors decreased from -2.2% to -5.3%.
- The replacement of Accident Year 2011 experience with Accident Year 2016 experience in the five (5) year Traumatic Loss Cost analysis.
 - For the April 1, 2017 filing, the Accident Year 2011 Loss Cost was estimated to be \$4.40.
 - For the April 1, 2018 filing, the Accident Year 2016 Loss Cost is estimated to be \$6.04 with most of the change in the estimated Indemnity Loss Cost.

- The Indemnity estimates for each of the five (5) years in the Traumatic Loss Cost analysis have been increased by 13.37% as an adjustment for the Protz decision. See Appendix B to the Actuarial Report for additional information on this decision and the related loss adjustment.

These drivers generally increase the Indemnity indications and decrease the Medical indications. The Indemnity indication changed by +9.6%, from \$3.11 to \$3.41; while the Medical indication changed by -12.3%, from \$1.71 to \$1.50. The Total Traumatic indication changed by +1.9%, from \$4.82 to \$4.91. The Total indication may not equal the sum of the parts due to rounding.

Credibility and capping procedures are applied on Exhibit V-A Page 1 to the Indicated Unloaded Loss Costs to produce the Proposed Unloaded Loss Costs which are also displayed on Exhibit II. Exhibit II shows the Proposed Unloaded Loss Costs Percent Change (after Credibility and Capping) for all classes combined is -0.8%. This result includes capping the change to the Anthracite Co-Gen class at +25% and the Bituminous Prep Plant Class at +25%.

State Occupational Disease (SOD) Loss Costs

The Current State Occupational Disease Loss Cost for all classes combined is \$0.61 based on 2016 payroll distribution. The Proposed level is \$0.54 or a change of -11.5%.

The key drivers of this change can be identified by comparing Exhibit III for the April 1, 2018 filing to the April 1, 2017 filing. These drivers include:

- For all classes combined, claim frequency changed by +3%.
 - Claim frequency increased for each of the Major Four classes and decreased for each of the other six classes.
- For all classes combined, claim severity changed by -19%.
 - Claim severity decreased for all classes, except Anthracite Surface, Co-Gen and Prep Plant.
- The Proposed Loss Cost for Anthracite Underground is capped at +25%. The Proposed Loss Cost for Bituminous Co-Gen is capped at -25%. Also, the net change in Proposed Loss Costs does not equal the product of the claim frequency change and claim severity change because these three values do not all carry the same number of significant digits.

Federal Occupational Disease (FOD) – Basic/Excess – Loss Costs

The Current Federal Occupational Disease Basic/Excess Loss Cost for all classes combined is \$0.83 based on 2016 payroll distribution. The Proposed level is \$0.77 or a change of -7.2%.

The Federal component of the filing consists of two parts, the Federal Basic and the Federal Excess as follows:

	<u>Current Loss Cost</u>	<u>Proposed Loss Cost</u>	<u>Change in Loss Costs</u>
Basic	\$ 0.73	\$ 0.66	-9.6%
<u>Excess</u>	<u>0.10</u>	<u>0.11</u>	<u>+10.0%</u>
Total	\$0.83	\$0.77	-7.2%

The Proposed Loss Costs are shown in Column (5) of Exhibit IV-A separately for Basic and Excess and in Total. The Currently Approved Unloaded Loss Costs are shown in Total (i.e., Basic and Excess combined) in Column (2) of Exhibit IV-A. The Total Current Loss Cost is split between Basic and Excess components using the Basic and Excess Loss Costs from Column (5) of Exhibit IV-A from the prior filing as weights.

The key drivers of this change can be identified by comparing Exhibit IV-A for the April 1, 2018 filing to the April 1, 2017 filing. These drivers include:

- For all classes combined, Basic claim frequency changed by -12%.
- For all classes combined, Excess claim frequency changed by +1%.
- For all classes combined, Basic claim severity changed by +1%.
- For all classes combined, Excess claim severity changed by +11%.
- The net change in Proposed Loss Costs does not equal the product of the claim frequency change and claim severity change because these three values do not all carry the same number of significant digits.

Other Items

- The Small Business Advocate Assessment Ratio remains at 0.0001. (See Exhibit XI-A.) This amount is loaded into the CMCRB's Manual Loss Costs.
- The Employer Assessment Factor changes from 2.32% (or 0.0232) to 2.18% (or 0.0218). (See Exhibit XI-B.) This amount is not loaded into the CMCRB's Manual Loss Costs, but is treated as a separate calculation in the determination of policy premium. This amount is the estimated provision for Pennsylvania's Administrative Fund, Subsequent Injury Fund, Supersedeas Fund and Uninsured Employer Guaranty Fund.
- The overall Catastrophe Loss Cost provision changes from \$0.09 to \$0.12. (See Exhibit XII-A.) The provision varies by classification. These amounts are loaded into the CMCRB's Manual Loss Costs.
- The Experience Rating Plan parameters require a change to the Off-Balance Factor from 1.0005 to 1.0054. (See Exhibit XIII.) This factor is not included in the CMCRB's Manual Loss Costs, but is incorporated into the Experience Rating Plan's Rating Formula.
- The Merit Rating Plan Off-Balance Factor remains at 1.0002. (See Exhibit XIV-A, Page 1.) This amount is loaded into the CMCRB's Manual Loss Costs.
- The Safety Committee Credit Off-Balance Factor changes from 1.0145 to 1.0149. (See Exhibit XIV-B.) This amount is loaded into the CMCRB's Manual Loss Costs.

Summary of Significant Changes from Last Year's Filing

Exhibit V-F Summary continues to display the adjustments for HB 1846 of 2014. For the April 1, 2017 filing, the CMCRB proposed adjustment factors that varied by Accident Year and maintains this approach for this proposal. These factors and their derivation are discussed in the section concerning Exhibit V-F of this report and are provided in Appendix A to this report. Note that the adjustment factor for 2016 is unity (i.e., no adjustment) since this entire Accident Year occurred after the effective date of HB 1846 and losses for this year are expected to be incurred and reported on a post-law level.

Exhibit V-F Summary also now includes an adjustment for the Protz decision. This factor and its derivation are discussed in the section concerning Exhibit V-F of this report and are provided in Appendix B to this report.

Concerning Exhibit V-J, for the April 1, 2017 Filing, three claims (i.e., 48371, 48423 and 48542) for Accident Year 2015 individually exceeded the catastrophe limit (\$1,250,000) and were listed on a single Exhibit V-J page. For the April 1, 2018 Filing, these three claims now individually do not exceed the catastrophe limit, so a page for these claims is not included with the filing. The Reported Incurred values remained the same or slightly increased for these claims, but the Loss Development Factors decreased significantly since the values aged from first to second report levels.

On Exhibit V-K, the selected Frequency, Indemnity Severity and Medical Severity trends were set equal to the averages of Estimates 1-4 and 7-10. For the April 1, 2017 Filing, these trends were set equal to the averages of Estimates 7-12. The discussions for each of these decisions are in the section concerning Exhibit V-K of this report.

On Exhibit VIII-B-2 for Anthracite Underground, the Award Ratio was selected to be 0.200 based on the actual Award Ratio calculated for this class in the April 1, 2017 Filing, since this class no longer has sufficient data for an Award Ratio calculation. As in prior filings, the Award Ratios were based on individual class data for the other Four Major classes where sufficient data was available and were based on Grand Total data for the Other Classes.

On Exhibit X-A-1, significant changes in payroll occurred between 2013 and 2016:

- Traumatic and SOD payroll increased by about \$123 million or 41% from 2013 to 2014. However, FOD payroll increased by about \$28 million or 10% from 2013 to 2014.
- Traumatic and SOD payroll decreased by about \$74 million or 17% from 2014 to 2015. FOD payroll decreased by about \$60 million or 19% from 2014 to 2015.
- Traumatic and SOD payroll decreased by about \$97 million or 28% from 2015 to 2016. FOD payroll decreased by about \$46 million or 18% from 2015 to 2016.
- The entities that produced the large Traumatic and SOD increases from 2013 to 2014 remained self-insured for FOD exposures through the first half of 2016, but began insuring their FOD exposures at that time.

On Exhibit X-G, the Class Groups at the bottom of this exhibit were changed by moving Bituminous Co-Generation from the “Bituminous Underground, Co-Generation and Preparation Plant” group to the “All Other Classes” group based on recent data.

Most Filing Exhibits were updated from the CMCRB’s prior loss cost filing either by adding the data for the newest available Accident Year and deleting the data for the oldest Accident Year or by just adding the data for the newest available Accident Year.

On all exhibits, a checksum expression is displayed in the bottom right, typically under the label for the Effective Date of the subject filing. The formula that generates these checksums was modified to display only the checksum value. In other words, the term “Checksum” is no longer displayed. Also, the “footer” fields (i.e., File (name), Run Date (and time), Author (PAB) and Effective Date fields) were revised for formatting consistency across all Exhibit pages. These fields are used for internal tracking purposes and comprise a non-substantive part of the filing.

Discussion of Filing Exhibits

Many of the Filing Exhibits provide various totals and subtotals that are derived using current estimates of Developed Payrolls and/or Miner Years as weights. These totals and subtotals may differ from totals and subtotals shown in prior filings as the weights can and do change.

Exhibit I – Current and Proposed Loss Costs

The I-A-M pages provide comparisons of the currently Approved Manual Loss Costs and the Proposed Manual Loss Costs by classification.

The I-A-UL pages provide comparisons of the currently Approved Unloaded Loss Costs and the Proposed Unloaded Loss Costs in the same format as the I-A-M pages. However, I-A-UL also includes a third page that presents the loss cost limitations by classification and by coverage.

The I-B pages present the Proposed Unloaded Loss Costs after limitations (see the I-A-UL discussion above), the loading of the Catastrophe Loss Costs, the application of the various Off-Balance factors and the Proposed Loaded Loss Costs (or Proposed Manual Loss Costs).

In addition to providing Loss Costs by classification and by coverage, the pages in Exhibit I also provide various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

Exhibit II – Traumatic Loss Cost Indications

This page presents the currently Approved Unloaded Loss Costs, the Indicated Unloaded Loss Costs and the Proposed Unloaded Loss Costs by classification. Changes from the currently Approved Unloaded Loss Costs to the Indicated Unloaded Loss Costs are capped or limited to +/- 25% to derive the Proposed Unloaded Loss Costs by classification.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

Exhibit III – State Occupational Disease Loss Cost Indications

This page presents the currently Approved Unloaded Loss Costs, the Indicated Loss Costs (the Indicated Loss Costs are the products of the Indicated Average Frequencies and the Indicated Average Severities) and the Proposed Loss Costs by classification. The Proposed Loss Costs equal the Indicated Loss Costs except where changes are limited to +/-25%.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

Exhibit IV – Federal Occupational Disease Loss Cost Indications

- A. This page presents the currently Approved Unloaded Loss Costs, the Indicated Loss Costs (the Indicated Loss Costs are the sums of the products of the Indicated Average Frequencies and the Indicated Average Severities for FOD Basic and FOD Excess) and the Proposed Loss Costs (i.e., Loss Costs w/ Limitation 25%) by classification. The Proposed Loss Costs equal the Indicated Loss Costs except where changes are limited to +/-25%.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

- B. Page 1 displays the derivation of the FOD Basic Claim Frequencies. This process begins with the Indicated Claim Frequencies on a Miner Year basis developed in Exhibit IV-B Page 3. The Indicated Claim Frequencies are credibility weighted with the currently Approved FOD Basic Claim Frequencies trended (although the trend is 0%) to the current valuation level developed in Exhibit IV-B Page 4. After the application of credibility, the Credibility Weighted Indicated FOD Basic Claim Frequencies are converted to a Developed Payroll basis because the CMCRB publishes Loss Costs on a Payroll basis.

The Total of the Expected Awarded Claims for All Classes is assigned as the full credibility standard. The credibility factor for each classification is obtained as the ratio of the Expected Awarded Claims of a given class to the full credibility standard raised to the $\frac{1}{2}$ power.

Page 2 displays the derivation of the FOD Excess Claim Frequencies. The Indicated Claim Frequencies are developed in Exhibit IV-B Page 5. The currently Approved FOD Excess Claim Frequencies are developed in Exhibit IV-B Page 6. Otherwise, this page works like Page 1.

Page 3 displays the derivation of the FOD Basic Claim Frequencies on a Miner Year Basis. This process involves weighting the Modeled Indications from Exhibit VIII-F with the Experience Indications from Exhibit VIII-B-2. The weights are 25% for the Modeled Indications and 75% for the Experience Indications.

Page 4 displays the conversions of the Approved FOD Basic Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

Page 5 displays the derivation of the FOD Excess Claim Frequencies on a Miner Year Basis. This process involves weighting the Modeled Indications from Exhibit VII-L with the Experience Indications from Exhibit VII-B-2. The weights are 25% for the Modeled Indications and 75% for the Experience Indications.

Page 6 displays the conversions of the Approved FOD Excess Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

These pages provide various totals and subtotals that are derived using Developed

Payrolls and/or Estimated Miner Years as weights as indicated.

Exhibit V – Traumatic Loss Information

This section of the filing produces the Proposed Traumatic Unloaded Loss Costs by classification.

- A. Page 1 displays the derivation of the Proposed Traumatic Unloaded Loss Costs by classification. This process begins with the Indicated Traumatic Loss Costs developed in Exhibit V-B. The Indicated Traumatic Unloaded Loss Costs are credibility weighted with the currently Approved Traumatic Unloaded Loss Costs trended to the current valuation level. After the application of credibility, the Indicated Traumatic Unloaded Loss Costs are further limited to changes of +/-25% to produce the Proposed Traumatic Unloaded Loss Costs.

In addition to providing Traumatic Loss Costs by classification, this page also provides various totals and subtotals that are derived using the Developed Payroll shown in the column with these totals and subtotals as weights.

The credibility procedure assigns full credibility (i.e., 100% credibility or 1.00) to three (3) of the Four Major Classifications (i.e., Underground Bituminous, Surface Anthracite and Surface Bituminous). For the six (6) minor classifications, the credibility factor for each classification is obtained as the ratio of the Five Year Expected Losses of a given class to Five Year Expected Losses for Surface Bituminous raised to the $\frac{1}{2}$ power.

The complement of the credibility is assigned to the currently Approved Traumatic Unloaded Loss Cost adjusted or trended to the current valuation level. The adjustment or on-level factor is the weighted average of the Indemnity and Medical Trends contained in this filing, weighted by the five (5) year Indemnity and Medical Ultimate Losses from Exhibit V-B, Page 1.

Page 2 shows the derivation of the Indicated Traumatic Unloaded Loss Cost for the Underground Anthracite classification. This value is derived by a different process since this classification has virtually no experience for the five (5) most recent Accident Years. This is the same procedure that was used in last year's filing.

- B. These pages show the derivation of the Indicated Traumatic Unloaded Loss Costs by Classification. This process begins with the Reported Losses separately shown for Indemnity and Medical for the five (5) most recent Accident Years. It applies Loss Development and Trend Factors to adjust Reported Losses to Ultimate Losses. Finally, it compares Ultimate Losses to Developed Payroll to produce indicated Loss Costs by Accident Year and in Total. (Page 1 shows the Total for All Classifications Combined. Pages 2, 6, and 14 show subtotals for the noted classification groupings.)

The inclusion of claims in excess of \$1,250,000 has been limited on these pages. For this filing, Page 3b displays the calculations related to this limitation.

- C. These pages show the derivation of the Selected Age-to-Age Loss Development Factors separately for Traumatic Indemnity and Medical Incurred Losses. The Selected Factors are based on the Derived Development Factors which are developed on Pages V-D-2 and V-E-2 for Indemnity and Medical respectively. The Selected Age-to-Age Factors are Accumulated in Column 8 to produce Selected Age-to-Ultimate Loss Development Factors. The Age-to-Ultimate Factors include a “tail” provision for loss development beyond 20th report level.

For Indemnity Incurred Losses, the Age-to-Ultimate Factors changed as follows for:

- 1:2 (1st report to ultimate) -5.4%,
- 2:3 (2nd report to ultimate) -2.1%,
- 3:4 (3rd report to ultimate) +0.8%,
- 4:5 (4th report to ultimate) +1.1% and
- 5th report to ultimate and beyond in the range of +0.1% to +0.9%.

For Medical Incurred Losses, the Age-to-Ultimate Factors changed as follows for:

- 1:2 (1st report to ultimate) -7.1%,
- 2:3 (2nd report to ultimate) -5.9%,
- 3:4 (3rd report to ultimate) -4.7%,
- 4:5 (4th report to ultimate) -4.5% and
- 5th report to ultimate and beyond in the range of -4.3% to -1.9%.

- D. These pages show the development of the Derived Traumatic Indemnity Loss Development Age-to-Age factors and include the development of the Tail Factor.

Page 1 is the same as VI-A-4. The Age-to-Age factors from this page are used on V-D-2. For additional information, please refer to the discussion for VI-A-4.

Page 2 shows the (Actual) Age-to-Age Factors and the Derived (or Modeled) Age-to-Age Factors for Traumatic Indemnity Incurred Losses. Examination of the Age-to-Age factors suggested that the factors from the first four (4) periods should be accepted without adjustment and that the factors for the remaining periods should be replaced with modeled or derived factors. The same determination was made for last year’s filing.

The CMCRB decided that a linear model was reasonable and found to produce acceptable results. Similar to the model fitting approach in last year’s filing, several assumptions were used to produce the model.

- The model needed to have a slight downward slope and to accept that loss development beyond some point in time was going to be zero (i.e., that loss development factors beyond some point would be 1.0000).
- The model needed to produce factors such that the upward accumulation of the derived factors would equal the upward accumulation of the actual factors from the experience period (i.e., period 5 through 19). The accumulation of these fifteen (15) factors is 15.01900, producing an average of 1.00127.

- The model would be linear and have the form $y(t) = x - at$.
- The model needed to have a value equal to the average of the experience data at the midpoint of the period that produced the data. Expressed algebraically, the midpoint of the period is 12 and the average of the experience period is 1.00127, so $y(12) = 1.00127$.
- Development beyond 10 years after the end of the experience period would not be expected. Again, expressed algebraically, the period associated with this assumption is 29 and the value of the function is 1.0001, so $y(29) = 1.0001$. (Beyond period 29, all factors are assumed to be 1.0000.)
- These conditions result in the following system of equations:
$$y(12) = 1.00127 = x - (a)(12) \text{ and}$$
$$y(29) = 1.0001 = x - (a)(29).$$
- The solution for this system of equations was found to be:
$$a = 0.0000686 \text{ and}$$
$$x = 1.0020902.$$
- Given these values, $y(5)$ is determined to be $1.0017 = 1.0020902 - (0.0000686)(5)$. (Note that rounding can have a slight impact on the calculations.) This value is entered on Line 5 of Column (5). The following numbers in this column are generated by subtracting 0.0000686.
- The Modeled Factors from periods 20 through 29 in Column (10) are accumulated upward in Column (11) to produce the CMCRB tail factor. The CMCRB tail factor is then averaged with the PCRB tail factor to produce the Selected tail factor.

Page 3 provides the Age-to-Age Indemnity Incurred Loss Development Factors from the most recent PCRB filing. The Tail Factor (or “20 to Ult” Factor) from this page is used on V-D-2. The PCRB Age-to-Age Factors are compared to the CMCRB Age-to-Age Factors on V-C-1.

- E. These pages show the development of the Derived Traumatic Medical Loss Development Age-to-Age factors and include the development of the Tail Factor.

Page 1 is the same as VI-B-4. The Age-to-Age factors from this page are used on V-E-2. For additional information, please refer to the discussion for VI-B-4.

Page 2 shows the (Actual) Age-to-Age Factors and the Derived (or Modeled) Age-to-Age Factors for Traumatic Medical Incurred Losses. Examination of the Age-to-Age factors suggested that the factors from the first two (2) periods should be accepted without adjustment and that the factors for the remaining periods should be replaced with modeled or derived factors. The same determination was made for last year’s filing.

To begin, the CMCRB’s Age-to-Age Factors were averaged with the PCRB’s Age-to-Age Factors for the periods 10 to 19 to produce Adjusted Age-to-Age Factors. The CMCRB’s Age-to-Age Factors were used for periods 3 through 9.

Next, the CMCRB decided that a model of the form $y(t) = (x)(a^{t-3})$ was reasonable and found to produce acceptable results. Similar to the model fitting approach in last year's filing, several assumptions were made to derive the fitted model.

- The geometric mean of the product of the Adjusted Age-to-Age Factors from periods 3 through 19 was calculated and found to be 1.0061755. (There are 17 factors from $t=3$ to $t=19$ so the geometric mean is $(1.0112 \times 1.0144 \times \dots \times 1.0112)^{(1/17)}$).
- The length of the development period beyond the end of the experience period was chosen to be 19 years. Development is not expected at the 39th report level and beyond. Development factors beyond 38th report are assumed to be 1.0000. The development factor for period 38 is assumed to be 1.0001.
- The model needed to produce factors such that the upward accumulation of the derived factors would equal the upward accumulation of the actual factors from period 3 through 19. This accumulation is 1.1103.
- The model needed to have a value equal to the geometric average of the experience data at the midpoint of the period that produced the data. Since the data that is being used runs from $t=3$ to $t=19$ the midpoint is at $t=11$. Thus, $y(11) = 1.0061755$.
- These conditions result in the following system of equations:

$$y(11) = 1.0061755 = (x)(a^8) \text{ and}$$

$$y(38) = 1.0001 = (x)(a^{35}).$$

- The solution for this system of equations was found to be:
 $a = 0.9997757$ and
 $x = 1.00798267$.
- At this point, the value 1.00798267 (displayed as 1.0080) is entered on Line 3 (for Period 3) of Column 6. The Factor for Period 4 is obtained as (1.00798267) times (0.9997757). The factor 'a' is applied to each of the succeeding Factors until Period 38 is reached. The system is very sensitive to the precision of the parameters. If the initial choices are abbreviated, the goals may not be met (e.g., the accumulated value may not be 1.1103 and/or the last point may not be 1.0001).
- The Modeled Factors from periods 20 through 38 in Column (9) are accumulated upward in Column (10) to produce the CMCRB (derived) tail factor. The CMCRB tail factor is then averaged with the PCRB tail factor to produce the Selected tail factor.

Page 3 provides the Age-to-Age Medical Incurred Loss Development Factors from the most recent PCRB filing. The Tail Factor (or “20 to Ult” Factor) from this page is used on V-E-2. The PCRB Age-to-Age Factors are compared to the CMCRB Age-to-Age Factors on V-C-2.

- F. This page shows the selected Traumatic Annual Trend Factors separately for Indemnity and Medical losses that are derived on Exhibit V-K. Since the Annual Trend Factors are applied separately to the five (5) most recent Accident Years, the page also shows the Trend Period for each of those five (5) years and the Trend Factor for each Accident Year.

In addition to traditional trend factors and calculations, this page also allows for adjustments related to other changes. For this filing, other changes include HB 1846 of 2014 and the decision in *Protz v. WCAB* (Pa. Supreme Court, June 2017).

Concerning HB 1846, the CMCRB applied a uniform savings of 1.32% or a factor of 0.9868 to all Accident Years with the December 16, 2015 revision to the April 1, 2016 filing. For the April 1, 2017 Filing, the CMCRB proposed adjustment factors that varied by Accident Year and maintains that approach for the April 1, 2018 filing. These factors and their derivation are provided in Appendix A to this report.

Concerning *Protz v. WCAB* (or the *Protz Decision*), the CMCRB proposes the application of a uniform factor to all Accident Years (i.e., 2012 through 2016) used in the subject filing. Data for each of these Accident Years was incurred and reported prior to the *Protz Decision* (June 2017). These factors and their derivation are provided in Appendix B to this report.

- G. This page is reserved for future.
- H. Page 1 provides a summary of the Traumatic Indemnity Losses. Page 2 provides a summary of the Traumatic Medical Losses. The data on these pages support calculations on the Exhibit V-I pages.
- I. Exhibit V-I is comprised of six (6) pages. Each page is used to estimate one of the trend parameters that are considered as follows:
- Page 1 – Traumatic Indemnity Loss Severity Trend
 - Page 2 – Traumatic Medical and Medical Only Loss Severity Trend
 - Page 3 – Traumatic Medical Only Loss Severity Trend
 - Page 4 – Traumatic Indemnity Claim Frequency Trend
 - Page 5 – Traumatic Indemnity Claim Frequency Trend Net of Wage Trend
 - Page 6 – Traumatic Medical excluding Medical Only Loss Severity Trend

Each of these six (6) pages is provided for three (3) different scenarios as follows:

- Summary – these pages show the data under consideration for each parameter, the result for each parameter from Exhibit V-K which averages the 12 estimates that are considered, a graph of the data indicated and an algebraic expression of the line of best fit.
- Estimates 01-06 – these pages show the data under consideration for each parameter and the following six (6) estimates:
 - Estimates 01 & 02 are based on the ten (10) most recent Accident Years.
 - Estimates 03 & 04 are based on the nine (9) most recent Accident Years.
 - Estimates 05 & 06 are based on the eight (8) most recent Accident Years.
- Estimates 07-12 – these pages show the data under consideration for each parameter and the following six (6) estimates:
 - Estimates 07 & 08 are based on the nine (9) most recent Accident Years before the most recent Accident Year.

- Estimates 09 & 10 are based on the eight (8) most recent Accident Years before the most recent Accident Year.
- Estimates 11 & 12 are based on the seven (7) most recent Accident Years before the most recent Accident Year.

The twelve (12) estimates utilize a geometric average, a regression analysis, a 3-year moving average and the various experience periods listed above. These estimates also utilize data with certain extreme values limited as noted on each page.

- J. On these pages, individual Traumatic claims that exceed \$1,250,000 after loss development are proportioned based on reported medical and indemnity. The CMCRB believes that limiting these claims helps to stabilize the trend indications.

Page 1 shows data for a large claim for Accident Year 2007 that is limited in the current filing. Page 2 shows data for a large claim for Accident Year 2016.

Each of the three claims previously reported for Accident Year 2015 do not exceed the threshold (\$1,250,000) at this evaluation. The Reported Incurred values remained the same or slightly increased for these claims, but the Loss Development Factors decreased significantly since the values aged from first to second report levels.

- K. Exhibit V-K summarizes the twelve (12) estimates of each trend parameter under consideration from the various pages of Exhibit V-I. The three (3) Medical Severity trend indications are averaged by the weighting method noted.

For the April 1, 2017 Filing, the CMCRB selected trend estimates using the Average of Estimates 7-12, noting concern about the estimates through the most recent Accident Year (2015). For the April 1, 2018 Filing, the CMCRB selects trend estimates using the Average of Estimates 1-4 and 7-10. The CMCRB believes that the estimates that begin with Accident Year 2009 involve exceptional variability (especially for Indemnity Severity) and should be excluded from consideration for the subject filing.

Exhibit VI – Traumatic Loss Development

The CMCRB notes that Act 44 of 1993 and Act 57 of 1996 significantly affected Traumatic Indemnity and Medical benefit levels and claim settlement practices (and consequently Traumatic Loss Development data reported to the CMCRB). The CMCRB calculates and applies adjustments to address these effects to its reported loss development data in the various pages of Exhibit VI and briefly discusses the more significant aspects of its work below.

- A. Page 1 displays Reported Traumatic Indemnity Incurred Losses by Accident Year and by Report Level, Act 57 Indemnity Law Adjustment Factors and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level.

Page 2 displays Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level, Claim Settlement Level Additives and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level.

Page 3 displays Reported Traumatic Indemnity Incurred Losses by Accident Year and by Report Level, the Sum of Act 57 Indemnity Law Adjustment Factors and Claim Settlement Level Additives and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level.

Page 4 displays Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level by Accident Year and by Report Level. It also shows the report-to-report Development factors, as well as the averaging and selection of report-to-report factors (i.e., the Average of Middle Four).

Pages 5a, 5b and 5c display the summary and derivation of the Traumatic Indemnity Claim Settlement Adjustment Factors.

When calculating loss development factors, the primary premise is that the loss development factors must be in direct relationship with the losses being developed. The CMCRB uses data for the five (5) most recent Accident Years when calculating indicated Traumatic Loss Costs by classification (see Exhibit V-B) and notes that this data (or these five (5) years) are all on a post Act 57 Law and Claim Settlement level. Since the historical Loss Development data is not all consistently on this same level, the adjustments identified above are used to restate the historical Loss Development data to a post Act 57 Law and Claim Settlement level. In this way, both the losses to be developed from the five (5) most recent Accident Years and the loss development factors are on the same level or basis.

The CMCRB notes that Act 57 reduced Indemnity benefits in various ways. The more significant provisions of Act 57 involved changes to the AMA Guidelines, Social Security Offsets, Pension Offsets and Wage Level Offsets. The changes to Indemnity benefits are addressed by the Act 57 Indemnity Law Adjustment factors.

The CMCRB also notes that Act 57 permitted and recommended the settlement of Traumatic claims. The changes in claim settlement practices are addressed by the Claim Settlement Level Additives (or adjustments).

The CMCRB observes that both sets of adjustments seem to be well known and accepted. Furthermore, these adjustments become less relevant each year as more data is reported directly on a post Act 57 basis.

During 2017, the Pennsylvania Supreme Court made a decision in *Protz v. WCAB* that invalidates a portion of the Act 57 revisions. The previously mentioned law and claim settlement adjustments used in the Exhibit VI series do not address the effect of this decision. Refer to Exhibit V-F, the discussion concerning Exhibit V-F and Appendix B to this report for additional information concerning the treatment of the Protz Decision.

- B. Page 1 displays Reported Traumatic Medical Incurred Losses by Accident Year and by Report Level, Act 44 Medical Law Adjustment Factors and Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law Level.

Page 2 displays Act 44 Medical Law Adjustment Factors, Claim Settlement Adjustment Additions and the Sum of these adjustments.

Page 3 displays Reported Traumatic Medical Incurred Losses by Accident Year and by Report Level, the Sum of Act 44 Medical Law Adjustment Factors and Claim Settlement Adjustment Additions and Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law and Claim Settlement Levels.

Page 4 displays Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law and Claim Settlement Levels by Accident Year and by Report Level. It also shows the report-to-report Development factors, as well as the averaging and selection of report-to-report factors (i.e., the Average of Middle Four).

Page 5 provides the derivation of the Medical Claim Settlement Adjustment Factors which are used on Page 2.

When calculating loss development factors, the primary premise is that the loss development factors must be in direct relationship with the losses being developed. The CMCRB uses data for the five (5) most recent Accident Years when calculating indicated Traumatic Loss Costs by classification (see Exhibit V-B) and notes that this data (or these five (5) years) are all on a post Act 44 Law and Claim Settlement level. Since the historical Loss Development data is not all consistently on this same level, the adjustments described above are used to restate the historical Loss Development data to a post Act 44 Law and Claim Settlement level. In this way, both the losses to be developed from the five (5) most recent Accident Years and the loss development factors are on the same level or basis.

Similar to a comment under the Indemnity section above, the CMCRB observes that both sets of adjustments seem to be well known and accepted. Furthermore, these adjustments become less relevant each year as more data is reported directly on a post Act 57 basis.

During 2014, the Pennsylvania legislature passed House Bill 1846. The previously mentioned law and claim settlement adjustments used in the Exhibit VI series do not address the effect of this legislation. Refer to Exhibit V-F, the discussion concerning Exhibit V-F and Appendix A to this report for additional information concerning the treatment of HB 1846 of 2014.

- C. Page 1 displays Reported Traumatic Indemnity Incurred Claims by Accident Year and by Report Level. It also shows the report-to-report Claim Count Development factors, the averaging and selection of report-to-report factors, the Cumulative Claim Count Development factors and the estimated Ultimate Claim Counts for each Accident Year.

Page 2 displays Reported Traumatic Medical Only Incurred Claims by Accident Year and by Report Level. Otherwise, the format follows the format of Page 1.

Page 3 displays Reported Traumatic Medical Only Incurred Losses by Accident Year and by Report Level. The format is similar to Pages 1 and 2, except that only ten (10) report levels are displayed.

- D. Page 1 presents the Summary of Adjustments to Traumatic Medical Loss Development Factors related to Act 44. Pages 2 through 13 provide the derivation of these Adjustments by Accident Year. Page 14 provides a sample payment pattern.
- E. This page presents the Traumatic Indemnity and Medical Paid Loss information by Accident Year and Report Level arranged in traditional loss development format. The CMCRB has only collected Paid Loss information for the period displayed.

Exhibit VII – SOD and FOD Excess Severity and Frequency

- A. These five (5) pages show the Average SOD and FOD Excess Severities prior to adjustments for Act 57, adjustments for Act 57 and after adjustments for Act 57. One page is provided for each of the Four Major Classes and for the Other Classes combined.

These pages display severity values (i.e., Average Amounts and/or Totals) that are summaries of the individual claim detail found in Exhibit VII-E, Exhibit IX-A and Exhibit VII-G. These pages average the Base Scenario with the All Permanent Partial Scenario using weights of 100% and 0% respectively, since no claims have been reported as Permanent Partial.

Sections “a” (After AMA Guidelines), “b” (Social Security Offset/Onset) and “c” (Pension Offset/Onset) are addressed in the discussion for Exhibit IX-A. (See Exhibit IX-A for a discussion about these amounts.)

Section “d” (Combined Social Security and Pension Offsets/Onsets) recognizes the condition that the full amount of the pension is available as an Offset to the SOD benefit with the constraint that the SOD benefit minus the Social Security and Private Pension Offsets must not be less than zero.

Section “e” (Wage Level Decrease/Increase) is no longer used.

Section “f” (Combined Social Security, Pension and Wage Level) presents percentages that are equivalent to the percentages in Section “d” since Section “e” is no longer used.

Section “g” (Combined Dollar Effect) summarizes the effect in dollars of the various Offsets and Onsets calculated on these pages.

- B-1. Exhibit VII-B-1-A displays the derivation of the SOD Claim Frequencies by Classification on a Developed Payroll basis. This process begins with the Indicated Claim Frequencies on a Miner Year basis developed in Exhibit VII-B-2. The Indicated Claim Frequencies are credibility weighted with the currently Approved SOD Claim Frequencies trended (although the trend is 0%) to the current valuation level developed in Exhibit VII-B-1-B. After the application of credibility, the Credibility Weighted Indicated SOD Claim Frequencies are converted to a Developed Payroll basis because the CMCRB publishes Loss Costs on a Payroll basis.

The Total of the Expected Awarded Claims for All Classes is assigned as the full credibility standard. The credibility factor for each classification is obtained as the ratio of the Expected Awarded Claims of a given class to the full credibility standard raised to the $\frac{1}{2}$ power.

Exhibit VII-B-1-B displays the conversions of the Approved SOD Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

Both of these pages provide various totals and subtotals that are derived using Developed Payrolls or Estimated Miner Years as weights as indicated in the Source notes. The totals and subtotals may differ from prior filings as the weights can and do change.

- B-2. The objective of these pages is to compare estimates of the Expected Ultimate Awarded Claims to a suitable exposure base. These pages display data on the number of SOD Claims that have been Reported, Awarded or Denied, or that are Pending by Classification and with Subtotals and a Grand Total. Additionally, the IBNR Claim estimates from Exhibit VII-C are also displayed. IBNR and Pending claims are multiplied by an Award Ratio, since all reported claims do not result in payment awards.

For the exposure base, Developed Payrolls are converted to Estimated Miner Years. Subsequently, Claim Frequencies are calculated on a Miner Year (per 100 Miner Years) basis which began with the filing for April 1, 2011.

Converting Developed Payrolls to Estimated Miner Years, the (Wage) Adjustment Factors are needed since our data shows that workers in certain Bituminous Classes (i.e., Underground and Prep Plant) were paid at a higher rate than workers in other classes. (See Exhibit X-G for this analysis.) The use of a single factor for all classes would overestimate the number of Miner Years in the cited classes and underestimate the number of Miner Years in other classes had a single factor been used to adjust the SAWW in the conversion process.

Given the limited number of Denied Claims in this data, each Class was given the Award Ratio based on the Grand Total data.

The totals and subtotals that are displayed are additions of the Classes listed and may slightly differ from the results derived using the formula in the Source notes.

Federal Excess Frequencies are also calculated on these pages as the products of the State Frequencies times a Federal Excess Award Ratio of 40%. This ratio has been used since the April 1, 2004 filing (and possibly earlier) and remains comparable to the ratio of FOD Excess Awarded and Pending Claims to SOD Awarded and Pending Claims.

- C. Pages 1 through 4 (i.e., Exhibit VII-C-1 through VII-C-4) display SOD Reported Claims for the Four (4) Major Classifications. Page 5 (i.e., Exhibit VII-C-5) displays SOD Reported Claims for the six (6) Other Classifications combined. Page 6 (i.e., Exhibit VII-C-6) shows SOD Reported Claims for All Classifications combined.

These pages show the procedure used to calculate Incurred But Not Reported (IBNR) Claims. Incremental Changes in Reported Claims are calculated and then converted to a percentage of Developed Payroll (in \$Millions). The actual experience is averaged and then smoothed by ordering the actual data from largest to smallest.

For the six (6) Other Classifications, the All Classifications estimates were used to arrive at the base IBNR. Pages 7 and 8 (i.e., Exhibit VII-C-7 and VII-C-8) show the IBNR calculations for the Other Classifications. Adjustment Factors were used for each of the Other Classifications to lower the expected probability of having a SOD claim since the Other Classifications have produced fewer SOD claims and lower SOD claim frequencies than the All Classifications experience with one exception. The Adjustment Factor for Anthracite Prep Plant was maintained at unity (i.e., no adjustment) because this Class has produced more claims and higher claim frequencies than the rest of the Other Classifications.

- D. Omitted – Reserved for Future Use

- E. This exhibit consists of six (6) subsections (i.e., a, b, c, d, e and f). Each subsection consists of five (5) pages (one page for each of the Four Major Classes and one page for the Other Classes combined). The subsections show the following severities or severity adjustments:

- a – SOD – Before Act 57
- b – SOD – Social Security Offset
- c – SOD – Private Pension Offset
- d – Federal Excess OD – Before Offsets
- e – Federal Excess OD – After Social Security Offset
- f – Federal Excess OD – After Social Security and Private Pension Offsets

These pages display the individual claim detail from Exhibit IX-A by status (i.e., Awarded-Permanent, Awarded-Commuted/Compromised, and Pending.) Since Pending claims could be resolved by Commutation or Compromise, the probability of Commutation/Compromise is assigned to the Pending claims based on the mix of Commuted/Compromised claims in the Awarded claims. The severity for the expected Commuted/Compromised claims within the Pending claims is then adjusted by the difference between the Average Awarded Commuted/Compromised Severity and the

Average Awarded Permanent Severity. This adjustment results in a lower SOD cost and a higher FOD Excess cost.

F. Omitted – Reserved for Future Use

G. Page 1 displays the Smoothed Average Weekly Wages for the Four Major Classes from Exhibit VII-H and the process to convert these Wages to a post-Act 57 level, where needed. The post-Act 57 Wages are used in the Occupational Disease Severity Model.

The top of Page 2 shows the calculation of the Act 57 Wage Level Offset or the Wage Level decrease associated with Act 57. The Wage Level Changes included in Act 57 are expected to reduce State benefit levels and consequently increase Federal Excess benefit levels. The wage distribution is from the 120 State OD claims provided by CMCRB for the CM-1-1998 filing, with judgmental trending to estimate the distribution of wages among miners during the projected effective period of the loss costs. The average benefit levels before and after the changes were developed by PCRb.

The bottom of Page 2 shows the development of the 12.5% Pension Offset factor. This adjustment is made because not all miners are eligible for a private pension and not all private pension payments are subject to offset.

H. These pages show the development of the Projected Average SOD Wage Level for each of the Four Major Classes. For each class, an average ratio of the Reported (or Actual) SOD Average Wage to the Statewide Average Weekly Wage is calculated. The product of the ratio for each class and the projected Statewide Average Weekly Wage results in a Projected Average SOD Wage Level for each class. The Wage History for 1990 through 2016 (the most recent year that data is available) is then smoothed for use in the indexation process in Exhibit VII-G.

I. Omitted – Reserved for Future Use

J. Page 1 shows the historical Social Security Cost of Living Adjustments (COLA), the 3-year, 5-year, 10-year and All-year averages of these amounts and the Selected Annual Change. Page 2 shows the projection of the Monthly Wage Amounts Bend Points and the Annual Social Security Wage Base used to calculate the Primary Insurance Amount (PIA) or Social Security benefit. These amounts are projected to one (1) year past the proposed effective date, which is the average accident date of the proposed loss costs. Page 3 provides examples as to how the bend points and maximum are used.

K. Omitted – Reserved for Future Use.

L. These pages model changes to Claiming activity (i.e., Claim Awarding and Reopening) for FOD Excess Claims that are related to Federal Black Lung Regulation revisions that were issued on January 19, 2001. Generally, the reasoning for these calculations and assumptions follows the reasoning for Exhibit VIII-F, which is presented later in the

commentary for Exhibit VIII-F. The differences in the calculations and assumptions between Exhibit VII-L and Exhibit VIII-F are discussed as follows.

Exhibit VII-L uses data for the most recent twenty (20) years whereas Exhibit VIII-F only uses data for the most recent ten (10) years. Since the CMCRB believes that different assumptions should apply to the pre-2001 years and the post-2000 year, the different or additional assumptions and calculations on these pages include the following:

- Pending Awarded Ratios – the Award Ratio of 30% applies to all years.
- Denied Reopened Ratios
 - The Reopened Ratio of 5% applies to the post-2000 years.
 - A Reopened Ratio of 15% applies to the pre-2001 years.
- Denied Awarded
 - The Award Ratio of 100% applies to the post-2000 years.
 - An Award Ratio of 20% applies to the pre-2001 years.
- IBNR Award Ratios – the IBNR Award Ratios that are shown on each page are the ratios of the Ultimate Awarded Claims (Col. 8) and the Reported Claims (Col. 1) from the Grand Total data on page 13 for the pre-2001 years and post-2000 years respectively.
- All of these assumptions have been maintained since the April 1, 2009 filing.

The IBNR amounts in Column 10 are 40% of the SOD IBNR Amounts from Exhibit VII-C. The reasoning for and history of this assumption was provided under Exhibit VII-B-2 above.

Exhibit VIII – FOD Basic Severity and Frequency

A. This page provides a summary of the individual claim details that are shown in Exhibit IX-B for the Federal Basic Severities separately for each of the Four Major Classes, the Four Major Classes Combined, the Other Classes Combined and All Classes Combined.

B-1. Omitted – Reserved for Future Use.

B-2. The objective of these pages is to compare estimates of the Expected Ultimate Awarded Claims to a suitable exposure base. These pages display data on the number of FOD Basic Claims that have been Reported, Awarded or Denied, or that are Pending by Classification and with Subtotals and a Grand Total. Additionally, the IBNR Claim estimates from Exhibit VIII-C are also displayed. IBNR and Pending claims are multiplied by an Award Ratio, since all reported claims do not result in payment awards.

For the exposure base, Developed Payrolls are converted to Estimated Miner Years. Subsequently, Claim Frequencies are calculated on a Miner Year (per 100 Miner Years) basis which began with the filing for April 1, 2011.

Converting Developed Payrolls to Estimated Miner Years, the (Wage) Adjustment Factors are needed since our data shows that workers in certain Bituminous Classes (i.e., Underground and Prep Plant) were paid at a higher rate than workers in other classes.

(See Exhibit X-G for this analysis.) The use of a single factor for all classes would overestimate the number of Miner Years in the cited classes and underestimate the number of Miner Years in other classes had a single factor been used to adjust the SAWW in the conversion process.

Each of the Four Major Classes is given its own Award Ratio, except that the data for Anthracite Underground is now incomplete for this purpose. Anthracite Underground was given an Award Ratio of 0.200, based on the actual Award Ratio for this class for the April 1, 2017 Filing. The Other Classes were given the Award Ratio based on the Grand Total data.

The totals and subtotals that are displayed are additions of the Classes listed and may slightly differ from the results derived using the formula in the Source notes.

- C. Pages 1 through 4 (i.e., Exhibit VIII-C-1 through VIII-C-4) display FOD Basic Reported Claims for the Four (4) Major Classifications. Page 5 (i.e., Exhibit VIII-C-5) displays FOD Basic Reported Claims for the six (6) Other Classifications combined. Page 6 (i.e., Exhibit VIII-C-6) shows FOD Basic Reported Claims for All Classifications combined. (FOD Excess Reported Claims are addressed in Exhibits VII-B-2 and VII-L.)

These pages show the procedure used to calculate Incurred But Not Reported (IBNR) Claims. Incremental Changes in Reported Claims are calculated and then converted to a percentage of Developed Payroll (in \$Millions). The actual experience is averaged and then smoothed by ordering the actual data from largest to smallest.

For the six (6) Other Classifications, the All Classifications estimates were used to arrive at the base IBNR. Pages 7 and 8 (i.e., Exhibit VIII-C-7 and VIII-C-8) show the IBNR calculations for the Other Classifications. Adjustment Factors were used for each of the Other Classifications to lower the expected probability of having a FOD Basic claim since the Other Classifications have produced fewer FOD Basic claims and lower FOD Basic claim frequencies than the All Classifications experience. The adjustment factors were not changed this year.

- D. This page displays the Table of the Monthly Federal Black Lung Benefits from 1981 to the present. It also shows the changes in benefits from year to year and the selected change rates that were used to project FOD losses to the average accident date anticipated for the proposed filing.
- E. Omitted – Reserved for Future Use.
- F. These pages model changes to Claiming activity (i.e., Claim Awarding and Reopening) for Federal Basic OD Claims that are related to Federal Black Lung Regulation revisions that were issued on January 19, 2001. These revisions changed the procedures and criteria for obtaining Federal Black Lung Benefits resulting in the natural expectation that the frequency of Federal Black Lung claims would increase. Some of the regulatory changes involved limiting evidence and time to contest, broadening the definition of

Black Lung disease, weakening the criteria for determining disability, offering new claim status (as opposed to subsequent and reopened status) to claims, and changing attorney and witness fees.

These changes were expected to increase claim frequencies in the post-2000 years to a greater level than had been previously observed and to increase the claim frequencies in the pre-2001 years as well. Most parties agreed that frequencies, severities and costs generally would increase under these revisions. Even the U.S. Department of Labor conceded that costs would rise between 15% and 60%.

For the post-2000 years, the CMCRB believes that Pending claims will be awarded at a higher rate than previously observed, so Pending claims are assumed to have an Award Ratio of 30%. Similarly, the CMCRB also believes that some Denied claims will be reopened and awarded under the more liberal standards of proof, so 5% of Denied claims are assumed to be Reopened with a subsequent Award Ratio of 100%. These assumptions were first included in the April 1, 2009 filing. The derivation and history of these parameters has been discussed in prior filings, so a brief discussion is provided below.

For the years 1989 to 1999 as of August 2000, the following claim statuses were noted: 122 Awarded, 121 Pending, 447 Denied and 690 Reported.

The claim statuses for 121 Pending claims were updated as of August 2007. The following updated claim statuses were noted: 22 Awarded, 21 Pending, 76 Denied and 2 “Other”.

This data implies an Award Ratio of 22.45% which is equal to (22) divided by (22+76). This ratio serves as an estimate of the percentage of Pending claims that will be ultimately Awarded.

The claim statuses for the 447 Denied claims were also updated as of August 2007. The following updated claim statuses were noted: 6 Awarded, 12 Pending and 429 Denied.

This data implies an Award Ratio for Denied Claims of about 2% which is equal to (8.7) divided by (447). The numerator of 8.7 is equal to (6) plus (12) x (22.45%). This ratio serves as an estimate of the percentage of Denied claims that will be ultimately Awarded.

The IBNR Award Ratio that is shown on each page is the ratio of the Total Ultimate Awarded Claims (Col. 8) and the Total Reported Claims (Col. 1) from the Grand Total data on page 13.

Exhibit IX – Individual Claim Detail for SOD and FOD Claim Severities

- A. These pages display the Individual Claim Detail for State and FOD Excess claim severities separately for the Four Major Classes and for the Other Classes combined. The Individual Claim Details come from the CMCRB's Occupational Disease Severity Model ("Model"). Benefit amounts are accumulated over the lifetime of the miner (and spouse, if applicable) with mortality factors included in the calculation. For SOD and FOD Excess, this Model evaluates claims both on a Permanent Total basis and on a Permanent Partial basis.

To estimate the value of each claim, each claim is assumed to occur during the midpoint of the proposed filing period. This assumption requires that the historical wage amount recorded for each claim be adjusted to the midpoint of the proposed filing period. Details of these adjustments are presented in Exhibit VII-H.

These pages first display claim values (or projected benefits) for a "Base" scenario (i.e., before the impact of Act 57) for SOD (including Medical) and FOD Excess. These values are associated with the Awarded and Pending claims reported to the CMCRB for exposure years 1990 through 2016. For the Base Scenario, all claims are calculated with lifetime SOD Indemnity (Benefit) payments (i.e., Permanent Total basis) except for the Commuted or Compromised claims.

These pages also display claim values for an "All Permanent Partial" scenario. Values for the All Permanent Partial scenario are calculated because the implementation of American Medical Association (AMA) Guidelines to evaluate the percentage of disability was expected to reduce the portion of claims evaluated as Permanent Total. For this scenario, all claims other than Commuted, Compromised, or Widow Only were calculated with only 630 weeks of SOD Indemnity (Benefit) payments.

The 630-week duration was calculated as follows:

The AMA Guidelines do not apply prior to the expiration of an initial 104-week benefit period. With timely filing for review, timely occurrence of the hearing and timely issuance of a decision, a floor of 604 weeks exists ($104 + 500$). The actual period will be longer than this 604-week floor. It is estimated that the anticipated average benefit period for claims reviewed under the AMA Guidelines will exceed the floor by one-half of a year, or 26 weeks. Therefore, the All Permanent Partial Scenario was based upon 630 weeks ($104 + 26 + 500$).

These pages display Social Security Offsets/Onsets. These Offsets/Onsets are based on the Social Security Formulas – Historic Primary Insurance Amounts (PIA) and Projections in Exhibit VII-J. The decrease (or Offset) to SOD benefits is 50% of the miner's Social Security retirement benefit, limited to the amount of the SOD benefit. This adjustment results in a decrease to SOD Indemnity benefits and an increase to FOD Excess Indemnity benefits.

These pages also display Pension Offsets/Onsets. These Offsets/Onsets are based on the Pension Offset percentage calculated in Exhibit VII-G Page 2. The full amount of the

pension is available as an Offset to the SOD benefit, with the constraint that the SOD benefit minus the Social Security and Private Pension Offsets must not be less than zero. This adjustment results in a decrease to SOD Indemnity benefits and an increase to FOD Excess Indemnity benefits.

Four (4) provisions in Act 57 of 1996 were expected to reduce SOD benefits (and Traumatic benefits). These provisions involved the:

1. AMA Guidelines
2. Social Security Offsets/Onsets
3. Pension Offsets/Onsets and
4. Wage Level Offsets/Onsets.

Consequently, the CMCRB has annually submitted estimates for SOD Loss Costs that reflect the anticipated savings from these provisions. Correspondingly, but not in the same proportions, the CMCRB has submitted estimates for FOD Excess Loss Costs that reflect the anticipated additional costs from these provisions that would be shifted to Federal secondary claims since the cross-over point for Federal benefits would occur quicker or earlier than under the old law.

This filing continues the process of phasing out some of the SOD Offsets and some of the FOD Excess Onsets.

- AMA Guidelines – While the CMCRB continues to calculate both a Permanent Total (or Base) scenario and an All Permanent Partial scenario, the Base scenario now receives 100% of the weight in the averaging of these two values. The weight given to the All Permanent Partial scenario has been reduced to zero since no such claims have emerged.
 - Social Security and Pension Offsets/Onsets – The CMCRB continues to use the original assumptions for these provisions due to the absence of actual claim data in this regard.
 - Wage Level Offsets/Onsets – The CMCRB annually updates the offset/onset amount in Exhibit VII-G Page 1. The SOD Offset percentage decreased from 1.3235% to 1.2745%. Correspondingly, the FOD Excess Onset decreased as shown on Exhibit VII-A.
- B. These pages display the Individual Claim Detail for Federal Basic OD claim severities separately for the Four Major Classes and for the Other Classes. The Individual Claim Details come from the CMCRB's Occupational Disease Severity Model ("Model"). Benefit amounts are accumulated over the lifetime of the miner (and spouse, if applicable) with mortality factors included in the calculation.

These pages (Exhibit IX-A and IX-B) provide a source for the claim severity figures in Exhibits VII and VIII. No changes, except updates, were made in any of the formula used to

run the Model. For example, the input parameters used to calculate the Medical Severities on these pages were updated to reflect inflation considerations.

Exhibit X – Payrolls – Developments and Adjustments

- A. Developed and Adjusted Payrolls are displayed by year, by coverage and by classification. Payrolls occasionally differ by coverage for the reasons addressed in Exhibit X-C.
- B. Developed Traumatic Payrolls are extended at current loss cost level to calculate on-level Loss Cost Premium by year for eleven (11) years and by classification on Page 1. Rating values from the CMCRB's latest loss cost filing are shown on Pages 2 and 3.
- C. Developed Traumatic Payrolls are first adjusted to obtain Developed SOD Payroll by showing the amount of Anthracite Underground payroll that is assigned to the Bituminous Underground classification related to the UAE decision on Pages 4 and 5. Otherwise, Developed Traumatic Payrolls are equal to Developed SOD Payrolls.

Then, Developed SOD Payrolls are adjusted to obtain Developed FOD Payroll on Pages 1 through 3. The Federal Exempt Reported Payroll is the Traumatic Payroll for insureds that purchase State Act coverage (Traumatic and SOD), but that select to self-insure for FOD coverage. Also, Developed SOD Payrolls are further adjusted to obtain Developed FOD Payrolls for Executive Officers, Sole proprietors and Partners of Partnerships that elected not to purchase State Act coverage. These individuals can elect not to purchase State Act coverage, but cannot elect not to purchase FOD coverage.

- D. Reported Payrolls by classification are projected to Developed Payrolls using the Development Factors calculated in Exhibit X-E. Developed Payrolls are the CMCRB's estimated ultimate or final payroll level for each Accident Year.
- E. Payroll Development Factors are calculated first from report-to-report level and then from report-to-ultimate level.
- F. SOD and FOD Claim Frequencies from the CMCRB's latest loss cost filing are shown.
- G. Reported Average Weekly Wages for Coal Classes are indexed to the Statewide Average Weekly Wage (SAWW). These indexes are used in the calculation of SOD and FOD Claim Frequencies.

Exhibit XI – Special Assessments

- A. The fiscal year budget for the Office of Small Business Advocate is compared to the insurance carrier paid losses to produce the Small Business Advocate Assessment Ratio. This amount is loaded into the CMCRB's Manual Loss Costs.

- B. The fiscal year budgets for the listed Funds are compared to the Employer Assessment Premium Base to produce the Employer Assessment Factor. This amount is not loaded into the CMCRB's Manual Loss Costs, but is treated as a separate calculation in the determination of policy premium. This amount is the estimated provision for Pennsylvania's Administrative Fund, Subsequent Injury Fund, Supersedeas Fund and Uninsured Employer Guaranty Fund.

Exhibit XII – Catastrophe Provision

The CMCRB caps or limits losses for individual Traumatic claims at \$1,250,000 in the Traumatic Loss Cost Indications by classification in Exhibit V-B which uses data for the five (5) most recent Accident Years. In this exhibit, the CMCRB calculates provisions for these large losses using data for the twenty (20) most recent Accident Years. The CMCRB expresses these considerations as loss costs which provide for potential future catastrophic loss events. These amounts, which vary by classification, are loaded into the CMCRB's Manual Loss Costs.

- A. The overall catastrophe provision (or Loss Costs) is distributed among the ten (10) Traumatic classifications based on the Developed Payrolls for the most recent Accident Year and the noted Hazard Weights.
- B. The Number of Excess Claims and Excess Loss Dollars in excess of \$1,250,000 are summarized by Accident Year. The current Accident Year Developed Payroll is compared to the Average Catastrophe Excess Loss over the twenty (20) most recent Accident Years to develop the Catastrophe Loss Cost.
- C. Information for the individual Traumatic losses that exceed the \$1,250,000 threshold is shown including the trend factor used to bring losses to the current loss level. For the April 1, 2018 filing, all losses in the twenty (20) most recent Accident Years are reported on a Post-Act 44 basis and do not require an Act 44 adjustment. The Statewide Average Weekly Wage Index is used as the Trend factor and is applied to both Indemnity and Medical Losses. The use of this index seems appropriate since Indemnity losses are a direct function of wages and Act 44 restricts changes in Medical costs to the change in the Statewide Average Weekly Wage.
- D. Trend Factors (or factors that are used to bring historical Indemnity and Medical losses to current loss level) for Indemnity and Medical losses are calculated based on the Statewide Average Weekly Wage (SAWW) that is published for Pennsylvania. The CMCRB projects the SAWW to the average accident date associated with the requested effective date for this filing based on the review of the yearly changes that are shown.
- E. The Number of Excess Claims and Excess Loss Dollars in excess of \$1,250,000 are summarized by classification (or Class Code).

Exhibit XIII – Traumatic Experience Rating Plan

The CMCRB proposes to maintain the major features of the Traumatic Experience Rating Plan and to update the associated plan parameters. The major features are:

- The primary limiting value for basic ratable losses remains at \$50,000 per occurrence.
- The secondary limiting value for excess ratable losses remains at \$150,000 per occurrence.
- The eligibility requirement of at least \$300,000 in modified Traumatic payroll during the three (3) year experience is maintained.
- The shape of the Credibility Table is also unchanged.

- A. Page 1 shows the derivation of the Expected Loss Costs (or Values) based on the Unloaded Loss Costs and the Split of Total Losses by Layer. The proposed total limits loss costs were unloaded for loss-based assessments, the Small Business Advocate, Merit Rating Off-Balance, Safety Committee Off-Balance, Catastrophe Loading, loss development and trend to calculate the expected losses by layer. These unloaded, de-trended, undeveloped loss costs were then divided into layers based on the six-year average of actual losses by layer at the same maturity (report) level.

Page 2 shows the calculations for the weighted loss development and loss trend factors. These factors are used on page 1.

Page 3 shows the basic and ratable excess credibility amounts by size of risk (i.e., modified 3-year payroll) based on the proposed overall Unloaded Loss Cost. The primary layer table tracks the shape of the PCR table converted from expected losses to Payroll using the proposed overall Unloaded Loss Cost underlying this filing. The table for the excess ratable layer was also updated based on the proposed overall Unloaded Loss Cost underlying this filing.

- B. These pages provide comparisons of the current Experience Mods (as calculated and released by the CMCRB with last year's filing) to the proposed Experience Mods, by file number. In total, there are few new experience-rated accounts. Some accounts which were experience rated last year were not eligible this year. The Experience Rating Plan's Off-Balance factor was calculated to be 1.0054. Each indicated mod was adjusted by this off-balance factor so that the Plan is revenue neutral.
- C. The CMCRB caps indicated Experience Mod increases and decreases at 0.35. This page shows files that are affected by this capping.

Additionally, the CMCRB plans to continue the capping of Experience Mods for small accounts (which is part of the currently approved Experience Rating Plan) as follows:

Less than \$499,999 in payroll	max mod 1.20
\$500,000 to \$749,999 in payroll	max mod 1.30
\$750,000 to \$999,999 in payroll	max mod 1.40

- A. Page 1 shows the calculation of the Merit Rating Plan Off-Balance Factor, which is equal to the ratio of proposed Unloaded Loss Cost Premium to the proposed Unloaded Loss Cost Premium after Merit Rating Credits and Surcharges. Page 2 shows Developed Payroll for the most recent Accident Year in total and separately for Experience Rated, Merit Rated and Manual Rates risks. For Merit Rated risks, the Payroll is also shown separately for Merit Credit and Merit Surcharged risks.
- B. This page shows the calculation of the Safety Committee Credit Off-Balance Factor. This factor is equal to the ratio of proposed Unloaded Loss Cost Premium to proposed Unloaded Loss Cost Premium after Safety Committee credits.

Disclosures

The CMCRB offers the following disclosures (i.e., potential constraints or limitations) concerning the conclusions in this report specifically related to potential risk and/or uncertainty. The Proposed Loss Costs do not include any provision for the risk and/or uncertainty that may be inherent in these reserve estimates or in these loss cost projections. While the CMCRB understands that the applicable Statements of Principles promulgated by the Casualty Actuarial Society advocate for a provision for uncertainty, the CMCRB believes that its approach is acceptable and reasonable, because individual carriers can decide whether or not to include a provision for uncertainty in the determination of their loss cost multipliers.

Although this report complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this report should be aware that the projections in this report involve estimates that are inherently uncertain. This uncertainty stems from a dependence of the amount of future claims payments on facts and circumstances that are unknown at this time. Some of these unknown facts and circumstances may involve, but may not necessarily be limited to, the following:

- Changes in claim reserving practices or settlement practices,
- Changes in the legal, regulatory, economic or social environments,
- Statistical variation from the projected expected values – especially given the fairly modest size of the CMCRB’s database and
- Future emergence of new classes of losses or types of losses that are not sufficiently represented in the historical database.

Additionally, the CMCRB believes that the conclusions in this report are consistent with the combined experience of all carriers in the CMCRB’s database. However, the CMCRB acknowledges that the experience of the CMCRB’s individual members companies may be different (or may be perceived to be different) from the aggregate experience of the CMCRB’s total membership.

Please direct any questions concerning this report to:

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Actuarial Report – Appendix A
Consideration of House Bill 1846 of 2014 (HB 1846)
Regarding the CMCRB’s April 1, 2018 Loss Cost Filing

The CMCRB collects workers compensation medical loss information that is aggregated at the claim level. This information does not include medical bill line item detail. Consequently, the CMCRB maintains its prior assertion that the evaluation of HB 1846 that was prepared by the Pennsylvania Compensation Rating Bureau (“PCRB”) is the best analysis of this law that is available to the CMCRB at this time.

For the April 1, 2016 Loss Cost Filing, the CMCRB used the savings approximation of 1.32% (or a factor of 0.9868) that was promulgated by the PCRB in Exhibit 34 to PCRB Proposal C-366 – April 1, 2016. The CMCRB uniformly applied this factor to each of the five Accident Years used in the Traumatic Loss Cost indications (i.e., 2010 – 2014). The PCRB’s exhibit is available online at <http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf>.

The CMCRB notes that this savings approximation consists of two components:

- 1) A medical savings adjustment factor of approximately 0.9908 and
- 2) An annual medical severity trend deflection factor of approximately 0.9881.

For the April 1, 2017 Loss Cost Filing, the CMCRB utilized these two components to derive unique adjustment factors for each of the five Accident Years used in the Traumatic Loss Cost indications (i.e., 2011 – 2015). For the April 1, 2018 Loss Cost Filing, the CMCRB proposes a similar approach and provides this appendix to describe this process and the attached exhibits in support of these calculations.

Appendix A-1 identifies the components of the data set that the PCRB utilized to calculate the medical savings adjustment factor of approximately 0.9908. The PCRB identifies this data set as the “2013 Dataset”. Based on PCRB’s description, the 2013 Dataset seems to be a reasonably close approximation of Calendar Year 2013 Paid Losses. So, this medical savings adjustment factor represents the factor that would be applied to *actual* Calendar Year 2013 Paid Losses on a pre-HB 1846 basis to produce *expected* Calendar Year 2013 Paid Losses on a post-HB 1846 basis.

Appendix A-2 shows the application of the annual medical severity trend deflection adjustment to the medical savings adjustment factor. The annual medical severity trend deflection factor is applied on a calendar year basis. This triangle represents that factors that would be applied to the actual Accident Year Incremental Paid Losses on a pre-HB 1846 basis to produce expected Accident Year Incremental Paid Losses on a post-HB 1846 basis. The CMCRB used the following estimations in these calculations:

- 1) Effective date – Since HB 1846 became effective December 26, 2014, the CMCRB adopts January 1, 2015 as the estimated effective date to ease the estimation process.
- 2) Transition – While HB 1846 was effective December 26, 2014 (estimated as January 1, 2015), the CMCRB believes that a one-year transition to benefits on a post-HB 1846

basis is reasonable. Consequently, the CMCRB selects the factor for Calendar Year 2015 Paid Losses judgmentally as the average of the Calendar Year 2014 factor and unity.

- 3) Post-transition – The CMCRB believes that Calendar Year 2016 Paid Losses and Calendar Year 2016 Outstanding Losses are fully on a post-law basis and select unity as the adjustment factor to these losses.

Appendix A-3 displays the derivation of the CMCRB's Paid Loss Distribution. The CMCRB notes that the Selected Distribution is very close to the Actual Distribution through 8th report level. Beyond 8th report level, the CMCRB notes that it favored accelerating the distribution for simplicity in subsequent calculations. This distribution is necessary to prepare Accident Year Incremental Paid and Outstanding Losses.

Appendix A-4 distributes the Selected Paid Loss Distribution into an Accident Year loss development triangle. The Outstanding Loss Distribution is also displayed.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels.
- Row 2 shows the portion of ultimate losses that are expect to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the sum of Rows 1 and 2 which sums to unity or 100% for each Accident Year.

Appendix A-5 shows the derivation of the Accident Year specific adjustment factors for HB 1846. The triangle on this page is the cell-by-cell product of the HB 1846 Medical Savings Adjustment Factors with Medical Trend Deflection Adjustment (A-2) and the Estimated Incremental Paid Losses (A-4). In other words, this triangle represents the Incremental Paid Losses on a post-HB 1846 basis.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels after Paid Losses are adjusted to reflect HB 1846 savings.
- Row 2 shows the portion of ultimate losses that are expect to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the HB 1846 savings factor to be applied to outstanding losses.
- Row 4 reflects outstanding losses adjusted to reflect HB 1846 savings.
- Row 5 displays the factor to adjust Ultimate Accident Year losses to reflect HB 1846 savings. This row is also re-displayed in the column to the right.

Attachments

- 1) Appendix A-1 through Appendix A-5

Components of the "2013 Dataset" with Medical Savings Adjustment Factor

	Accident Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1st									0.9908			
2nd								0.9908				
3rd							0.9908					
4th						0.9908						
5th					0.9908							
6th				0.9908								
7th			0.9908									
8th		0.9908										
9th	0.9908											
10th												

The PCRB estimated HB 1846 cost savings from Medical Data Call records with dates of service during CY 2013 with payments made through the 1st Q of CY 2014 and referred to these records as the 2013 Dataset. These boxes represent a reasonably close approximation of the data components of the 2013 Dataset filled with the savings estimate of 0.92% or a factor of 0.9908.

Source: PCRB Proposal C-366 - April 1, 2016 Loss Cost Filing - Exhibit 34
<http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf>

Medical Savings Adjustment Factor with Medical Trend Deflection Adjustment

Report Level	Accident Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1st	1.0000	1.0000	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000
2nd	1.0000	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	
3rd	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000		
4th	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000			
5th	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000				
6th	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000					
7th	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000						
8th	0.9927	0.9908	0.9889	0.9945	1.0000							
9th	0.9908	0.9889	0.9945	1.0000								
10th	0.9889	0.9945	1.0000									

The PCRB also estimated that the effects of HB 1846 would reduce the growth rate of medical costs at an annual rate of 0.19% or a factor of 0.9981.

CY 2013	Annual	CY	2005-8	1.0000	-5	1.0000 = 0.9908 times (0.9981 ^ -5). Capped at unity.
(Base)	Change	CY	2009	0.9984	-4	0.9984 = 0.9908 times (0.9981 ^ -4)
Adj.	in Adj.	CY	2010	0.9965	-3	0.9965 = 0.9908 times (0.9981 ^ -3)
0.9908	0.9981	CY	2011	0.9946	-2	0.9946 = 0.9908 times (0.9981 ^ -2)
		CY	2012	0.9927	-1	0.9927 = 0.9908 times (0.9981 ^ -1)
		CY	2013	0.9908	0	0.9908 = 0.9908 times (0.9981 ^ 0)
		CY	2014	0.9889	1	0.9889 = 0.9908 times (0.9981 ^ 1)
		CY	2015	0.9945	*	
		CY	2016	1.0000	**	
		Outstanding at:	2016	1.0000		

- * The Adjustment for Calendar Year 2015 Paid Losses was judgmentally selected to be the average of the last data point and unity to transition to benefits on a post-HB 1846 basis.
- ** The Adjustment for Calendar Year 2016 Paid Losses and Outstanding was selected to be unity since data is expected to be reported on a post-HB 1846 basis because HB 1846 became effective in December 2014.

Source: PCRB Proposal C-366 - April 1, 2016 Loss Cost Filing - Exhibit 34
<http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf>

Derivation of Traumatic Medical Incremental Paid Loss Distribution

Traumatic Medical Reported Paid Losses as of 04-30-2017 from Exhibit VI-E:

<u>Report</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
1	3,239,013	2,201,565	1,934,714	2,751,976	3,211,934	3,607,221	2,405,205	3,932,999	2,543,986	2,330,259
2	4,228,737	3,040,747	2,474,907	3,388,757	4,428,864	4,556,072	3,576,391	5,142,203	3,291,985	
3	4,505,191	3,288,243	2,729,947	3,681,854	4,791,312	4,910,148	3,732,065	5,725,513		
4	4,755,842	3,434,618	2,838,307	4,050,370	4,980,927	5,036,044	3,783,913			
5	4,895,811	3,482,499	2,888,987	4,182,550	5,232,645	5,071,629				
6	5,005,959	3,502,704	2,911,117	4,258,152	5,334,986					
7	5,123,649	3,511,257	2,933,165	4,295,252						
8	5,214,054	3,521,293	2,960,275							
9	5,294,667	3,531,557								
10	5,339,901									

Traumatic Medical Reported Incurred Losses as of 04-30-2017 from Exhibit VI-B-4:

5,819,126	3,608,725	2,986,651	4,459,354	5,654,038	5,519,600	3,971,009	6,043,218	3,981,666	3,963,291
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Traumatic Medical Incurred Loss Development Factors from Exhibit V-C-2:

1.1018	1.1091	1.1167	1.1246	1.1328	1.1413	1.1502	1.1594	1.1600	1.2672
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Ultimate Traumatic Medical Losses = Medical Incurred Losses times Medical Incurred Loss Development Factors:

6,411,513	4,002,437	3,335,193	5,014,990	6,404,894	6,299,519	4,567,455	7,006,507	4,618,733	5,022,282
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Percent Paid = Traumatic Medical Reported Paid Losses divided by Ultimate Traumatic Medical Losses:

<u>Report</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>Average</u>	<u>Ex Hi/Lo</u>	<u>Selected Incremental</u>	<u>Selected Cumulative</u>
1	50.52%	55.01%	58.01%	54.88%	50.15%	57.26%	52.66%	56.13%	55.08%	46.40%	53.61%	53.96%	54.00%	54.00%
2	65.96%	75.97%	74.21%	67.57%	69.15%	72.32%	78.30%	73.39%	71.27%		72.02%	71.98%	18.00%	72.00%
3	70.27%	82.16%	81.85%	73.42%	74.81%	77.94%	81.71%	81.72%			77.99%	78.58%	6.00%	78.00%
4	74.18%	85.81%	85.10%	80.77%	77.77%	79.94%	82.85%				80.92%	81.29%	3.00%	81.00%
5	76.36%	87.01%	86.62%	83.40%	81.70%	80.51%					82.60%	83.06%	1.75%	82.75%
6	78.08%	87.51%	87.28%	84.91%	83.30%						84.22%	85.16%	1.50%	84.25%
7	79.91%	87.73%	87.95%	85.65%							85.31%	86.69%	1.00%	85.25%
8	81.32%	87.98%	88.76%								86.02%	87.98%	1.00%	86.25%
9	82.58%	88.24%									85.41%	85.41%	1.00%	87.25%
10	83.29%										83.29%	83.29%	12.75%	100.00%

Notes: The selected distribution is a very close approximation to the actual distribution through 8th report level.
The importance of the selected distribution diminishes beyond 8th report and was accelerated for simplicity.

Incremental Paid and Outstanding Medical Losses (CMCRB) per Report Level

												Selected		
Accident Year												Incremental	Cumulative	Outstanding
												Paid Losses	Paid Losses	Losses
Report Level	1st	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	54.00%	54.00%	46.00%
	2nd	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800		18.00%	72.00%	28.00%
	3rd	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600			6.00%	78.00%	22.00%
	4th	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300				3.00%	81.00%	19.00%
	5th	0.0175	0.0175	0.0175	0.0175	0.0175	0.0175					1.75%	82.75%	17.25%
	6th	0.0150	0.0150	0.0150	0.0150	0.0150						1.50%	84.25%	15.75%
	7th	0.0100	0.0100	0.0100	0.0100	0.0100						1.00%	85.25%	14.75%
	8th	0.0100	0.0100	0.0100	0.0100							1.00%	86.25%	13.75%
	9th	0.0100	0.0100	0.0100								1.00%	87.25%	12.75%
	10th	0.1275	0.1275									12.75%	100.00%	0.00%
1)	1.0000	1.0000	0.8725	0.8625	0.8525	0.8425	0.8275	0.8100	0.7800	0.7200	0.5400			
2)	0.0000	0.0000	0.1275	0.1375	0.1475	0.1575	0.1725	0.1900	0.2200	0.2800	0.4600			
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			

Notes:

- 1) The anticipated Incremental Paid Losses which equal the sums of the columns above.
- 2) The remaining anticipated Outstanding Losses for each Accident Year.
- 3) The sum of rows 1 and 2.

Combination - Incremental Paid Losses & Adjustment/Deflection Factors

	Accident Year											Selected	Cumulative	Outstanding
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Incremental Paid Losses	Paid Losses	Losses
Report Level														
1st	0.5400	0.5400	0.5400	0.5391	0.5381	0.5371	0.5361	0.5350	0.5340	0.5370	0.5400	54.00%	54.00%	46.00%
2nd	0.1800	0.1800	0.1797	0.1794	0.1790	0.1787	0.1783	0.1780	0.1790	0.1800		18.00%	72.00%	28.00%
3rd	0.0600	0.0599	0.0598	0.0597	0.0596	0.0594	0.0593	0.0597	0.0600			6.00%	78.00%	22.00%
4th	0.0300	0.0299	0.0298	0.0298	0.0297	0.0297	0.0298	0.0300				3.00%	81.00%	19.00%
5th	0.0174	0.0174	0.0174	0.0173	0.0173	0.0174	0.0175					1.75%	82.75%	17.25%
6th	0.0149	0.0149	0.0149	0.0148	0.0149	0.0150						1.50%	84.25%	15.75%
7th	0.0099	0.0099	0.0099	0.0099	0.0100							1.00%	85.25%	14.75%
8th	0.0099	0.0099	0.0099	0.0100								1.00%	86.25%	13.75%
9th	0.0099	0.0099	0.0100									1.00%	87.25%	12.75%
10th	0.1268	0.1275										12.75%	100.00%	0.00%
1)	0.9988	0.9993	0.8714	0.8601	0.8486	0.8373	0.8211	0.8027	0.7730	0.7170	0.5400		Accident	HB 1846
2)	0.0000	0.0000	0.1275	0.1375	0.1475	0.1575	0.1725	0.1900	0.2200	0.2800	0.4600		<u>Year</u>	<u>Adj. Factor</u>
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		2006	0.9988
4)	0.0000	0.0000	0.1275	0.1375	0.1475	0.1575	0.1725	0.1900	0.2200	0.2800	0.4600		2007	0.9993
5)	0.9988	0.9993	0.9989	0.9976	0.9961	0.9948	0.9936	0.9927	0.9930	0.9970	1.0000		2008	0.9989
													2009	0.9976
													2010	0.9961
													2011	0.9948
													2012	0.9936
													2013	0.9927
													2014	0.9930
													2015	0.9970
													2016	1.0000

Notes:

- 1) The anticipated Incremental Adjusted/Deflected Paid Losses which equal the sums of the columns above.
- 2) The remaining anticipated Outstanding Losses for each Accident Year.
- 3) The selected Adjustment factor for Calendar Year 2016 Outstanding Losses.
- 4) The product of rows 2 and 3.
- 5) The sum of rows 1 and 4.

The triangle above is the cell-by-cell product of the following two triangles:

Medical Savings Adjustment Factor with Medical Trend Deflection Adjustment (Appendix A-2)

Incremental Paid and Outstanding Medical Losses (CMCRB) per Report Level (Appendix A-4)

Actuarial Report – Appendix B
Consideration of Protz v. WCAB (Derry Area School District)
Regarding the CMCRB’s April 1, 2018 Loss Cost Filing

The Pennsylvania Supreme Court issued a decision in Protz v. WCAB (Derry Area School District) (the Protz Decision) dated June 20, 2017. In the Protz Decision, the Court ruled that Section 306(a.2) of the Pennsylvania Workers’ Compensation Act (the Act) was an unconstitutional delegation of legislative authority. The CMCRB understands that this ruling means that Section 306(a.2) has to be stricken and that impairment rating evaluations are removed from the Act. The CMCRB notes that this ruling eliminated a cost containment provision that was enacted in the Pennsylvania Workers’ Compensation system over 20 years ago.

Estimating the Impact of the Protz Decision on Indemnity Losses

The CMCRB’s analysis of this issue began with a review of PCRB Filing C-369, Loss Cost Filing to Reflect the Impact of the Protz Decision Effective November 1, 2017, dated August 15, 2017. The CMCRB notes that the estimate of the Impact of the Protz Decision on Indemnity Losses (i.e., 1.1337) included in this filing is based on reasonable methods and data.

To evaluate the appropriateness of this estimate for the purposes of the CMCRB, the CMCRB prepared the exhibits that are attached to this appendix. The basic premise in this work involved the replacement of PCRB data with CMCRB data when available. The CMCRB’s efforts focused on PCRB’s Exhibit I, especially the impact on Indemnity Losses.

Appendix B-1 provides a reproduction of Exhibit I from PCRB Filing C-369. The CMCRB modified some of the row and column titles to add clarity or simplify certain terms. This exhibit demonstrates the expectation that a portion of claims classified as Major, Minor and Temporary Total (“TT”) are now expected to be eligible for Permanent Total (“PT”) benefits with PT-level average claim costs or severities.

The CMCRB believes that this methodology and these calculations provide a reasonable basis to determine the impact on Indemnity Loss Costs of the Protz Decision. The CMCRB does note that PCRB’s actual data and calculations may involve additional decimal places than those shown because a few calculations needed to be adjusted to match the PCRB’s displayed results. The CMCRB finds that these adjustments were well within reasonable rounding conventions (+/- 0.0001) and are not a cause for concern.

Despite the CMCRB’s acceptance of this methodology and these calculations, the CMCRB also desires to use CMCRB data when available and reliable. While the CMCRB does not have a readily available and reliable source for the data required for the estimates found in Column 2 (i.e., Protz Impact on Frequency or the Impact of Protz Decision on PT Frequency), the CMCRB does have the data required for the estimates found in Columns 1 and 3. The following exhibits provide the CMCRB’s work in this regard.

Appendix B-2 provides a reproduction of PCRB Unit Statistical Data from PCRB's Loss Cost Filing for April 1, 2017. (See PCRB Proposal C-368, Exhibit 20b Page 1 – Table III – Total Experience All Industries – Manual Years 2009 – 2013.) Again, the CMCRB took some modest liberties with row and column titles. PCRB utilizes the totals from section C of this exhibit to develop the estimates found in Columns 1 and 3 on Appendix B-1. Note that PCRB's calculations can be found in Exhibit III of Filing C-369.

Appendix B-3 displays Ratios of selected data from PCRB Unit Statistical Data from Appendix B-2. The top section provides the ratios of Section C to Section A from Appendix B-2. The bottom section displays the CMCRB's selected ratios based on the results from the top section. PCRB's work involves development factors for claim counts and incurred losses by Injury Type and by Report Level through the first five report levels that are displayed. Since the CMCRB's data through five years is fairly thin, development factors for the next five report levels (i.e., combined years six through ten) were selected as indicated.

Appendix B-4 provides CMCRB Unit Statistical Data. Section A shows CMCRB Unit Statistical Data for Traumatic claims only on an As Reported Basis by Injury Type by Accident Year for the most recent five Accident Years and aggregated for Accident Years six through ten (or 2011 – 2007). Section B displays the selected development ratios from Appendix B-3. Section C takes the product of Sections A and B, adjusting the data from an As Reported Basis to an Adjusted or Ultimate Basis.

Appendix B-5 provides a Summary of Unit Statistical Data. Section A shows PCRB Data on an Ultimate Basis. (Again, this section is a reproduction of PCRB Exhibit III of Filing C-369.) Section B shows CMCRB Data on an Ultimate Basis. The Ultimate Claim Distributions and Average Cost Ratios were added.

Appendix B-6 reproduces Appendix B-1, except that CMCRB Data on an Ultimate Basis for Columns 1 and 3 replaces PCRB Data. PCRB Data is retained for Column 2 because the CMCRB does not have a readily available and reliable source for the data required for the estimates found in Column 2.

Based on this work, the CMCRB is now aware of two estimates of the Impact of the Protz Decision on Indemnity Losses:

- 1.0784 (or +7.84%) – CMCRB's estimate based on ultimate claims and losses and
- 1.1337 (or +13.37%) – PCRB's estimate based on ultimate claims and losses.

The CMCRB notes that the crux of each of these estimates is the Average Cost of Permanent Total claims. The PCRB's Permanent Total claim count is 134; the CMCRB's Permanent Total claim count is only 4. The CMCRB believes that its own estimate is statistically unreliable and consequently adopts the PCRB's estimate of the Impact of the Protz Decision on Indemnity Losses of 1.1337 or +13.37%.

Medical

While the Protz Decision is expected to directly impact Indemnity Benefits and Losses, this decision is not expected to directly impact Medical Benefits and Losses. However, as with any significant court decision, the CMCRB notes the potential for changes in claiming activity and behavior. These changes have the potential to increase Medical Benefits and Losses going forward, but the CMCRB is not aware of a reliable means to estimate this potential increase at this time. Consequently, the CMCRB adopts an estimate of the Impact of the Protz Decision on Medical Losses of 1.0000 or 0.0%. The CMCRB notes that the PCRFB Filing C-369 proposes the same estimate.

Application

The CMCRB files Loss Costs for three “types” of coverages:

1. Traumatic – Pennsylvania Workers’ Compensation Act coverage,
2. State Occupational Disease (SOD) – Pennsylvania Occupational Disease Act coverage and
3. Federal Occupational Disease (FOD) – Federal Mine Safety and Health Act coverage.

The CMCRB generally understands that the settlement of SOD claims has not relied upon the Impairment Rating Evaluation (IRE) process and that adjustments for the Protz Decision for SOD coverage are not necessary. Similarly, the CMCRB knows that the settlement of FOD claims does not rely upon provisions in the Pennsylvania Workers’ Compensation Act and that adjustments for the Protz Decision for FOD coverage are not necessary.

The CMCRB also understands that the settlement of Traumatic claims has relied upon the IRE process and that adjustments for the Protz Decision for Traumatic coverage are necessary. Consequently, the CMCRB proposal includes the application of the above indicates adjustment for Traumatic coverage only.

Retrospective

The CMCRB notes that the above mentioned estimates were prepared exclusively on a prospective basis. The CMCRB analysis and estimates do not include any provisions for the potential for retroactive changes in cost for claims that are currently open or for claims that were previously closed to reopen.

Uncertainty

The CMCRB notes that actuarial estimates in general involve some degree of uncertainty. The CMCRB believes that this is especially true of the estimates and adjustments mentioned above, since these estimations needed to be prepared before actual experience under the Protz Decision were available.

In addition to the usual uncertainty, the CMCRB also acknowledges that it understands the existence of ongoing legislative activities in the Pennsylvania General Assembly to revise the

Act in light of the Protz Decision. The CMCRB's above mentioned estimates and adjustments do not contain any provisions for potential future legislative measures that might be designed to address the consequences of the Protz Decision. Any subsequent legislative measures would require a separate analysis and appropriate filing activity.

Attachments

- 1) Appendix B-1 through Appendix B-6

Reproduction of PCRB's Indicated Change in Loss Costs Due to the Protz Decision

Type of Injury	Benefit Weight (1)	Protz Impact on Frequency (2)	Protz Impact on Severity (3)	Combined Effect (4)=(1)x(2)x(3)
Death	2.31%		1.0000	0.0231
Permanent Total (PT)	1.11%		1.0000	0.0111
Major (Major Permanent Partial)	49.29%			
Major to Major		92.59%	1.0000	0.4564
Major to Permanent Total		7.41%	2.1140	0.0772
Minor (Minor Permanent Partial)	23.09%			
Minor to Minor		97.67%	1.0000	0.2255
Minor to Permanent Total		2.33%	12.5748	0.0676
Temporary Total (TT)	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
Indemnity Weight ***	45.35%			
Medical Weight	54.65%			
Indicated Change				1.0606
				6.06%

Source: PCRB Filing No. C-369, Loss Cost Filing to Reflect the Impact of the Protz Decision Effective November 1, 2017 - Exhibit I

<http://pcrb.com/pcrb/filings/c369/PA%20Filing%20C-369%20eff%2011-1-17.pdf>

Values identified with an outside border indicate a calculation with a slight rounding difference.

PCRB Unit Statistical Data

Man Year	Payroll in 1000s	All Losses	Death		Perm. Total		Major Perm.		Minor Perm.		Temporary		Medical in 100s	Pure Premium
			No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s		
A. EXPERIENCE AS REPORTED														
2009	172,802,755	1,889,711,812	91	211,275	32	92,821	2708	5,217,140	7144	2,386,073	26127	2,257,963	8,731,846	1.094
2010	180,127,879	1,955,455,102	89	212,667	27	69,754	2617	5,067,922	7153	2,460,362	27050	2,523,192	9,220,653	1.086
2011	187,304,107	1,932,712,350	100	267,234	18	48,592	2320	4,488,334	7147	2,569,920	26414	2,541,803	9,411,240	1.032
2012	192,389,928	1,752,021,121	89	264,095	21	45,409	1679	3,198,018	6965	2,537,949	25268	2,648,557	8,826,183	0.911
2013	199,039,422	1,515,715,172	79	178,801	21	55,142	808	1,554,471	3887	1,488,165	29005	3,147,278	8,733,295	0.762
All	931,664,091	9,045,615,557	448	1,134,072	119	311,718	10,132	19,525,885	32,296	11,442,469	133,864	13,118,793	44,923,217	0.971
B. TRANSLATED PAYROLLS, TRANSLATED LOSSES & PURE PREMIUMS (EXCLUDING IBNR AND FREQUENCY TREND)														
2009	172,802,755	2,056,011,494	90	226,276	32	135,148	2708	5,436,259	7144	2,381,302	26127	2,269,253	10,111,878	1.190
2010	180,127,879	2,173,707,816	88	225,803	28	114,050	2651	5,413,090	7157	2,451,375	27008	2,549,487	10,983,272	1.207
2011	187,266,646	2,211,281,125	99	291,925	22	103,254	2484	5,199,895	7109	2,524,721	26280	2,595,603	11,397,414	1.181
2012	192,332,211	2,135,037,449	87	289,248	25	105,504	2283	4,941,751	6687	2,415,527	24933	2,711,703	10,886,642	1.110
2013	200,990,008	2,247,888,661	77	199,038	27	138,341	2354	5,382,721	6316	2,445,703	25016	2,701,414	11,611,670	1.118
All	933,519,499	10,823,926,545	441	1,232,290	134	596,297	12,480	26,373,716	34,413	12,218,628	129,364	12,827,460	54,990,876	1.159
C. TRANSLATED PAYROLLS, TRANSLATED LOSSES & PURE PREMIUMS (INCLUDING IBNR AND FREQUENCY TREND)														
2009	172,802,755	2,056,213,732	90	226,276	32	135,148	2708	5,436,259	7144	2,381,302	26127	2,269,253	10,113,900	1.190
2010	180,127,879	2,176,325,740	88	225,803	28	114,050	2652	5,415,391	7169	2,455,376	27055	2,553,988	10,998,649	1.208
2011	187,266,646	2,221,400,379	100	294,722	22	103,254	2490	5,213,323	7159	2,542,642	26451	2,612,500	11,447,562	1.186
2012	192,332,211	2,166,670,925	88	294,051	25	106,037	2308	4,996,183	6843	2,471,927	25442	2,767,077	11,031,435	1.127
2013	200,990,008	2,365,137,911	80	207,619	27	140,629	2460	5,625,253	6842	2,649,014	26869	2,901,636	12,127,228	1.177
All	933,519,499	10,985,748,687	446	1,248,471	134	599,118	12,618	26,686,409	35,157	12,500,261	131,944	13,104,454	55,718,774	1.177

Source: PCRB Proposal C-368 - April 1, 2017 Loss Cost Filing - Exhibit 20b As Filed Corrected-12/1/2016
Table III - Total Experience All Industries - Manual Years 2009 - 2013
<http://pcrb.com/pcrb/filings/c368/Exhibit%2020B.pdf>

Ratios of PCRB Unit Statistical Data

Man Year	Applied to	All Losses	Death		Perm. Total		Major Perm.		Minor Perm.		Temporary		Medical in 100s	Pure Premium
			No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s	No.	Comp. in 100s		
RATIOS = [C. TRANSLATED PAYROLLS, TRANSLATED LOSSES & PURE PREMIUMS (INCLUDING IBNR AND FREQUENCY TREND)] / [A. EXPERIENCE AS REPORTED]														
Prior	** Data for Prior Years is not available from the referenced source. **													
2009		1.088	0.989	1.071	1.000	1.456	1.000	1.042	1.000	0.998	1.000	1.005	1.158	1.088
2010		1.113	0.989	1.062	1.037	1.635	1.013	1.069	1.002	0.998	1.000	1.012	1.193	1.113
2011		1.149	1.000	1.103	1.222	2.125	1.073	1.162	1.002	0.989	1.001	1.028	1.216	1.150
2012		1.237	0.989	1.113	1.190	2.335	1.375	1.562	0.982	0.974	1.007	1.045	1.250	1.237
2013		1.560	1.013	1.161	1.286	2.550	3.045	3.619	1.760	1.780	0.926	0.922	1.389	1.545
All		1.214	0.996	1.101	1.126	1.922	1.245	1.367	1.089	1.092	0.986	0.999	1.240	1.212

CMCRB - SELECTED RATIOS

Prior	6th-10th	1.000	1.035	1.000	1.207	1.000	1.021	1.000	1.000	1.000	1.000
2009	5th	0.989	1.071	1.000	1.456	1.000	1.042	1.000	0.998	1.000	1.005
2010	4th	0.989	1.062	1.037	1.635	1.013	1.069	1.002	0.998	1.000	1.012
2011	3rd	1.000	1.103	1.222	2.125	1.073	1.162	1.002	0.989	1.001	1.028
2012	2nd	0.989	1.113	1.190	2.335	1.375	1.562	0.982	0.974	1.007	1.045
2013	1st	1.013	1.161	1.286	2.550	3.045	3.619	1.760	1.780	0.926	0.922

Notes: RATIOS are the ratios of Exhibit 2 Section C. to Exhibit 2 Section A.

CMCRB - SELECTED RATIOS:

For 1st through 5th, PCRB Ratios were selected.

For 6th through 10th, unity was selected, except for the ratios that are identified with an outside border.

For ratios identified with an outside border, the Square Root of the 5th value was selected.

CMCRB Unit Statistical Data

Acc. Year	Applied to	Death		Perm. Total		Major Perm.		Minor Perm.		Temporary	
		No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.
A. Experience as Reported											
Prior		4	3,073,949	4	1,235,210	119	24,751,373	59	2,773,241	743	5,696,753
2012		0	0	0	0	30	6,811,911	25	1,100,108	145	1,381,654
2013		1	3,000	0	0	28	5,314,040	24	927,256	122	1,216,962
2014		0	0	0	0	44	8,553,403	35	1,080,951	210	2,147,056
2015		3	2,226,410	0	0	23	3,689,265	39	1,642,000	116	1,692,267
2016		1	895,385	0	0	12	1,321,336	27	901,417	100	1,753,817
All		9	6,198,744	4	1,235,210	256	50,441,328	209	8,424,973	1,436	13,888,509
B. CMCRB - Selected Ratios											
	Applied to										
6th-10th	Prior	1.000	1.035	1.000	1.207	1.000	1.021	1.000	1.000	1.000	1.000
5th	2012	0.989	1.071	1.000	1.456	1.000	1.042	1.000	0.998	1.000	1.005
4th	2013	0.989	1.062	1.037	1.635	1.013	1.069	1.002	0.998	1.000	1.012
3rd	2014	1.000	1.103	1.222	2.125	1.073	1.162	1.002	0.989	1.001	1.028
2nd	2015	0.989	1.113	1.190	2.335	1.375	1.562	0.982	0.974	1.007	1.045
1st	2016	1.013	1.161	1.286	2.550	3.045	3.619	1.760	1.780	0.926	0.922
C. Adjusted Experience											
Prior		4	3,181,537	4	1,490,898	119	25,271,152	59	2,773,241	743	5,696,753
2012		0	0	0	0	30	7,098,011	25	1,097,908	145	1,388,562
2013		1	3,186	0	0	28	5,680,709	24	925,401	122	1,231,566
2014		0	0	0	0	47	9,939,054	35	1,069,061	210	2,207,174
2015		3	2,477,994	0	0	32	5,762,632	38	1,599,308	117	1,768,419
2016		1	1,039,542	0	0	37	4,781,915	48	1,604,522	93	1,617,019
All		9	6,702,259	4	1,490,898	293	58,533,473	229	9,069,441	1,430	13,909,493

Source: A. Experience as Reported is from the CMCRB's Traumatic claim database as of 04/30/2017 - Validated 08/15/2017.

Prior is the combination of Accident Years 2007-2011.

B. CMCRB - Selected Ratios - see Exhibit 2.

C. Adjusted Experience is product of Section A. times Section B.

Summary of Unit Statistical Data

A. PCRB Data - Ultimate Basis (from Exhibit 2 - Section C.)

Type of Injury	Ultimate (III-C) Claim Amount	Distribution of Ultimate Claim Amount	Count	Average Cost	PT Avg Cost/ TOI Avg 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%			

B. CMCRB Data - Ultimate Basis (from Exhibit 4 - Section C.)

Type of Injury	CMCRB Ultimate Claim Amount	Distribution of Ultimate Claim Amount	Count	Average Cost	PT Avg Cost/ TOI Avg Cost
Death	6,702,259	7.47%	9	744,695	
Permanent Total	1,490,898	1.66%	4	372,725	
Major	58,533,473	65.25%	293	199,773	1.8657
Minor	9,069,441	10.11%	229	39,605	9.4112
Temporary Total	13,909,493	15.51%	1,430	9,727	38.3189
Total Indemnity	89,705,564	100.00%			

CMCRB's Indicated Change in Loss Costs Due to the Protz Decision - Ultimate Basis

Type of Injury	Benefit Weight (1)	Protz Impact on Frequency (2)	Protz Impact on Severity (3)	Combined Effect (4)=(1)x(2)x(3)
Death	7.47%		1.0000	0.0747
Permanent Total	1.66%		1.0000	0.0166
Major	65.25%			
Major to Major		92.59%	1.0000	0.6042
Major to Permanent Total		7.41%	1.8657	0.0902
Minor	10.11%			
Minor to Minor		97.67%	1.0000	0.0987
Minor to Permanent Total		2.33%	9.4112	0.0222
Temporary Total	15.51%			
Temporary Total to Temporary Total		99.71%	1.0000	0.1546
Temporary Total to Permanent Total		0.29%	38.3189	0.0172
Impact on Indemnity Loss Cost				1.0784
PCRB's Impact on Indemnity Loss Cost				1.1337

Columns (1) & (3) - see Exhibit 5 - Section B.

Column (2) - PCRB Filing No. C-369 - Exhibit I (or Exhibit 1 of this filing)

**Coal Mine Compensation Rating Bureau
Current and Proposed Loss Costs
Manual Including Loadings**

	2016 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Underground Anthracite:				
Traumatic (1010)	\$163,760	\$20.44	\$19.67	-3.8%
State O.D. (1011)	163,760	6.59	8.24	25.0%
*Federal Basic/Ex (0160)	163,760	11.90	10.54	-11.4%
Total	xx	38.93	38.45	-1.2%
Underground Bituminous:				
Traumatic (1001)	\$148,894,215	\$6.18	\$6.09	-1.5%
State O.D. (1002)	148,894,215	0.59	0.44	-25.0%
*Federal Basic/Ex (0158)	118,883,295	0.72	0.63	-12.5%
Total	xx	7.49	7.16	-4.4%
Surface Anthracite:				
Traumatic (1012)	\$20,810,850	\$8.27	\$8.24	-0.4%
State O.D. (1016)	20,810,850	1.67	1.81	8.4%
*Federal Basic/Ex (0153)	19,043,330	2.78	2.54	-8.6%
Total	xx	12.72	12.59	-1.0%
Surface Bituminous:				
Traumatic (1014)	\$28,999,042	\$2.45	\$2.28	-6.9%
State O.D. (1013)	28,999,042	0.14	0.16	14.3%
*Federal Basic/Ex (0156)	29,758,888	0.63	0.73	15.9%
Total	xx	3.22	3.17	-1.6%
Four Standard Classifications:				
Traumatic	\$198,867,867	\$5.87	\$5.77	-1.7%
State O.D.	198,867,867	0.64	0.55	-14.1%
*Federal Basic/Ex	167,849,273	0.95	0.87	-8.4%
Total	xx	7.46	7.19	-3.6%

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2017) - Exhibit X-B-2
Column (2) Proposed - Exhibit I-B, pages 1 and 2
Column (3) Traumatic Column (2) / Column (1)
OD Exhibit III and IV-A

**Coal Mine Compensation Rating Bureau
Current and Proposed Loss Costs
Manual Including Loadings**

	2016 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Coke:				
Traumatic (1469)	\$2,313,724	\$4.54	\$3.55	-21.8%
State O.D. (1017)	2,313,724	0.12	0.09	-25.0%
*Federal Basic/Ex (0154)	2,313,724	0.09	0.09	0.0%
Total	xx	4.75	3.73	-21.5%
Auger:				
Traumatic (1015)	\$372,496	\$16.44	\$13.68	-16.8%
State O.D. (1019)	372,496	0.24	0.19	-20.8%
*Federal Basic/Ex (0157)	392,776	0.33	0.36	9.1%
Total	xx	17.01	14.23	-16.3%
Co-Gen Anthracite:				
Traumatic (1021)	\$10,847,424	\$3.12	\$3.90	25.0%
State O.D. (1022)	10,847,424	0.30	0.29	-3.3%
*Federal Basic/Ex (0181)	9,784,031	0.42	0.40	-4.8%
Total	xx	3.84	4.59	19.5%
Co-Gen Bituminous:				
Traumatic (1023)	\$11,386,837	\$1.14	\$1.18	3.5%
State O.D. (1024)	11,386,837	0.42	0.32	-25.0%
*Federal Basic/Ex (0182)	11,386,837	0.31	0.30	-3.2%
Total	xx	1.87	1.80	-3.7%
Prep Plant Anthracite:				
Traumatic (1025)	\$6,971,270	\$4.53	\$4.80	6.0%
State O.D. (1026)	6,971,270	2.19	2.17	-0.9%
*Federal Basic/Ex (0183)	5,458,272	0.97	0.94	-3.1%
Total	xx	7.69	7.91	2.9%
Prep Plant Bituminous:				
Traumatic (1027)	\$22,131,423	\$1.81	\$2.26	24.9%
State O.D. (1028)	22,131,423	0.21	0.16	-23.8%
*Federal Basic/Ex (0184)	18,510,111	0.36	0.35	-2.8%
Total	xx	2.38	2.77	16.4%
Other Classifications:				
Traumatic	\$54,023,174	\$2.50	\$2.82	12.8%
State O.D.	54,023,174	0.52	0.48	-7.7%
*Federal Basic/Ex	47,845,751	0.42	0.41	-2.4%
Total	xx	3.44	3.71	7.8%
Grand Total:				
Traumatic	\$252,891,041	\$5.15	\$5.14	-0.2%
State O.D.	252,891,041	0.61	0.54	-11.5%
*Federal Basic/Ex	215,695,024	0.83	0.77	-7.2%
Total	xx	6.59	6.45	-2.1%

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2017) - Exhibit X-B-2
Column (2) Proposed - Exhibit I-B, pages 1 and 2
Column (3) Traumatic Column (2) / Column (1)
OD Exhibit III and IV-A

Coal Mine Compensation Rating Bureau
Current and Proposed Loss Costs
Unloaded Manual

	2016 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
Underground Anthracite:					
Traumatic (1010)	\$163,760	\$20.01	\$19.20	\$19.20	-4.0%
State O.D. (1011)	163,760	6.59	10.21	8.24	25.0%
*Federal Basic/Ex (0160)	163,760	11.90	10.54	10.54	-11.4%
Total	xx	38.50	39.95	37.98	-1.4%
Underground Bituminous:					
Traumatic (1001)	\$148,894,215	\$5.96	\$5.82	\$5.82	-2.3%
State O.D. (1002)	148,894,215	0.59	0.44	0.44	-25.0%
*Federal Basic/Ex (0158)	118,883,295	0.72	0.63	0.63	-12.5%
Total	xx	7.27	6.89	6.89	-5.2%
Surface Anthracite:					
Traumatic (1012)	\$20,810,850	\$8.13	\$8.09	\$8.09	-0.5%
State O.D. (1016)	20,810,850	1.67	1.81	1.81	8.4%
*Federal Basic/Ex (0153)	19,043,330	2.78	2.54	2.54	-8.6%
Total	xx	12.58	12.44	12.44	-1.1%
Surface Bituminous:					
Traumatic (1014)	\$28,999,042	\$2.39	\$2.22	\$2.22	-7.1%
State O.D. (1013)	28,999,042	0.14	0.16	0.16	14.3%
*Federal Basic/Ex (0156)	29,758,888	0.63	0.73	0.73	15.9%
Total	xx	3.16	3.11	3.11	-1.6%
Four Standard Classifications:					
Traumatic	\$198,867,867	\$5.68	\$5.54	\$5.54	-2.5%
State O.D.	198,867,867	0.64	0.55	0.55	-14.1%
*Federal Basic/Ex	167,849,273	0.95	0.87	0.87	-8.4%
Total	xx	7.27	6.96	6.96	-4.3%

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Exhibit X-B Page 2

Column (2) Indicated Loss Cost - Exh. II, col(3) (Traumatic); Exh. III, col(5) (State O.D.); Exh. IV-A, col(5) (Federal O.D. After Adm/Law)

Column (3) Proposed Loss Cost - Exh. II, col(4) (Traumatic); Exh. III, col(8) (State O.D.); Exh. IV-A, col(7) (Federal O.D. After Adm/Law)

Column (4) Exhibit II, III or IV-A

**Coal Mine Compensation Rating Bureau
Current and Proposed Loss Costs
Unloaded Manual**

	2016 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
Coke:					
Traumatic (1469)	\$2,313,724	\$4.45	\$3.47	\$3.47	-22.0%
State O.D. (1017)	2,313,724	0.12	0.09	0.09	-25.0%
*Federal Basic/Ex (0154)	2,313,724	0.09	0.09	0.09	0.0%
Total	xx	4.66	3.65	3.65	-21.7%
Auger:					
Traumatic (1015)	\$372,496	\$16.14	\$13.40	\$13.40	-17.0%
State O.D. (1019)	372,496	0.24	0.19	0.19	-20.8%
*Federal Basic/Ex (0157)	392,776	0.33	0.36	0.36	9.1%
Total	xx	16.71	13.95	13.95	-16.5%
Co-Gen Anthracite:					
Traumatic (1021)	\$10,847,424	\$3.05	\$4.30	\$3.81	25.0%
State O.D. (1022)	10,847,424	0.30	0.29	0.29	-3.3%
*Federal Basic/Ex (0181)	9,784,031	0.42	0.40	0.40	-4.8%
Total	xx	3.77	4.99	4.50	19.4%
Co-Gen Bituminous:					
Traumatic (1023)	\$11,386,837	\$1.10	\$1.13	\$1.13	2.7%
State O.D. (1024)	11,386,837	0.42	0.30	0.32	-25.0%
*Federal Basic/Ex (0182)	11,386,837	0.31	0.30	0.30	-3.2%
Total	xx	1.83	1.73	1.75	-4.4%
Prep Plant Anthracite:					
Traumatic (1025)	\$6,971,270	\$4.44	\$4.70	\$4.70	5.9%
State O.D. (1026)	6,971,270	2.19	2.17	2.17	-0.9%
*Federal Basic/Ex (0183)	5,458,272	0.97	0.94	0.94	-3.1%
Total	xx	7.60	7.81	7.81	2.8%
Prep Plant Bituminous:					
Traumatic (1027)	\$22,131,423	\$1.76	\$2.56	\$2.20	25.0%
State O.D. (1028)	22,131,423	0.21	0.16	0.16	-23.8%
*Federal Basic/Ex (0184)	18,510,111	0.36	0.35	0.35	-2.8%
Total	xx	2.33	3.07	2.71	16.3%
Other Classifications:					
Traumatic	\$54,023,174	\$2.44	\$3.00	\$2.75	12.7%
State O.D.	54,023,174	0.52	0.47	0.48	-7.7%
*Federal Basic/Ex	47,845,751	0.42	0.41	0.40	-4.8%
Total	xx	3.38	3.88	3.63	7.4%
Grand Total:					
Traumatic	\$252,891,041	\$4.99	\$5.00	\$4.95	-0.8%
State O.D.	252,891,041	0.61	0.53	0.54	-11.5%
*Federal Basic/Ex	215,695,024	0.83	0.77	0.77	-7.2%
Total	xx	6.43	6.30	6.26	-2.6%

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Exhibit X-B Page 2

Column (2) Indicated Loss Cost - Exh. II, col(3) (Traumatic); Exh. III, col(5) (State O.D.); Exh. IV-A, col(5) (Federal O.D. After Adm/Law)

Column (3) Proposed Loss Cost - Exh. II, col(4) (Traumatic); Exh. III, col(8) (State O.D.); Exh. IV-A, col(7) (Federal O.D. After Adm/Law)

Column (4) Exhibit II, III or IV-A

**Coal Mine Compensation Rating Bureau
Current and Proposed Loss Costs
Unloaded Manual**

Calculation of Proposed Unloaded Loss Costs

Underground Anthracite

Traumatic (1010)		Indicated Loss Cost.
State O.D. (1011)		Indicated unloaded loss cost limited to 25.0%(Exhibit III).
*Federal O.D. (0160)	Basic/Ex	Indicated Loss Cost.

Underground Bituminous

Traumatic (1001)		Indicated Loss Cost.
State O.D. (1002)		Indicated Loss Cost.
*Federal O.D. (0158)	Basic/Ex	Indicated Loss Cost.

Surface Anthracite

Traumatic (1012)		Indicated Loss Cost.
State O.D. (1016)		Indicated Loss Cost.
*Federal O.D. (0153)	Basic/Ex	Indicated Loss Cost.

Surface Bituminous

Traumatic (1014)		Indicated Loss Cost.
State O.D. (1013)		Indicated Loss Cost.
*Federal O.D. (0156)	Basic/Ex	Indicated Loss Cost.

Coke

Traumatic (1469)		Indicated Loss Cost.
State O.D. (1017)		Indicated Loss Cost.
*Federal O.D. (0154)	Basic/Ex	Indicated Loss Cost.

Auger

Traumatic (1015)		Indicated Loss Cost.
State O.D. (1019)		Indicated Loss Cost.
*Federal O.D. (0157)	Basic/Ex	Indicated Loss Cost.

Co-Gen Anthracite

Traumatic (1021)		Indicated unloaded loss cost limited to 25.0%(Exhibit II).
State O.D. (1022)		Indicated Loss Cost.
*Federal O.D. (0181)	Basic/Ex	Indicated Loss Cost.

Co-Gen Bituminous

Traumatic (1023)		Indicated Loss Cost.
State O.D. (1024)		Indicated unloaded loss cost limited to -25.0%(Exhibit III).
*Federal O.D. (0182)	Basic/Ex	Indicated Loss Cost.

Prep Plant Anthracite

Traumatic (1025)		Indicated Loss Cost.
State O.D. (1026)		Indicated Loss Cost.
*Federal O.D. (0183)	Basic/Ex	Indicated Loss Cost.

Prep Plant Bituminous

Traumatic (1027)		Indicated unloaded loss cost limited to 25.0%(Exhibit II).
State O.D. (1028)		Indicated Loss Cost.
*Federal O.D. (0184)	Basic/Ex	Indicated Loss Cost.

*Federal Basic and Excess are after the Federal Administrative / Law Change

**Coal Mine Compensation Rating Bureau
Manual Loss Cost Loaded (after Capping)
For Catastrophe, Off-Balances, and Assessment
Proposed to Become Effective 4-1-2018**

	(1) Proposed Loss Cost Before Loading	(2) Catastrophe Loss Cost	(3) Loss Cost Including Catastrophe	(4) Loss Cost Including Off-Balance ^(a)	(5) Loss Cost Inc. Off-Balance ^(a) & Assessment ^(b)
2016 Developed Payroll					
Underground Anthracite:					
Traumatic (1010)	\$163,760	\$19.20	\$0.18	\$19.38	\$19.67
State O.D. (1011)	163,760	8.24			8.24
*Federal Basic/Ex (0160)	163,760	10.54			10.54
Total	xx	37.98			38.45
Underground Bituminous:					
Traumatic (1001)	\$148,894,215	\$5.82	\$0.18	\$6.00	\$6.09
State O.D. (1002)	148,894,215	0.44			0.44
*Federal Basic/Ex (0158)	118,883,295	0.63			0.63
Total	xx	6.89			7.16
Surface Anthracite:					
Traumatic (1012)	\$20,810,850	\$8.09	\$0.03	\$8.12	\$8.24
State O.D. (1016)	20,810,850	1.81			1.81
*Federal Basic/Ex (0153)	19,043,330	2.54			2.54
Total	xx	12.44			12.59
Surface Bituminous:					
Traumatic (1014)	\$28,999,042	\$2.22	\$0.03	\$2.25	\$2.28
State O.D. (1013)	28,999,042	0.16			0.16
*Federal Basic/Ex (0156)	29,758,888	0.73			0.73
Total	xx	3.11			3.17
Four Standard Classifications:					
Traumatic	\$198,867,867	\$5.54	\$0.14	\$5.69	\$5.77
State O.D.	198,867,867	0.55			0.55
*Federal Basic/Ex	167,849,273	0.87			0.87
Total	xx	6.96			7.19

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Proposed Loss Cost Before Loading - Exhibit II for Traumatic, Exhibit III for State OD, and Exhibit IV for Federal OD.

Column (2) Catastrophe - Exhibit XII-A

Column (3) (1)+(2)

Columns (4)(a) & (5)(a) Off-balances applied to Traumatic only

Exhibit XIV-A	Experience Rating	1.0000
Exhibit XIV-B	Merit Rating	1.0002
	Safety Rating	1.0149
	Combined	1.0151

(5)(b) Loss-based Assessment factor in present rates
applied to Traumatic & State OD loss costs =1.0001

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Effective Date - April 01, 2018
1,131,172,389.960200

**Coal Mine Compensation Rating Bureau
Manual Loss Cost Loaded (after Capping)
For Catastrophe, Off-Balances, and Assessment
Proposed to Become Effective 4-1-2018**

	(1) Proposed Loss Cost Before Loading	(2) Catastrophe Loss Cost	(3) Loss Cost Including Catastrophe	(4) Loss Cost Including Off-Balance ^(a)	(5) Loss Cost Inc. Off-Balance ^(a) & Assessment ^(b)
2016 Developed Payroll					
Coke:					
Traumatic (1469)	\$2,313,724	\$3.47	\$0.03	\$3.50	\$3.55
State O.D. (1017)	2,313,724	0.09			0.09
*Federal Basic/Ex (0154)	2,313,724	0.09			0.09
Total	xx	3.65			3.73
Auger:					
Traumatic (1015)	\$372,496	\$13.40	\$0.08	\$13.48	\$13.68
State O.D. (1019)	372,496	0.19			0.19
*Federal Basic/Ex (0157)	392,776	0.36			0.36
Total	xx	13.95			14.23
Co-Gen Anthracite:					
Traumatic (1021)	\$10,847,424	\$3.81	\$0.03	\$3.84	\$3.90
State O.D. (1022)	10,847,424	0.29			0.29
*Federal Basic/Ex (0181)	9,784,031	0.40			0.40
Total	xx	4.50			4.59
Co-Gen Bituminous:					
Traumatic (1023)	\$11,386,837	\$1.13	\$0.03	\$1.16	\$1.18
State O.D. (1024)	11,386,837	0.32			0.32
*Federal Basic/Ex (0182)	11,386,837	0.30			0.30
Total	xx	1.75			1.80
Prep Plant Anthracite:					
Traumatic (1025)	\$6,971,270	\$4.70	\$0.03	\$4.73	\$4.80
State O.D. (1026)	6,971,270	2.17			2.17
*Federal Basic/Ex (0183)	5,458,272	0.94			0.94
Total	xx	7.81			7.91
Prep Plant Bituminous:					
Traumatic (1027)	\$22,131,423	\$2.20	\$0.03	\$2.23	\$2.26
State O.D. (1028)	22,131,423	0.16			0.16
*Federal Basic/Ex (0184)	18,510,111	0.35			0.35
Total	xx	2.71			2.77
Other Classifications:					
Traumatic	\$54,023,174	\$2.75	\$0.03	\$2.78	\$2.82
State O.D.	54,023,174	0.48			0.48
*Federal Basic/Ex	47,845,751	0.41			0.41
Total	xx	3.64			3.71
Grand Total:					
Traumatic	\$252,891,041	\$4.95	\$0.12	\$5.07	\$5.14
State O.D.	252,891,041	0.54			0.54
*Federal Basic/Ex	215,695,024	0.77			0.77
Total	xx	6.26			6.45

*Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Proposed Loss Cost Before Loading - Exhibit II for Traumatic, Exhibit III for State OD, and Exhibit IV for Federal OD.

Column (2) Catastrophe - Exhibit XII-A

Column (3) (1)+(2)

Columns (4)(a) & (5)(a) Off-balances applied to Traumatic only

Experience Rating	1.0000
Exhibit XIV-A Merit Rating	1.0002
Exhibit XIV-B Safety Rating	1.0149
Combined	1.0151

(5)(b) Loss-based Assessment factor in present rates
applied to Traumatic & State OD loss costs = 1.0001

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Effective Date - April 01, 2018
1,033,263,577.460200

**COAL MINE COMPENSATION RATING BUREAU
TRAUMATIC LOSS COST INDICATIONS
Proposed Unloaded Loss Costs**

Exhibit II

<u>Classification</u>		<u>Code</u>	(1) 2016 Developed Payroll	(2) Approved Unloaded Loss Cost (Eff 4/01/2017)	(3) Indicated Unloaded Loss Cost	(4) Proposed Unloaded Loss Cost (Exh V-A-1)	(5) Percent Change
Underground:	Anthracite	1010	\$163,760	20.01	19.20	19.20	-4.0%
	Bituminous	1001	148,894,215	5.96	5.82	5.82	-2.3%
Surface:	Anthracite	1012	20,810,850	8.13	8.09	8.09	-0.5%
	Bituminous	1014	28,999,042	<u>2.39</u>	<u>2.22</u>	<u>2.22</u>	<u>-7.1%</u>
Four Standard Classes			198,867,867	5.68	5.54	5.54	-2.5%
Other Classes	Coke	1469	2,313,724	4.45	3.47	3.47	-22.0%
	Auger	1015	372,496	16.14	13.40	13.40	-17.0%
Co-Gen:	Anthracite	1021	10,847,424	3.05	4.30	3.81	25.0%
	Bituminous	1023	11,386,837	1.10	1.13	1.13	2.7%
Prep Plants:	Anthracite	1025	6,971,270	4.44	4.70	4.70	5.9%
	Bituminous	1027	22,131,423	<u>1.76</u>	<u>2.56</u>	<u>2.20</u>	<u>25.0%</u>
Other Classes			54,023,174	2.44	3.00	2.75	12.7%
All Classes Combined			252,891,041	4.99	5.00	4.95	-0.8%

Sources: Column (1) Exhibit X-A
Column (2) Unloaded Loss Cost-Exhibit X-B,pg.2
Column (3) Exhibit V-A-1 Col.(7)
Column (4) Exhibit V-A-1 Col.(10)
Column (5) Exhibit V-A-1 Col.(9)

**COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE LOSS COST**

Exhibit III

<u>Classification</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<u>2016 Developed Payroll</u>	<u>Approved Unloaded Loss Cost</u>	<u>Average Freq. per \$1 mill.</u>	<u>Indicated Average Severity</u>	<u>Loss Cost (Rate)</u>	<u>Indicated Change</u>	<u>Proposed Change</u>	<u>Proposed Loss Cost</u>
Underground								
1011 Anthracite	\$163,760	\$6.59	0.159092	\$641,539	\$10.21	54.9%	25.0%	\$8.24
1002 Bituminous	\$148,894,215	\$0.59	0.016360	\$266,850	0.44	-25.4%	-25.0%	0.44
Surface								
1016 Anthracite	\$20,810,850	\$1.67	0.036950	\$491,032	1.81	8.4%	8.4%	1.81
1013 Bituminous	\$28,999,042	<u>0.14</u>	0.004403	\$356,065	<u>0.16</u>	<u>14.3%</u>	<u>14.3%</u>	<u>0.16</u>
Four Standard Classes	\$198,867,867	\$0.64			\$0.55	-14.1%	-14.1%	\$0.55
1017 Coke	\$2,313,724	0.12	0.002640	356,065	0.09	-25.0%	-25.0%	0.09
1019 Auger	\$372,496	0.24	0.005427	356,065	0.19	-20.8%	-20.8%	0.19
Co-Gen								
1022 Anthracite	\$10,847,424	0.30	0.005863	491,032	0.29	-3.3%	-3.3%	0.29
1024 Bituminous	\$11,386,837	0.42	0.008492	356,065	0.30	-28.6%	-25.0%	0.32
Prep Plant								
1026 Anthracite	\$6,971,270	2.19	0.044105	491,032	2.17	-0.9%	-0.9%	2.17
1028 Bituminous	\$22,131,423	<u>0.21</u>	0.004433	356,065	<u>0.16</u>	<u>-23.8%</u>	<u>-23.8%</u>	<u>0.16</u>
Other Classes	\$54,023,174	\$0.52			\$0.47	-9.6%	-7.7%	\$0.48
All Classes Combined	\$252,891,041	\$0.61			\$0.53	-13.1%	-11.5%	\$0.54

Sources: Column (1): Exhibit X-A
Column (2): Exhibit X-B Page 2
Column (3): Exhibit VII-B-1, Column (10)
Column (4): Four Standard Classes - Exhibit VII-A, pages 1 through 4
Coke, Auger, Prep Plant Bituminous and Co-Gen Bituminous = Surface Bituminous
Prep Plant Anthracite, Co-Gen Anthracite = Surface Anthracite
Column (5): [Column (3) times Column (4)] divided by 10,000.
Column (6): [Column (5) divided by Column (2)] minus 1.0
Column (7): Column (6) limited to +/- 25%.
Column (8): Column (2) times [1.000+Column(7)] and rounded.

**COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE LOSS COST INDICATION**

Exhibit IV-A

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Indicated					
Classification		2016 Developed Payroll	Approved Unloaded Loss Cost	Average Freq. per \$1 mill.	Average Severity	Loss Cost (Rate)	Indicated Change	Loss Cost w/ Limitation 25%	% Change w/Limitation 25%
Underground									
Anthracite:	Basic			0.232560	415,903	9.67			
	Excess			0.068365	127,663	0.87			
	Total	\$163,760	\$11.90			10.54	-11.4%	\$ 10.54	-11.4%
Bituminous:	Basic			0.012002	389,814	0.47			
	Excess			0.006404	242,265	0.16			
	Total	\$118,883,295	\$0.72			0.63	-12.5%	\$ 0.63	-12.5%
Surface									
Anthracite:	Basic			0.074631	328,752	2.45			
	Excess			0.015164	60,970	0.09			
	Total	\$19,043,330	\$2.78			2.54	-8.6%	\$ 2.54	-8.6%
Bituminous:	Basic			0.022048	317,672	0.70			
	Excess			0.001551	209,610	0.03			
	Total	\$29,758,888	\$0.63			0.73	15.9%	\$ 0.73	15.9%
Four Standard Classes	Basic					0.74			
	Excess					0.13			
	Total	\$167,849,273	\$0.95			0.87	-8.4%	\$ 0.87	-8.4%
Coke	Basic			0.002353	317,672	0.07			
	Excess			0.001073	209,610	0.02			
	Total	\$2,313,724	\$0.09			0.09	0.0%	\$ 0.09	0.0%
Auger	Basic			0.009834	317,672	0.31			
	Excess			0.002265	209,610	0.05			
	Total	\$392,776	\$0.33			0.36	9.1%	\$ 0.36	9.1%
Co-Gen									
Anthracite:	Basic			0.011897	328,752	0.39			
	Excess			0.002177	60,970	0.01			
	Total	\$9,784,031	\$0.42			0.40	-4.8%	\$ 0.40	-4.8%
Bituminous:	Basic			0.007678	317,672	0.24			
	Excess			0.002893	209,610	0.06			
	Total	\$11,386,837	\$0.31			0.30	-3.2%	\$ 0.30	-3.2%
Prep Plants									
Anthracite:	Basic			0.025093	328,752	0.82			
	Excess			0.020048	60,970	0.12			
	Total	\$5,458,272	\$0.97			0.94	-3.1%	\$ 0.94	-3.1%
Bituminous:	Basic			0.009624	317,672	0.31			
	Excess			0.001709	209,610	0.04			
	Total	\$18,510,111	\$0.36			0.35	-2.8%	\$ 0.35	-2.8%
Other Classes	Basic					0.36			
	Excess					0.05			
	Total	\$47,845,751	\$0.42			0.41	-2.4%	\$ 0.41	-2.4%
All Classes Combined	Basic					0.66			
	Excess					0.11			
	Total	\$215,695,024	\$0.83			0.77	-7.2%	\$ 0.77	-7.2%

Sources: Column (1): Exhibit X-A
Column (2): X-B Page 2
Column (3): Exhibit IV-B page 1 col. (10) (Basic) and Exhibit IV-B page 2 col. (10) (Excess)
Column (4): Four Standard Classes - Exhibit VIII-A (Basic) and Exhibit VII-A, Pages 1 through 4 (Federal Excess).
Coke, Auger, Prep Plant Bituminous and Co-Gen Bituminous = Surface Bituminous
Prep Plant Anthracite, Co-Gen Anthracite = Surface Anthracite
Column (5): [Column (3) times Column (4)] divided by 10,000.
Column (6): [Column (5) divided by Column (2)] minus 1.0
Column (7): Column (2) x [1+Column (8)]
Column (8): Column (6) Limited to +/-25%

COAL MINE COMPENSATION RATING BUREAU
Federal Basic Occupational Disease Classification Frequency (Basic)

Exhibit IV-B
Page 1

Classification	Class Code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Estimated Miner Years 2007-2016	Claim Frequency Per 100 Miner Years Approved (Eff 4/1/2017)	Trended to 4/1/2018	Indicated (Eff 4/1/2018)	Credibility Expected Awarded Claims	Credibility Factor	Claim Frequency Indicated w/ Credibility	Change in Indication After Cred.	Payroll 2007-2016	Frequency Per \$1M Payroll
Underground: Anthracite	0160	212.6	1.228191	1.228191	0.488498	2.611	0.214	1.069897	-12.9%	9,780,689	0.232560
	Bituminous 0158	18,762.1	0.099503	0.099503	0.070825	18.669	0.574	0.083042	-16.5%	1,298,136,351	0.012002
Surface: Anthracite	0153	3,829.4	0.415718	0.415718	0.313276	15.920	0.530	0.361424	-13.1%	185,450,672	0.074631
	Bituminous 0156	13,323.1	0.097424	0.097424	0.112563	12.980	0.478	0.104660	7.4%	632,437,858	0.022048
Four Standard Classifications		36,127.2	0.138896	0.138896	0.114374	50.180		0.126330		2,125,805,570	0.021469
Coke	0154	1,272.4	0.010954	0.010954	0.011194	0.139	0.049	0.010966	0.1%	59,287,880	0.002353
	Auger 0157	220.2	0.043473	0.043473	0.109790	0.096	0.041	0.046192	6.3%	10,342,915	0.009834
Co-Gen: Anthracite	0181	1,824.3	0.061594	0.061594	0.030971	1.124	0.141	0.057276	-7.0%	87,824,840	0.011897
	Bituminous 0182	2,054.6	0.037985	0.037985	0.030407	0.780	0.117	0.037098	-2.3%	99,272,408	0.007678
Prep Plants: Anthracite	0183	1,280.4	0.128138	0.128138	0.084932	1.641	0.170	0.120793	-5.7%	61,635,944	0.025093
	Bituminous 0184	3,837.4	0.072853	0.072853	0.042894	2.796	0.222	0.066202	-9.1%	263,978,506	0.009624
Other Classes		10,489.3	0.062688	0.062688	0.041065	6.576		0.058492		582,342,493	0.010536
Total		46,616.5	0.121749	0.121749	0.097879	56.756		0.111065		2,708,148,063	0.019118

Source: Column (1) – Exhibit VIII-B-2, Pages 1-3
Column (2) – Exhibit IV-B-4, Column (10)
Column (3) – Column (2) trended to 4/1/2018 @ 0.0%
Column (4) – Exhibit IV-B-3, Column (5)
Column (5) = (1) * (3) / 100
Column (6) = [(5) / 56.756] ^ (0.5)
Column (7) = (4)*(6) + ((3)*(1-(6)))
Column (8) = (7) / (2) – 1
Column (9) – Exhibit X-A
Column (10) = (7)*(1) / [(9) * 10,000]
Totals and Subtotals for Columns (2), (3), (4) and (7) are weighted using Column (1).

COAL MINE COMPENSATION RATING BUREAU
Federal Excess Occupational Disease Classification Frequency (Excess)

Exhibit IV-B
Page 2

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Estimated	Claim Frequency Per 100 Miner Years			Credibility	Credibility	Claim	Change in	Payroll	Frequency
<u>Classification</u>	<u>Class Code</u>	<u>Miner Years 2007-2016</u>	<u>Approved (Eff 4/1/2017)</u>	<u>Trended to 4/1/2018</u>	<u>Indicated (Eff 4/1/2018)</u>	<u>Expected Awarded Claims</u>		<u>Frequency Indicated w/ Credibility</u>	<u>Indication After Cred.</u>	<u>2007-2016</u>	<u>Per \$1M Payroll</u>
Underground: Anthracite	0160	212.6	0.248253	0.248253	0.593358	0.528	0.192	0.314513	26.7%	9,780,689	0.068365
	Bituminous 0158	18,762.1	0.041772	0.041772	0.045210	7.837	0.738	0.044309	6.1%	1,298,136,351	0.006404
Surface: Anthracite	0153	3,829.4	0.072503	0.072503	0.074625	2.776	0.439	0.073435	1.3%	185,450,672	0.015164
	Bituminous 0156	13,323.1	0.005931	0.005931	0.012053	0.790	0.234	0.007364	24.2%	632,437,858	0.001551
Four Standard Classifications		36,127.2	0.033027	0.033027	0.039326	11.931		0.035362		2,125,805,570	0.006010
Coke	0154	1,272.4	0.005149	0.005149	0.002968	0.066	0.068	0.005001	-2.9%	59,287,880	0.001073
	Auger 0157	220.2	0.010966	0.010966	0.003030	0.024	0.041	0.010641	-3.0%	10,342,915	0.002265
Co-Gen: Anthracite	0181	1,824.3	0.011440	0.011440	0.003520	0.209	0.121	0.010482	-8.4%	87,824,840	0.002177
	Bituminous 0182	2,054.6	0.015810	0.015810	0.003608	0.325	0.150	0.013980	-11.6%	99,272,408	0.002893
Prep Plants: Anthracite	0183	1,280.4	0.102085	0.102085	0.083616	1.307	0.302	0.096507	-5.5%	61,635,944	0.020048
	Bituminous 0184	3,837.4	0.013409	0.013409	0.004662	0.515	0.189	0.011756	-12.3%	263,978,506	0.001709
Other Classes		10,489.3	0.023308	0.023308	0.013655	2.446		0.021473		582,342,493	0.003868
Total		46,616.5	0.030840	0.030840	0.033550	14.377		0.032237		2,708,148,063	0.005549

Source: Column (1) – Exhibit VIII-B-2, Pages 1-3
Column (2) – Exhibit IV-B-6, Column (10)
Column (3) – Column (2) trended to 4/1/2018 @ 0.0%
Column (4) – Exhibit IV-B-5, Column (5)
Column (5) = (1) * (3) / 100
Column (6) = [(5) / 14.377] ^ (0.5)
Column (7) = (4)*(6) + ((3)*(1-(6)))
Column (8) = (7) / (2) – 1
Column (9) – Exhibit X-A
Column (10) = (7)*(1) / [(9) * 10,000]
Totals and Subtotals for Columns (2), (3), (4) and (7) are weighted using Column (1).

Coal Mine Compensation Rating Bureau

Federal Basic Occupational Disease Classification Frequency

		(1)	(2)	(3)	(4)	(5)	(6)
		Estimated	Approved			Weighted	
		Miner	Frequency			Average	
		Years	Per 100			of Cols.	
<u>Classification</u>	<u>Class</u>	<u>2016</u>	<u>4/1/2017</u>	<u>Modeled</u>	<u>Experience</u>	<u>(3) & (4)</u>	<u>Percent</u>
				<u>Indication</u>	<u>Indication</u>		<u>Change</u>
Underground: Anthracite	0160	3.0	1.228191	0.478776	0.491739	0.488498	-60.23%
Bituminous	0158	1,553.3	0.099503	0.204043	0.026419	0.070825	-28.82%
Surface: Anthracite	0153	354.6	0.415718	0.230516	0.340863	0.313276	-24.64%
Bituminous	0156	<u>554.1</u>	<u>0.097424</u>	<u>0.111163</u>	<u>0.113029</u>	<u>0.112563</u>	<u>15.54%</u>
Four Standard Classifications		2,465.0	0.145898	0.187307	0.091688	0.115593	-20.77%
Coke	0154	43.1	0.010954	0.013589	0.010395	0.011194	2.19%
Auger	0157	7.3	0.043473	0.164341	0.091606	0.109790	152.55%
Co-Gen: Anthracite	0181	182.2	0.061594	0.045924	0.025987	0.030971	-49.72%
Bituminous	0182	212.0	0.037985	0.043666	0.025987	0.030407	-19.95%
Prep Plants: Anthracite	0183	101.6	0.128138	0.127229	0.070833	0.084932	-33.72%
Bituminous	0184	<u>241.8</u>	<u>0.072853</u>	<u>0.060466</u>	<u>0.037037</u>	<u>0.042894</u>	<u>-41.12%</u>
Other Classes		788.0	0.064339	0.059590	0.034915	0.041084	-36.14%
Total		3,253.0	0.126141	0.156369	0.077935	0.097544	-22.67%

Source: Column (1) – Exhibit VIII-B-2, Pages 1-3
Column (2) – Exhibit IV-B-4, Column (10)
Column (3) – Exhibit VIII-F, Pages 1-13
Column (4) – Exhibit VIII-B-2, Pages 1-3
Column (5) = (0.25) * (3) + (0.75) * (4)
Column (6) = (5) / (2) – 1
Totals and Subtotals are weighted using Column (1).

COAL MINE COMPENSATION RATING BUREAU
Federal Basic Occupational Disease Classification Frequency

Exhibit IV-B
Page 4

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Approved Claim Freq.		Estimated Awarded Claims	Estimated Miner Years	Estimated Miner Years		Average Weekly Wage		Estimated Miner Years	Approved Frequency Equivalent Per 100 Miner Years
<u>Classification</u>	<u>Class Code</u>	<u>Per \$1M Payroll 4/1/2017</u>	<u>Payroll 2006-2015</u>	<u>(1) x (2)</u>	<u>2007-2016</u>	<u>2016</u>	<u>Adjustment Factor</u>	<u>2006</u>	<u>Payroll 2006</u>	<u>2006-2015</u>	
Underground: Anthracite	0160	0.271970	11,059,453	3.007839	212.6	3.0	1.056	745	1,442,524	244.9000	1.228191
Bituminous	0158	0.014664	1,249,718,993	18.325879	18,762.1	1,553.3	1.505	745	70,465,937	18,417.4	0.099503
Surface: Anthracite	0153	0.087808	178,472,665	15.671328	3,829.4	354.6	1.056	745	12,065,323	3,769.7	0.415718
Bituminous	0156	0.020945	666,477,472	13.959371	13,323.1	554.1	1.056	745	63,798,502	14,328.5	0.097424
Four Standard Classifications			2,105,728,583		36,127.2	2,465.0			147,772,286	36,761	
Coke	0154	0.002421	69,711,550	0.168772	1,272.4	43.1	1.056	745	12,737,394	1,540.7	0.010954
Auger	0157	0.009431	11,016,970	0.103901	220.2	7.3	1.056	745	1,066,831	239.0	0.043473
Co-Gen: Anthracite	0181	0.013164	86,453,336	1.138072	1,824.3	182.2	1.056	745	8,412,527	1,847.7	0.061594
Bituminous	0182	0.008092	97,309,146	0.787426	2,054.6	212.0	1.056	745	9,423,575	2,073.0	0.037985
Prep Plants: Anthracite	0183	0.027242	61,063,554	1.663493	1,280.4	101.6	1.056	745	4,885,882	1,298.2	0.128138
Bituminous	0184	0.010790	262,519,362	2.832584	3,837.4	241.8	1.505	745	17,050,967	3,888.1	0.072853
Other Classes			588,073,918		10,489.3	788.0			53,577,176	10,886.7	
Total			2,693,802,501		46,616.5	3,253.0			201,349,462	47,647.2	

Source: Column (1) – Exhibit X-F
Column (2) – Exhibit X-A-1
Column (3) = (1)*(2) / 1,000,000
Column (4) – Exhibit VIII-B-2, Pages 1-3
Column (5) – Exhibit VIII-B-2, Pages 1-3
Column (6) – Exhibit X-G
Column (7) – Exhibit XII-D
Column (8) – Exhibit X-A-1
Column (9) = (4) – (5) + (8) / ((6)*(7)*52)
Column (10) = (3) / (9) * 100

Coal Mine Compensation Rating Bureau

Federal Excess Occupational Disease Classification Frequency

		(1)	(2)	(3)	(4)	(5)	(6)
		Estimated	Approved			Weighted	
		Miner	Frequency			Average	
		Years	Per 100			of Cols.	
<u>Classification</u>	<u>Class</u>	<u>2016</u>	<u>4/1/2017</u>	<u>Modeled</u>	<u>Experience</u>	<u>(3) & (4)</u>	<u>Percent</u>
				<u>Indication</u>	<u>Indication</u>		<u>Change</u>
Underground: Anthracite	0160	3.0	0.248253	0.160356	0.737692	0.593358	139.01%
Bituminous	0158	1,553.3	0.041772	0.040703	0.046713	0.045210	8.23%
Surface: Anthracite	0153	354.6	0.072503	0.076045	0.074152	0.074625	2.93%
Bituminous	0156	<u>554.1</u>	<u>0.005931</u>	<u>0.002097</u>	<u>0.015372</u>	<u>0.012053</u>	<u>103.22%</u>
Four Standard Classifications		2,465.0	0.038387	0.037254	0.044456	0.042655	11.12%
Coke	0154	43.1	0.005149	0.000194	0.003893	0.002968	-42.36%
Auger	0157	7.3	0.010966	0.000362	0.003920	0.003030	-72.37%
Co-Gen: Anthracite	0181	182.2	0.011440	0.002405	0.003892	0.003520	-69.23%
Bituminous	0182	212.0	0.015810	0.002760	0.003890	0.003608	-77.18%
Prep Plants: Anthracite	0183	101.6	0.102085	0.119491	0.071657	0.083616	-18.09%
Bituminous	0184	<u>241.8</u>	<u>0.013409</u>	<u>0.002012</u>	<u>0.005546</u>	<u>0.004662</u>	<u>-65.23%</u>
Other Classes		788.0	0.024559	0.017336	0.013137	0.014186	-42.24%
Total		3,253.0	0.035037	0.032429	0.036869	0.035759	2.06%

Source: Column (1) – Exhibit VIII-B-2, Pages 1-3
Column (2) – Exhibit IV-B-6, Column (10)
Column (3) – Exhibit VII-L, Pages 1-13
Column (4) – Exhibit VII-B-2, Pages 1-3 (Federal Excess Frequency)
Column (5) = (0.25) * (3) + (0.75) * (4)
Column (6) = (5) / (2) – 1
Totals and Subtotals are weighted using Column (1).

COAL MINE COMPENSATION RATING BUREAU
Federal Excess Occupational Disease Classification Frequency

Exhibit IV-B
Page 6

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Approved Claim Freq.		Estimated Awarded Claims	Estimated Miner Years	Estimated Miner Years		Average Weekly Wage		Estimated Miner Years	Approved Frequency Equivalent Per 100 Miner Years
<u>Classification</u>	<u>Class Code</u>	<u>Per \$1M Payroll 4/1/2017</u>	<u>Payroll 2006-2015</u>	<u>(1) x (2)</u>	<u>2007-2016</u>	<u>2016</u>	<u>Adjustment Factor</u>	<u>2006</u>	<u>Payroll 2006</u>	<u>2006-2015</u>	
Underground: Anthracite	0160	0.054973	11,059,453	0.607971	212.6	3.0	1.056	745	1,442,524	244.9000	0.248253
Bituminous	0158	0.006156	1,249,718,993	7.693270	18,762.1	1,553.3	1.505	745	70,465,937	18,417.4	0.041772
Surface: Anthracite	0153	0.015314	178,472,665	2.733130	3,829.4	354.6	1.056	745	12,065,323	3,769.7	0.072503
Bituminous	0156	0.001275	666,477,472	0.849759	13,323.1	554.1	1.056	745	63,798,502	14,328.5	0.005931
Four Standard Classifications			2,105,728,583		36,127.2	2,465.0			147,772,286	36,761	
Coke	0154	0.001138	69,711,550	0.079332	1,272.4	43.1	1.056	745	12,737,394	1,540.7	0.005149
Auger	0157	0.002379	11,016,970	0.026209	220.2	7.3	1.056	745	1,066,831	239.0	0.010966
Co-Gen: Anthracite	0181	0.002445	86,453,336	0.211378	1,824.3	182.2	1.056	745	8,412,527	1,847.7	0.011440
Bituminous	0182	0.003368	97,309,146	0.327737	2,054.6	212.0	1.056	745	9,423,575	2,073.0	0.015810
Prep Plants: Anthracite	0183	0.021703	61,063,554	1.325262	1,280.4	101.6	1.056	745	4,885,882	1,298.2	0.102085
Bituminous	0184	0.001986	262,519,362	0.521363	3,837.4	241.8	1.505	745	17,050,967	3,888.1	0.013409
Other Classes			588,073,918		10,489.3	788.0			53,577,176	10,886.7	
Total			2,693,802,501		46,616.5	3,253.0			201,349,462	47,647.2	

Source: Column (1) – Exhibit X-F
Column (2) – Exhibit X-A-1
Column (3) = (1)*(2) / 1,000,000
Column (4) – Exhibit VIII-B-2, Pages 1-3
Column (5) – Exhibit VIII-B-2, Pages 1-3
Column (6) – Exhibit X-G
Column (7) – Exhibit XII-D
Column (8) – Exhibit X-A-1
Column (9) = (4) – (5) + (8) / ((6)*(7)*52)
Column (10) = (3) / (9) * 100

COAL MINE COMPENSATION RATING BUREAU
Traumatic Loss and Classification Credibility

Exhibit V-A
Page 1

Classification	Code	(1) 5 Year Payroll	(2) 2016 Payroll	(3) Loss Cost/Unloaded			(5) Credibility		(7) Indicated w/ Credibility		(9) Proposed Change after Limitation	(10) Proposed Loss Cost	(11) Proposed Change Excluding Trend
				Approved (Eff 4/01/2017)	Approved on Level	Indicated (Eff 04/01/2018)	Five Year Expected Losses	Credibility Factor	Indicated Loss Cost	Indicated Change			
Underground: Bituminous	1001	\$940,961,211	\$148,894,215	\$5.96	\$5.89	\$5.82	56,081,288	1.00	5.82	-2.3%	-2.3%	5.82	-1.2%
Surface: Anthracite	1012	\$114,241,435	20,810,850	8.13	8.03	8.09	9,287,829	1.00	8.09	-0.5%	-0.5%	8.09	0.7%
Bituminous	1014	\$261,786,377	28,999,042	2.39	2.36	2.22	6,256,694	1.00	2.22	-7.1%	-7.1%	2.22	-6.0%
Three Major Classifications		1,316,989,023	198,704,107	5.44	5.37	5.30	71,625,811						
Coke	1469	\$21,648,513	2,313,724	4.45	4.40	2.01	963,359	0.39	3.47	-22.0%	-22.0%	3.47	-21.1%
Co-Gen: Anthracite	1021	\$48,993,051	10,847,424	3.05	3.01	5.64	1,494,288	0.49	4.30	41.0%	25.0%	3.81	26.4%
Bituminous	1023	\$54,259,855	11,386,837	1.10	1.09	1.22	596,858	0.31	1.13	2.7%	2.7%	1.13	4.0%
Prep Plants: Anthracite	1025	\$39,749,120	6,971,270	4.44	4.39	4.98	1,764,861	0.53	4.70	5.9%	5.9%	4.70	7.1%
Bituminous	1027	\$167,681,065	22,131,423	1.76	1.74	2.93	2,951,187	0.69	2.56	45.5%	25.0%	2.20	26.5%
Auger	1015	\$3,595,698	372,496	16.14	15.95	7.46	580,346	0.30	13.40	-17.0%	-17.0%	13.40	-16.0%
Subtotal (6)		335,927,302	54,023,174	2.49	2.46	3.28	8,350,899						
Underground: Anthracite	1010	\$1,072,212	163,760	20.01	19.77	18.62 (a)	214,550	0.19	19.20 (b)	-4.0%	-4.0% (c)	19.20	-2.9%
Subtotal (7)		336,999,514	54,186,934	2.54	2.51	3.33	8,565,449						
Total (Based on 5-year Payroll)		\$1,653,988,537	\$252,891,041	4.85	4.79	4.90	\$80,191,260		4.85				
Total (Based on 2016 Payroll, see Exhibit II)			\$252,891,041	4.99					5.00	0.2%	-0.8%	4.95	

Source: (1) Exhibit V-B

(2) Unloaded Loss Cost Current (Eff 4/01/2017) Exhibit X-B page 2

(3) = (2) X Trend =(2) X(0.988)

0.988=Weighted average of 0.980 and 0.991

Weights derived from 5 year Medical (24,840,665) and Indemnity (56,361,956)

ultimate losses. Exhibit V-B, pg. 1

(4) Exhibit V-B except Underground Anthracite for which see Ex V-A.

(5) Expected Losses = Column (1) times Column (2) divided by 100

(6) Factor Z = [(5) divided by 6,256,694]^(1/2)

(7) [Column (4) times Column (6)] plus [Column (3) times (1.0 minus Column (6))]

(8) Col.(7) / Col.(2) -1.0

(9) Loss costs changes limited to +25% increase , -25% decrease

(10) When Col. (8) equals Col. (9), then Col. (7).

Otherwise, Col. (2) * [1 + (9)].

(11) Col.(10)/.988/Col.(2)-1.000

(a) Underground Anthracite Indicated Loss Cost from V-A-2

(b) Average of Col. (3) and Col. (4).

(c) Average of Col.(3) and Proposed (limited, indicated) Loss Cost from V-A-2

Calculation of Anthracite Underground Loss Cost

Multiplicative Method (Anthracite: Underground vs. Surface)	<u>Indicated</u>	<u>Proposed</u>
Differential Factor from Study	2.66	2.66
Indicated Anthracite Surface Loss Cost	8.09 *	8.09 *
Indicated Anthracite Underground Loss Cost	<u>21.52</u>	<u>21.52</u>
Comparative Hazard Method #1 (Anthracite vs. Bituminous)		
Differential Factor from Study	2.41	2.41
Indicated Bituminous Underground Loss Cost:	5.82 *	5.82 *
Indicated Anthracite Underground Loss Cost	<u>14.03</u>	<u>14.03</u>
Comparative Hazard Method #2 (Surface vs. Underground)		
Differential Factor from Study	2.51	2.51
Indicated Anthracite Surface Loss Cost:	8.09 *	8.09 *
Indicated Anthracite Underground Loss Cost	<u>20.31</u>	<u>20.31</u>
Average	18.62	18.62

* Source: Exhibit V-A-1

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
All Classifications Combined (10 Classes)

Exhibit V-B

Page 1

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	9,293,673	1.0230	1.0666	10,140,621	3.11
2013	7,461,258	1.0542	1.0762	8,465,021	2.81
2014	11,781,410	1.1090	1.0861	14,190,531	3.35
2015	9,249,942	1.2879	1.0959	13,055,456	3.73
<u>2016</u>	<u>4,871,955</u> *	2.1106	1.1058	<u>10,510,327</u> *	<u>4.16</u>
5 Years	\$42,658,238			\$56,361,956	3.41
<u>Medical</u>					
2012	5,519,600	1.1413	0.8669	5,461,055	1.67
2013	3,971,009	1.1502	0.8838	4,036,716	1.34
2014	6,043,218	1.1594	0.9021	6,320,570	1.49
2015	3,981,666	1.1600	0.9242	4,268,632	1.22
<u>2016</u>	<u>3,963,291</u> *	1.2672	0.9460	<u>4,753,692</u> *	<u>1.88</u>
5 Years	\$23,478,784			\$24,840,665	1.50
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	326,146,817			15,601,676	4.78
2013	300,963,743			12,501,737	4.15
2014	423,814,574			20,511,101	4.84
2015	350,172,362			17,324,088	4.95
<u>2016</u>	<u>252,891,041</u>			<u>15,264,019</u>	<u>6.04</u>
5 Years	\$1,653,988,537			\$81,202,621	4.91

Source: (1) Sum of Exhibit V-B, pages 2 and 6 - column (1)

(2) Exhibit V-C

* Claim 48759 has been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 3b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Sum of Exhibit V-B, pages 2 and 6 - column (6)

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication

Exhibit V-B

Page 2

Three 100% Credibility Classifications (3 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	7,803,063	1.0230	1.0666	8,514,170	3.31
2013	6,581,302	1.0542	1.0762	7,466,685	3.19
2014	10,929,542	1.1090	1.0861	13,164,469	3.81
2015	8,179,202	1.2879	1.0959	11,544,205	4.10
<u>2016</u>	<u>3,936,374</u> *	2.1106	1.1058	<u>8,326,773</u> *	<u>4.19</u>
5 Years	\$37,429,483			\$49,016,302	3.72

Medical

2012	4,642,282	1.1413	0.8669	4,593,041	1.79
2013	3,212,441	1.1502	0.8838	3,265,597	1.40
2014	5,379,594	1.1594	0.9021	5,626,489	1.63
2015	3,357,902	1.1600	0.9242	3,599,912	1.28
<u>2016</u>	<u>3,141,364</u> *	1.2672	0.9460	<u>3,768,390</u> *	<u>1.90</u>
5 Years	\$19,733,583			\$20,853,429	1.58

	(6)		
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>		
2012	257,177,479	13,107,211	5.10
2013	233,752,637	10,732,282	4.59
2014	345,747,513	18,790,958	5.44
2015	281,607,287	15,144,117	5.38
<u>2016</u>	<u>198,704,107</u>	<u>12,095,163</u>	<u>6.09</u>
5 Years	\$1,316,989,023	\$69,869,731	5.31

Source: (1) Sum of Exhibit V-B, pages 3,4 and 5 - column (1)

(2) Exhibit V-C

* Claim 48759 has been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 3b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Sum of Exhibit V-B, pages 3,4 and 5 - column (6)

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Underground Bituminous 1001

Exhibit V-B
Page 3

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	5,194,310	1.0230	1.0666	5,667,677	3.67
2013	4,324,357	1.0542	1.0762	4,906,113	3.27
2014	9,827,712	1.1090	1.0861	11,837,331	4.36
2015	7,192,549	1.2879	1.0959	10,151,633	4.69
<u>2016</u>	<u>3,166,932</u> *	2.1106	1.1058	<u>6,530,971</u> *	<u>4.39</u>
5 Years	\$29,705,860			\$39,093,725	4.15
<u>Medical</u>					
2012	3,659,753	1.1413	0.8669	3,620,934	2.34
2013	2,016,708	1.1502	0.8838	2,050,078	1.37
2014	4,339,171	1.1594	0.9021	4,538,316	1.67
2015	2,689,997	1.1600	0.9242	2,883,870	1.33
<u>2016</u>	<u>2,181,664</u> *	1.2672	0.9460	<u>2,617,930</u> *	<u>1.76</u>
5 Years	\$14,887,293			\$15,711,128	1.67
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	154,428,761			9,288,611	6.01
2013	149,953,068			6,956,191	4.64
2014	271,230,707			16,375,647	6.03
2015	216,454,460			13,035,503	6.02
<u>2016</u>	<u>148,894,215</u>			<u>9,148,901</u>	<u>6.15</u>
5 Years	\$940,961,211			\$54,804,853	5.82

Source: (1) CMCRB Database as of 04-30-2017

(2) Exhibit V-C

(3) Exhibit V-F

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Exhibit X-D

* Claim 48759 has been

capped at \$1,250,000. See V-B, page 3b

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Underground Bituminous 1001

Exhibit V-B
Page 3b

Adjustment for Excess Claim 48759 (Accident Year 2016)

	Indemnity	Medical	Total
Uncapped Excess Claims	895,385	15,000	910,385
Percent of Total	98.4%	1.6%	100.00%
Percent x 1,250,000	1,229,404	20,596	1,250,000
Total Reported Loss as of 04-30-2017	3,166,932	2,181,664	
Uncapped Excess Claims	895,385	15,000	
Reported Loss ex. Excess Claims	2,271,547	2,166,664	
Loss Development Factor	2.1106	1.2672	
Trend Factor	1.1058	0.9460	
Dev & Trended Loss ex. Excess Claims	5,301,567	2,597,334	
Excess Claims Capped at \$1,250,000	1,229,404	20,596	
Dev & Trended Loss w/Excess Claims Capped	6,530,971	2,617,930	

Note: This claim does not exceed the excess threshold of 1,250,000
until development and trending are applied.

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Surface Anthracite 1012

Exhibit V-B
Page 4

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	1,372,181	1.0230	1.0666	1,497,230	5.69
2013	1,734,001	1.0542	1.0762	1,967,276	8.76
2014	471,075	1.1090	1.0861	567,403	2.77
2015	427,213	1.2879	1.0959	602,973	2.49
<u>2016</u>	<u>662,880</u>	2.1106	1.1058	<u>1,547,097</u>	<u>7.43</u>
5 Years	\$4,667,350			\$6,181,979	5.41
<u>Medical</u>					
2012	439,194	1.1413	0.8669	434,535	1.65
2013	760,965	1.1502	0.8838	773,557	3.45
2014	678,619	1.1594	0.9021	709,764	3.47
2015	355,912	1.1600	0.9242	381,563	1.58
<u>2016</u>	<u>633,605</u>	1.2672	0.9460	<u>759,547</u>	<u>3.65</u>
5 Years	\$2,868,295			\$3,058,966	2.68
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	26,295,907			1,931,765	7.34
2013	22,449,824			2,740,833	12.21
2014	20,466,075			1,277,167	6.24
2015	24,218,779			984,536	4.07
<u>2016</u>	<u>20,810,850</u>			<u>2,306,644</u>	<u>11.08</u>
5 Years	\$114,241,435			\$9,240,945	8.09

Source: (1) CMCRB Database as of 04-30-2017
 (2) Exhibit V-C
 (3) Exhibit V-F
 (4) (1) times (2) times (3)
 (5) (4) divided by (6) times 100
 (6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Surface Bituminous 1014

Exhibit V-B
Page 5

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	1,236,572	1.0230	1.0666	1,349,263	1.76
2013	522,944	1.0542	1.0762	593,296	0.97
2014	630,755	1.1090	1.0861	759,735	1.41
2015	559,440	1.2879	1.0959	789,599	1.93
<u>2016</u>	<u>106,562</u>	2.1106	1.1058	<u>248,705</u>	<u>0.86</u>
5 Years	\$3,056,273			\$3,740,598	1.43
<u>Medical</u>					
2012	543,335	1.1413	0.8669	537,572	0.70
2013	434,768	1.1502	0.8838	441,962	0.72
2014	361,804	1.1594	0.9021	378,409	0.70
2015	311,993	1.1600	0.9242	334,479	0.82
<u>2016</u>	<u>326,095</u>	1.2672	0.9460	<u>390,913</u>	<u>1.35</u>
5 Years	\$1,977,995			\$2,083,335	0.80
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	76,452,811			1,886,835	2.47
2013	61,349,745			1,035,258	1.69
2014	54,050,731			1,138,144	2.11
2015	40,934,048			1,124,078	2.75
<u>2016</u>	<u>28,999,042</u>			<u>639,618</u>	<u>2.21</u>
5 Years	\$261,786,377			\$5,823,933	2.22

Source: (1) CMCRB Database as of 04-30-2017
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication

Exhibit V-B

Page 6

Seven Less Than 100% Credibility Classifications (7 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	1,490,610	1.0230	1.0666	1,626,451	2.36
2013	879,956	1.0542	1.0762	998,336	1.49
2014	851,868	1.1090	1.0861	1,026,062	1.31
2015	1,070,740	1.2879	1.0959	1,511,251	2.20
<u>2016</u>	<u>935,581</u>	2.1106	1.1058	<u>2,183,554</u>	<u>4.03</u>
5 Years	\$5,228,755			\$7,345,654	2.18
<u>Medical</u>					
2012	877,318	1.1413	0.8669	868,014	1.26
2013	758,568	1.1502	0.8838	771,119	1.15
2014	663,624	1.1594	0.9021	694,081	0.89
2015	623,764	1.1600	0.9242	668,720	0.98
<u>2016</u>	<u>821,927</u>	1.2672	0.9460	<u>985,302</u>	<u>1.82</u>
5 Years	\$3,745,201			\$3,987,236	1.18
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	68,969,338			2,494,465	3.62
2013	67,211,106			1,769,455	2.63
2014	78,067,061			1,720,143	2.20
2015	68,565,075			2,179,971	3.18
<u>2016</u>	<u>54,186,934</u>			<u>3,168,856</u>	<u>5.85</u>
5 Years	\$336,999,514			\$11,332,890	3.36

Source: (1) Sum of Exhibit V-B, pages 7-13 - column (1)
 (2) Exhibit V-C
 (3) Exhibit V-F
 (4) (1) times (2) times (3)
 (5) (4) divided by (6) times 100
 (6) Sum of Exhibit V-B, pages 7-13 - column (6)

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Coke 1469

Exhibit V-B
Page 7

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	0	1.0230	1.0666	0	0.00
2013	25,666	1.0542	1.0762	29,119	0.61
2014	8,157	1.1090	1.0861	9,825	0.22
2015	90,452	1.2879	1.0959	127,665	2.94
<u>2016</u>	<u>22,494</u>	2.1106	1.1058	<u>52,499</u>	<u>2.27</u>
5 Years	\$146,769			\$219,108	1.01

<u>Medical</u>					
2012	2,816	1.1413	0.8669	2,786	0.05
2013	35,484	1.1502	0.8838	36,071	0.75
2014	3,386	1.1594	0.9021	3,541	0.08
2015	141,675	1.1600	0.9242	151,886	3.50
<u>2016</u>	<u>17,426</u>	1.2672	0.9460	<u>20,890</u>	<u>0.90</u>
5 Years	\$200,787			\$215,174	0.99

	(6)		
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>		
2012	5,738,105	2,786	0.05
2013	4,791,910	65,190	1.36
2014	4,464,398	13,366	0.30
2015	4,340,376	279,551	6.44
<u>2016</u>	<u>2,313,724</u>	<u>73,389</u>	<u>3.17</u>
5 Years	\$21,648,513	\$434,282	2.01

Source: (1) CMCRB Database as of 04-30-2017
 (2) Exhibit V-C
 (3) Exhibit V-F
 (4) (1) times (2) times (3)
 (5) (4) divided by (6) times 100
 (6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Augur 1015

Exhibit V-B
Page 8

Accident <u>Year</u>	(1) <u>Reported Losses</u>	(2) <u>Loss Development</u>	(3) <u>Trend Factor</u>	(4) <u>Ultimate Losses</u>	(5) <u>Loss Cost</u>
<u>Indemnity</u>					
2012	38,979	1.0230	1.0666	42,531	5.26
2013	62,225	1.0542	1.0762	70,596	6.88
2014	8,062	1.1090	1.0861	9,711	1.20
2015	31,531	1.2879	1.0959	44,503	7.64
<u>2016</u>	<u>0</u>	2.1106	1.1058	<u>0</u>	<u>0.00</u>
5 Years	\$140,797			\$167,341	4.65

<u>Medical</u>					
2012	66,406	1.1413	0.8669	65,702	8.13
2013	9,542	1.1502	0.8838	9,700	0.95
2014	2,714	1.1594	0.9021	2,839	0.35
2015	21,114	1.1600	0.9242	22,636	3.89
<u>2016</u>	<u>132</u>	1.2672	0.9460	<u>158</u>	<u>0.04</u>
5 Years	\$99,908			\$101,035	2.81

(6)					
Indemnity & <u>Medical</u>	<u>Developed Payroll</u>				
2012	808,208			108,233	13.39
2013	1,025,399			80,296	7.83
2014	806,976			12,550	1.55
2015	582,619			67,139	11.53
<u>2016</u>	<u>372,496</u>			<u>158</u>	<u>0.04</u>
5 Years	\$3,595,698			\$268,376	7.46

Source: (1) CMCRB Database as of 04-30-2017
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Co-Gen Anthracite 1021

Exhibit V-B
Page 9

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	499,138	1.0230	1.0666	544,625	5.30
2013	94,879	1.0542	1.0762	107,643	1.29
2014	206,104	1.1090	1.0861	248,249	2.74
2015	100,480	1.2879	1.0959	141,818	1.35
<u>2016</u>	<u>321,044</u>	2.1106	1.1058	<u>749,285</u>	<u>6.91</u>
5 Years	\$1,221,645			\$1,791,620	3.66
<u>Medical</u>					
2012	173,221	1.1413	0.8669	171,384	1.67
2013	201,976	1.1502	0.8838	205,318	2.46
2014	104,878	1.1594	0.9021	109,691	1.21
2015	68,617	1.1600	0.9242	73,562	0.70
<u>2016</u>	<u>343,130</u>	1.2672	0.9460	<u>411,334</u>	<u>3.79</u>
5 Years	\$891,822			\$971,289	1.98
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	10,273,004			716,009	6.97
2013	8,342,651			312,961	3.75
2014	9,060,883			357,940	3.95
2015	10,469,089			215,380	2.05
<u>2016</u>	<u>10,847,424</u>			<u>1,160,619</u>	<u>10.70</u>
5 Years	\$48,993,051			\$2,762,909	5.64

Source: (1) CMCRB Database as of 04-30-2017
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Co-Gen Bituminous 1023

Exhibit V-B
Page 10

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	65,117	1.0230	1.0666	71,051	0.79
2013	23,877	1.0542	1.0762	27,089	0.26
2014	27,715	1.1090	1.0861	33,382	0.28
2015	103,899	1.2879	1.0959	146,644	1.25
<u>2016</u>	<u>6,706</u>	2.1106	1.1058	<u>15,651</u>	<u>0.14</u>
5 Years	\$227,314			\$293,817	0.54
<u>Medical</u>					
2012	156,906	1.1413	0.8669	155,242	1.72
2013	33,928	1.1502	0.8838	34,489	0.33
2014	97,026	1.1594	0.9021	101,479	0.87
2015	45,902	1.1600	0.9242	49,210	0.42
<u>2016</u>	<u>23,285</u>	1.2672	0.9460	<u>27,913</u>	<u>0.25</u>
5 Years	\$357,047			\$368,333	0.68
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	9,047,745			226,293	2.50
2013	10,355,884			61,578	0.59
2014	11,721,184			134,861	1.15
2015	11,748,205			195,854	1.67
<u>2016</u>	<u>11,386,837</u>			<u>43,564</u>	<u>0.39</u>
5 Years	\$54,259,855			\$662,150	1.22

Source: (1) CMCRB Database as of 04-30-2017
 (2) Exhibit V-C
 (3) Exhibit V-F
 (4) (1) times (2) times (3)
 (5) (4) divided by (6) times 100
 (6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Prep Plants Anthracite 1025

Exhibit V-B

Page 11

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	113,881	1.0230	1.0666	124,259	1.43
2013	289,076	1.0542	1.0762	327,965	3.97
2014	56,749	1.1090	1.0861	68,353	0.83
2015	278,332	1.2879	1.0959	392,840	5.16
<u>2016</u>	<u>174,885</u>	2.1106	1.1058	<u>408,164</u>	<u>5.85</u>
5 Years	\$912,923			\$1,321,581	3.32
<u>Medical</u>					
2012	72,640	1.1413	0.8669	71,870	0.83
2013	246,838	1.1502	0.8838	250,922	3.04
2014	65,673	1.1594	0.9021	68,687	0.83
2015	148,554	1.1600	0.9242	159,261	2.09
<u>2016</u>	<u>90,304</u>	1.2672	0.9460	<u>108,254</u>	<u>1.55</u>
5 Years	\$624,009			\$658,994	1.66
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	8,671,140			196,129	2.26
2013	8,265,665			578,887	7.00
2014	8,234,771			137,040	1.66
2015	7,606,274			552,101	7.25
<u>2016</u>	<u>6,971,270</u>			<u>516,418</u>	<u>7.40</u>
5 Years	\$39,749,120			\$1,980,575	4.98

Source: (1) CMCRB Database as of 04-30-2017

(2) Exhibit V-C

(3) Exhibit V-F

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Prep Plants Bituminous 1027

Exhibit V-B
Page 12

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	773,495	1.0230	1.0666	843,985	2.47
2013	384,233	1.0542	1.0762	435,924	1.27
2014	545,081	1.1090	1.0861	656,542	1.51
2015	297,177	1.2879	1.0959	419,438	1.25
<u>2016</u>	<u>410,452</u>	2.1106	1.1058	<u>957,955</u>	<u>4.33</u>
5 Years	\$2,410,438			\$3,313,844	1.98
<u>Medical</u>					
2012	405,329	1.1413	0.8669	401,030	1.17
2013	230,800	1.1502	0.8838	234,619	0.68
2014	389,947	1.1594	0.9021	407,844	0.94
2015	125,602	1.1600	0.9242	134,654	0.40
<u>2016</u>	<u>347,650</u>	1.2672	0.9460	<u>416,753</u>	<u>1.88</u>
5 Years	\$1,499,328			\$1,594,900	0.95
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	34,211,729			1,245,015	3.64
2013	34,253,697			670,543	1.95
2014	43,520,040			1,064,386	2.45
2015	33,564,176			554,092	1.65
<u>2016</u>	<u>22,131,423</u>			<u>1,374,708</u>	<u>6.21</u>
5 Years	\$167,681,065			\$4,908,744	2.93

Source: (1) CMCRB Database as of 04-30-2017
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Underground Anthracite - 1010

Exhibit V-B

Page 13

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	0	1.0230	1.0666	0	0.00
2013	0	1.0542	1.0762	0	0.00
2014	0	1.1090	1.0861	0	0.00
2015	168,869	1.2879	1.0959	238,343	93.71
<u>2016</u>	<u>0</u>	2.1106	1.1058	<u>0</u>	<u>0.00</u>
5 Years	\$168,869			\$238,343	22.23

<u>Medical</u>					
2012	0	1.1413	0.8669	0	0.00
2013	0	1.1502	0.8838	0	0.00
2014	0	1.1594	0.9021	0	0.00
2015	72,300	1.1600	0.9242	77,511	30.48
<u>2016</u>	<u>0</u>	1.2672	0.9460	<u>0</u>	<u>0.00</u>
5 Years	\$72,300			\$77,511	7.23

	(6)		
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>		
2012	219,407	0	0.00
2013	175,900	0	0.00
2014	258,809	0	0.00
2015	254,336	315,854	124.19
<u>2016</u>	<u>163,760</u>	<u>0</u>	<u>0.00</u>
5 Years	\$1,072,212	\$315,854	29.46

Source: (1) CMCRB Database as of 04-30-2017
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication

Exhibit V-B

Page 14

Five Other Classifications [Page 6 less Pages 8&13] - (5 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident <u>Year</u>	Reported <u>Losses</u>	Loss <u>Development</u>	Trend <u>Factor</u>	Ultimate <u>Losses</u>	Loss <u>Cost</u>
<u>Indemnity</u>					
2012	1,451,631	1.0230	1.0666	1,583,920	2.33
2013	817,731	1.0542	1.0762	927,740	1.41
2014	843,806	1.1090	1.0861	1,016,351	1.32
2015	870,340	1.2879	1.0959	1,228,405	1.81
<u>2016</u>	<u>935,581</u>	2.1106	1.1058	<u>2,183,554</u>	<u>4.07</u>
5 Years	\$4,919,089			\$6,939,970	2.09
<u>Medical</u>					
2012	810,912	1.1413	0.8669	802,312	1.18
2013	749,026	1.1502	0.8838	761,419	1.15
2014	660,910	1.1594	0.9021	691,242	0.90
2015	530,350	1.1600	0.9242	568,573	0.84
<u>2016</u>	<u>821,795</u>	1.2672	0.9460	<u>985,144</u>	<u>1.84</u>
5 Years	\$3,572,993			\$3,808,690	1.15
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2012	67,941,723			2,386,232	3.51
2013	66,009,807			1,689,159	2.56
2014	77,001,276			1,707,593	2.22
2015	67,728,120			1,796,978	2.65
<u>2016</u>	<u>53,650,678</u>			<u>3,168,698</u>	<u>5.91</u>
5 Years	\$332,331,604			\$10,748,660	3.23

Source: (1) Exhibit V-B, page 6 minus page 8, column (1) minus page 13, column (1)
 (2) Exhibit V-C
 (3) Exhibit V-F
 (4) (1) times (2) times (3)
 (5) (4) divided by (6) times 100
 (6) Exhibit V-B, page 6 minus page 13 - column (6)

Coal Mine Compensation Rating Bureau
Indemnity & Funeral Traumatic Loss Development
Selected Loss Development Factors

(1) Development Period	(2) Average of Middle Four	(3) PCRB Factor	(4) CMCRB vs. PCRB Comparison	(5) Derived Development Factor	(6) Selected Factor	(7) Differences Average vs Selected	(8) Accumulated Selected Factor
1:2	1.6388	1.3861	0.2527	1.6388	1.6388	0.0000	2.1106
2:3	1.1613	1.1033	0.0580	1.1613	1.1613	0.0000	1.2879
3:4	1.0520	1.0286	0.0234	1.0520	1.0520	0.0000	1.1090
4:5	1.0305	1.0052	0.0253	1.0305	1.0305	0.0000	1.0542
5:6	0.9916	1.0072	-0.0156	1.0017	1.0017	-0.0101	1.0230
6:7	1.0083	1.0027	0.0056	1.0017	1.0017	0.0066	1.0212
7:8	1.0066	1.0015	0.0051	1.0016	1.0016	0.0050	1.0195
8:9	0.9969	1.0007	-0.0038	1.0015	1.0015	-0.0046	1.0179
9:10	1.0066	1.0016	0.0050	1.0015	1.0015	0.0051	1.0163
10:11	1.0008	1.0010	-0.0002	1.0014	1.0014	-0.0006	1.0148
11:12	0.9998	1.0004	-0.0006	1.0013	1.0013	-0.0015	1.0134
12:13	1.0011	1.0000	0.0011	1.0013	1.0013	-0.0002	1.0121
13:14	0.9952	0.9995	-0.0043	1.0012	1.0012	-0.0060	1.0108
14:15	1.0018	1.0001	0.0017	1.0011	1.0011	0.0007	1.0096
15:16	1.0004	1.0002	0.0002	1.0010	1.0010	-0.0006	1.0085
16:17	0.9996	0.9990	0.0006	1.0010	1.0010	-0.0014	1.0074
17:18	1.0017	0.9999	0.0018	1.0009	1.0009	0.0008	1.0064
18:19	1.0053	0.9991	0.0062	1.0008	1.0008	0.0045	1.0055
19:20	1.0033	1.0003	0.0030	1.0008	1.0008	0.0025	1.0047
20:Ult	xx	1.0038	xx	1.0039	1.0039		1.0039

Sources:

- (1) Reports spanned by age-to-age factors
- (2) Exhibit V-D Page 1 and VI-A Page 4
- (3) Exhibit V-D-3
- (4) Col.(2) - Col.(3)
- (5) Exhibit V-D-2 Col.(6)
- (6) Selected equal to Col.(5) adjusted to balance
- (7) Col.(2) - Col.(6)
- (8) Upward accumulation of Col.(6)

Coal Mine Compensation Rating Bureau
Medical Traumatic Loss Development
Selected Loss Development Factors

(1) Development Period	(2) Average of Middle Four	(3) PCRB Factor	(4) CMCRB vs. PCRB Comparison	(5) Derived Development Factor	(6) Selected Factor	(7) Differences Average vs Selected	(8) Accumulated Selected Factor
1:2	1.0924	1.0775	0.0149	1.0924	1.0924	0.0000	1.2672
2:3	1.0005	1.0281	-0.0276	1.0005	1.0005	0.0000	1.1600
3:4	1.0112	1.0038	0.0074	1.0080	1.0080	0.0032	1.1594
4:5	1.0144	1.0113	0.0031	1.0078	1.0078	0.0066	1.1502
5:6	0.9999	1.0029	-0.0030	1.0075	1.0075	-0.0076	1.1413
6:7	1.0006	1.0073	-0.0067	1.0073	1.0073	-0.0067	1.1328
7:8	1.0012	1.0101	-0.0089	1.0071	1.0071	-0.0059	1.1246
8:9	1.0072	1.0091	-0.0019	1.0069	1.0069	0.0003	1.1167
9:10	1.0119	1.0072	0.0047	1.0066	1.0066	0.0053	1.1091
10:11	1.0169	1.0054	0.0115	1.0064	1.0064	0.0105	1.1018
11:12	1.0086	1.0112	-0.0026	1.0062	1.0062	0.0024	1.0948
12:13	1.0036	1.0068	-0.0032	1.0059	1.0059	-0.0023	1.0881
13:14	1.0038	1.0036	0.0002	1.0057	1.0057	-0.0019	1.0817
14:15	1.0087	1.0093	-0.0006	1.0055	1.0055	0.0032	1.0755
15:16	1.0011	1.0019	-0.0008	1.0053	1.0053	-0.0042	1.0696
16:17	0.9938	1.0030	-0.0092	1.0050	1.0050	-0.0112	1.0640
17:18	1.0115	1.0071	0.0044	1.0048	1.0048	0.0067	1.0587
18:19	1.0014	0.9976	0.0038	1.0046	1.0046	-0.0032	1.0536
19:20	1.0129	1.0094	0.0035	1.0044	1.0044	0.0085	1.0488
20:Ult	xx	1.0473	xx	1.0442	1.0442		1.0442

Sources:

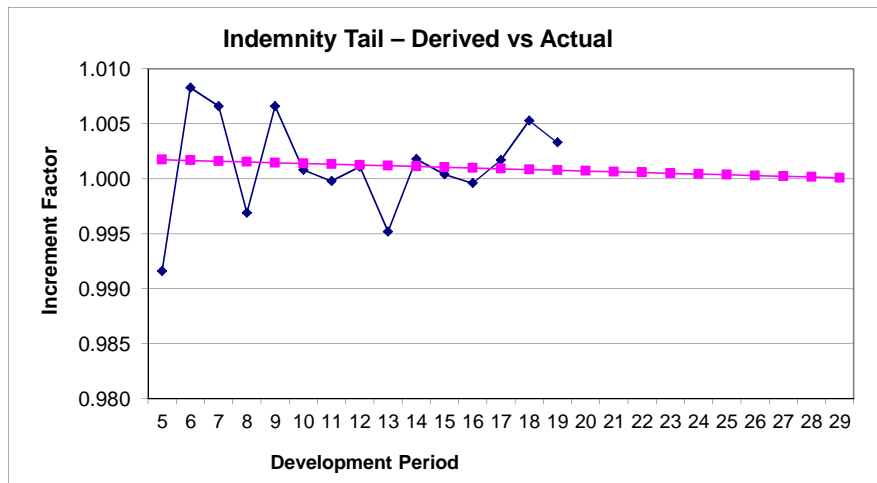
- (1) Reports spanned by age-to-age factors
- (2) Exhibit V-E Page 1 and VI-B Page 4
- (3) Exhibit V-E-3
- (4) Col.(2) - Col.(3)
- (5) Exhibit V-E-2 Col.(6)
- (6) Selected equal to Col.(5) adjusted to balance
- (7) Col.(2) - Col.(6)
- (8) Upward accumulation of Col.(6)

Exhibit V-D-1 is the same as VI-A-4

**Coal Mine Compensation Rating Bureau
Indemnity Tail – Derived vs Actual**

Exhibit V-D-2

(1) Development Period	(2) Age-to-Age Factor	(3) Derived Factor	(4) Accumulated Age-to-Age Fac.	(5) Model Factors	(6) Accumulated Model Factors	(7) Derived Factor	(8) Accumulated Derived Factor	(9) Tail Devel. Period	(10) Model Factors	(11) Accumulated Model Factors
1	1.6388	1.6388	2.1024	1.6388	xx	xx	xx			
2	1.1613	1.1613	1.2829	1.1613	xx	xx	xx			
3	1.0520	1.0520	1.1047	1.0520	xx	xx	xx			
4	1.0305	1.0305	1.0501	1.0305	xx	xx	xx			
5	0.9916	1.0017	1.0190	1.0017	1.0190	1.0017	1.0190			
6	1.0083	1.0017	1.0277	1.0017	1.0172	1.0017	1.0172			
7	1.0066	1.0016	1.0192	1.0016	1.0155	1.0016	1.0155			
8	0.9969	1.0015	1.0125	1.0015	1.0139	1.0015	1.0139			
9	1.0066	1.0015	1.0157	1.0015	1.0124	1.0015	1.0124			
10	1.0008	1.0014	1.0090	1.0014	1.0109	1.0014	1.0109			
11	0.9998	1.0013	1.0082	1.0013	1.0095	1.0013	1.0095			
12	1.0011	1.0013	1.0084	1.0013	1.0081	1.0013	1.0081			
13	0.9952	1.0012	1.0073	1.0012	1.0069	1.0012	1.0069			
14	1.0018	1.0011	1.0122	1.0011	1.0057	1.0011	1.0057			
15	1.0004	1.0010	1.0103	1.0010	1.0046	1.0010	1.0046			
16	0.9996	1.0010	1.0099	1.0010	1.0035	1.0010	1.0035			
17	1.0017	1.0009	1.0103	1.0009	1.0025	1.0009	1.0025			
18	1.0053	1.0008	1.0086	1.0008	1.0016	1.0008	1.0016			
19	1.0033	1.0008	1.0033	1.0008	1.0008	1.0008	1.0008			
20		1.0007						20	1.0007	1.0040
21		1.0006						21	1.0006	1.0033
22		1.0006						22	1.0006	1.0026
23		1.0005						23	1.0005	1.0021
24		1.0004						24	1.0004	1.0016
25		1.0004						25	1.0004	1.0011
26		1.0003						26	1.0003	1.0008
27		1.0002						27	1.0002	1.0005
28		1.0002						28	1.0002	1.0002
29		1.0001						29	1.0001	1.0001



Source:

- (1) Development Period: e.g. "1" = 12 months to 24 months
- (2) Exhibit V-D-1 and VI-A-4
- (3) 1 thru 4 Col.(2)
5 thru 19 Col. (7)
20 thru 29 Col. (10)
- (4) = Accumulation of Col.(2)
- (5) From Model: Refer to Written Report
- (6) Accumulation of Col.(5)
- (7) Col.(5) adjusted
- (8) Accumulation of Col.(7)
- (9) Tail Development Period
- (10) Final Tail Calculation
- (11) Accumulation of Col. (10)

CMCRB tail factor	1.0040
PCRB tail factor	1.0038
Selected Tail Factor	1.0039

Coal Mine Compensation Rating Bureau
 Traumatic Loss Development
 Indemnity & Funeral Loss Development Tail Factor
 PCRB Development and Tail Factors

(1) Span of <u>Maturities</u>	(2) Age-to-Age Incurred Loss <u>Factors</u>	(3) Span of <u>Maturities</u>	(4) Cumulative Incurred Loss <u>Factors</u>
1 to 2	1.3861	1 to Ult	1.6082
2 to 3	1.1033	2 to Ult	1.1603
3 to 4	1.0286	3 to Ult	1.0516
4 to 5	1.0052	4 to Ult	1.0224
5 to 6	1.0072	5 to Ult	1.0171
6 to 7	1.0027	6 to Ult	1.0098
7 to 8	1.0015	7 to Ult	1.0071
8 to 9	1.0007	8 to Ult	1.0056
9 to 10	1.0016	9 to Ult	1.0049
10 to 11	1.0010	10 to Ult	1.0033
11 to 12	1.0004	11 to Ult	1.0023
12 to 13	1.0000	12 to Ult	1.0019
13 to 14	0.9995	13 to Ult	1.0019
14 to 15	1.0001	14 to Ult	1.0024
15 to 16	1.0002	15 to Ult	1.0023
16 to 17	0.9990	16 to Ult	1.0021
17 to 18	0.9999	17 to Ult	1.0031
18 to 19	0.9991	18 to Ult	1.0032
19 to 20	1.0003	19 to Ult	1.0041
20 to Ult	1.0038	20 to Ult	1.0038
20 to 21	1.0013		
21 to 22	0.9999		
22 to 23	0.9995		
23 to 24	1.0004		
24 to 25	0.9999		
25 to 26	1.0011		
26 to 27	1.0001		
27 to 28	1.0003		
Beyond	1.0013		

Source:PCRB Loss Cost Filing effective April 1, 2017 - Exhibit 6, page 6.2

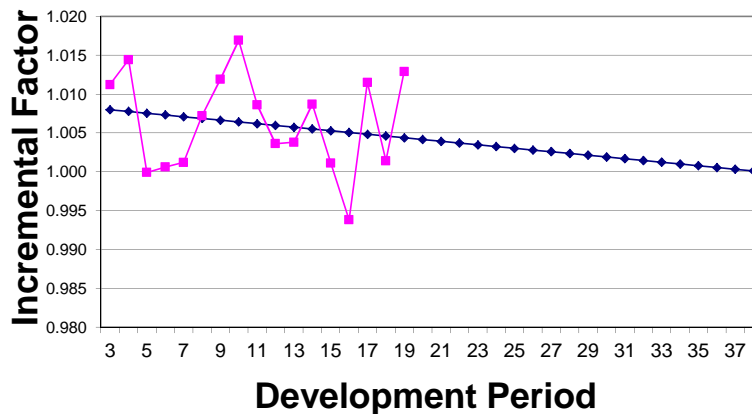
* The 20:Ult Factor is the product of PCRB factors beyond 19:20.

Exhibit V-E-1 is the same as VI-B-4

**Coal Mine Compensation Rating Bureau
Medical Tail – Derived vs Actual**

(1) Development Period	(2) Average Age-to-Age Factor	(3) PCRB Factors	(4) Adjusted Age-to-Age Factor	(5) Accumulated Adjusted Age-to-Age Factor	(6) Derived Development Factor	(7) Accumulated Derived Factor	(8) Tail Development Period	(9) Derived Development Factor	(10) Accumulation of Derived Subsequent Factors
1	1.0924		1.0924	1.2135	1.0924	1.2135	20	1.0041	1.0411
2	1.0005		1.0005	1.1109	1.0005	1.1109	21	1.0039	1.0368
3	1.0112		1.0112	1.1103	1.0080	1.1103	22	1.0037	1.0327
4	1.0144		1.0144	1.0980	1.0078	1.1015	23	1.0035	1.0289
5	0.9999		0.9999	1.0824	1.0075	1.0931	24	1.0032	1.0254
6	1.0006		1.0006	1.0826	1.0073	1.0849	25	1.0030	1.0220
7	1.0012		1.0012	1.0819	1.0071	1.0770	26	1.0028	1.0190
8	1.0072		1.0072	1.0806	1.0069	1.0695	27	1.0026	1.0161
9	1.0119		1.0119	1.0729	1.0066	1.0622	28	1.0023	1.0135
10	1.0169	1.0054	1.0112	1.0603	1.0064	1.0552	29	1.0021	1.0112
11	1.0086	1.0112	1.0099	1.0486	1.0062	1.0485	30	1.0019	1.0090
12	1.0036	1.0068	1.0052	1.0383	1.0059	1.0420	31	1.0017	1.0071
13	1.0038	1.0036	1.0037	1.0329	1.0057	1.0359	32	1.0014	1.0054
14	1.0087	1.0093	1.0090	1.0291	1.0055	1.0300	33	1.0012	1.0040
15	1.0011	1.0019	1.0015	1.0199	1.0053	1.0243	34	1.0010	1.0027
16	0.9938	1.0030	0.9984	1.0184	1.0050	1.0190	35	1.0008	1.0017
17	1.0115	1.0071	1.0093	1.0200	1.0048	1.0139	36	1.0005	1.0010
18	1.0014	0.9976	0.9995	1.0106	1.0046	1.0090	37	1.0003	1.0004
19	1.0129	1.0094	1.0112	1.0112	1.0044	1.0044	38	1.0001	1.0001

Medical Tail – Derived vs Actual



CMCRB derived tail factor	1.0411
PCRB tail factor	1.0473
Selected	1.0442

Sources: (1) Development period:e.g. "1" =12 months to 24 months
 (2) Exhibit VI-B-4
 (3) PCRB Factors (Exhibit V-E-3)
 (4) (1) thru (9): Col. (2)
 (10) thru (19): average of Col. (2) and Col. (3)
 (5) Accumulation of (4)
 (6) See (4) above plus refer to written report.
 (7) Accumulation of (6)
 (8) Tail Factor Development Periods
 (9) Final Tail Calculation
 (10) Upward accumulation of Col. (9)

Coal Mine Compensation Rating Bureau
 Traumatic Loss Development
 Medical Loss Development Tail Factor
 PCRB Development and Tail Factors

(1) Span of <u>Maturities</u>	(2) Age-to-Age Incurred Loss <u>Factors</u>	(3) Span of <u>Maturities</u>	(4) Cumulative Incurred Loss <u>Factors</u>
1 to 2	1.0775	1 to Ult.	1.2906
2 to 3	1.0281	2 to Ult.	1.1978
3 to 4	1.0038	3 to Ult.	1.1651
4 to 5	1.0113	4 to Ult.	1.1606
5 to 6	1.0029	5 to Ult.	1.1477
6 to 7	1.0073	6 to Ult.	1.1444
7 to 8	1.0101	7 to Ult.	1.1361
8 to 9	1.0091	8 to Ult.	1.1247
9 to 10	1.0072	9 to Ult.	1.1146
10 to 11	1.0054	10 to Ult.	1.1066
11 to 12	1.0112	11 to Ult.	1.1007
12 to 13	1.0068	12 to Ult.	1.0885
13 to 14	1.0036	13 to Ult.	1.0811
14 to 15	1.0093	14 to Ult.	1.0772
15 to 16	1.0019	15 to Ult.	1.0673
16 to 17	1.0030	16 to Ult.	1.0653
17 to 18	1.0071	17 to Ult.	1.0621
18 to 19	0.9976	18 to Ult.	1.0546
19 to 20	1.0094	19 to Ult.	1.0571
20 to Ult.	1.0473	20 to Ult.	1.0473
20 to 21	1.0082		
21 to 22	1.0055		
22 to 23	1.0017		
23 to 24	1.0066		
24 to 25	1.0040		
25 to 26	1.0079		
26 to 27	1.0025		
27 to 28	1.0029		
Beyond	1.0071		

Source:PCRB Loss Cost Filing effective April 1, 2017 - Exhibit 6, page 6.14

* The 20:Ult Factor is the product of PCRB factors beyond 19:20.

Coal Mine Compensation Rating Bureau

Traumatic Loss Trend

Indemnity, Funeral and Medical for All Classes Combined

Trend Factors

Indemnity and Funeral

Annual Percentage Change: -0.9%		Annual				HB 1846	Protz	Adjusted
		Percentage				Trend	Adjustment	Trend
<u>Accident Year</u>	<u>Trend Period - Years</u>	<u>Change</u>	<u>Formula</u>		<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
2012	7-1-12 to 4-1-2019	6.75	-0.9%	$(1 - 0.009) ^ 6.75$	0.9408	1.0000	1.1337	1.0666
2013	7-1-13 to 4-1-2019	5.75	-0.9%	$(1 - 0.009) ^ 5.75$	0.9493	1.0000	1.1337	1.0762
2014	7-1-14 to 4-1-2019	4.75	-0.9%	$(1 - 0.009) ^ 4.75$	0.9580	1.0000	1.1337	1.0861
2015	7-1-15 to 4-1-2019	3.75	-0.9%	$(1 - 0.009) ^ 3.75$	0.9667	1.0000	1.1337	1.0959
2016	7-1-16 to 4-1-2019	2.75	-0.9%	$(1 - 0.009) ^ 2.75$	0.9754	1.0000	1.1337	1.1058

Medical and Medical Only

Annual Percentage Change: -2.0%		Annual				HB 1846	Protz	Adjusted
		Percentage				Trend	Adjustment	Trend
<u>Accident Year</u>	<u>Trend Period - Years</u>	<u>Change</u>	<u>Formula</u>		<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
2012	7-1-12 to 4-1-2019	6.75	-2.0%	$(1 - 0.020) ^ 6.75$	0.8725	0.9936	1.0000	0.8669
2013	7-1-13 to 4-1-2019	5.75	-2.0%	$(1 - 0.020) ^ 5.75$	0.8903	0.9927	1.0000	0.8838
2014	7-1-14 to 4-1-2019	4.75	-2.0%	$(1 - 0.020) ^ 4.75$	0.9085	0.9930	1.0000	0.9021
2015	7-1-15 to 4-1-2019	3.75	-2.0%	$(1 - 0.020) ^ 3.75$	0.9270	0.9970	1.0000	0.9242
2016	7-1-16 to 4-1-2019	2.75	-2.0%	$(1 - 0.020) ^ 2.75$	0.9460	1.0000	1.0000	0.9460

Source: Annual Percentage Change - Exhibit V-K

This exhibit has been eliminated as redundant. This exhibit number is reserved for future use.

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-H
Page 1
Summary

<u>Year</u>	(1) Indemnity Case Incurred <u>Losses</u>	(2) Loss Development <u>Factors</u>	(3) Ultimate <u>Losses</u>	(4) Loss Cost <u>Premium</u>
2007	6,652,402	1.0148	6,434,140 *	9,611,826
2008	9,672,629	1.0163	9,830,293	11,458,931
2009	5,295,524	1.0179	5,390,314	10,610,843
2010	7,274,640	1.0195	7,416,495	12,274,960
2011	8,635,331	1.0212	8,818,400	14,908,569
2012	9,293,673	1.0230	9,507,427	15,465,386
2013	7,461,258	1.0542	7,865,658	14,421,627
2014	11,781,410	1.1090	13,065,584	21,744,166
2015	9,249,942	1.2879	11,913,000	18,140,127
2016	4,871,955	2.1106	9,622,948 *	13,017,578

Sources:

(1) Exhibit V-D,pg.1 or Exhibit VI-A,pg.4

(2) Exhibit V-C-1 Column (8)

(3) =(1)x(2)

(4) Exhibit X-B

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

Exhibit V-H
Page 2
Summary

<u>Year</u>	(1) Medical Case Incurred <u>Losses</u>	(2) Loss Development <u>Factors</u>	(3) Ultimate <u>Losses</u>	(4) Loss Cost <u>Premium</u>
2007	5,819,126	1.1018	5,171,663 *	9,611,826
2008	3,608,725	1.1091	4,002,437	11,458,931
2009	2,986,651	1.1167	3,335,193	10,610,843
2010	4,459,354	1.1246	5,014,990	12,274,960
2011	5,654,038	1.1328	6,404,894	14,908,569
2012	5,519,600	1.1413	6,299,519	15,465,386
2013	3,971,009	1.1502	4,567,455	14,421,627
2014	6,043,218	1.1594	7,006,507	21,744,166
2015	3,981,666	1.1600	4,618,733	18,140,127
2016	3,963,291	1.2672	5,023,274 *	13,017,578

Sources:

(1) Exhibit V-E,pg.1 or Exhibit VI-B,pg.4

(2) Exhibit V-C-2 Column (8)

(3) =(1)x(2)

(4) Exhibit X-B

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

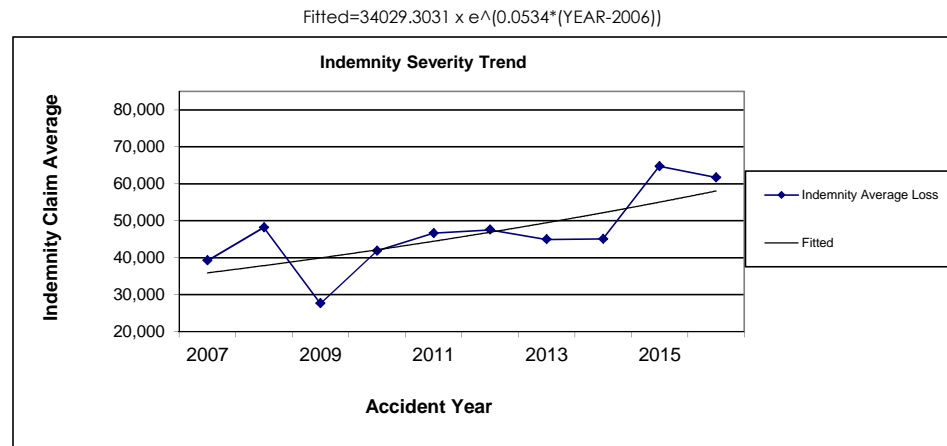
Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 1
Summary

Severity Trend

	(1)	(2)	(3)	(4)
Year	Ultimate Losses	Claim Counts	Average Loss	Annual Average Loss Change
2007	6,434,140 *	164	39,233	
2008	9,830,293	204	48,188	22.8%
2009	5,390,314	195	27,643	-42.6%
2010	7,416,495	177	41,901	51.6%
2011	8,818,400	189	46,658	11.4%
2012	9,507,427	200	47,537	1.9%
2013	7,865,658	175	44,947	-5.4%
2014	13,065,584	290	45,054	0.2%
2015	11,913,000	184	64,745	43.7%
2016	9,622,948 *	156	61,686	-4.7%

Indemnity Severity Trend Factor: 1.070
Source: Summary Exhibit (V-K)



Sources:

- (1) Exhibit V-H page 1, Column (3)
- (2) Exhibit VI-C-1
- (4) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

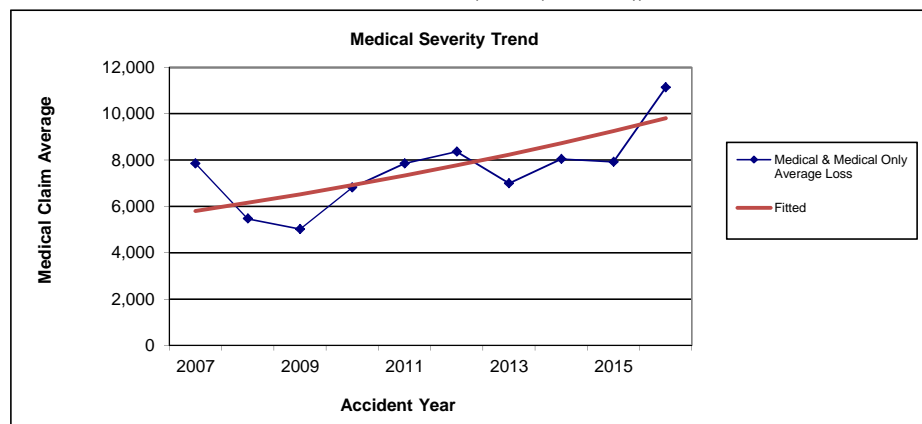
Exhibit V-I
Page 2
Summary

Severity Trend

Year	(1) Ultimate Losses	(2) Claim Counts	(3) Average Loss	(4) Annual Average Loss Change
2007	5,171,663 *	659	7,848	
2008	4,002,437	732	5,468	-30.3%
2009	3,335,193	664	5,023	-8.1%
2010	5,014,990	736	6,814	35.7%
2011	6,404,894	816	7,849	15.2%
2012	6,299,519	753	8,366	6.6%
2013	4,567,455	653	6,995	-16.4%
2014	7,006,507	871	8,044	15.0%
2015	4,618,733	583	7,922	-1.5%
2016	5,023,274 *	451	11,138	40.6%

Medical Severity Trend Factor: 1.060
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 5606.4667 \times e^{(0.0500 \times (\text{YEAR} - 2006))}$$



Sources:

- (1) Exhibit V-H page 2, Column (3)
- (2) Exhibit VI-C-1 + Exhibit VI-C-2

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims, see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Medical Only Losses for All Classes Combined

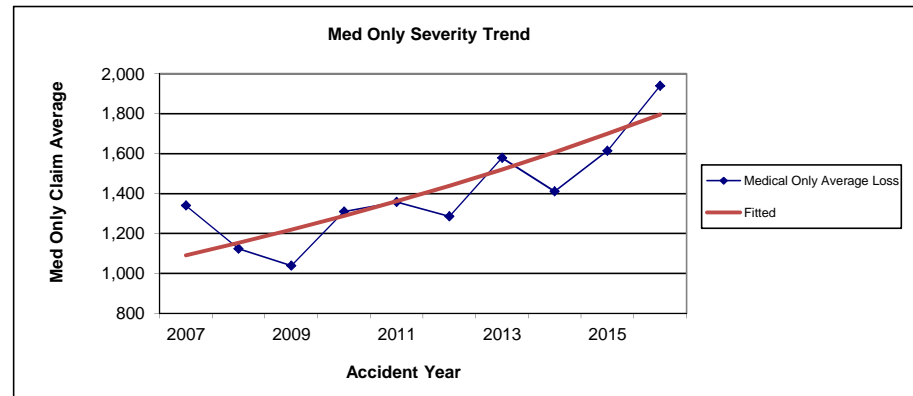
Exhibit V-I
Page 3
Summary

Severity Trend

Year	(1) Ultimate Claim Counts	(2) Ultimate Incurred Losses	(3) Average Loss	(4) Annual Average Loss Change
2007	495	663,201	1,340	
2008	528	593,200	1,123	-16.2%
2009	469	487,454	1,039	-7.5%
2010	559	732,324	1,310	26.1%
2011	627	851,341	1,358	3.7%
2012	553	710,507	1,285	-5.4%
2013	478	754,990	1,579	22.9%
2014	581	819,307	1,410	-10.7%
2015	399	644,151	1,614	14.5%
2016	295	572,060	1,939	20.1%

Med. Only Severity Trend Factor: 1.057
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 1060.0258 \times e^{(0.0479 \times (\text{YEAR} - 2006))}$$



Sources:

- (1) Exhibit VI-C-2
- (2) Exhibit VI-C-3

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

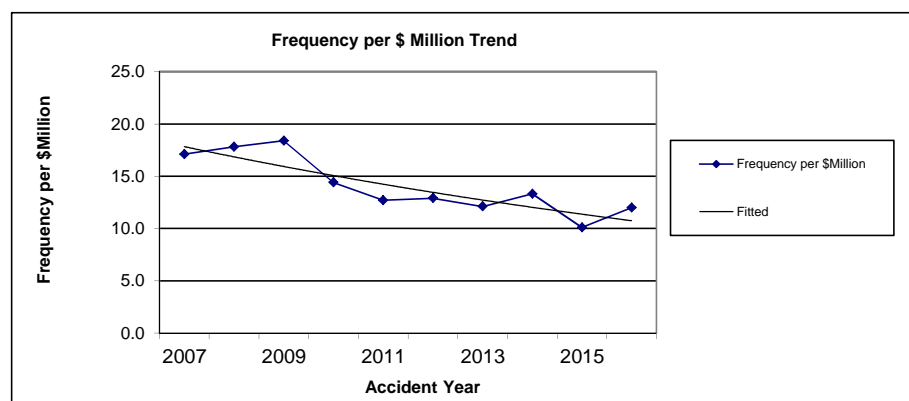
Exhibit V-I
Page 4
Summary

Frequency Trend

Year	(1) Ultimate Claim Counts	(2) Loss Cost Premium	(3) Frequency per(\$M)	(4) Annual Average Loss Change
2007	164	9,611,826	17.1	
2008	204	11,458,931	17.8	4.1%
2009	195	10,610,843	18.4	3.4%
2010	177	12,274,960	14.4	-21.7%
2011	189	14,908,569	12.7	-11.8%
2012	200	15,465,386	12.9	1.6%
2013	175	14,421,627	12.1	-6.2%
2014	290	21,744,166	13.3	9.9%
2015	184	18,140,127	10.1	-24.1%
2016	156	13,017,578	12.0	18.8%

Frequency per \$Million Trend Factor: 0.939
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 18.8585 \times e^{(-0.0563 \times (\text{YEAR} - 2006))}$$



Sources:

- (1) Exhibit V-I - Col. 2
- (2) Exhibit X-B
- (3) (1) / (2) x 1,000,000
- (4) (Current Freq. / Prior Freq. -1.0) x 100'

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Effective Date - April 01, 2018

141,676,203.479000

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

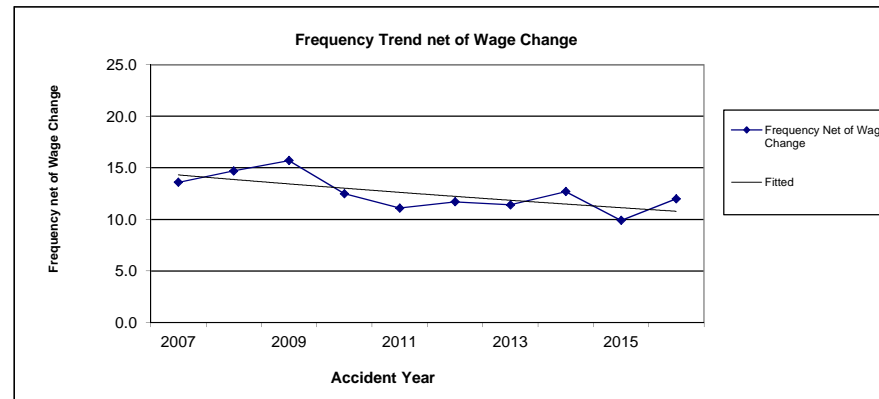
Exhibit V-I
Page 5
Summary

Frequency Trend Net of Wage Trend

<u>Year</u>	(1) Loss Cost <u>Premium</u>	(2) Statewide Average <u>Weekly Wage</u>	(3) On 2016 <u>Level</u>	(4) Loss Cost Premium <u>on 2016 Level</u>	(5) Claim Counts	(6) Adjusted Frequency <u>per(\$M)</u>	(7) Annual Frequency <u>Change</u>
2007	9,611,826	779	1.255	12,062,842	164	13.6	
2008	11,458,931	807	1.212	13,888,224	204	14.7	8.1%
2009	10,610,843	836	1.170	12,414,686	195	15.7	6.8%
2010	12,274,960	845	1.157	14,202,129	177	12.5	-20.4%
2011	14,908,569	858	1.140	16,995,769	189	11.1	-11.2%
2012	15,465,386	888	1.101	17,027,390	200	11.7	5.4%
2013	14,421,627	917	1.067	15,387,876	175	11.4	-2.6%
2014	21,744,166	932	1.049	22,809,630	290	12.7	11.4%
2015	18,140,127	951	1.028	18,648,051	184	9.9	-22.0%
2016	13,017,578	978	1.000	13,017,578	156	12.0	21.2%

Frequency net of Wage Change Trend Factor: 0.962
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 14.7647 \times e^{(-0.0314 \times (\text{YEAR} - 2006))}$$



Sources:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2016 is 1.000. Values for other years divided into 2016 value to determine factor
- (4) (1) x (3)
- (5) Exhibit VI-C-1
- (6) (5) / (4) * 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

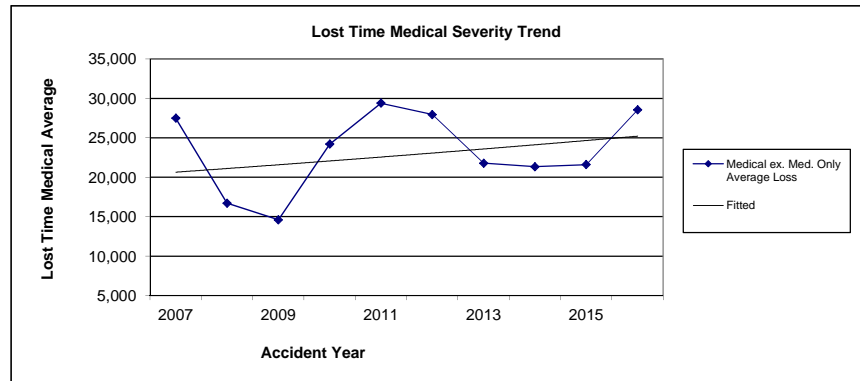
Traumatic Loss Trend
Medical (excl. Medical Only Losses) for All Classes Combined

Exhibit V-I
Page 6
Summary

	(1)		(2)		(3)		(4)		(5)		(6)
	Ultimate		Med. Only		Ult. Med. On		Claim		Average		Annual
Year	Medical Losses		Ultimate		Lost Time		Counts		Loss		Average Loss
	<u>Incurred</u>		<u>Losses</u>		<u>Claims</u>						<u>Change</u>
2007	5,171,663 *		663,201		4,508,462		164		27,491		
2008	4,002,437		593,200		3,409,237		204		16,712		-39.2%
2009	3,335,193		487,454		2,847,739		195		14,604		-12.6%
2010	5,014,990		732,324		4,282,666		177		24,196		65.7%
2011	6,404,894		851,341		5,553,553		189		29,384		21.4%
2012	6,299,519		710,507		5,589,012		200		27,945		-4.9%
2013	4,567,455		754,990		3,812,465		175		21,786		-22.0%
2014	7,006,507		819,307		6,187,200		290		21,335		-2.1%
2015	4,618,733		644,151		3,974,582		184		21,601		1.2%
2016	5,023,274 *		572,060		4,451,214		156		28,533		32.1%

Lost Time Medical Severity Trend Factor: 1.028
Source: Summary Exhibit (V-K)

Fitted=20192.4854 x e^{(0.0222*(YEAR-2006))}



Source:

- (1) Exhibit V-H, Page 2
- (2) Exhibit VI-C-3
- (3) (1)-(2)
- (4) Exhibit VI-C-1
- (5) (3)/(4)
- (6) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Coal Mine Compensation Rating Bureau

Exhibit V-J

Page 1

Allocation of Claim 43059 Between Indemnity and Medical Accident Year 2007

	Reported <u>Incurred</u>	Percent <u>Distribution</u>	Loss Development <u>Factor</u>	Developed <u>Losses</u>
Indemnity	594,174	22.9%	1.0148	602,968
Medical	<u>2,000,000</u>	<u>77.1%</u>	1.1018	<u>2,203,600</u>
Total	2,594,174	100.0%		2,806,568

Developed Incurred is greater than catastrophe limit so capping and allocation is necessary.

Total Reported Indemnity (2007) = 6,652,402

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	6,652,402	1.0148	6,750,858
This claim	<u>594,174</u>	1.0148	<u>602,968</u>
Total excluding this claim =			6,147,890

Maximum <u>Claim Size</u>	% <u>Indemnity</u>	Limited <u>Indemnity</u>
1,250,000	22.9%	286,250

Total Indemnity including this limited claim = 6,434,140

Total Reported Medical (2007) = 5,819,126

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	5,819,126	1.1018	6,411,513
This claim	<u>2,000,000</u>	1.1018	<u>2,203,600</u>
Total excluding this claim =			4,207,913

Maximum <u>Claim Size</u>	% <u>Medical</u>	Limited <u>Medical</u>
1,250,000	77.1%	963,750

Total Medical including this limited claim = 5,171,663

Coal Mine Compensation Rating Bureau

Exhibit V-J

Page 2

Allocation of Claim 48759 Between Indemnity and Medical
Accident Year 2016

	Reported <u>Incurred</u>	Percent <u>Distribution</u>	Loss Development <u>Factor</u>	Developed <u>Losses</u>
Indemnity	895,385	98.4%	2.1106	1,889,800
Medical	<u>15,000</u>	<u>1.6%</u>	<u>1.2672</u>	<u>19,008</u>
Total	910,385	100.0%		1,908,808

Developed Incurred is greater than catastrophe limit so capping and allocation is necessary.

Total Reported Indemnity (2016) = 4,871,955

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	4,871,955	2.1106	10,282,748
This claim	<u>895,385</u>	<u>2.1106</u>	<u>1,889,800</u>
Total excluding this claim =			8,392,948

Maximum <u>Claim Size</u>	% <u>Indemnity</u>	Limited <u>Indemnity</u>
1,250,000	98.4%	1,230,000

Total Indemnity including this limited claim = 9,622,948

Total Reported Medical (2016) = 3,963,291

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	3,963,291	1.2672	5,022,282
This claim	<u>15,000</u>	<u>1.2672</u>	<u>19,008</u>
Total excluding this claim =			5,003,274

Maximum <u>Claim Size</u>	% <u>Medical</u>	Limited <u>Medical</u>
1,250,000	1.6%	20,000

Total Medical including this limited claim = 5,023,274

Traumatic Loss Trend Summary of Estimates

Exhibit V-K

			Ests. 1&2	Ests. 3&4	Ests. 5&6	Ests. 7&8	Ests.9&10	Ests.11&12	Average	
V-I-1	Traditional	Indemnity	105.4%	104.8%	110.9%	105.8%	105.1%	112.7%	107.5%	Severity
	Moving Average	Indemnity	105.8%	106.4%	108.1%	105.0%	105.6%	107.4%	106.4%	Severity
									107.0%	Average
V-I-2	Traditional	Total Medical	104.6%	108.5%	109.9%	101.8%	105.9%	106.9%	106.3%	Severity
	Moving Average	Total Medical	105.7%	107.8%	106.6%	103.8%	105.8%	103.9%	105.6%	Severity
									106.0%	Average
V-I-3	Traditional	Medical Only	104.6%	106.8%	108.2%	103.1%	105.5%	106.8%	105.8%	Severity
	Moving Average	Medical Only	105.1%	106.1%	106.0%	104.6%	105.8%	105.5%	105.5%	Severity
									105.7%	Average
V-I-4	Traditional	Frequency	95.3%	94.7%	94.3%	93.6%	92.6%	91.8%	93.7%	Frequency
	Moving Average	Frequency	94.3%	94.2%	95.1%	93.4%	93.1%	93.9%	94.0%	Frequency
									93.9%	Average
V-I-5	Traditional	Frequency	97.7%	97.0%	96.5%	96.1%	94.9%	94.0%	96.0%	Frequency
	Moving Average	Frequency	96.6%	96.4%	97.4%	95.7%	95.4%	96.4%	96.3%	Frequency
									96.2%	Average
V-I-6	Traditional	Medical Ex. M.O.	101.3%	105.8%	106.8%	99.1%	103.9%	104.5%	103.6%	Severity
	Moving Average	Medical Ex. M.O.	102.8%	104.3%	100.9%	101.6%	103.1%	98.7%	101.9%	Severity
									102.8%	Average
			<u>Average Frequency Indication</u>							
Traditional	Trad Freq		95.3%	94.7%	94.2%	93.7%	92.6%	91.8%	93.7%	
Moving Average	MA Freq		94.3%	94.1%	95.1%	93.4%	93.1%	94.0%	94.0%	
									93.9%	

	Indemnity	Medical
Selected Frequency Factor	93.9% *	93.9% *
Selected Severity Factor	105.5% **	104.4% ***
Composite Trend Factor	99.1%	98.0%

* Selected Frequency is average of V-I-4 Estimates 1,2,3,4,7,8,9,10

** Selected Indemnity Severity is average of
V-I-1 Estimates 1,2,3,4,7,8,9,10

*** Selected Medical Severity is the weighted average of
V-I-2,V-I-3 & V-I-6 Estimates 1,2,3,4,7,8,9,10
The respective weights are 50%,10%,& 40%.

Approved 4-1-2017

[98.9%](#)

[98.8%](#)

Selected 4-1-2018

[99.1%](#) ****

[98.0%](#) ****

**** Limited to a maximum change of +-3.0 points, when necessary.

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 1
Estimates 01-06

Severity Trend

Year	(1) Ultimate Losses	(2) Claim Counts	(3) Average Loss	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	6,434,140 *	164	39,233			
2008	9,830,293	204	48,188	22.8%		
2009	5,390,314	195	27,643	-42.6%	38,355	
2010	7,416,495	177	41,901	51.6%	39,244	2.3%
2011	8,818,400	189	46,658	11.4%	38,734	-1.3%
2012	9,507,427	200	47,537	1.9%	45,365	17.1%
2013	7,865,658	175	44,947	-5.4%	46,381	2.2%
2014	13,065,584	290	45,054	0.2%	45,846	-1.2%
2015	11,913,000	184	64,745	43.7%	51,582	12.5%
2016	9,622,948 *	156	61,686	-4.7%	57,162	10.8%

Analysis performed on data for 2007 through 2016.	Geometric Average:	5.2%	5.8%	Ests. 1 & 2
	Regression Indication:	5.5%		
	Selected:	5.4%	5.8%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	3.2%	6.4%	Ests. 3 & 4
	Regression Indication:	6.3%		
	Selected:	4.8%	6.4%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	12.2%	8.1%	Ests. 5 & 6
	Regression Indication:	9.5%		
	Selected:	10.9%	8.1%	

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Sources:

- (1) Exhibit V-H page 1, Column (3)
- (2) Exhibit VI-C-1
- (4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

Exhibit V-I
Page 2
Estimates 01-06

Severity Trend

Year	(1) Ultimate Losses	(2) Claim Counts	(3) Average Loss	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	5,171,663 *	659	7,848			
2008	4,002,437	732	5,468	-30.3%		
2009	3,335,193	664	5,023	-8.1%	6,113	
2010	5,014,990	736	6,814	35.7%	5,768	-5.6%
2011	6,404,894	816	7,849	15.2%	6,562	13.8%
2012	6,299,519	753	8,366	6.6%	7,676	17.0%
2013	4,567,455	653	6,995	-16.4%	7,737	0.8%
2014	7,006,507	871	8,044	15.0%	7,802	0.8%
2015	4,618,733	583	7,922	-1.5%	7,654	-1.9%
2016	5,023,274 *	451	11,138	40.6%	9,035	18.0%

Analysis performed on data for 2007 through 2016.	Geometric Average:	4.0%	5.7%	Ests. 1 & 2
	Regression Indication:	5.1%		
	Selected:	4.6%	5.7%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	9.3%	7.8%	Ests. 3 & 4
	Regression Indication:	7.7%		
	Selected:	8.5%	7.8%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	12.1%	6.6%	Ests. 5 & 6
	Regression Indication:	7.7%		
	Selected:	9.9%	6.6%	

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Sources:

- (1) Exhibit V-H page 2, Column (3)
- (2) Exhibit VI-C-1 + Exhibit VI-C-2
- (4) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

Traumatic Loss Trend
Medical Only Losses for All Classes Combined

Exhibit V-I
Page 3
Estimates 01-06

Severity Trend

<u>Year</u>	(1) Ultimate Claim Counts	(2) Ultimate Incurred Losses	(3) Average Loss	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	495	663,201	1,340			
2008	528	593,200	1,123	-16.2%		
2009	469	487,454	1,039	-7.5%	1,167	
2010	559	732,324	1,310	26.1%	1,157	-0.9%
2011	627	851,341	1,358	3.7%	1,236	6.8%
2012	553	710,507	1,285	-5.4%	1,318	6.6%
2013	478	754,990	1,579	22.9%	1,407	6.8%
2014	581	819,307	1,410	-10.7%	1,425	1.3%
2015	399	644,151	1,614	14.5%	1,534	7.6%
2016	295	572,060	1,939	20.1%	1,654	7.8%

Analysis performed on data for 2007 through 2016.	Geometric Average:	4.2%	5.1%	Ests. 1 & 2
	Regression Indication:	4.9%		
	Selected:	4.6%	5.1%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	7.1%	6.1%	Ests. 3 & 4
	Regression Indication:	6.5%		
	Selected:	6.8%	6.1%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	9.3%	6.0%	Ests. 5 & 6
	Regression Indication:	7.1%		
	Selected:	8.2%	6.0%	

Sources:

- (1) Exhibit VI-C-2
- (2) Exhibit VI-C-3
- (4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 4
Estimates 01-06

Frequency Trend

<u>Year</u>	(1) Ultimate Claim Counts	(2) Loss Cost Premium	(3) Frequency per(\$M)	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	164	9,611,826	17.1			
2008	204	11,458,931	17.8	4.1%		
2009	195	10,610,843	18.4	3.4%	17.8	
2010	177	12,274,960	14.4	-21.7%	16.9	-5.1%
2011	189	14,908,569	12.7	-11.8%	15.2	-10.1%
2012	200	15,465,386	12.9	1.6%	13.3	-12.5%
2013	175	14,421,627	12.1	-6.2%	12.6	-5.3%
2014	290	21,744,166	13.3	9.9%	12.8	1.6%
2015	184	18,140,127	10.1	-24.1%	11.8	-7.8%
2016	156	13,017,578	12.0	18.8%	11.8	0.0%

Analysis performed on data for 2007 through 2016.	Geometric Average:	-3.9%	-5.7%	Ests. 1 & 2
	Regression Indication:	-5.5%		
	Selected:	-4.7%	-5.7%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	-4.8%	-5.8%	Ests. 3 & 4
	Regression Indication:	-5.8%		
	Selected:	-5.3%	-5.8%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	-5.9%	-4.9%	Ests. 5 & 6
	Regression Indication:	-5.4%		
	Selected:	-5.7%	-4.9%	

Sources:

- (1) Exhibit V-I-1 Col. 2
- (2) Exhibit X-B
- (3) (1) / (2) x 1,000,000
- (4) (Current Freq. / Prior Freq. - 1.0) x 100'

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-1
Page 5
Estimates 01-06

Frequency Trend Net of Wage Trend

	(1) Loss Cost	(2) Statewide Average Weekly Wage	(3) On 2016 Level	(4) Loss Cost Premium on 2016 Level	(5) Claim Counts	(6) Adjusted Frequency per(\$M)	(7) Annual Frequency Change	(8) 3-Year Moving Average	(9) Annual Mov. Avg. Change
Year	Premium								
2007	9,611,826	779	1.255	12,062,842	164	13.6			
2008	11,458,931	807	1.212	13,888,224	204	14.7	8.1%		
2009	10,610,843	836	1.170	12,414,686	195	15.7	6.8%	14.7	
2010	12,274,960	845	1.157	14,202,129	177	12.5	-20.4%	14.3	-2.7%
2011	14,908,569	858	1.140	16,995,769	189	11.1	-11.2%	13.1	-8.4%
2012	15,465,386	888	1.101	17,027,390	200	11.7	5.4%	11.8	-9.9%
2013	14,421,627	917	1.067	15,387,876	175	11.4	-2.6%	11.4	-3.4%
2014	21,744,166	932	1.049	22,809,630	290	12.7	11.4%	11.9	4.4%
2015	18,140,127	951	1.028	18,648,051	184	9.9	-22.0%	11.3	-5.0%
2016	13,017,578	978	1.000	13,017,578	156	12.0	21.2%	11.5	1.8%

Analysis performed on data for 2007 through 2016.	Geometric Average:	-1.4%	-3.4%	Ests. 1 & 2
	Regression Indication:	-3.1%		
	Selected:	-2.3%	-3.4%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	-2.5%	-3.6%	Ests. 3 & 4
	Regression Indication:	-3.5%		
	Selected:	-3.0%	-3.6%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	-3.8%	-2.6%	Ests. 5 & 6
	Regression Indication:	-3.1%		
	Selected:	-3.5%	-2.6%	

Sources:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2016 is 1,000. Values for other years divided into 2016 value to determine factor
- (4) (1)x(3)
- (5) Exhibit VI-C-1
- (6) (5) / (4) * 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

Traumatic Loss Trend
Medical (excl. Medical Only Losses) for All Classes Combined

Exhibit V-I
Page 6
Estimates 01-06

Year	(1) Ultimate Medical Losses Incurred	(2) Med. Only Ultimate Incurred Losses	(3) Ult. Med. On Lost Time Claims	(4) Claim Counts	(5) Average Loss	(6) Annual Average Loss Change	(7) 3-Year Moving Average	(8) Annual Mov. Avg. Change
2007	5,171,663 *	663,201	4,508,462	164	27,491			
2008	4,002,437	593,200	3,409,237	204	16,712	-39.2%		
2009	3,335,193	487,454	2,847,739	195	14,604	-12.6%	19,602	
2010	5,014,990	732,324	4,282,666	177	24,196	65.7%	18,504	-5.6%
2011	6,404,894	851,341	5,553,553	189	29,384	21.4%	22,728	22.8%
2012	6,299,519	710,507	5,589,012	200	27,945	-4.9%	27,175	19.6%
2013	4,567,455	754,990	3,812,465	175	21,786	-22.0%	26,372	-3.0%
2014	7,006,507	819,307	6,187,200	290	21,335	-2.1%	23,689	-10.2%
2015	4,618,733	644,151	3,974,582	184	21,601	1.2%	21,574	-8.9%
2016	5,023,274 *	572,060	4,451,214	156	28,533	32.1%	23,823	10.4%

Analysis performed on data for 2007 through 2016.	Geometric Average:	0.4%	2.8%	Ests. 1 & 2
	Regression Indication:	2.2%		
	Selected:	1.3%	2.8%	
Analysis performed on data for 2008 through 2016.	Geometric Average:	6.9%	4.3%	Ests. 3 & 4
	Regression Indication:	4.7%		
	Selected:	5.8%	4.3%	
Analysis performed on data for 2009 through 2016.	Geometric Average:	10.0%	0.9%	Ests. 5 & 6
	Regression Indication:	3.5%		
	Selected:	6.8%	0.9%	

Sources:

- (1) Exhibit V-H, Page 2
- (2) Exhibit VI-C-3
- (3) (1)-(2)
- (4) Exhibit VI-C-1
- (5) (3)/(4)
- (6) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 1
Estimates 07-12

Severity Trend

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Year</u>	<u>Ultimate Losses</u>	<u>Claim Counts</u>	<u>Average Loss</u>	<u>Annual Average Loss Change</u>	<u>3-Year Moving Average</u>	<u>Annual Mov. Avg. Change</u>
2007	6,434,140 *	164	39,233			
2008	9,830,293	204	48,188	22.8%		
2009	5,390,314	195	27,643	-42.6%	38,355	
2010	7,416,495	177	41,901	51.6%	39,244	2.3%
2011	8,818,400	189	46,658	11.4%	38,734	-1.3%
2012	9,507,427	200	47,537	1.9%	45,365	17.1%
2013	7,865,658	175	44,947	-5.4%	46,381	2.2%
2014	13,065,584	290	45,054	0.2%	45,846	-1.2%
2015	11,913,000	184	64,745	43.7%	51,582	12.5%

Analysis performed on data for 2007 through 2015.	Geometric Average:	6.5%	5.0%	Ests. 7 & 8
	Regression Indication:	5.0%		
	Selected:	5.8%	5.0%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	4.3%	5.6%	Ests. 9 & 10
	Regression Indication:	5.8%		
	Selected:	5.1%	5.6%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	15.3%	7.4%	Ests. 11 & 12
	Regression Indication:	10.0%		
	Selected:	12.7%	7.4%	

Sources:

- (1) Exhibit V-H page 1, Column (3)
- (2) Exhibit VI-C-1
- (4) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

Exhibit V-I
Page 2
Estimates 07-12

Severity Trend

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Year</u>	<u>Ultimate Losses</u>	<u>Claim Counts</u>	<u>Average Loss</u>	<u>Annual Average Loss Change</u>	<u>3-Year Moving Average</u>	<u>Annual Mov. Avg. Change</u>
2007	5,171,663 *	659	7,848			
2008	4,002,437	732	5,468	-30.3%		
2009	3,335,193	664	5,023	-8.1%	6,113	
2010	5,014,990	736	6,814	35.7%	5,768	-5.6%
2011	6,404,894	816	7,849	15.2%	6,562	13.8%
2012	6,299,519	753	8,366	6.6%	7,676	17.0%
2013	4,567,455	653	6,995	-16.4%	7,737	0.8%
2014	7,006,507	871	8,044	15.0%	7,802	0.8%
2015	4,618,733	583	7,922	-1.5%	7,654	-1.9%

Analysis performed on data for 2007 through 2015.	Geometric Average:	0.1%	3.8%	Ests. 7 & 8
	Regression Indication:	3.5%		
	Selected:	1.8%	3.8%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	5.5%	5.8%	Ests. 9 & 10
	Regression Indication:	6.2%		
	Selected:	5.9%	5.8%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	7.9%	3.9%	Ests. 11 & 12
	Regression Indication:	5.8%		
	Selected:	6.9%	3.9%	

Sources:

- (1) Exhibit V-H page 2, Column (3)
- (2) Exhibit VI-C-1 + Exhibit VI-C-2
- (4) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

Traumatic Loss Trend
Medical Only Losses for All Classes Combined

Exhibit V-I
Page 3
Estimates 07-12

Severity Trend

<u>Year</u>	(1) Ultimate Claim Counts	(2) Ultimate Incurred Losses	(3) Average Loss	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	495	663,201	1,340			
2008	528	593,200	1,123	-16.2%		
2009	469	487,454	1,039	-7.5%	1,167	
2010	559	732,324	1,310	26.1%	1,157	-0.9%
2011	627	851,341	1,358	3.7%	1,236	6.8%
2012	553	710,507	1,285	-5.4%	1,318	6.6%
2013	478	754,990	1,579	22.9%	1,407	6.8%
2014	581	819,307	1,410	-10.7%	1,425	1.3%
2015	399	644,151	1,614	14.5%	1,534	7.6%

Analysis performed on data for 2007 through 2015.	Geometric Average:	2.4%	4.6%	Ests. 7 & 8
	Regression Indication:	3.8%		
	Selected:	3.1%	4.6%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	5.3%	5.8%	Ests. 9 & 10
	Regression Indication:	5.6%		
	Selected:	5.5%	5.8%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	7.6%	5.5%	Ests. 11 & 12
	Regression Indication:	6.0%		
	Selected:	6.8%	5.5%	

Sources:

- (1) Exhibit VI-C-2
- (2) Exhibit VI-C-3
- (4) $(\text{Current Avg. Loss} / \text{Prior Avg. Loss} - 1.0) \times 100$

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 4
Estimates 07-12

Frequency Trend

<u>Year</u>	(1) Ultimate Claim Counts	(2) Loss Cost Premium	(3) Frequency per(\$M)	(4) Annual Average Loss Change	(5) 3-Year Moving Average	(6) Annual Mov. Avg. Change
2007	164	9,611,826	17.1			
2008	204	11,458,931	17.8	4.1%		
2009	195	10,610,843	18.4	3.4%	17.8	
2010	177	12,274,960	14.4	-21.7%	16.9	-5.1%
2011	189	14,908,569	12.7	-11.8%	15.2	-10.1%
2012	200	15,465,386	12.9	1.6%	13.3	-12.5%
2013	175	14,421,627	12.1	-6.2%	12.6	-5.3%
2014	290	21,744,166	13.3	9.9%	12.8	1.6%
2015	184	18,140,127	10.1	-24.1%	11.8	-7.8%

Analysis performed on data for 2007 through 2015.	Geometric Average:	-6.4%	-6.6%	Ests. 7 & 8
	Regression Indication:	-6.3%		
	Selected:	-6.4%	-6.6%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	-7.8%	-6.9%	Ests. 9 & 10
	Regression Indication:	-7.0%		
	Selected:	-7.4%	-6.9%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	-9.5%	-6.1%	Ests. 11 & 12
	Regression Indication:	-6.9%		
	Selected:	-8.2%	-6.1%	

Sources:

- (1) Exhibit V-I-1 Col. 2
- (2) Exhibit X-B-1
- (3) (1) / (2) x 1,000,000
- (4) (Current Freq. / Prior Freq. -1.0) x 100'

Traumatic Loss Trend
Indemnity and Funeral losses for All Classes Combined

Exhibit V-I
Page 5
Estimates 07-12

Frequency Trend net of Wage Trend

Year	(1) Loss Cost Premium	(2) Statewide Average Weekly Wage	(3) On 2016 Level	(4) Loss Cost Premium on 2016 Level	(5) Claim Counts	(6) Adjusted Frequency per(\$M)	(7) Annual Frequency Change	(8) 3-Year Moving Average	(9) Annual Mov. Avg. Change
2007	9,611,826	779	1.255	12,062,842	164	13.6			
2008	11,458,931	807	1.212	13,888,224	204	14.7	8.1%		
2009	10,610,843	836	1.170	12,414,686	195	15.7	6.8%	14.7	
2010	12,274,960	845	1.157	14,202,129	177	12.5	-20.4%	14.3	-2.7%
2011	14,908,569	858	1.140	16,995,769	189	11.1	-11.2%	13.1	-8.4%
2012	15,465,386	888	1.101	17,027,390	200	11.7	5.4%	11.8	-9.9%
2013	14,421,627	917	1.067	15,387,876	175	11.4	-2.6%	11.4	-3.4%
2014	21,744,166	932	1.049	22,809,630	290	12.7	11.4%	11.9	4.4%
2015	18,140,127	951	1.028	18,648,051	184	9.9	-22.0%	11.3	-5.0%

Analysis performed on data for 2007 through 2015.	Geometric Average:	-3.9%	-4.3%	Ests. 7 & 8
	Regression Indication:	-3.9%		
	Selected:	-3.9%	-4.3%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	-5.5%	-4.6%	Ests. 9 & 10
	Regression Indication:	-4.7%		
	Selected:	-5.1%	-4.6%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	-7.4%	-3.6%	Ests. 11 & 12
	Regression Indication:	-4.6%		
	Selected:	-6.0%	-3.6%	

Source:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2016 is 1.000. Values for other years divided into 2016 value to determine factor
- (4) (1)x(3)
- (5) Exhibit VI-C-1
- (6) (5) / (4) * 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

Traumatic Loss Trend
Medical (excl. Medical Only Losses) for All Classes Combined

Exhibit V-I
Page 6
Estimates 07-12

Severity Trend

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ultimate	Med. Only	Ult. Med. On					
	Medical Losses	Ultimate	Lost Time	Claim	Average	Annual	3-Year	Annual
<u>Year</u>	<u>Incurred</u>	<u>Losses</u>	<u>Claims</u>	<u>Counts</u>	<u>Loss</u>	<u>Average Loss</u>	<u>Moving</u>	<u>Mov. Avg.</u>
						<u>Change</u>	<u>Average</u>	<u>Change</u>
2007	5,171,663 *	663,201	4,508,462	164	27,491			
2008	4,002,437	593,200	3,409,237	204	16,712	-39.2%		
2009	3,335,193	487,454	2,847,739	195	14,604	-12.6%	19,602	
2010	5,014,990	732,324	4,282,666	177	24,196	65.7%	18,504	-5.6%
2011	6,404,894	851,341	5,553,553	189	29,384	21.4%	22,728	22.8%
2012	6,299,519	710,507	5,589,012	200	27,945	-4.9%	27,175	19.6%
2013	4,567,455	754,990	3,812,465	175	21,786	-22.0%	26,372	-3.0%
2014	7,006,507	819,307	6,187,200	290	21,335	-2.1%	23,689	-10.2%
2015	4,618,733	644,151	3,974,582	184	21,601	1.2%	21,574	-8.9%

Analysis performed on data for 2007 through 2015.	Geometric Average:	-3.0%	1.6%	Ests. 7 & 8
	Regression Indication:	1.2%		
	Selected:	-0.9%	1.6%	
Analysis performed on data for 2008 through 2015.	Geometric Average:	3.7%	3.1%	Ests. 9 & 10
	Regression Indication:	4.0%		
	Selected:	3.9%	3.1%	
Analysis performed on data for 2009 through 2015.	Geometric Average:	6.7%	-1.3%	Ests. 11 & 12
	Regression Indication:	2.3%		
	Selected:	4.5%	-1.3%	

Source:

- (1) Exhibit V-H, Page 2
- (2) Exhibit VI-C-3
- (3) (1)-(2)
- (4) Exhibit VI-C-1
- (5) (3)/(4)

* Note: Ultimate losses for 2007 & 2016 reflect limitation on large claims,
see Exhibits V-J-1 & V-J-2

- (6) (Current Avg. Loss / Prior Avg. Loss - 1.0) x 100

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Indemnity Claim Settlement Adjustment Factors
Summary of Data and Selections

Data as of	(1) 0 to 10 Development	(2) 0 to 10 Selection
4/30/2005	0.3%	0.5%
4/30/2004	0.8%	0.5%
4/30/2003	1.4%	0.5%
4/30/2002	1.0%	1.0%
4/30/2001	2.2%	1.5%
4/30/2000	3.1%	2.0%
4/30/1999	2.7%	2.0%
4/30/1998	2.8%	2.0%
<u>4/30/1997</u>	<u>2.2%</u>	<u>2.0%</u>
Total	16.5%	12.0%

Data as of	(3) 10 to 20 Development	(4) 10 to 20 Selection
4/30/2010	0.0%	0.0%
4/30/2009	0.1%	0.0%
4/30/2008	0.0%	0.0%
4/30/2007	0.1%	0.1%
4/30/2006	0.2%	0.2%
4/30/2005	0.4%	0.2%
4/30/2004	0.2%	0.2%
4/30/2003	0.9%	0.3%
4/30/2002	0.5%	0.6%
4/30/2001	1.4%	0.9%
4/30/2000	4.4%	1.2%
4/30/1999	0.1%	1.2%
4/30/1998	0.0%	1.2%
<u>4/30/1997</u>	<u>0.0%</u>	<u>1.2%</u>
Total	8.3%	7.3%

Sources:

- (1) Exhibit VI-A Page 5b
- (2) Exhibit VI-A Page 5b
- (3) Exhibit VI-A Page 5c for 2001-2010, Filing effective 4/1/2009 for 1997-2000
- (4) Exhibit VI-A Page 5c for 2001-2010, Filing effective 4/1/2009 for 1997-2000

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Indemnity Claim Settlement Adjustment Factors - 1st to 10th Report

Accident	(1) 4/30/1997 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/1998 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/1999 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/2000 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection
1987	18,806	759	4.0%	xx	1988	16,032	0	0.0%	xx	1989	18,878	368	1.9%	xx	1990	29,328	800	2.7%	xx
1988	15,731	926	5.9%	xx	1989	19,106	874	4.6%	xx	1990	29,654	1150	3.9%	xx	1991	19,165	457	2.4%	xx
1989	19,920	856	4.3%	xx	1990	30,400	1150	3.8%	xx	1991	19,430	596	3.1%	xx	1992	23,117	988	4.3%	xx
1990	30,426	478	1.6%	xx	1991	19,984	544	2.7%	xx	1992	24,122	491	2.0%	xx	1993	20,137	0	0.0%	xx
1991	19,515	319	1.6%	xx	1992	24,216	651	2.7%	xx	1993	19,482	440	2.3%	xx	1994	20,495	1321	6.4%	xx
1992	23,283	0	0.0%	xx	1993	19,117	919	4.8%	xx	1994	21,755	656	3.0%	xx	1995	12,031	0	0.0%	xx
1993	17,896	445	2.5%	xx	1994	21,058	337	1.6%	xx	1995	11,322	127	1.1%	xx	1996	10,936	663	6.1%	xx
1994	19,319	0	0.0%	xx	1995	10,822	349	3.2%	xx	1996	10,813	296	2.7%	xx	1997	xx	xx	xx	xx
1995	10,133	0	0.0%	xx	1996	9,862	0	0.0%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx
Total	175,029	3,783	2.2%	2.0%	Total	170,597	4,824	2.8%	2.0%	Total	155,456	4,124	2.7%	2.0%	Total	135,209	4,229	3.1%	2.0%

Accident	(1) 4/30/2001 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/2002 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/2003 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection	Accident	(1) 4/30/2004 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection
1991	19,058	244	1.3%	xx	1992	22,275	0	0.0%	xx	1993	19,361	236	1.2%	xx	1994	20,243	368	1.8%	xx
1992	22,030	813	3.7%	xx	1993	20,029	314	1.6%	xx	1994	20,681	637	3.1%	xx	1995	11,907	0	0.0%	xx
1993	19,887	522	2.6%	xx	1994	21,125	214	1.0%	xx	1995	11,831	0	0.0%	xx	1996	11,994	0	0.0%	xx
1994	20,719	434	2.1%	xx	1995	12,001	354	2.9%	xx	1996	11,985	0	0.0%	xx	1997	xx	0	xx	xx
1995	12,009	162	1.3%	xx	1996	12,046	0	0.0%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx
1996	11,474	156	1.4%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx
1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx
1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx
1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx	2002	xx	xx	xx	xx
Total	105,177	2,331	2.2%	1.5%	Total	87,476	882	1.0%	1.0%	Total	63,858	873	1.4%	0.5%	Total	44,144	368	0.8%	0.5%

Accident	(1) 4/30/2005 Year Rpt.Loss ^(a)	(2) 12 Month Fav.Dev ^(a)	(3) [2] / [1]	(4) Selection
1995	11,956	70	0.6%	xx
1996	12,182	0	0.0%	xx
1997	xx	0	xx	xx
1998	xx	0	xx	xx
1999	xx	xx	xx	xx
2000	xx	xx	xx	xx
2001	xx	xx	xx	xx
2002	xx	xx	xx	xx
2003	xx	xx	xx	xx
Total	24,138	70	0.3%	0.5%

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

(a) All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a
CMCRB Data Base

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Indemnity Claim Settlement Adjustment Factors - Beyond 10th Report

Accident	(1) 4/30/2001	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2002	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2003	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2004	(2) 12 Month	(3)	(4)
Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection
1983	19,728	283	1.4%	xx	1983	19,581	0	0.0%	xx	1983	19,537	132	0.7%	xx	1983	19,617	0	0.0%	xx
1984	25,745	185	0.7%	xx	1984	25,801	0	0.0%	xx	1984	25,724	0	0.0%	xx	1984	25,837	0	0.0%	xx
1985	16,662	219	1.3%	xx	1985	16,776	0	0.0%	xx	1985	16,860	0	0.0%	xx	1985	16,954	0	0.0%	xx
1986	18,002	194	1.1%	xx	1986	17,729	221	1.2%	xx	1986	17,764	0	0.0%	xx	1986	17,812	0	0.0%	xx
1987	17,785	0	0.0%	xx	1987	17,924	0	0.0%	xx	1987	17,933	122	0.7%	xx	1987	18,072	0	0.0%	xx
1988	15,926	194	1.2%	xx	1988	15,795	217	1.4%	xx	1988	15,878	0	0.0%	xx	1988	15,845	0	0.0%	xx
1989	18,586	0	0.0%	xx	1989	18,938	0	0.0%	xx	1989	18,878	0	0.0%	xx	1989	18,876	0	0.0%	xx
1990	28,447	1222	4.3%	xx	1990	28,697	0	0.0%	xx	1990	28,678	294	1.0%	xx	1990	28,968	0	0.0%	xx
1991	xx	xx	xx	xx	1991	18,465	442	2.4%	xx	1991	18,005	458	2.5%	xx	1991	18,078	16	0.1%	xx
1992	xx	xx	xx	xx	1992	xx	xx	xx	xx	1992	21,860	835	3.8%	xx	1992	21,375	32	0.1%	xx
Total	160,881	2,297	1.4%	0.9%	Total	179,706	880	0.5%	0.6%	Total	201,117	1,841	0.9%	0.3%	Total	19,300	358	1.9%	xx
															Total	220,734	406	0.2%	0.2%

Accident	(1) 4/30/2005	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2006	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/07	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2008	(2) 12 Month	(3)	(4)
Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection	Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection
1983	19,558	0	0.0%	xx	1983	19,629	0	0.0%	xx	1983	19,485	0	0.0%	xx	1983	19,478	0	0.0%	xx
1984	26,025	0	0.0%	xx	1984	25,971	0	0.0%	xx	1984	26,136	0	0.0%	xx	1984	26,205	0	0.0%	xx
1985	17,068	0	0.0%	xx	1985	17,182	0	0.0%	xx	1985	17,144	0	0.0%	xx	1985	16,838	0	0.0%	xx
1986	17,907	0	0.0%	xx	1986	17,896	94	0.5%	xx	1986	17,999	0	0.0%	xx	1986	18,146	0	0.0%	xx
1987	18,208	0	0.0%	xx	1987	18,028	295	1.6%	xx	1987	18,007	0	0.0%	xx	1987	18,110	0	0.0%	xx
1988	15,700	0	0.0%	xx	1988	15,763	0	0.0%	xx	1988	15,827	0	0.0%	xx	1988	15,892	0	0.0%	xx
1989	18,503	380	2.1%	xx	1989	18,538	0	0.0%	xx	1989	18,579	0	0.0%	xx	1989	18,621	0	0.0%	xx
1990	29,336	0	0.0%	xx	1990	29,409	176	0.6%	xx	1990	29,661	0	0.0%	xx	1990	29,843	0	0.0%	xx
1991	18,154	0	0.0%	xx	1991	18,201	0	0.0%	xx	1991	18,272	0	0.0%	xx	1991	18,318	0	0.0%	xx
1992	20,831	631	3.0%	xx	1992	20,921	0	0.0%	xx	1992	20,665	0	0.0%	xx	1992	20,738	0	0.0%	xx
1993	19,597	0	0.0%	xx	1993	19,782	0	0.0%	xx	1993	19,781	167	0.8%	xx	1993	19,744	0	0.0%	xx
1994	20,328	0	0.0%	xx	1994	20,479	8	0.0%	xx	1994	20,635	0	0.0%	xx	1994	20,796	0	0.0%	xx
Total	241,215	1,011	0.4%	0.2%	Total	11,961	0	0.0%	xx	1995	11,960	9	0.1%	xx	1995	11,969	0	0.0%	xx
										1996	12,122	0	0.0%	xx	1996	12,194	40	0.3%	xx
										Total	266,273	176	0.1%	0.1%	1997	8,505	0	0.0%	xx
															Total	275,397	40	0.0%	0.0%

Accident	(1) 4/30/2009	(2) 12 Month	(3)	(4)
Year	Rpt.Loss ^(a)	Fav.Dev ^(a)	(2) / (1)	Selection
1983	19,527	0	0.0%	xx
1984	26,360	0	0.0%	xx
1985	16,906	0	0.0%	xx
1986	18,235	0	0.0%	xx
1987	18,212	0	0.0%	xx
1988	15,850	0	0.0%	xx
1989	18,662	0	0.0%	xx
1990	29,708	140	0.5%	xx
1991	18,252	104	0.6%	xx
1992	20,811	0	0.0%	xx
1993	19,892	0	0.0%	xx
1994	20,956	0	0.0%	xx
1995	11,976	0	0.0%	xx
1996	12,324	0	0.0%	xx
1997	8,675	0	0.0%	xx
1998	8,648	0	0.0%	xx
Total	284,994	244	0.1%	0.0%

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

(a) All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a
CMCRB Database as of 04/30/17 - Validated 08/15/17 and prior

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Effective Date - April 01, 2018
4,710,808.422000

Exhibit VI-B
Page 3[illegible]

Note: Act 44 effective in 1993

Source: A. Reported Medical Incurred Losses, Exhibit VI-B-1 (A)
B. Act 44 Medical Law Adjustment Factors and Claim Settlement Levels: Exhibit VI-B-2 (C)
C. Medical Incurred Losses Adjusted to Act 44 Law Level and Claim Settlement Levels= A x B

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Medical Claim Settlement Adjustment Factors

Accident Year					Accident Year					Accident Year					Accident Year				
(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	
4/30/1994	12 Month				4/30/1995	12 Month				4/30/1996	12 Month				4/30/1997	12 Month			
Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection	
1984	7,380	243	3.3%	xx	1985	4,303	199	4.6%	xx	1986	5,126	84	1.6%	xx	1987	4,895	93	1.9%	xx
1985	4,469	105	2.3%	xx	1986	5,166	122	2.4%	xx	1987	4,959	72	1.5%	xx	1988	5,318	202	3.8%	xx
1986	5,192	222	4.3%	xx	1987	4,805	122	2.5%	xx	1988	5,470	451	8.2%	xx	1989	8,177	793	9.7%	xx
1987	4,941	262	5.3%	xx	1988	5,860	161	2.7%	xx	1989	8,720	575	6.6%	xx	1990	7,929	274	3.5%	xx
1988	5,722	396	6.9%	xx	1989	8,842	299	3.4%	xx	1990	7,730	220	2.8%	xx	1991	7,315	141	1.9%	xx
1989	8,405	532	6.3%	xx	1990	7,595	471	6.2%	xx	1991	7,240	281	3.9%	xx	1992	4,284	319	7.4%	xx
1990	7,754	298	3.8%	xx	1991	7,208	83	1.2%	xx	1992	4,458	269	6.0%	xx	1993	6,061	216	3.6%	xx
1991	6,824	328	4.8%	xx	1992	4,462	198	4.4%	xx	1993	6,163	189	3.1%	xx	1994	5,062	155	3.1%	xx
1992	5,389	437	8.1%	xx	1993	5,786	164	2.8%	xx	1994	4,930	231	4.7%	xx	1995	4,444	211	4.7%	xx
Total	56,076	2,823	5.0%	2.0%	Total	54,027	1,819	3.4%	2.0%	Total	54,796	2,372	4.3%	2.0%	Total	53,485	2,404	4.5%	2.0%

Accident Year					Accident Year					Accident Year					Accident Year				
(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	
4/30/1998	12 Month				4/30/1999	12 Month				4/30/2000	12 Month				4/30/2001	12 Month			
Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection	
1988	5,228	70	1.3%	xx	1989	8,525	96	1.1%	xx	1990	7,808	52	0.7%	xx	1991	7,348	85	1.2%	xx
1989	7,991	321	4.0%	xx	1990	7,726	83	1.1%	xx	1991	7,176	15	0.2%	xx	1992	2,286	86	3.8%	xx
1990	7,725	436	5.6%	xx	1991	7,140	208	2.9%	xx	1992	2,327	125	5.4%	xx	1993	5,730	77	1.3%	xx
1991	7,216	173	2.4%	xx	1992	2,428	74	3.0%	xx	1993	5,767	161	2.8%	xx	1994	5,060	29	0.6%	xx
1992	4,439	85	1.9%	xx	1993	5,804	322	5.5%	xx	1994	5,029	130	2.6%	xx	1995	4,484	150	3.3%	xx
1993	6,077	194	3.2%	xx	1994	5,111	198	3.9%	xx	1995	4,416	97	2.2%	xx	1996	4,806	187	3.9%	xx
1994	5,217	77	1.5%	xx	1995	4,294	164	3.8%	xx	1996	4,808	119	2.5%	xx	1997	xx	xx	xx	xx
1995	4,354	272	6.2%	xx	1996	4,690	106	2.3%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx
1996	4,316	87	2.0%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx
Total	52,563	1,715	3.3%	2.0%	Total	45,718	1,251	2.7%	1.5%	Total	37,331	699	1.9%	1.4%	Total	29,714	614	2.1%	1.3%

Accident Year					Accident Year					Accident Year					Accident Year				
(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	
4/30/2002	12 Month				4/30/2003	12 Month				4/30/2004	12 Month				4/30/2005	12 Month			
Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection	
1992	2,939	16	0.5%	xx	1993	5,971	0	0.0%	xx	1994	5,179	59	1.1%	xx	1995	4,669	0	0.0%	xx
1993	5,812	57	1.0%	xx	1994	5,125	0	0.0%	xx	1995	4,740	83	1.8%	xx	1996	4,626	0	0.0%	xx
1994	5,113	40	0.8%	xx	1995	4,706	0	0.0%	xx	1996	4,702	32	0.7%	xx	1997	xx	xx	xx	xx
1995	4,667	101	2.2%	xx	1996	4,578	145	3.2%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx
1996	4,704	242	5.1%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx
1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx
1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx
1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx	2002	xx	xx	xx	xx
2000	xx	xx	xx	xx	2001	xx	xx	xx	xx	2002	xx	xx	xx	xx	2003	xx	xx	xx	xx
Total	23,235	456	2.0%	1.2%	Total	20,380	145	0.7%	1.1%	Total	14,621	174	1.2%	1.0%	Total	9,295	0	0.0%	0.8%

Accident Year					Accident Year					Accident Year					Accident Year				
(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	
4/30/2006	12 Month				4/30/2007	12 Month				4/30/2008	12 Month				4/30/2009	12 Month			
Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection		Rpt.Loss ^(a)	Fav. Dev ^(a)	[2] / (1)	Selection	
1996	4,708	25	0.5%	xx	1997	xx	xx	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx
1997	xx	0	xx	xx	1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx
1998	xx	xx	xx	xx	1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx
1999	xx	xx	xx	xx	2000	xx	xx	xx	xx	2001	xx	xx	xx	xx	2002	xx	xx	xx	xx
2000	xx	xx	xx	xx	2001	xx	xx	xx	xx	2002	xx	xx	xx	xx	2003	xx	xx	xx	xx
2001	xx	xx	xx	xx	2002	xx	xx	xx	xx	2003	xx	xx	xx	xx	2004	xx	xx	xx	xx
2002	xx	xx	xx	xx	2003	xx	xx	xx	xx	2004	xx	xx	xx	xx	2005	xx	xx	xx	xx
2003	xx	xx	xx	xx	2004	xx	xx	xx	xx	2005	xx	xx	xx	xx	2006	xx	xx	xx	xx
2004	xx	xx	xx	xx	2005	xx	xx	xx	xx	2006	xx	xx	xx	xx	2007	xx	xx	xx	xx
Total	4,708	25	0.5%	0.5%	Total	0	0	0.0%	0.0%	Total	0	0	0.0%	0.0%	2008	xx	xx	xx	xx
															Total	0	0	0.0%	0.0%

(a) All amounts are in thousands of dollars
Incurred losses for 1992 exclude effects of large loss.

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero[0.00]. Thus this Exhibit will no longer be updated.

Sources: Column (1) Exhibit VI-B p. 1a
CMCRB Data Base

**Coal Mine Compensation Rating Bureau
Traumatic Loss Development**

Exhibit VI-C-1

Incurred Indemnity and Funeral Claim Counts for All Classes Combined (excl. USLH)

A. Indemnity Reported Incurred Claims as of 04/30/17																				
Report	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	339	297	263	240	227	241	196	219	203	156	163	193	170	168	175	169	149	258	161	140
2	358	301	269	250	238	244	196	227	228	163	164	206	193	177	182	195	171	286	181	
3	355	314	272	252	237	246	197	230	229	165	164	203	195	177	188	199	174	289		
4	358	313	274	254	237	246	198	231	230	166	164	205	195	177	189	200	175			
5	358	313	274	254	237	246	199	231	230	166	164	204	195	177	189	200				
6	357	312	274	254	237	246	199	231	230	166	164	204	195	177	189					
7	357	312	274	254	237	246	199	231	230	166	164	204	195	177						
8	357	312	274	254	237	246	199	231	230	166	164	204	195							
9	357	312	274	254	237	246	199	231	230	166	164	204								
10	357	312	274	254	237	246	199	231	230	166	164									
11	357	312	274	254	237	246	199	231	230	166										
12	357	312	274	254	237	246	199	231	230											
13	357	312	274	254	237	246	199	231												
14	357	312	274	254	237	246	199													
15	357	312	274	254	237	246														
16	357	312	274	254	237															
17	357	312	274	254																
18	357	312	274																	
19	357	312																		
20	357																			

B. Annual Claim Count Development

1:2										1.0449	1.0061	1.0674	1.1353	1.0536	1.0400	1.1538	1.1477	1.1085	1.1242
2:3									1.0044	1.0123	1.0000	0.9854	1.0104	1.0000	1.0330	1.0205	1.0175	1.0105	
3:4								1.0043	1.0044	1.0061	1.0000	1.0099	1.0000	1.0000	1.0053	1.0050	1.0057		
4:5							1.0051	1.0000	1.0000	1.0000	1.0000	0.9951	1.0000	1.0000	1.0000	1.0000			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
7:8				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
8:9			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
9:10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000								
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000									
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000										
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000											
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000												
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000													
16:17	1.0000	1.0000	1.0000	1.0000	1.0000														
17:18	1.0000	1.0000	1.0000																
18:19	1.0000	1.0000																	
19:20	1.0000																		

C. Summary

	10 Year	6 Year	10 Year	10 Year	6 Year	6 Year	Average													
	Straight	Straight	Weighted	Average	Average	Weighted	Average													
	Average	Average	Average	ex. Hi&Lo	ex. Hi&Lo	Average	Four	Selected		Cumulative	Acc. Year	Ultimate								
1:2	1.0882	1.1046	1.0885	1.0902	1.1085	1.1037	1.0968	1.0968		1.1144	2016	156								
2:3	1.0094	1.0153	1.0092	1.0095	1.0147	1.0150	1.0121	1.0121		1.0160	2015	184								
3:4	1.0041	1.0043	1.0042	1.0039	1.0040	1.0044	1.0041	1.0039		1.0039	2014	290								
4:5	1.0000	0.9992	1.0000	1.0000	1.0000	0.9991	0.9998	1.0000		1.0000	2013	175								
5:6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2012	200								
6:7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2011	189								
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2010	177								
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2009	195								
9:10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2008	204								
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2007	164								
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2006	166								
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2005	230								
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2004	231								
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2003	199								
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2002	246								
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2001	237								
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	2000	254								
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1999	274								
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1998	312								
										1997	357									

Source: A. Loss Development Data: CMCRB Database as of 04/30/17 - Validated 08/15/17

B. Annual Loss Development Ratios

C. Summary of Straight Averages for 10 and 6 years.

Weighted Averages for 10 and 6 years.

Straight Averages for 10 and 6 years excluding highest and lowest.

Average of middle 4 of above 6 averages.

Coal Mine Compensation Rating Bureau

Exhibit VI-C-2

Traumatic Loss Development

Medical Only Claim Counts for All Classes Combined (excl. USLH)

A. Medical Only Reported Incurred Claims Valued as of 04/30/17

Report	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	867	684	641	488	519	487	453	516	476	456	488	523	479	559	628	563	472	592	402	295
2	863	685	640	500	536	499	462	524	479	453	494	527	469	560	632	554	477	583	399	
3	865	686	641	503	539	500	461	523	480	451	495	528	469	559	627	553	478	581		
4	863	684	641	497	535	500	461	522	479	450	495	527	469	559	627	553	478			
5	863	684	643	497	535	500	461	522	479	450	495	528	469	559	627	553				
6	864	685	643	498	535	500	461	522	479	450	495	528	469	559	627					
7	864	685	643	498	535	500	461	522	479	450	495	528	469	559						
8	864	685	643	498	535	500	461	522	479	450	495	528	469							
9	864	685	643	498	535	500	461	522	479	450	495	528								
10	864	685	643	498	535	500	461	522	479	450	495									
11	864	685	643	498	535	500	461	522	479	450										
12	864	685	643	498	535	500	461	522	479											
13	864	685	643	498	535	500	461	522												
14	864	685	643	498	535	500	461													
15	864	685	643	498	535	500														
16	864	685	643	498	535															
17	864	685	643	498																
18	864	685	643																	
19	864	685																		
20	864																			

B. Annual Claim Count Development

1:2										0.9934	1.0123	1.0076	0.9791	1.0018	1.0064	0.9840	1.0106	0.9848	0.9925
2:3									1.0021	0.9956	1.0020	1.0019	1.0000	0.9982	0.9921	0.9982	1.0021	0.9966	
3:4								0.9981	0.9979	0.9978	1.0000	0.9981	1.0000	1.0000	1.0000	1.0000	1.0000		
4:5							1.0000	1.0000	1.0000	1.0000	1.0000	1.0019	1.0000	1.0000	1.0000	1.0000			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
7:8				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
8:9			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
9:10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000								
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000									
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000										
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000											
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000												
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000													
15:16	1.0000	1.0000	1.0000	1.0000	1.0000														
16:17	1.0000	1.0000	1.0000	1.0000															
17:18	1.0000	1.0000	1.0000																
18:19	1.0000	1.0000																	
19:20	1.0000																		

C. Summary

	10 Year	6 Year	10 Year	10 Year	6 Year	6 Year	Average													
	Straight	Straight	Weighted	Average	Average	Weighted	Average													
	Average	Average	Average	ex. Hi&Lo	ex. Hi&Lo	Average	Average		Four	Selected		Cumulative		Acc. Year	Ultimate					
1:2	0.9973	0.9967	0.9973	0.9976	0.9964	0.9966	0.9970		1.0000		1.0000		2016	295						
2:3	0.9989	0.9979	0.9987	0.9993	0.9983	0.9976	0.9984		1.0000		1.0000		2015	399						
3:4	0.9992	0.9997	0.9992	0.9993	1.0000	0.9997	0.9995		1.0000		1.0000		2014	581						
4:5	1.0002	1.0003	1.0002	1.0000	1.0000	1.0003	1.0002		1.0000		1.0000		2013	478						
5:6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2012	553						
6:7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2011	627						
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2010	559						
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2009	469						
9:10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2008	528						
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2007	495						
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2006	450						
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2005	479						
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2004	522						
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2003	461						
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2002	500						
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2001	535						
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		2000	498						
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		1999	643						
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		1.0000		1998	685						
													1997	864						

Medical Only claims are defined as claims with Medical Incurred dollars greater than zero and Indemnity Incurred dollars equal to zero.

Source: A. Loss Development Data: CMCRB Database as of 04/30/17 - Validated 08/15/17

B. Annual Loss Development Ratios

C. Summary of Straight Averages for 10 and 6 years,

Weighted Averages for 10 and 6 years,

Straight Averages for 10 and 6 years excluding highest and lowest,

Average of middle 4 of above 6 averages.

**Coal Mine Compensation Rating Bureau
Traumatic Loss Development**

Exhibit VI-C-3

Medical Only Incurred for All Classes Combined (excl. USLH)

A. Medical Only Reported Incurred Losses Valued as of 04/30/17

Report	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	420,727	438,535	458,539	315,407	291,102	326,965	344,009	440,355	393,342	475,073	645,531	538,996	499,273	689,845	830,417	740,247	657,505	844,733	693,513	566,845
2	386,810	432,746	407,349	296,698	341,613	354,474	343,651	489,659	395,971	492,413	667,028	564,408	475,294	712,909	864,057	723,464	724,288	817,585	644,151	
3	397,114	433,468	409,094	300,203	340,771	351,193	342,029	499,930	570,553	464,396	651,680	574,474	487,309	732,324	846,540	709,906	754,367	819,307		
4	392,071	420,776	409,095	304,117	341,085	343,963	346,252	499,000	577,565	464,210	654,006	561,921	487,349	732,324	850,074	710,429	754,990			
5	392,071	422,132	409,426	304,601	341,085	345,393	346,252	499,175	577,565	464,210	657,948	569,251	487,454	732,324	851,341	710,507				
6	392,408	412,623	409,426	305,104	341,085	345,393	346,252	499,175	577,565	464,210	663,201	578,077	487,454	732,324	851,341					
7	392,408	412,623	409,426	305,104	341,085	345,393	346,252	499,175	577,565	464,210	663,201	584,120	487,454	732,324						
8	392,408	412,623	405,010	305,104	347,675	345,393	346,252	499,182	439,393	464,210	663,201	586,976	487,454							
9	392,408	412,623	405,010	305,104	347,675	345,393	346,318	499,182	439,393	464,210	663,201	593,200								
10	392,408	412,623	405,010	305,104	347,675	345,393	346,318	499,182	439,463	464,210	663,201									

B. Annual Loss Development

1:2										1.0365	1.0333	1.0471	0.9520	1.0334	1.0405	0.9773	1.1016	0.9679	0.9288
2:3									1.4409	0.9431	0.9770	1.0178	1.0253	1.0272	0.9797	0.9813	1.0415	1.0021	
3:4								0.9981	1.0123	0.9996	1.0036	0.9781	1.0001	1.0000	1.0042	1.0007	1.0008		
4:5							1.0000	1.0004	1.0000	1.0000	1.0060	1.0130	1.0002	1.0000	1.0015	1.0001			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0080	1.0155	1.0000	1.0000	1.0000				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0105	1.0000	1.0000					
7:8				1.0000	1.0193	1.0000	1.0000	1.0000	0.7608	1.0000	1.0000	1.0049	1.0000						
8:9			1.0000	1.0000	1.0000	1.0000	1.0002	1.0000	1.0000	1.0000	1.0000	1.0106							
9:10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0002	1.0000	1.0000								

C. Summary

	10 Year Straight Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average ex. Hi&Lo	6 Year Average ex. Hi&Lo	6 Year Weighted Average	Average of Middle Four	Selected	Cumulative	Acc. Year	Ultimate
1:2	1.0118	1.0083	1.0107	1.0110	1.0048	1.0068	1.0092	1.0092	1.0092	2016	572,060
2:3	1.0436	1.0095	1.0269	1.0065	1.0090	1.0074	1.0132	1.0000	1.0000	2015	644,151
3:4	0.9998	0.9973	1.0001	1.0009	1.0004	0.9981	0.9996	1.0000	1.0000	2014	819,307
4:5	1.0021	1.0035	1.0022	1.0010	1.0020	1.0032	1.0024	1.0000	1.0000	2013	754,990
5:6	1.0024	1.0039	1.0025	1.0010	1.0020	1.0037	1.0027	1.0000	1.0000	2012	710,507
6:7	1.0011	1.0018	1.0012	1.0000	1.0000	1.0017	1.0010	1.0000	1.0000	2011	851,341
7:8	0.9785	0.9610	0.9721	1.0006	1.0000	0.9587	0.9779	1.0000	1.0000	2010	732,324
8:9	1.0011	1.0018	1.0014	1.0000	1.0001	1.0021	1.0011	1.0000	1.0000	2009	487,454
9:10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2008	593,200

Source: A. Loss Development Data: CMCRB Database as of 04/30/17 - Validated 08/15/17

B. Annual Loss Development Ratios

C. Summary of Straight Averages for 10 and 6 years,

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1994

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1994	3,903,052	0.6110	2,384,765	1,518,287	2,384,765	2,384,765	1,429,619	3,814,384	0	na	na	2,384,765	na	na	0.9773	xx	0.9773	0.9773
2	1995	4,929,891	0.6836	3,370,073	1,559,818	985,309	985,309	1,514,271	4,884,344	0	na	na	985,309	na	na	0.9908	xx	0.9908	0.9908
3	1996	5,062,121	0.7314	3,702,435	1,359,686	332,362	332,362	1,339,834	5,042,270	0	na	na	332,362	na	na	0.9961	xx	0.9961	0.9961
4	1997	5,216,951	0.7623	3,976,882	1,240,069	274,446	274,446	1,240,069	5,216,951	0	na	na	274,446	na	na	1.0000	xx	1.0000	1.0000
5	1998	5,111,218	0.8197	4,189,665	921,553	212,784	212,784	921,553	5,111,218	0	na	na	212,784	na	na	1.0000	xx	1.0000	1.0000
6	1999	5,029,268	0.8689	4,369,931	659,337	180,266	180,266	659,337	5,029,268	4,389,242	640,026	199,577	199,577	640,026	na	1.0000	xx	1.0000	1.0000
7	2000	5,059,712	0.8827	4,466,208	593,504	96,277	96,277	593,504	5,059,712	4,487,578	572,134	98,336	98,336	572,134	5,059,712	1.0000	1.0000	1.0000	1.0000
8	2001	5,113,134	0.8925	4,563,472	549,662	97,264	97,264	549,662	5,113,134	4,583,303	529,831	95,725	95,725	529,831	5,113,134	1.0000	1.0000	1.0000	1.0000
9	2002	5,124,726	0.9144	4,686,049	438,677	122,577	122,577	438,677	5,124,726	4,686,069	438,657	102,766	102,766	438,657	5,124,726	1.0000	1.0000	1.0000	1.0000
10	2003	5,144,115	0.9266	4,766,537	377,578	80,488	80,488	377,578	5,144,115	4,766,728	377,387	80,659	80,659	377,387	5,144,115	1.0000	1.0000	1.0000	1.0000
11	2004	5,273,693	0.9448	4,982,643	291,050	216,106	216,106	291,050	5,273,693	4,977,633	296,060	210,905	210,905	296,060	5,273,693	1.0000	1.0000	1.0000	1.0000
12	2005	5,295,932	0.9585	5,076,170	219,762	93,527	93,527	219,762	5,295,932	5,050,319	245,613	72,686	72,686	245,613	5,295,932	1.0000	1.0000	1.0000	1.0000
13	2006	5,346,840	0.9688	5,180,014	166,826	103,844	103,844	166,826	5,346,840	5,097,751	249,089	47,432	47,432	249,089	5,346,840	1.0000	1.0000	1.0000	1.0000
14	2007	5,366,481	0.9765	5,240,584	125,897	60,571	60,571	125,897	5,366,481	5,134,011	232,470	36,260	36,260	232,470	5,366,481	1.0000	1.0000	1.0000	1.0000
15	2008	5,384,567	0.9824	5,289,587	94,980	49,003	49,003	94,980	5,384,567	5,173,710	210,857	39,699	39,699	210,857	5,384,567	1.0000	1.0000	1.0000	1.0000
16	2009	5,423,525	0.9867	5,351,593	71,932	62,006	62,006	71,932	5,423,525	5,222,342	201,183	48,632	48,632	201,183	5,423,525	1.0000	1.0000	1.0000	1.0000
17	2010	5,290,059	0.9900	5,237,305	52,754	-114,288	-114,288	52,754	5,290,059	5,243,874	46,185	21,532	21,532	46,185	5,290,059	1.0000	1.0000	1.0000	1.0000
18	2011	5,370,678	0.9925	5,330,408	40,270	93,103	93,103	40,270	5,370,678	5,253,033	117,645	9,159	9,159	117,645	5,370,678	1.0000	1.0000	1.0000	1.0000
19	2012	5,371,098	0.9944	5,340,817	30,281	10,409	10,409	30,281	5,371,098	5,259,632	111,466	6,599	6,599	111,466	5,371,098	1.0000	1.0000	1.0000	1.0000
20	2013	5,467,814	0.9958	5,444,636	23,178	103,819	103,819	23,178	5,467,814	5,329,554	138,260	69,922	69,922	138,260	5,467,814	1.0000	1.0000	1.0000	1.0000

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table. Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(C)	Reported incurred loss from Exhibit VI-B Page 1
	(D)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(E)	(D) x (C)
	(F)	(C) - (E)
	(G)	Current value of (E) less preceding value of (E)
	(H)	(G) x Value from table of Act 44 effects above.
	(I)	(F) x Value from table of Act 44 effects above.
	(J)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(K)	Reported paid loss from Exhibit VI-E
	(L)	(C) - (K)
	(M)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(N)	(M) x Value from table of Act 44 effects
	(O)	(L) x Value from table of Act 44 effects
	(P)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(Q)	(J) / (C)
	(R)	(P) / (C)
	(S)	Average of values in columns (Q) and (R)
	(T)	Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1993

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment [#]	(I) Est Res Adjustment [#]	(J) Sample Adj Rept Loss [*]	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment [#]	(O) Act Res Adjustment [#]	(P) Actual Adj Rept Loss [*]	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1993	4,780,471	0.6490	3,102,526	1,677,945	3,102,526	2,564,858	1,482,129	4,046,987	0	na	na	2,564,858	na	na	0.8466	xx	0.8466	0.8921
2	1994	5,785,980	0.7014	4,058,286	1,727,694	955,761	955,761	1,626,796	5,147,415	0	na	na	955,761	na	na	0.8896	xx	0.8896	0.8934
3	1995	6,162,904	0.7310	4,505,083	1,657,821	446,796	446,796	1,609,413	5,576,828	0	na	na	446,796	na	na	0.9049	xx	0.9049	0.8948
4	1996	6,061,248	0.7593	4,602,306	1,458,942	97,223	97,223	1,437,642	5,502,280	0	na	na	97,223	na	na	0.9078	xx	0.9078	0.8961
5	1997	6,077,440	0.8077	4,908,748	1,168,692	306,443	306,443	1,168,692	5,539,772	0	na	na	306,443	na	na	0.9115	xx	0.9115	0.8974
6	1998	5,804,110	0.8678	5,036,807	767,303	128,058	128,058	767,303	5,266,442	0	na	na	128,058	na	na	0.9074	xx	0.9074	0.8988
7	1999	5,767,492	0.8945	5,159,022	608,470	122,215	122,215	608,470	5,229,824	5,149,026	618,466	112,219	618,466	na	na	0.9068	xx	0.9068	0.9001
8	2000	5,730,009	0.9182	5,261,294	468,715	102,273	102,273	468,715	5,192,341	5,317,681	412,328	168,655	168,655	412,328	5,192,341	0.9062	0.9062	0.9062	0.9015
9	2001	5,812,365	0.9144	5,314,827	497,538	53,532	53,532	497,538	5,274,697	5,360,316	452,049	42,635	42,635	452,049	5,274,697	0.9075	0.9075	0.9075	0.9028
10	2002	5,971,283	0.9080	5,421,925	549,358	107,098	107,098	549,358	5,433,615	5,431,732	539,551	71,416	71,416	539,551	5,433,615	0.9100	0.9100	0.9100	0.9041
11	2003	6,018,440	0.9272	5,580,133	438,307	158,208	158,208	438,307	5,480,772	5,484,250	534,190	52,518	52,518	534,190	5,480,772	0.9107	0.9107	0.9107	0.9055
12	2004	5,838,773	0.9423	5,502,166	336,607	-77,967	-77,967	336,607	5,301,105	5,515,392	323,381	31,142	31,142	323,381	5,301,105	0.9079	0.9079	0.9079	0.9068
13	2005	5,732,687	0.9544	5,471,069	261,618	-31,096	-31,096	261,618	5,195,019	5,570,940	161,747	55,548	55,548	161,747	5,195,019	0.9062	0.9062	0.9062	0.9081
14	2006	5,818,810	0.9639	5,608,602	210,208	137,532	137,532	210,208	5,281,142	5,630,292	188,518	59,352	59,352	188,518	5,281,142	0.9076	0.9076	0.9076	0.9095
15	2007	5,859,155	0.9714	5,691,600	167,555	82,998	82,998	167,555	5,321,487	5,669,851	189,304	39,559	39,559	189,304	5,321,487	0.9082	0.9082	0.9082	0.9108
16	2008	5,935,724	0.9774	5,801,354	134,370	109,754	109,754	134,370	5,398,056	5,726,344	209,380	56,493	56,493	209,380	5,398,056	0.9094	0.9094	0.9094	0.9122
17	2009	6,019,026	0.9821	5,911,165	107,861	109,812	109,812	107,861	5,481,358	5,786,245	232,781	59,901	59,901	232,781	5,481,358	0.9107	0.9107	0.9107	0.9135
18	2010	6,100,724	0.9858	6,014,182	86,542	103,017	103,017	86,542	5,563,056	5,834,833	265,891	48,588	48,588	265,891	5,563,056	0.9119	0.9119	0.9119	0.9148
19	2011	6,154,033	0.9888	6,084,928	69,105	70,745	70,745	69,105	5,616,365	5,895,287	258,746	60,454	60,454	258,746	5,616,365	0.9126	0.9126	0.9126	0.9162
20	2012	6,153,930	0.9911	6,099,227	54,703	14,299	14,299	54,703	5,616,262	5,945,407	208,523	50,120	50,120	208,523	5,616,262	0.9126	0.9126	0.9126	0.9175

Effects of Act 44 becoming effective in 1993 [from prior filings]

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4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
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* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from Exhibit VI-E
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1992

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment [#]	(I) Est Res Adjustment [#]	(J) Sample Adj Rept Loss [*]	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment [#]	(O) Act Res Adjustment [#]	(P) Actual Adj Rept Loss [*]	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1992	5,963,632	0.6295	3,754,106	2,209,526	3,754,106	2,658,658	1,564,786	4,223,444	0	na	na	2,658,658	na	na	0.7082	xx	0.7082	0.7082
2	1993	6,709,723	0.7683	5,155,080	1,554,643	1,400,974	1,213,664	1,373,216	5,245,538	0	na	na	1,213,664	na	na	0.7818	xx	0.7818	0.8052
3	1994	6,988,709	0.8094	5,656,661	1,332,048	501,581	501,581	1,254,256	5,628,159	0	na	na	501,581	na	na	0.8053	xx	0.8053	0.8062
4	1995	6,985,202	0.8343	5,827,754	1,157,448	171,093	171,093	1,123,650	5,668,646	0	na	na	171,093	na	na	0.8115	xx	0.8115	0.8072
5	1996	6,810,575	0.8751	5,959,934	850,641	132,180	132,180	838,221	5,515,397	0	na	na	132,180	na	na	0.8098	xx	0.8098	0.8081
6	1997	6,966,052	0.8828	6,149,631	816,421	189,697	189,697	816,421	5,683,294	0	na	na	189,697	na	na	0.8159	xx	0.8159	0.8091
7	1998	7,086,080	0.8890	6,299,525	786,555	149,894	149,894	786,555	5,803,322	0	na	na	149,894	na	na	0.8190	xx	0.8190	0.8101
8	1999	6,984,759	0.9059	6,327,493	657,266	27,968	27,968	657,266	5,702,001	6,401,003	583,756	101,478	101,478	583,756	na	0.8163	xx	0.8163	0.8111
9	2000	6,943,552	0.9302	6,458,892	484,660	131,399	131,399	484,660	5,660,794	6,494,799	448,753	93,796	93,796	448,753	5,660,794	0.8153	0.8153	0.8153	0.8121
10	2001	7,100,992	0.9261	6,576,229	524,763	117,337	117,337	524,763	5,818,234	6,613,862	487,130	119,063	119,063	487,130	5,818,234	0.8194	0.8194	0.8194	0.8130
11	2002	7,099,581	0.9443	6,704,429	395,152	128,200	128,200	395,152	5,816,823	6,692,320	407,261	78,458	78,458	407,261	5,816,823	0.8193	0.8193	0.8193	0.8140
12	2003	7,167,560	0.9581	6,867,098	300,462	162,669	162,669	300,462	5,884,802	6,804,727	362,833	112,407	112,407	362,833	5,884,802	0.8210	0.8210	0.8210	0.8150
13	2004	7,173,430	0.9684	6,946,949	226,481	79,851	79,851	226,481	5,890,672	6,858,573	314,857	53,846	53,846	314,857	5,890,672	0.8212	0.8212	0.8212	0.8160
14	2005	7,091,743	0.9762	6,923,109	168,634	-23,840	-23,840	168,634	5,808,985	6,879,694	212,049	21,121	21,121	212,049	5,808,985	0.8191	0.8191	0.8191	0.8170
15	2006	7,140,118	0.9821	7,012,243	127,875	89,134	89,134	127,875	5,857,360	6,904,878	235,240	25,184	25,184	235,240	5,857,360	0.8203	0.8203	0.8203	0.8179
16	2007	7,069,470	0.9865	6,974,113	95,357	-38,130	-38,130	95,357	5,786,712	6,918,013	151,457	13,135	13,135	151,457	5,786,712	0.8185	0.8185	0.8185	0.8189
17	2008	7,047,415	0.9898	6,975,820	71,595	1,707	1,707	71,595	5,764,657	6,937,949	109,466	19,936	19,936	109,466	5,764,657	0.8180	0.8180	0.8180	0.8199
18	2009	7,028,385	0.9923	6,974,608	53,777	-1,212	-1,212	53,777	5,745,627	6,961,865	66,520	23,916	23,916	66,520	5,745,627	0.8175	0.8175	0.8175	0.8209
19	2010	7,029,188	0.9942	6,988,681	40,507	14,073	14,073	40,507	5,746,430	6,974,368	54,820	12,503	12,503	54,820	5,746,430	0.8175	0.8175	0.8175	0.8219
20	2011	7,063,572	0.9957	7,032,914	30,658	44,234	44,234	30,658	5,780,814	6,985,460	78,112	11,092	11,092	78,112	5,780,814	0.8184	0.8184	0.8184	0.8228

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(C)	Reported incurred loss from Exhibit VI-B Page 1
	(D)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(E)	(D) x (C)
	(F)	(C) - (E)
	(G)	Current value of (E) less preceding value of (E)
	(H)	(G) x Value from table of Act 44 effects above.
	(I)	(F) x Value from table of Act 44 effects above.
	(J)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(K)	Reported paid loss from Exhibit VI-E
	(L)	(C) - (K)
	(M)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(N)	(M) x Value from table of Act 44 effects
	(O)	(L) x Value from table of Act 44 effects
	(P)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(Q)	(J) / (C)
	(R)	(P) / (C)
	(S)	Average of values in columns (Q) and (R)
	(T)	Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1991

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment [#]	(I) Est Res Adjustment [#]	(J) Sample Adj Rept Loss [*]	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment [#]	(O) Act Res Adjustment [#]	(P) Actual Adj Rept Loss [*]	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1991	5,085,069	0.3438	1,748,338	3,336,731	1,748,338	1,238,173	2,363,073	3,601,246	0	na	na	1,238,173	na	na	0.7082	xx	0.7082	0.7082
2	1992	6,471,250	0.7424	4,804,256	1,666,994	3,055,918	2,164,201	1,180,565	4,582,939	0	na	na	2,164,201	na	na	0.7082	xx	0.7082	0.7082
3	1993	6,824,261	0.7867	5,368,646	1,455,615	564,390	488,931	1,285,745	5,177,050	0	na	na	488,931	na	na	0.7586	xx	0.7586	0.7838
4	1994	7,207,603	0.7941	5,723,558	1,484,045	354,911	354,911	1,397,377	5,643,594	0	na	na	354,911	na	na	0.7830	xx	0.7830	0.7853
5	1995	7,239,653	0.8173	5,916,968	1,322,685	193,411	193,411	1,284,062	5,723,690	0	na	na	193,411	na	na	0.7906	xx	0.7906	0.7867
6	1996	7,315,361	0.8302	6,073,213	1,242,148	156,244	156,244	1,224,013	5,819,885	0	na	na	156,244	na	na	0.7956	xx	0.7956	0.7882
7	1997	7,215,882	0.8675	6,259,778	956,104	186,565	186,565	956,104	5,738,541	0	na	na	186,565	na	na	0.7953	xx	0.7953	0.7896
8	1998	7,140,026	0.9047	6,459,582	680,444	199,804	199,804	680,444	5,662,685	0	na	na	199,804	na	na	0.7931	xx	0.7931	0.7911
9	1999	7,175,630	0.9013	6,467,395	708,235	7,814	7,814	708,235	5,698,289	6,527,960	647,670	68,378	68,378	647,670	na	0.7941	xx	0.7941	0.7925
10	2000	7,347,568	0.8891	6,532,723	814,845	65,327	65,327	814,845	5,870,227	6,601,301	746,267	73,341	73,341	746,267	5,870,227	0.7989	0.7989	0.7989	0.7940
11	2001	7,477,095	0.9090	6,796,519	680,576	263,797	263,797	680,576	5,999,754	6,640,700	836,395	39,399	39,399	836,395	5,999,754	0.8024	0.8024	0.8024	0.7954
12	2002	7,453,897	0.9253	6,897,046	556,851	100,527	100,527	556,851	5,976,556	6,688,050	765,847	47,350	47,350	765,847	5,976,556	0.8018	0.8018	0.8018	0.7969
13	2003	7,447,799	0.9387	6,991,137	456,662	94,090	94,090	456,662	5,970,458	6,781,221	666,578	93,171	93,171	666,578	5,970,458	0.8016	0.8016	0.8016	0.7983
14	2004	7,500,265	0.9497	7,122,818	377,447	131,682	131,682	377,447	6,022,924	6,830,913	669,352	49,692	49,692	669,352	6,022,924	0.8030	0.8030	0.8030	0.7998
15	2005	7,500,059	0.9587	7,190,277	309,782	67,459	67,459	309,782	6,022,718	6,883,370	616,689	52,457	52,457	616,689	6,022,718	0.8030	0.8030	0.8030	0.8012
16	2006	7,442,165	0.9661	7,189,874	252,291	-404	-404	252,291	5,964,824	6,922,803	519,362	39,433	39,433	519,362	5,964,824	0.8015	0.8015	0.8015	0.8027
17	2007	7,490,067	0.9722	7,281,666	208,401	91,792	91,792	208,401	6,012,726	6,958,482	531,585	35,679	35,679	531,585	6,012,726	0.8028	0.8028	0.8028	0.8041
18	2008	7,528,919	0.9772	7,356,986	171,933	75,320	75,320	171,933	6,051,578	7,001,143	527,776	42,661	42,661	527,776	6,051,578	0.8038	0.8038	0.8038	0.8056
19	2009	7,453,318	0.9813	7,313,621	139,697	-43,365	-43,365	139,697	5,975,977	7,052,555	400,763	51,412	51,412	400,763	5,975,977	0.8018	0.8018	0.8018	0.8070
20	2010	7,374,324	0.9846	7,260,882	113,442	-52,738	-52,738	113,442	5,896,983	7,088,704	285,620	36,149	36,149	285,620	5,896,983	0.7997	0.7997	0.7997	0.8085

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
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* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
		Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(C)	Reported incurred loss from Exhibit VI-B Page 1
	(D)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(E)	(D) x (C)
	(F)	(C) - (E)
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	(H)	(G) x Value from table of Act 44 effects above.
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	(J)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(K)	Reported paid loss from Exhibit VI-E
	(L)	(C) - (K)
	(M)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(N)	(M) x Value from table of Act 44 effects
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	(Q)	(J) / (C)
	(R)	(P) / (C)
	(S)	Average of values in columns (Q) and (R)
	(T)	Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1990

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1990	5,121,908	0.3736	1,913,479	3,208,429	1,913,479	1,355,126	2,272,209	3,627,335	0	na	na	1,355,126	na	na	0.7082	xx	0.7082	0.7082
2	1991	5,979,955	0.4784	2,860,943	3,119,012	947,464	670,994	2,208,884	4,235,004	0	na	na	670,994	na	na	0.7082	xx	0.7082	0.7082
3	1992	7,074,053	0.7829	5,538,276	1,535,777	2,677,333	1,896,087	1,087,637	5,009,844	0	na	na	1,896,087	na	na	0.7082	xx	0.7082	0.7082
4	1993	7,753,514	0.7612	5,901,975	1,851,539	363,699	315,072	1,635,465	5,872,744	0	na	na	315,072	na	na	0.7574	xx	0.7574	0.7752
5	1994	7,595,281	0.8179	6,212,180	1,383,101	310,205	310,205	1,302,328	5,849,812	0	na	na	310,205	na	na	0.7702	xx	0.7702	0.7762
6	1995	7,729,893	0.8264	6,387,984	1,341,909	175,803	175,803	1,302,726	6,026,014	0	na	na	175,803	na	na	0.7796	xx	0.7796	0.7773
7	1996	7,929,203	0.8229	6,524,941	1,404,262	136,958	136,958	1,383,760	6,244,005	0	na	na	136,958	na	na	0.7875	xx	0.7875	0.7783
8	1997	7,725,007	0.8733	6,746,249	978,758	221,307	221,307	978,758	6,060,312	0	na	na	221,307	na	na	0.7845	xx	0.7845	0.7794
9	1998	7,725,545	0.8841	6,830,154	895,391	83,906	83,906	895,391	6,060,850	0	na	na	83,906	na	na	0.7845	xx	0.7845	0.7804
10	1999	7,808,315	0.8795	6,867,413	940,902	37,259	37,259	940,902	6,143,620	6,907,575	900,740	77,421	77,421	900,740	na	0.7868	xx	0.7868	0.7815
11	2000	7,818,624	0.8997	7,034,155	784,469	166,742	166,742	784,469	6,153,929	6,987,340	831,284	79,765	79,765	831,284	6,153,929	0.7871	0.7871	0.7871	0.7826
12	2001	7,818,489	0.9165	7,165,318	653,171	131,163	131,163	653,171	6,153,794	7,057,392	761,097	70,052	70,052	761,097	6,153,794	0.7871	0.7871	0.7871	0.7836
13	2002	7,777,708	0.9304	7,236,687	541,021	71,369	71,369	541,021	6,113,013	7,117,858	659,850	60,466	60,466	659,850	6,113,013	0.7860	0.7860	0.7860	0.7847
14	2003	7,799,651	0.9421	7,347,903	451,748	111,216	111,216	451,748	6,134,956	7,207,922	591,729	90,064	90,064	591,729	6,134,956	0.7866	0.7866	0.7866	0.7857
15	2004	7,798,234	0.9518	7,422,158	376,076	74,255	74,255	376,076	6,133,539	7,316,792	481,442	108,870	108,870	481,442	6,133,539	0.7865	0.7865	0.7865	0.7868
16	2005	7,789,301	0.9598	7,476,523	312,778	54,365	54,365	312,778	6,124,606	7,357,567	431,734	40,775	40,775	431,734	6,124,606	0.7863	0.7863	0.7863	0.7879
17	2006	7,822,500	0.9666	7,560,958	261,542	84,435	84,435	261,542	6,157,805	7,400,977	421,523	43,410	43,410	421,523	6,157,805	0.7872	0.7872	0.7872	0.7889
18	2007	7,870,056	0.9722	7,650,961	219,095	90,003	90,003	219,095	6,205,361	7,440,981	429,075	40,004	40,004	429,075	6,205,361	0.7885	0.7885	0.7885	0.7900
19	2008	7,847,501	0.9768	7,665,596	181,905	14,635	14,635	181,905	6,182,806	7,484,561	362,940	43,580	43,580	362,940	6,182,806	0.7879	0.7879	0.7879	0.7910
20	2009	7,852,764	0.9807	7,701,201	151,563	35,605	35,605	151,563	6,188,069	7,545,066	307,698	60,505	60,505	307,698	6,188,069	0.7880	0.7880	0.7880	0.7921

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	(D)	Reported incurred loss from Exhibit VI-B Page 1
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	(F)	(D) x (C)
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	(L)	Reported paid loss from Exhibit VI-E
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1989

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1989	4,771,196	0.4402	2,100,145	2,671,051	2,100,145	1,487,323	1,891,638	3,378,961	0	na	na	1,487,323	na	na	0.7082	xx	0.7082	0.7082
2	1990	5,836,016	0.5050	2,947,066	2,888,950	846,922	599,790	2,045,954	4,133,067	0	na	na	599,790	na	na	0.7082	xx	0.7082	0.7082
3	1991	6,363,979	0.5623	3,578,366	2,785,613	631,300	447,086	1,972,771	4,506,970	0	na	na	447,086	na	na	0.7082	xx	0.7082	0.7082
4	1992	7,933,751	0.7318	5,805,919	2,127,832	2,227,553	1,577,553	1,506,931	5,618,682	0	na	na	1,577,553	na	na	0.7082	xx	0.7082	0.7082
5	1993	8,404,823	0.7262	6,103,582	2,301,241	297,663	257,866	2,032,686	6,402,303	0	na	na	257,866	na	na	0.7617	xx	0.7617	0.7843
6	1994	8,841,749	0.7210	6,374,901	2,466,848	271,319	271,319	2,322,784	6,963,720	0	na	na	271,319	na	na	0.7876	xx	0.7876	0.7842
7	1995	8,720,012	0.7461	6,506,001	2,214,011	131,100	131,100	2,149,362	6,921,398	0	na	na	131,100	na	na	0.7937	xx	0.7937	0.7841
8	1996	8,176,532	0.8160	6,672,050	1,504,482	166,049	166,049	1,482,516	6,420,602	0	na	na	166,049	na	na	0.7852	xx	0.7852	0.7840
9	1997	7,991,002	0.8563	6,842,695	1,148,307	170,645	170,645	1,148,307	6,257,037	0	na	na	170,645	na	na	0.7830	xx	0.7830	0.7839
10	1998	8,524,905	0.8150	6,947,798	1,577,107	105,103	105,103	1,577,107	6,790,940	0	na	na	105,103	na	na	0.7966	xx	0.7966	0.7837
11	1999	8,210,154	0.8364	6,867,106	1,343,048	-80,692	-80,692	1,343,048	6,476,189	6,555,195	1,654,959	-392,603	-392,603	1,654,959	na	0.7888	xx	0.7888	0.7836
12	2000	7,853,295	0.8554	6,717,341	1,135,954	-149,765	-149,765	1,135,954	6,119,330	6,639,919	1,213,376	84,724	84,724	1,213,376	6,119,330	0.7792	0.7792	0.7792	0.7835
13	2001	7,996,833	0.8721	6,974,022	1,022,811	256,681	256,681	1,022,811	6,262,868	6,775,110	1,221,723	135,191	135,191	1,221,723	6,262,868	0.7832	0.7832	0.7832	0.7834
14	2002	8,316,349	0.8869	7,375,806	940,543	401,784	401,784	940,543	6,582,384	6,868,344	1,448,005	93,234	93,234	1,448,005	6,582,384	0.7915	0.7915	0.7915	0.7833
15	2003	7,936,277	0.9000	7,142,623	793,654	-233,183	-233,183	793,654	6,202,312	6,931,264	1,005,013	62,920	62,920	1,005,013	6,202,312	0.7815	0.7815	0.7815	0.7832
16	2004	7,914,050	0.9116	7,214,237	699,813	71,614	71,614	699,813	6,180,085	7,002,976	911,074	71,712	71,712	911,074	6,180,085	0.7809	0.7809	0.7809	0.7831
17	2005	7,910,771	0.9218	7,292,227	618,544	77,990	77,990	618,544	6,176,806	7,026,490	884,281	23,514	23,514	884,281	6,176,806	0.7808	0.7808	0.7808	0.7830
18	2006	7,927,236	0.9309	7,379,159	548,077	86,931	86,931	548,077	6,193,271	7,045,334	881,902	18,844	18,844	881,902	6,193,271	0.7813	0.7813	0.7813	0.7829
19	2007	7,905,531	0.9389	7,422,228	483,303	43,069	43,069	483,303	6,171,566	7,105,802	799,729	60,468	60,468	799,729	6,171,566	0.7807	0.7807	0.7807	0.7828
20	2008	7,888,944	0.9459	7,462,486	426,458	40,258	40,258	426,458	6,154,979	7,122,679	766,265	16,877	16,877	766,265	6,154,979	0.7802	0.7802	0.7802	0.7827

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from Exhibit VI-E
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1988

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1988	3,561,960	0.3386	1,206,133	2,355,827	1,206,133	854,183	1,668,397	2,522,580	0	na	na	854,183	na	na	0.7082	xx	0.7082	0.7082
2	1989	4,334,347	0.4584	1,986,900	2,347,447	780,767	552,939	1,662,462	3,069,585	0	na	na	552,939	na	na	0.7082	xx	0.7082	0.7082
3	1990	4,812,640	0.5565	2,678,253	2,134,387	691,353	489,616	1,511,573	3,408,312	0	na	na	489,616	na	na	0.7082	xx	0.7082	0.7082
4	1991	4,994,294	0.6368	3,180,526	1,813,768	502,273	355,710	1,284,510	3,536,959	0	na	na	355,710	na	na	0.7082	xx	0.7082	0.7082
5	1992	5,713,182	0.7200	4,113,491	1,599,691	932,965	660,726	1,132,901	4,046,075	0	na	na	660,726	na	na	0.7082	xx	0.7082	0.7082
6	1993	5,721,504	0.7525	4,305,432	1,416,072	191,941	166,278	1,250,817	4,330,269	0	na	na	166,278	na	na	0.7568	xx	0.7568	0.7661
7	1994	5,860,153	0.7484	4,385,739	1,474,414	80,307	80,307	1,388,309	4,548,068	0	na	na	80,307	na	na	0.7761	xx	0.7761	0.7661
8	1995	5,470,183	0.8283	4,530,953	939,230	145,214	145,214	911,805	4,216,778	0	na	na	145,214	na	na	0.7709	xx	0.7709	0.7662
9	1996	5,318,132	0.8600	4,573,594	744,538	42,641	42,641	733,668	4,081,283	0	na	na	42,641	na	na	0.7674	xx	0.7674	0.7662
10	1997	5,227,686	0.8905	4,655,254	572,432	81,661	81,661	572,432	4,001,707	0	na	na	81,661	na	na	0.7655	xx	0.7655	0.7663
11	1998	5,185,032	0.9103	4,720,107	464,925	64,852	64,852	464,925	3,959,053	0	na	na	64,852	na	na	0.7636	xx	0.7636	0.7664
12	1999	5,142,378	0.9266	4,764,794	377,584	44,687	44,687	377,584	3,916,399	4,278,680	863,698	-441,427	-441,427	863,698	na	0.7616	xx	0.7616	0.7664
13	2000	5,297,391	0.9399	4,978,876	318,515	214,082	214,082	318,515	4,071,412	4,312,042	985,349	33,362	33,362	985,349	4,071,412	0.7686	0.7686	0.7665	0.7665
14	2001	5,159,483	0.9508	4,905,449	254,034	-73,427	-73,427	254,034	3,933,504	4,338,559	820,924	26,517	26,517	820,924	3,933,504	0.7624	0.7624	0.7624	0.7665
15	2002	5,288,513	0.9597	5,075,289	213,224	169,840	169,840	213,224	4,062,534	4,387,743	900,770	49,184	49,184	900,770	4,062,534	0.7682	0.7682	0.7682	0.7666
16	2003	5,230,743	0.9670	5,058,046	172,697	-17,243	-17,243	172,697	4,004,764	4,401,565	829,178	13,822	13,822	829,178	4,004,764	0.7656	0.7656	0.7656	0.7666
17	2004	5,324,275	0.9730	5,180,329	143,946	122,283	122,283	143,946	4,098,296	4,442,368	881,907	40,803	40,803	881,907	4,098,296	0.7697	0.7697	0.7697	0.7667
18	2005	5,253,219	0.9779	5,136,918	116,301	-43,411	-43,411	116,301	4,027,240	4,457,682	795,537	15,314	15,314	795,537	4,027,240	0.7666	0.7666	0.7666	0.7668
19	2006	5,261,599	0.9819	5,166,211	95,388	29,293	29,293	95,388	4,035,620	4,470,503	791,096	12,821	12,821	791,096	4,035,620	0.7670	0.7670	0.7670	0.7668
20	2007	5,264,773	0.9852	5,186,615	78,158	20,404	20,404	78,158	4,038,794	4,484,522	780,251	14,019	14,019	780,251	4,038,794	0.7671	0.7671	0.7671	0.7669

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
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* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from Exhibit VI-E
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1987

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1987	2,739,229	0.4407	1,207,109	1,532,120	1,207,109	854,874	1,085,048	1,939,922	0	na	na	854,874	na	na	0.7082	xx	0.7082	0.7082
2	1988	3,422,132	0.5022	1,718,464	1,703,668	511,355	362,142	1,206,538	2,423,554	0	na	na	362,142	na	na	0.7082	xx	0.7082	0.7082
3	1989	4,133,004	0.5569	2,301,627	1,831,377	583,163	412,996	1,296,981	2,926,993	0	na	na	412,996	na	na	0.7082	xx	0.7082	0.7082
4	1990	4,275,055	0.6056	2,588,978	1,686,077	287,351	203,502	1,194,079	3,027,594	0	na	na	203,502	na	na	0.7082	xx	0.7082	0.7082
5	1991	4,317,883	0.6490	2,802,124	1,515,759	213,146	150,950	1,073,460	3,057,925	0	na	na	150,950	na	na	0.7082	xx	0.7082	0.7082
6	1992	4,982,816	0.7417	3,695,755	1,287,061	893,630	632,869	911,497	3,528,830	0	na	na	632,869	na	na	0.7082	xx	0.7082	0.7082
7	1993	4,940,684	0.7692	3,800,374	1,140,310	104,620	90,632	1,007,236	3,715,201	0	na	na	90,632	na	na	0.7520	xx	0.7520	0.7657
8	1994	4,804,855	0.7979	3,833,794	971,061	33,420	33,420	914,351	3,655,736	0	na	na	33,420	na	na	0.7608	xx	0.7608	0.7651
9	1995	4,959,273	0.7903	3,919,313	1,039,960	85,520	85,520	1,009,593	3,836,497	0	na	na	85,520	na	na	0.7736	xx	0.7736	0.7644
10	1996	4,894,675	0.8039	3,934,829	959,846	15,516	15,516	945,832	3,788,252	0	na	na	15,516	na	na	0.7740	xx	0.7740	0.7638
11	1997	4,763,939	0.8255	3,932,429	831,510	-2,400	-2,400	831,510	3,671,531	0	na	na	-2,400	na	na	0.7707	xx	0.7707	0.7631
12	1998	4,633,204	0.8446	3,913,413	719,791	-19,017	-19,017	719,791	3,540,795	0	na	na	-19,017	na	na	0.7642	xx	0.7642	0.7625
13	1999	4,502,468	0.8617	3,879,882	622,586	-33,531	-33,531	622,586	3,410,059	4,040,554	461,914	127,141	127,141	461,914	na	0.7574	xx	0.7574	0.7618
14	2000	4,534,654	0.8769	3,976,548	558,106	96,666	96,666	558,106	3,442,245	4,071,521	463,133	30,967	30,967	463,133	3,442,245	0.7591	0.7591	0.7591	0.7612
15	2001	4,624,176	0.8905	4,117,617	506,559	141,068	141,068	506,559	3,531,767	4,116,924	507,252	45,403	45,403	507,252	3,531,767	0.7638	0.7638	0.7638	0.7605
16	2002	4,496,393	0.9025	4,057,980	438,413	-59,637	-59,637	438,413	3,403,984	4,148,184	348,209	31,260	31,260	348,209	3,403,984	0.7570	0.7570	0.7570	0.7599
17	2003	4,453,397	0.9132	4,066,910	386,487	8,931	8,931	386,487	3,360,988	4,171,593	281,804	23,409	23,409	281,804	3,360,988	0.7547	0.7547	0.7547	0.7592
18	2004	4,502,357	0.9228	4,154,575	347,782	87,665	87,665	347,782	3,409,948	4,196,461	305,896	24,868	24,868	305,896	3,409,948	0.7574	0.7574	0.7574	0.7586
19	2005	4,507,507	0.9312	4,197,603	309,904	43,028	43,028	309,904	3,415,098	4,237,619	269,888	41,158	41,158	269,888	3,415,098	0.7576	0.7576	0.7576	0.7579
20	2006	4,528,084	0.9388	4,250,989	277,095	53,386	53,386	277,095	3,435,675	4,262,450	265,634	24,831	24,831	265,634	3,435,675	0.7587	0.7587	0.7587	0.7573

Effects of Act 44 becoming effective in 1993 [from prior filings]

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* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
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	(F)	(D) x (C)
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	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from CMCRB database
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
	(U)	Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1986

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est. Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1986	3,231,344	0.4403	1,422,835	1,808,509	1,422,835	1,007,652	1,280,786	2,288,438	0	na	na	1,007,652	na	na	0.7082	xx	0.7082	0.7082
2	1987	3,764,068	0.5047	1,899,774	1,864,294	476,939	337,768	1,320,293	2,665,713	0	na	na	337,768	na	na	0.7082	xx	0.7082	0.7082
3	1988	3,969,908	0.5617	2,229,878	1,740,030	330,103	233,779	1,232,290	2,811,489	0	na	na	233,779	na	na	0.7082	xx	0.7082	0.7082
4	1989	4,285,779	0.6121	2,623,417	1,662,362	393,539	278,704	1,177,285	3,035,189	0	na	na	278,704	na	na	0.7082	xx	0.7082	0.7082
5	1990	4,561,019	0.6567	2,995,432	1,565,587	372,015	263,461	1,108,749	3,230,114	0	na	na	263,461	na	na	0.7082	xx	0.7082	0.7082
6	1991	4,618,916	0.6962	3,215,860	1,403,056	220,428	156,107	993,644	3,271,116	0	na	na	156,107	na	na	0.7082	xx	0.7082	0.7082
7	1992	5,232,436	0.7199	3,766,831	1,465,605	550,970	390,197	1,037,942	3,705,611	0	na	na	390,197	na	na	0.7082	xx	0.7082	0.7082
8	1993	5,192,135	0.7859	4,080,499	1,111,636	313,668	271,731	981,908	3,921,308	0	na	na	271,731	na	na	0.7552	xx	0.7552	0.7652
9	1994	5,165,763	0.7846	4,053,058	1,112,705	-27,441	-27,441	1,047,723	3,959,682	0	na	na	-27,441	na	na	0.7665	xx	0.7665	0.7669
10	1995	5,126,161	0.8137	4,171,157	955,004	118,100	118,100	927,118	3,957,176	0	na	na	118,100	na	na	0.7720	xx	0.7720	0.7686
11	1996	5,114,580	0.8351	4,271,357	843,223	100,200	100,200	830,912	3,961,170	0	na	na	100,200	na	na	0.7745	xx	0.7745	0.7702
12	1997	5,102,998	0.8541	4,358,477	744,521	87,120	87,120	744,521	3,961,899	0	na	na	87,120	na	na	0.7764	xx	0.7764	0.7719
13	1998	5,091,417	0.8709	4,434,046	657,370	75,570	75,570	657,370	3,950,318	0	na	na	75,570	na	na	0.7759	xx	0.7759	0.7736
14	1999	5,079,835	0.8857	4,499,418	580,417	65,371	65,371	580,417	3,938,736	4,104,539	975,296	-329,507	-329,507	975,296	na	0.7754	xx	0.7754	0.7753
15	2000	5,138,858	0.8989	4,619,249	519,609	119,831	119,831	519,609	3,997,759	4,184,779	954,079	80,240	80,240	954,079	3,997,759	0.7779	0.7779	0.7770	0.7770
16	2001	5,152,905	0.9105	4,691,819	461,086	72,570	72,570	461,086	4,011,806	4,223,527	929,378	38,748	38,748	929,378	4,011,806	0.7786	0.7786	0.7786	0.7787
17	2002	5,173,669	0.9208	4,763,986	409,683	72,167	72,167	409,683	4,032,570	4,245,465	928,204	21,938	21,938	928,204	4,032,570	0.7794	0.7794	0.7794	0.7804
18	2003	5,232,915	0.9299	4,866,214	366,701	102,228	102,228	366,701	4,091,816	4,285,306	947,609	39,841	39,841	947,609	4,091,816	0.7819	0.7819	0.7819	0.7821
19	2004	5,240,670	0.9380	4,915,676	324,994	49,463	49,463	324,994	4,099,571	4,325,037	915,633	39,731	39,731	915,633	4,099,571	0.7823	0.7823	0.7823	0.7838
20	2005	5,266,277	0.9451	4,977,268	289,009	61,592	61,592	289,009	4,125,178	4,346,756	919,521	21,719	21,719	919,521	4,125,178	0.7833	0.7833	0.7833	0.7855

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from CMCRB database
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); values from column (G) based on sample used when actual data not available.
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1985

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est Paid Adjustment [#]	(I) Est Res Adjustment [#]	(J) Sample Adj Rept Loss [*]	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment [#]	(O) Act Res Adjustment [#]	(P) Actual Adj Rept Loss [*]	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1985	2,349,761	0.4397	1,033,161	1,316,600	1,033,161	731,685	932,416	1,664,101	0	na	na	731,685	na	na	0.7082	xx	0.7082	0.7082
2	1986	2,862,841	0.4985	1,427,000	1,435,841	393,839	278,917	1,016,862	2,027,464	0	na	na	278,917	na	na	0.7082	xx	0.7082	0.7082
3	1987	3,135,723	0.5511	1,727,973	1,407,750	300,972	213,149	996,969	2,220,719	0	na	na	213,149	na	na	0.7082	xx	0.7082	0.7082
4	1988	3,566,071	0.5981	2,133,036	1,433,035	405,063	286,866	1,014,876	2,525,491	0	na	na	286,866	na	na	0.7082	xx	0.7082	0.7082
5	1989	3,753,871	0.6403	2,403,587	1,350,284	270,551	191,604	956,271	2,658,491	0	na	na	191,604	na	na	0.7082	xx	0.7082	0.7082
6	1990	3,924,573	0.6780	2,660,951	1,263,622	257,364	182,265	894,897	2,779,383	0	na	na	182,265	na	na	0.7082	xx	0.7082	0.7082
7	1991	3,921,802	0.7118	2,791,513	1,130,289	130,562	92,464	800,470	2,777,420	0	na	na	92,464	na	na	0.7082	xx	0.7082	0.7082
8	1992	4,524,996	0.7080	3,203,697	1,321,299	412,184	291,909	935,744	3,204,602	0	na	na	291,909	na	na	0.7082	xx	0.7082	0.7082
9	1993	4,469,292	0.7552	3,375,209	1,094,083	171,512	148,581	966,403	3,383,843	0	na	na	148,581	na	na	0.7571	xx	0.7571	0.7651
10	1994	4,302,643	0.7933	3,413,287	889,356	38,077	38,077	837,418	3,292,935	0	na	na	38,077	na	na	0.7653	xx	0.7653	0.7649
11	1995	4,247,450	0.8150	3,461,585	785,865	48,299	48,299	762,917	3,266,733	0	na	na	48,299	na	na	0.7691	xx	0.7691	0.7647
12	1996	4,192,257	0.8344	3,497,958	694,299	36,373	36,373	684,162	3,224,350	0	na	na	36,373	na	na	0.7691	xx	0.7691	0.7646
13	1997	4,137,064	0.8518	3,523,769	613,295	25,810	25,810	613,295	3,179,294	0	na	na	25,810	na	na	0.7685	xx	0.7685	0.7644
14	1998	4,081,871	0.8673	3,540,225	541,646	16,456	16,456	541,646	3,124,101	0	na	na	16,456	na	na	0.7654	xx	0.7654	0.7642
15	1999	4,026,678	0.8812	3,548,398	478,280	8,173	8,173	478,280	3,068,908	3,643,969	382,709	103,744	103,744	382,709	na	0.7621	xx	0.7621	0.7641
16	2000	4,010,264	0.8937	3,583,894	426,370	35,495	35,495	426,370	3,052,494	3,661,081	349,183	17,112	17,112	349,183	3,052,494	0.7612	0.7612	0.7612	0.7639
17	2001	4,020,761	0.9048	3,638,111	382,650	54,218	54,218	382,650	3,062,991	3,677,363	343,398	16,282	16,282	343,398	3,062,991	0.7618	0.7618	0.7618	0.7637
18	2002	4,036,486	0.9148	3,692,631	343,855	54,520	54,520	343,855	3,078,716	3,692,944	343,542	15,581	15,581	343,542	3,078,716	0.7627	0.7627	0.7627	0.7636
19	2003	4,056,469	0.9237	3,747,155	309,314	54,524	54,524	309,314	3,098,699	3,706,101	350,368	13,157	13,157	350,368	3,098,699	0.7639	0.7639	0.7639	0.7634
20	2004	4,051,228	0.9317	3,774,714	276,514	27,559	27,559	276,514	3,093,458	3,715,650	335,578	9,549	9,549	335,578	3,093,458	0.7636	0.7636	0.7636	0.7632

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
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	(M)	(C) - (K)
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	(R)	(J) / (C)
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	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1984

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est Paid Adjustment#	(I) Est Res Adjustment#	(J) Sample Adj Rept Loss*	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment#	(O) Act Res Adjustment#	(P) Actual Adj Rept Loss*	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1984	3,166,777	0.3407	1,078,930	2,087,847	1,078,930	764,098	1,478,613	2,242,711	0	na	na	764,098	na	na	0.7082	xx	0.7082	0.7082
2	1985	3,937,953	0.3806	1,498,869	2,439,084	419,939	297,401	1,727,359	2,788,858	0	na	na	297,401	na	na	0.7082	xx	0.7082	0.7082
3	1986	4,285,484	0.4181	1,791,859	2,493,625	292,990	207,495	1,765,985	3,034,980	0	na	na	207,495	na	na	0.7082	xx	0.7082	0.7082
4	1987	4,578,195	0.4534	2,075,542	2,502,653	283,683	200,904	1,772,379	3,242,278	0	na	na	200,904	na	na	0.7082	xx	0.7082	0.7082
5	1988	4,961,373	0.4865	2,413,468	2,547,905	337,926	239,319	1,804,427	3,513,644	0	na	na	239,319	na	na	0.7082	xx	0.7082	0.7082
6	1989	5,094,623	0.5175	2,636,698	2,457,925	223,231	158,092	1,740,702	3,608,012	0	na	na	158,092	na	na	0.7082	xx	0.7082	0.7082
7	1990	5,367,145	0.5468	2,934,522	2,432,623	297,823	210,918	1,722,784	3,801,012	0	na	na	210,918	na	na	0.7082	xx	0.7082	0.7082
8	1991	5,505,438	0.5742	3,161,217	2,344,221	226,696	160,546	1,660,177	3,898,951	0	na	na	160,546	na	na	0.7082	xx	0.7082	0.7082
9	1992	6,518,693	0.6980	4,550,048	1,968,645	1,388,830	983,570	1,394,195	4,616,538	0	na	na	983,570	na	na	0.7082	xx	0.7082	0.7082
10	1993	7,380,313	0.6242	4,606,791	2,773,522	56,744	49,157	2,449,852	5,721,352	0	na	na	49,157	na	na	0.7752	xx	0.7752	0.7913
11	1994	7,125,760	0.6470	4,610,036	2,515,724	3,244	3,244	2,368,806	5,643,551	0	na	na	3,244	na	na	0.7920	xx	0.7920	0.7891
12	1995	6,871,206	0.6683	4,592,230	2,278,977	-17,806	-17,806	2,212,431	5,469,370	0	na	na	-17,806	na	na	0.7960	xx	0.7960	0.7869
13	1996	6,616,653	0.6884	4,554,977	2,061,676	-37,252	-37,252	2,031,575	5,251,262	0	na	na	-37,252	na	na	0.7936	xx	0.7936	0.7848
14	1997	6,362,100	0.7073	4,499,766	1,862,334	-55,211	-55,211	1,862,334	5,026,809	0	na	na	-55,211	na	na	0.7901	xx	0.7901	0.7826
15	1998	6,107,546	0.7250	4,427,973	1,679,573	-71,793	-71,793	1,679,573	4,772,256	0	na	na	-71,793	na	na	0.7814	xx	0.7814	0.7804
16	1999	5,852,993	0.7417	4,340,877	1,512,116	-87,097	-87,097	1,512,116	4,517,702	5,268,674	584,319	840,701	840,701	584,319	na	0.7719	xx	0.7719	0.7782
17	2000	5,833,597	0.7573	4,417,742	1,415,855	76,866	76,866	1,415,855	4,498,306	5,300,930	532,667	32,256	32,256	532,667	4,498,306	0.7711	0.7711	0.7711	0.7761
18	2001	5,804,575	0.7720	4,481,063	1,323,512	63,321	63,321	1,323,512	4,469,284	5,344,452	460,123	43,522	43,522	460,123	4,469,284	0.7700	0.7700	0.7700	0.7739
19	2002	5,815,319	0.7858	4,569,641	1,245,678	88,577	88,577	1,245,678	4,480,028	5,385,665	429,654	41,213	41,213	429,654	4,480,028	0.7704	0.7704	0.7704	0.7717
20	2003	5,880,080	0.7988	4,696,791	1,183,289	127,151	127,151	1,183,289	4,544,789	5,452,262	427,818	66,597	66,597	427,818	4,544,789	0.7729	0.7729	0.7729	0.7695

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
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			6 Reserves after 1996	0.00%	1.0000

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		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Derivation of Act 44 Adjustments for Accident Year 1983

(A) Report	(B) Transaction Year	(C) Incurred Rept Loss	(D) Estimated % Paid	(E) Estimated Paid Loss	(F) Estimated Reserve	(G) Est. Paid Increment	(H) Est Paid Adjustment [#]	(I) Est Res Adjustment [#]	(J) Sample Adj Rept Loss [*]	(K) Actual Paid Loss	(L) Actual Reserve	(M) Actual Increment	(N) Act Paid Adjustment [#]	(O) Act Res Adjustment [#]	(P) Actual Adj Rept Loss [*]	(Q) Sample Factor	(R) Actual Factor	(S) Selected Factor	(T) Smoothed Factor
1	1983	2,904,955	0.4216	1,224,770	1,680,185	1,224,770	867,382	1,189,907	2,057,289	0	na	na	867,382	na	na	0.7082	xx	0.7082	0.7082
2	1984	3,422,045	0.4713	1,612,823	1,809,222	388,053	274,819	1,281,291	2,423,492	0	na	na	274,819	na	na	0.7082	xx	0.7082	0.7082
3	1985	3,826,880	0.5167	1,977,443	1,849,437	364,620	258,224	1,309,771	2,710,196	0	na	na	258,224	na	na	0.7082	xx	0.7082	0.7082
4	1986	4,161,259	0.5582	2,322,995	1,838,264	345,552	244,720	1,301,859	2,947,004	0	na	na	244,720	na	na	0.7082	xx	0.7082	0.7082
5	1987	4,362,065	0.5962	2,600,641	1,761,424	277,646	196,629	1,247,440	3,089,214	0	na	na	196,629	na	na	0.7082	xx	0.7082	0.7082
6	1988	4,530,051	0.6309	2,857,947	1,672,104	257,306	182,224	1,184,184	3,208,182	0	na	na	182,224	na	na	0.7082	xx	0.7082	0.7082
7	1989	4,552,487	0.6626	3,016,465	1,536,022	158,518	112,262	1,087,811	3,224,071	0	na	na	112,262	na	na	0.7082	xx	0.7082	0.7082
8	1990	4,810,845	0.6916	3,327,102	1,483,743	310,637	219,993	1,050,787	3,407,040	0	na	na	219,993	na	na	0.7082	xx	0.7082	0.7082
9	1991	4,923,632	0.7181	3,535,562	1,388,070	208,460	147,631	983,031	3,486,916	0	na	na	147,631	na	na	0.7082	xx	0.7082	0.7082
10	1992	5,960,458	0.7423	4,424,448	1,536,010	888,886	629,509	1,087,802	4,221,196	0	na	na	629,509	na	na	0.7082	xx	0.7082	0.7082
11	1993	5,895,732	0.7644	4,506,929	1,388,803	82,481	71,453	1,226,730	4,431,577	0	na	na	71,453	na	na	0.7517	xx	0.7517	0.7630
12	1994	5,831,006	0.7847	4,575,453	1,255,553	68,524	68,524	1,182,228	4,455,600	0	na	na	68,524	na	na	0.7641	xx	0.7641	0.7631
13	1995	5,766,280	0.8032	4,631,332	1,134,947	55,879	55,879	1,101,807	4,431,058	0	na	na	55,879	na	na	0.7684	xx	0.7684	0.7633
14	1996	5,701,553	0.8201	4,675,756	1,025,798	44,423	44,423	1,010,821	4,384,495	0	na	na	44,423	na	na	0.7690	xx	0.7690	0.7635
15	1997	5,636,827	0.8355	4,709,802	927,026	34,046	34,046	927,026	4,334,746	0	na	na	34,046	na	na	0.7690	xx	0.7690	0.7636
16	1998	5,572,101	0.8497	4,734,447	837,654	24,646	24,646	837,654	4,270,020	0	na	na	24,646	na	na	0.7663	xx	0.7663	0.7638
17	1999	5,507,375	0.8626	4,750,579	756,796	16,132	16,132	756,796	4,205,293	4,834,456	672,919	100,009	100,009	672,919	na	0.7636	xx	0.7636	0.7640
18	2000	5,423,917	0.8744	4,742,621	681,296	-7,958	-7,958	681,296	4,121,835	4,886,798	537,119	52,342	52,342	537,119	4,121,835	0.7599	0.7599	0.7599	0.7641
19	2001	5,464,846	0.8852	4,837,382	627,464	94,760	94,760	627,464	4,162,764	4,920,676	544,170	33,878	33,878	544,170	4,162,764	0.7617	0.7617	0.7617	0.7643
20	2002	5,503,371	0.8950	4,925,769	577,602	88,388	88,388	577,602	4,201,289	4,950,134	553,237	29,458	29,458	553,237	4,201,289	0.7634	0.7634	0.7634	0.7645

Effects of Act 44 becoming effective in 1993 [from prior filings]

	Percentage	Factor		Percentage	Factor
1 Payments before 1993	-29.18%	0.7082	1 Reserves Prior to 1993	-29.18%	0.7082
2 1993 Payments - First Report	-17.33%	0.8267	2 Reserves as of 1993	-11.67%	0.8833
3 1993 Payments - Reports after First	-13.37%	0.8663	3 Reserves as of 1994	-5.84%	0.9416
4 Payments after 1993	0.00%	1.0000	4 Reserves as of 1995	-2.92%	0.9708
			5 Reserves as of 1996	-1.46%	0.9854
			6 Reserves after 1996	0.00%	1.0000

* Current value of adjusted reserves plus sum of adjusted paid amounts from report 1 through current report
Where actual data is not available, adjusted estimated paid losses are included in actual reported loss values.

Sources:	(A)	Report for accident value, i.e., value as of 4/30/year, where "year" is Accident Year plus report number
	(B)	Year in which most transactions included in report occurred. Values are used in picking correct adjustments for Act 44 from above table.
	(C)	Transactions close at 4/30 so that most transaction years run from 5/1 through 4/30. First reports run from 1/1 through 4/30.
	(D)	Reported incurred loss from Exhibit VI-B Page 1
	(E)	Value from payment patterns for sampled data presented in Exhibit VI-D page 14.
	(F)	(D) x (C)
	(G)	(C) - (E)
	(H)	Current value of (E) less preceding value of (E)
	(I)	(G) x Value from table of Act 44 effects above.
	(J)	(F) x Value from table of Act 44 effects above.
	(K)	Sum of Reserve from column (I) plus sum of adjusted paid increments in column (H) from first report through to current report.
	(L)	Reported paid loss from CMCRB database
	(M)	(C) - (K)
	(N)	Current value of (K) less preceding value of (K); If no preceding value of (K) use preceding value of (E).
	(O)	(M) x Value from table of Act 44 effects
	(P)	(L) x Value from table of Act 44 effects
	(Q)	Sum of Reserve from column (O) plus sum of adjusted paid increments in column (N) from first report through to current report.
	(R)	(J) / (C)
	(S)	(P) / (C)
	(T)	Average of values in columns (Q) and (R)
		Smoothed values based on values in (S)

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Extrapolation of Sample Payment Patterns to Twenty-One Reports #

Sample Payment Data from Exhibit VI-D Page 15 [Filing of December 11, 2002 Exhibit VI-B Page 1m] ["na" = not available; "tbd" = to be determined]

Report	Acc Yr 1983	Acc Yr 1984	Acc Yr 1985	Acc Yr 1986	Acc Yr 1987	Acc Yr 1988	Acc Yr 1989	Acc Yr 1990	Acc Yr 1991	Acc Yr 1992	Acc Yr 1993	Acc Yr 1994	Acc Yr 1995
1	na	na	na	na	na	na	na	na	na	0.6295	0.6490	0.6110	0.6217
2	na	na	na	na	na	na	na	na	0.7424	0.7683	0.7014	0.6836	0.7402
3	na	na	na	na	na	na	na	0.7829	0.7867	0.8094	0.7310	0.7314	0.8365
4	na	na	na	na	na	na	0.7318	0.7612	0.7941	0.8343	0.7593	0.7623	0.8892
5	na	na	na	na	na	0.7200	0.7262	0.8179	0.8173	0.8751	0.8077	0.8197	0.9069
6	na	na	na	na	0.7417	0.7525	0.7210	0.8264	0.8302	0.8828	0.8678	0.8689	0.9142
7	na	na	na	0.7199	0.7692	0.7484	0.7461	0.8229	0.8675	0.8890	0.8945	0.8827	0.8829
8	na	na	0.7080	0.7859	0.7979	0.8283	0.8160	0.8733	0.9047	0.9059	0.9182	0.8925	0.8978
9	na	0.6980	0.7552	0.7846	0.7903	0.8600	0.8563	0.8841	0.9013	0.9302	0.9144	0.9144	0.9132
10	0.7423	0.6242	0.7933	0.8137	0.8039	0.8905	0.8150	0.8795	0.8891	0.9261	0.9080	0.9266	0.9326
11	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
12	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
13	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
14	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
15	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
16	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
17	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
18	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
19	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
20	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd

Fitting Parameters

Last report	10	10	10	10	10	10	10	10	10	10	10	10	10
Last ratio	0.7423	0.6242	0.7933	0.8137	0.8039	0.8905	0.8150	0.8795	0.8891	0.9261	0.9080	0.9266	0.9326
1-Last ratio	0.2577	0.3758	0.2067	0.1863	0.1961	0.1095	0.1850	0.1205	0.1109	0.0739	0.0920	0.0734	0.0674
Last increment	na	na	0.0381	0.0291	0.0136	0.0305	na	na	na	na	na	0.0122	0.0194
Avg increment	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242
Decay factor	0.9141	0.9395	0.8951	0.8850	0.8901	0.8189	0.8842	0.8326	0.8208	0.7532	0.7916	0.7519	0.7356

Extension of Sample Payment Pattern to Report 20

Report	Acc Yr 1983	Acc Yr 1984	Acc Yr 1985	Acc Yr 1986	Acc Yr 1987	Acc Yr 1988	Acc Yr 1989	Acc Yr 1990	Acc Yr 1991	Acc Yr 1992	Acc Yr 1993	Acc Yr 1994	Acc Yr 1995
1	0.4216	0.3407	0.4397	0.4403	0.4407	0.3386	0.4402	0.3736	0.3438	0.6295	0.6490	0.6110	0.6217
2	0.4713	0.3806	0.4985	0.5047	0.5022	0.4584	0.5050	0.4784	0.7424	0.7683	0.7014	0.6836	0.7402
3	0.5167	0.4181	0.5511	0.5617	0.5569	0.5565	0.5623	0.7829	0.7867	0.8094	0.7310	0.7314	0.8365
4	0.5582	0.4534	0.5981	0.6121	0.6056	0.6368	0.7318	0.7612	0.7941	0.8343	0.7593	0.7623	0.8892
5	0.5962	0.4865	0.6403	0.6567	0.6490	0.7200	0.7262	0.8179	0.8173	0.8751	0.8077	0.8197	0.9069
6	0.6309	0.5175	0.6780	0.6962	0.7417	0.7525	0.7210	0.8264	0.8302	0.8828	0.8678	0.8689	0.9142
7	0.6626	0.5468	0.7118	0.7199	0.7692	0.7484	0.7461	0.8229	0.8675	0.8890	0.8945	0.8827	0.8829
8	0.6916	0.5742	0.7080	0.7859	0.7979	0.8283	0.8160	0.8733	0.9047	0.9059	0.9182	0.8925	0.8978
9	0.7181	0.6980	0.7552	0.7846	0.7903	0.8600	0.8563	0.8841	0.9013	0.9302	0.9144	0.9144	0.9132
10	0.7423	0.6242	0.7933	0.8137	0.8039	0.8905	0.8150	0.8795	0.8891	0.9261	0.9080	0.9266	0.9326
11	0.7644	0.6470	0.8150	0.8351	0.8255	0.9103	0.8364	0.8997	0.9090	0.9443	0.9272	0.9448	0.9504
12	0.7847	0.6683	0.8344	0.8541	0.8446	0.9266	0.8554	0.9165	0.9253	0.9581	0.9423	0.9585	0.9635
13	0.8032	0.6884	0.8518	0.8709	0.8617	0.9399	0.8721	0.9304	0.9387	0.9684	0.9544	0.9688	0.9732
14	0.8201	0.7073	0.8673	0.8857	0.8769	0.9508	0.8869	0.9421	0.9497	0.9762	0.9639	0.9765	0.9803
15	0.8355	0.7250	0.8812	0.8989	0.8905	0.9597	0.9000	0.9518	0.9587	0.9821	0.9714	0.9824	0.9855
16	0.8497	0.7417	0.8937	0.9105	0.9025	0.9670	0.9116	0.9598	0.9661	0.9865	0.9774	0.9867	0.9893
17	0.8626	0.7573	0.9048	0.9208	0.9132	0.9730	0.9218	0.9666	0.9722	0.9898	0.9821	0.9900	0.9921
18	0.8744	0.7720	0.9148	0.9299	0.9228	0.9779	0.9309	0.9722	0.9772	0.9923	0.9858	0.9925	0.9942
19	0.8852	0.7858	0.9237	0.9380	0.9312	0.9819	0.9389	0.9768	0.9813	0.9942	0.9888	0.9944	0.9957
20	0.8950	0.7988	0.9317	0.9451	0.9388	0.9852	0.9459	0.9807	0.9846	0.9957	0.9911	0.9958	0.9969
21	0.9041	0.8109	0.9389	0.9514	0.9455	0.9878	0.9522	0.9839	0.9874	0.9967	0.9930	0.9968	0.9977

Geometric series with A = last unpaid ratio, B = average last increment in unpaid ratio, and C = decay ratio such that:
 $A + B = B(1 + C + C^2 + C^3 + C^4 + \dots)$ or $C = A / (A+B)$.
 For example: For 1984: A = .3758 and B = .0242 so that C = A / (A+B).
 At report 11 cumulative payment ratio for 1984 is $(1-A)+BC$ or $.6242 + .0242 \times .9395 = .6470$
 At report 12 cumulative payment ratio for 1984 is $(1-A)+B[C+C^2]$ or $.6242 + .0242 \times [.9395 + .8826] = .6683$
 At report 13 cumulative payment ratio for 1984 is $(1-A)+B[C+C^2+C^3]$ or $.6242 + .0242 \times [.9395 + .8826 + .8291] = .6884$
 Source: Exhibit VI-D Page 15

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Payment Patterns based on Relation of Paid to Reported Losses for Sample[#]

Exhibit VI-D

Page 15

Medical Losses as of 4-30-93				Medical Losses as of 4-30-94				Medical Losses as of 4-30-95				Medical Losses as of 4-30-96				Medical Losses as of 4-30-97			
Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total
Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses
1983	3,593,056	1,247,215	4,840,271	1984	3,770,764	2,269,936	6,040,700	1985	2,275,521	592,983	2,868,504	1986	2,627,475	601,432	3,228,907	1987	3,128,219	763,304	3,891,523
1984	3,635,897	1,572,958	5,208,855	1985	2,241,799	726,720	2,968,519	1986	2,563,723	703,796	3,267,519	1987	3,335,177	885,063	4,220,240	1988	3,223,663	524,776	3,748,439
1985	2,180,035	899,294	3,079,329	1986	2,522,878	687,388	3,210,266	1987	3,311,135	838,885	4,150,020	1988	3,262,933	676,264	3,939,197	1989	5,801,157	1,307,691	7,108,848
1986	2,390,521	930,238	3,320,759	1987	3,243,160	973,283	4,216,443	1988	3,221,252	1,083,114	4,304,366	1989	5,758,559	1,960,033	7,718,592	1990	5,994,292	1,290,432	7,284,724
1987	3,164,726	1,102,091	4,266,817	1988	3,144,266	1,034,411	4,178,677	1989	5,624,130	2,176,061	7,800,191	1990	5,878,277	1,234,867	7,113,144	1991	5,410,477	1,106,504	6,516,981
1988	3,005,631	1,169,106	4,174,737	1989	5,539,329	2,088,604	7,627,933	1990	5,653,864	1,258,730	6,912,594	1991	5,295,039	1,183,464	6,478,503	1992	5,469,644	780,918	6,250,562
1989	5,171,723	1,894,952	7,066,675	1990	5,333,913	1,673,604	7,007,517	1991	5,105,265	1,323,391	6,428,656	1992	5,371,615	1,067,131	6,438,746	1993	4,244,152	1,345,273	5,589,425
1990	4,988,099	1,383,343	6,371,442	1991	4,777,388	1,295,629	6,073,017	1992	5,234,023	1,232,761	6,466,784	1993	4,161,675	1,531,206	5,692,881	1994	3,518,063	1,291,906	4,809,969
1991	4,155,610	1,441,756	5,597,366	1992	4,719,224	1,423,578	6,142,802	1993	3,796,107	1,615,772	5,411,879	1994	3,194,721	1,478,360	4,673,081	1995	2,894,764	1,016,170	3,910,934
1992	3,417,548	2,011,232	5,428,780	1993	2,820,429	1,255,266	4,345,695	1994	2,260,605	1,439,041	3,699,646	1995	2,205,072	1,341,644	3,546,716	1996	2,486,791	1,508,261	3,995,052

Medical Losses as of 4-30-98				Medical Losses as of 4-30-99				Medical Losses as of 4-30-2000				Medical Losses as of 4-30-2001				Medical Losses as of 4-30-2002			
Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total
Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses
1988	3,289,816	404,363	3,694,179	1989	6,179,846	1,402,918	7,582,764	1990	6,264,568	858,266	7,122,834	1991	5,983,048	746,507	6,729,555	1992	6,091,978	486,270	6,578,248
1989	6,003,061	1,007,133	7,010,194	1990	6,294,236	825,406	7,119,642	1991	5,673,497	621,263	6,294,760	1992	5,972,915	447,893	6,420,808	1993	4,767,316	446,071	5,213,387
1990	6,185,121	897,556	7,082,677	1991	5,697,621	599,983	6,297,604	1992	5,819,201	604,606	6,423,807	1993	4,724,758	420,747	5,145,505	1994	4,400,461	529,831	4,930,292
1991	5,554,784	848,200	6,402,984	1992	5,833,010	728,123	6,561,133	1993	4,617,165	544,279	5,161,444	1994	4,304,736	572,134	4,876,870	1995	3,600,867	477,739	4,078,606
1992	5,689,456	755,496	6,444,952	1993	4,663,295	710,514	5,373,809	1994	4,185,282	631,401	4,816,683	1995	3,535,494	331,935	3,867,429	1996	3,814,393	583,462	4,397,855
1993	4,551,509	1,083,707	5,635,216	1994	4,028,294	885,823	4,914,117	1995	3,480,029	357,268	3,837,297	1996	3,734,865	726,810	4,461,675	1997	2,962,959	501,313	3,464,272
1994	3,799,152	1,184,953	4,984,105	1995	3,347,914	417,186	3,765,100	1996	3,640,989	870,454	4,511,443	1997	2,811,693	504,982	3,316,675	1998	3,180,315	532,014	3,712,329
1995	3,190,562	623,518	3,814,080	1996	3,482,003	886,766	4,368,769	1997	2,724,704	611,091	3,335,795	1998	3,061,322	556,829	3,618,151	1999	2,657,390	528,738	3,186,128
1996	3,184,587	875,309	4,059,896	1997	2,455,286	689,856	3,145,142	1998	2,800,503	820,233	3,620,736	1999	2,438,830	574,104	3,012,934	2000	2,180,533	529,633	2,710,166
1997	1,830,550	1,043,667	2,874,217	1998	2,125,311	1,229,373	3,354,684	1999	1,808,223	914,936	2,723,159	2000	1,675,345	792,474	2,467,819	2001	1,390,454	799,916	2,190,370

Medical Losses as of 4-30-2003				Medical Losses as of 4-30-2004				Medical Losses as of 4-30-2005			
Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total	Acc.	Paid	O/S	Total
Year	Losses	Losses	Losses	Year	Losses	Losses	Losses	Year	Losses	Losses	Losses
1993	5,421,732	549,551	5,971,283	1994	4,766,728	377,387	5,144,115	1995	4,354,014	314,520	4,668,534
1994	4,686,069	438,657	5,124,726	1995	4,278,816	406,618	4,685,434	1996	4,239,562	386,153	4,625,715
1995	4,225,458	480,945	4,706,403	1996	4,217,481	399,604	4,617,085	1997	3,648,054	303,421	3,951,475
1996	4,176,850	401,311	4,578,161	1997	3,596,616	335,600	3,932,216	1998	3,494,885	265,838	3,760,723
1997	3,474,497	503,808	3,978,305	1998	3,456,730	304,533	3,761,263	1999	3,075,426	102,660	3,178,086
1998	3,333,995	375,158	3,709,153	1999	3,021,424	167,357	3,188,781	2000	2,617,138	268,392	2,885,530
1999	2,844,763	212,900	3,057,663	2000	2,491,759	345,153	2,836,912	2001	2,326,207	303,703	2,629,910
2000	2,352,615	465,772	2,818,387	2001	2,236,309	409,939	2,646,248	2002	3,007,596	755,241	3,762,837
2001	2,027,699	561,554	2,589,253	2002	2,673,510	935,929	3,609,439	2003	2,121,377	691,104	2,812,481
2002	2,013,689	1,136,566	3,150,255	2003	1,481,566	1,097,747	2,579,313	2004	2,435,389	753,720	3,189,109

Report	As of: 4-30-93	As of 4-30-94	As of 4-30-95	As of 4-30-96	As of 4-30-97	As of 4-30-98	As of 4-30-99	As of 4-30-00	As of 4-30-01	As of 4-30-02	As of 4-30-03	As of 4-30-04	As of 4-30-05
10th	0.7423	0.6242	0.7933	0.8137	0.8039	0.8905	0.8150	0.8795	0.8891	0.9261	0.9080	0.9266	0.9326
9th	0.6980	0.7552	0.7846	0.7903	0.8600	0.8563	0.8841	0.9013	0.9302	0.9144	0.9144	0.9132	0.9165
8th	0.7080	0.7859	0.7979	0.8283	0.8160	0.8733	0.9047	0.9059	0.9182	0.8925	0.8978	0.9135	0.9232
7th	0.7199	0.7692	0.7484	0.7461	0.8229	0.8675	0.8890	0.8945	0.8827	0.8829	0.9123	0.9147	0.9293
6th	0.7417	0.7525	0.7210	0.8264	0.8302	0.8828	0.8678	0.8689	0.9142	0.8673	0.8734	0.9190	0.9677
5th	0.7200	0.7262	0.8179	0.8173	0.8751	0.8077	0.8197	0.9069	0.8371	0.8553	0.8989	0.9475	0.9070
4th	0.7318	0.7612	0.7941	0.8343	0.7593	0.7623	0.8892	0.8071	0.8477	0.8567	0.9304	0.8783	0.8845
3rd	0.7829	0.7867	0.8094	0.7310	0.7314	0.8365	0.7970	0.8168	0.8461	0.8340	0.8347	0.8451	0.7993
2nd	0.7424	0.7683	0.7014	0.6836	0.7402	0.7844	0.7807	0.7735	0.8095	0.8046	0.7831	0.7407	0.7543
1st	0.6295	0.6490	0.6110	0.6217	0.6225	0.6369	0.6335	0.6640	0.6789	0.6348	0.6392	0.5744	0.7637

Source: Evaluations 1993 thru 2002 from prior filing.

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-06-D.xlsm\VI-D-15
in Date: September 03, 2017 - 04:54:58 PM

AY 1986 and later: Ten Classes, Eleven Coal Mine Writers
AY 1985 and prior: Four major classes, Eight Coal Mine Writers
Losses as of 4-30-2003 thru 4-30-2005 use actual paid and O/S from CMCRB database.

PAB
Effective Date - April 01, 2018
1,215,247,888.591000

**Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Paid Losses for All Classes Combined**

Exhibit VI-E

Indemnity and Funeral Reported Paid Losses as of 04/30/17

Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1					1,519,950	1,745,062	1,453,835	2,265,522	1,499,127	1,585,758	2,123,723	1,424,937	1,477,485	1,883,649	1,490,981	1,524,765	1,786,240	2,050,254	1,899,710	4,015,185	2,666,351	2,518,076
2				3,416,410	3,017,821	3,311,393	3,447,824	4,498,717	2,589,720	3,607,906	4,763,116	3,031,492	2,973,005	3,608,322	2,864,778	3,435,863	3,977,654	5,436,521	4,482,404	7,405,014	6,061,309	
3			4,858,303	5,057,380	4,474,822	5,285,169	5,249,852	6,269,556	4,097,105	5,068,968	6,595,737	3,990,338	4,078,233	5,798,309	4,380,163	4,339,688	6,103,091	7,383,427	6,081,014	10,801,053		
4		7,305,441	5,469,765	5,832,214	6,135,793	5,944,494	6,234,883	7,427,776	5,182,592	5,951,422	7,770,869	4,714,994	5,032,592	6,658,499	4,536,641	6,078,298	7,555,055	8,102,574	6,502,458			
5	9,159,725	8,410,558	6,279,802	6,733,975	6,807,415	6,698,701	6,774,208	8,517,965	5,654,435	6,488,204	8,470,539	4,894,518	5,362,003	6,986,131	4,912,891	6,374,543	7,923,836	8,850,340				
6	9,866,552	9,250,841	7,170,191	7,213,884	7,415,056	7,237,063	6,969,310	9,582,098	6,009,319	6,696,634	8,926,585	4,966,788	5,648,220	7,214,898	5,041,132	6,690,310	8,262,491					
7	10,439,947	9,721,858	7,497,940	7,570,855	7,496,955	7,283,059	7,402,247	9,706,503	6,156,138	6,907,738	9,168,385	4,991,574	5,900,930	7,644,898	5,082,350	7,001,167						
8	10,834,486	9,953,502	7,533,377	7,822,684	7,575,369	7,329,084	7,611,242	10,138,868	6,524,987	6,965,528	9,422,725	5,014,153	5,986,526	7,907,461	5,123,568							
9	10,935,715	10,286,479	7,615,032	8,111,694	7,654,237	7,462,119	7,653,900	10,368,436	6,705,837	7,020,184	9,810,124	5,059,383	6,164,246	8,052,763								
10	11,340,153	10,522,275	7,701,086	8,184,230	7,731,940	7,468,382	7,721,764	10,619,368	6,755,866	7,139,264	9,993,283	5,160,329	6,244,573									
11	11,386,217	10,880,769	7,791,027	8,357,349	7,805,017	7,474,646	7,789,732	10,873,650	6,839,005	7,190,739	10,178,581	5,422,689										
12	11,744,206	11,001,168	8,001,766	8,408,704	7,879,189	7,480,909	7,855,086	11,009,570	6,873,904	7,236,947	10,392,475											
13	11,774,571	11,110,031	8,057,267	8,460,058	8,038,850	7,481,735	7,919,766	11,120,644	6,908,899	7,276,930												
14	11,804,826	11,331,615	8,118,370	8,717,825	8,050,069	7,481,735	8,081,870	11,269,601	6,946,798													
15	11,995,979	11,414,237	8,170,070	8,731,745	8,050,069	7,481,735	8,115,379	11,305,361														
16	12,137,005	11,494,656	8,264,818	8,742,665	8,050,069	7,481,735	8,142,053															
17	12,156,503	11,575,737	8,297,379	8,753,585	8,050,069	7,481,735																
18	12,175,951	11,656,817	8,329,900	8,764,505	8,050,069																	
19	12,192,048	11,737,670	8,366,436	8,772,505																		
20	12,203,856	11,799,577	8,407,385																			

Medical Reported Paid Losses as of 04/30/17

Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1					1,804,774	1,676,127	1,421,461	2,013,689	1,481,566	2,435,389	2,520,705	1,948,500	3,239,013	2,201,565	1,934,714	2,751,976	3,211,934	3,607,221	2,405,205	3,932,999	2,543,986	2,330,259
2				2,809,039	2,438,735	2,184,303	2,027,699	2,673,510	2,121,377	3,067,832	3,289,523	2,697,293	4,228,737	3,040,747	2,474,907	3,388,757	4,428,864	4,556,072	3,576,391	5,142,203	3,291,985	
3			2,949,746	3,069,291	2,657,295	2,352,615	2,236,309	3,007,596	2,326,077	3,293,472	3,433,690	2,989,067	4,505,191	3,288,243	2,729,947	3,681,854	4,791,312	4,910,148	3,732,065	5,725,513		
4		3,931,096	3,057,875	3,187,684	2,844,763	2,491,759	2,326,207	3,216,844	2,429,794	3,868,121	3,535,900	3,075,764	4,755,842	3,434,618	2,838,307	4,050,370	4,980,927	5,036,044	3,783,913			
5	4,040,169	4,041,918	3,213,618	3,334,465	3,021,424	2,617,138	2,425,392	3,378,060	2,544,069	3,923,267	3,673,096	3,157,818	4,895,811	3,482,499	2,888,987	4,182,550	5,232,645	5,071,629				
6	4,115,840	4,132,108	3,474,497	3,457,200	3,075,426	2,673,929	2,495,415	3,495,984	2,582,303	3,963,617	3,920,165	3,202,045	5,005,959	3,502,704	2,911,117	4,258,152	5,334,986					
7	4,182,507	4,176,850	3,596,616	3,495,355	3,097,474	2,698,511	2,581,983	3,544,378	2,683,561	4,005,779	4,000,731	3,238,455	5,123,649	3,511,257	2,933,165	4,295,252						
8	4,225,458	4,217,481	3,648,054	3,506,028	3,138,912	2,715,033	2,622,094	3,699,439	2,709,624	4,053,658	4,067,412	3,238,035	5,214,054	3,521,293	2,960,275							
9	4,278,816	4,239,562	3,735,279	3,530,921	3,214,245	2,725,884	2,671,237	3,711,954	2,751,055	4,069,440	4,101,236	3,301,685	5,294,667	3,531,557								
10	4,354,014	4,267,844	3,787,156	3,552,363	3,235,670	2,764,209	2,715,237	3,727,842	2,775,526	4,099,493	4,121,749	3,378,839	5,339,901									
11	4,400,110	4,307,614	3,998,545	3,612,059	3,271,628	2,785,789	2,768,418	3,738,687	2,801,700	4,156,729	4,152,472	3,500,778										
12	4,444,736	4,322,947	4,026,401	3,625,447	3,339,216	2,791,316	2,821,879	3,760,085	2,830,668	4,186,218	4,188,666											
13	4,482,464	4,338,162	4,068,692	3,640,675	3,530,763	2,794,972	2,865,653	3,783,035	2,860,666	4,197,884												
14	4,506,980	4,355,042	4,106,625	3,686,245	3,531,885	2,799,305	2,899,480	3,795,599	2,889,252													
15	4,530,249	4,371,918	4,152,798	3,716,598	3,532,238	2,823,807	2,925,169	3,944,740														
16	4,596,503	4,434,578	4,235,368	3,733,612	3,532,944	2,831,581	2,939,820															
17	4,642,586	4,437,180	4,268,527	3,750,418	3,533,634	2,872,279																
18	4,676,936	4,439,837	4,309,577	3,764,284	3,533,807																	
19	4,727,156	4,443,912	4,343,956	3,772,745																		
20	4,797,565	4,448,856	4,370,845																			

Source: CMCRB Database as of 04/30/17 - Validated 08/15/17

	<u>State O.D.</u>			<u>Federal Excess O.D.</u>		
	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>
<u>(a) After AMA Guidelines</u>				<u>(a) After AMA Guidelines</u>		
(1) Number of Claims	# 9			# 9		
(2) Average Amounts	\$716,371	\$407,092	\$716,371	\$114,467	\$256,311	\$114,467
(3) Index (Base)	100.0000%		100.0000%	100.0000%		100.0000%
<u>(b) Social Security Offset</u>				<u>(b) Social Security Onset</u>		
(1) Total (including above)	-	-	-	\$122,898	\$256,311	\$122,898
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$62,964	\$0	\$62,964	8,431	0	8,431
(3) Index (to a(2))	8.7893%	0.0000%	8.7893%	7.3656%	0.0000%	7.3656%
(4) Complement	91.2107%	100.0000%	91.2107%	92.6344%	100.0000%	92.6344%
<u>(c) Pension Offset (after Social Security Offset)</u>				<u>(c) Pension Onset</u>		
(1) Total (including above)	-	-	-	\$161,019	\$263,209	\$161,019
(2) Difference (Federal= c-1 minus b-1)	\$94,934	\$36,299	\$94,934	38,121	6,898	38,121
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	11,867	4,537	11,867	4,765	862	4,765
(5) Index (to a-2)	1.6565%	1.1146%	1.6565%	4.1629%	0.3364%	4.1629%
(6) Complement	98.3435%	98.8854%	98.3435%			
<u>(d) Combined Social Security and Pension Offsets</u>				<u>(d) Combined Social Sec, Pension Onset</u>		
(1) Average Amounts (b-2 plus c-4)	\$74,831	\$4,537	\$74,831	\$13,196	\$862	\$13,196
(2) Index (to a-2)	10.4459%	1.1146%	10.4459%			11.5285%
(3) Complement	89.5541%	98.8854%	89.5541%	Factor		111.5285%
(4) Total Average	641,539	402,555	641,539			127,663
<u>(e) Wage Level Decrease</u>				<u>(e) Wage Level Increase</u>		
(1) Percentage from Exhibit VII-G, Page 1			0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
<u>(f) Combined Social Security, Pension and Wage Level</u>				<u>(f) Combined Percentage</u>		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.5541%	(d-3) times (e-4)		111.5285%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.5541%			111.5285%
(4) Percentage Decrease			10.4459%	Increase		11.5285%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$74,831	Increase		\$13,196
(2) Average after Act 57 (a-2 plus or minus g-1)			\$641,539			\$127,663

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

Source: Exhibit VII-E, Exhibit IX-A & Exhibit VII-G, Page 1 and Page 2.

	<u>State O.D.</u>			<u>Federal Excess O.D.</u>		
	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>
<u>(a) After AMA Guidelines</u>				<u>(a) After AMA Guidelines</u>		
(1) Number of Claims	# 48			# 48		
(2) Average Amounts	\$297,970	\$236,234	\$297,970	\$232,603	\$252,777	\$232,603
(3) Index (Base)	100.0000%		100.0000%	100.0000%		100.0000%
<u>(b) Social Security Offset</u>				<u>(b) Social Security Onset</u>		
(1) Total (including above)	-	-	-	\$238,785	\$258,776	\$238,785
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$21,619	\$12,360	\$21,619	6,182	5,999	6,182
(3) Index (to a(2))	7.2555%	5.2321%	7.2555%	2.6577%	2.3732%	2.6577%
(4) Complement	92.7445%	94.7679%	92.7445%	97.3423%	97.6268%	97.3423%
<u>(c) Pension Offset (after Social Security Offset)</u>				<u>(c) Pension Onset</u>		
(1) Total (including above)	-	-	-	\$266,622	\$282,964	\$266,622
(2) Difference (Federal= c-1 minus b-1)	\$76,007	\$61,621	\$76,007	27,837	24,188	27,837
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,501	7,703	9,501	3,480	3,023	3,480
(5) Index (to a-2)	3.1885%	3.2606%	3.1885%	1.4959%	1.1961%	1.4959%
(6) Complement	96.8115%	96.7394%	96.8115%			
<u>(d) Combined Social Security and Pension Offsets</u>				<u>(d) Combined Social Sec, Pension Onset</u>		
(1) Average Amounts (b-2 plus c-4)	\$31,120	\$20,063	\$31,120	\$9,662	\$9,022	\$9,662
(2) Index (to a-2)	10.4440%	8.4926%	10.4440%			4.1537%
(3) Complement	89.5560%	91.5074%	89.5560%	Factor		104.1537%
(4) Total Average	266,850	216,172	266,850			242,265
<u>(e) Wage Level Decrease</u>				<u>(e) Wage Level Increase</u>		
(1) Percentage from Exhibit VII-G, Page 1			0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
<u>(f) Combined Social Security, Pension and Wage Level</u>				<u>(f) Combined Percentage</u>		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.5560%			104.1537%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.5560%			104.1537%
(4) Percentage Decrease			10.4440%	Increase		4.1537%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$31,120	Increase		\$9,662
(2) Average after Act 57 (a-2 plus or minus g-1)			\$266,850			\$242,265

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

Source: Exhibit VII-E, Exhibit IX-A & Exhibit VII-G, Page 1 and Page 2.

	<u>State O.D.</u>			<u>Federal Excess O.D.</u>		
	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>
<u>(a) After AMA Guidelines</u>				<u>(a) After AMA Guidelines</u>		
(1) Number of Claims	# 38			# 38		
(2) Average Amounts	\$517,276	\$347,426	\$517,276	\$56,333	\$131,776	\$56,333
(3) Index (Base)	100.0000%		100.0000%	100.0000%		100.0000%
<u>(b) Social Security Offset</u>				<u>(b) Social Security Onset</u>		
(1) Total (including above)	-	-	-	\$59,294	\$131,811	\$59,294
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$13,426	\$3,833	\$13,426	2,961	35	2,961
(3) Index (to a(2))	2.5956%	1.1032%	2.5956%	5.2561%	0.0265%	5.2561%
(4) Complement	97.4044%	98.8968%	97.4044%	94.7439%	99.9735%	94.7439%
<u>(c) Pension Offset (after Social Security Offset)</u>				<u>(c) Pension Onset</u>		
(1) Total (including above)	-	-	-	\$72,707	\$140,802	\$72,707
(2) Difference (Federal= c-1 minus b-1)	\$102,538	\$73,725	\$102,538	13,413	8,991	13,413
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	12,817	9,216	12,817	1,677	1,124	1,677
(5) Index (to a-2)	2.4778%	2.6525%	2.4778%	2.9763%	0.8529%	2.9763%
(6) Complement	97.5222%	97.3475%	97.5222%			
<u>(d) Combined Social Security and Pension Offsets</u>				<u>(d) Combined Social Sec, Pension Onset</u>		
(1) Average Amounts (b-2 plus c-4)	\$26,244	\$13,048	\$26,244	\$4,638	\$1,159	\$4,638
(2) Index (to a-2)	5.0734%	3.7557%	5.0734%			8.2324%
(3) Complement	94.9266%	96.2443%	94.9266%	Factor		108.2324%
(4) Total Average	491,032	334,378	491,032			60,970
<u>(e) Wage Level Decrease</u>				<u>(e) Wage Level Increase</u>		
(1) Percentage from Exhibit VII-G, Page 1			0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
<u>(f) Combined Social Security, Pension and Wage Level</u>				<u>(f) Combined Percentage</u>		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			94.9266%			108.2324%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			94.9266%			108.2324%
(4) Percentage Decrease			5.0734%	Increase		8.2324%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$26,244	Increase		\$4,638
(2) Average after Act 57 (a-2 plus or minus g-1)			\$491,032			\$60,970

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

Source: Exhibit VII-E, Exhibit IX-A & Exhibit VII-G, Page 1 and Page 2.

	<u>State O.D.</u>			<u>Federal Excess O.D.</u>		
	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>
<u>(a) After AMA Guidelines</u>				<u>(a) After AMA Guidelines</u>		
(1) Number of Claims	# 19			# 19		
(2) Average Amounts	\$398,476	\$272,152	\$398,476	\$198,987	\$245,203	\$198,987
(3) Index (Base)	100.0000%		100.0000%	100.0000%		100.0000%
<u>(b) Social Security Offset</u>				<u>(b) Social Security Onset</u>		
(1) Total (including above)	-	-	-	\$205,279	\$247,498	\$205,279
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$32,746	\$6,179	\$32,746	6,292	2,295	6,292
(3) Index (to a(2))	8.2179%	2.2705%	8.2179%	3.1620%	0.9360%	3.1620%
(4) Complement	91.7821%	97.7295%	91.7821%	96.8380%	99.0640%	96.8380%
<u>(c) Pension Offset (after Social Security Offset)</u>				<u>(c) Pension Onset</u>		
(1) Total (including above)	-	-	-	\$239,932	\$270,131	\$239,932
(2) Difference (Federal= c-1 minus b-1)	\$77,315	\$49,211	\$77,315	34,653	22,632	34,653
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,664	6,151	9,664	4,332	2,829	4,332
(5) Index (to a-2)	2.4253%	2.2603%	2.4253%	2.1768%	1.1537%	2.1768%
(6) Complement	97.5747%	97.7397%	97.5747%			
<u>(d) Combined Social Security and Pension Offsets</u>				<u>(d) Combined Social Sec, Pension Onset</u>		
(1) Average Amounts (b-2 plus c-4)	\$42,411	\$12,331	\$42,411	\$10,624	\$5,124	\$10,624
(2) Index (to a-2)	10.6433%	4.5308%	10.6433%			5.3389%
(3) Complement	89.3567%	95.4692%	89.3567%	Factor		105.3389%
(4) Total Average	356,065	259,822	356,065			209,610
<u>(e) Wage Level Decrease</u>				<u>(e) Wage Level Increase</u>		
(1) Percentage from Exhibit VII-G, Page 1			0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
<u>(f) Combined Social Security, Pension and Wage Level</u>				<u>(f) Combined Percentage</u>		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.3567%			105.3389%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.3567%			105.3389%
(4) Percentage Decrease			10.6433%	Increase		5.3389%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$42,411	Increase		\$10,624
(2) Average after Act 57 (a-2 plus or minus g-1)			\$356,065			\$209,610

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

Source: Exhibit VII-E, Exhibit IX-A & Exhibit VII-G, Page 1 and Page 2.

Coal Mine Compensation Rating Bureau
Average Severity from Before Act 57 through Stages to After Act 57

Exhibit VII-A

Page 5

Other Classes

For Information - NOT USED

	<u>State O.D.</u>			<u>Federal Excess O.D.</u>		
	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>	<u>Base</u>	<u>All PP</u>	<u>Weighted 100%-0%</u>
<u>(a) After AMA Guidelines</u>				<u>(a) After AMA Guidelines</u>		
(1) Number of Claims	# 10			# 10		
(2) Average Amounts	\$312,052	\$199,724	\$312,052	\$202,575	\$245,913	\$202,575
(3) Index (Base)	100.0000%		100.0000%	100.0000%		100.0000%
<u>(b) Social Security Offset</u>				<u>(b) Social Security Onset</u>		
(1) Total (including above)	-	-	-	\$214,041	\$252,032	\$214,041
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$25,613	\$10,789	\$25,613	11,466	6,119	11,466
(3) Index (to a(2))	8.2080%	5.4021%	8.2080%	5.6602%	2.4881%	5.6602%
(4) Complement	91.7920%	94.5979%	91.7920%	94.3398%	97.5119%	94.3398%
<u>(c) Pension Offset (after Social Security Offset)</u>				<u>(c) Pension Onset</u>		
(1) Total (including above)	-	-	-	\$223,051	\$253,908	\$223,051
(2) Difference (Federal= c-1 minus b-1)	\$58,256	\$33,888	\$58,256	9,010	1,876	9,010
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	7,282	4,236	7,282	1,126	235	1,126
(5) Index (to a-2)	2.3336%	2.1209%	2.3336%	0.5560%	0.0954%	0.5560%
(6) Complement	97.6664%	97.8791%	97.6664%			
<u>(d) Combined Social Security and Pension Offsets</u>				<u>(d) Combined Social Sec, Pension Onset</u>		
(1) Average Amounts (b-2 plus c-4)	\$32,895	\$15,025	\$32,895	\$12,592	\$6,353	\$12,592
(2) Index (to a-2)	10.5416%	7.5230%	10.5416%			6.2161%
(3) Complement	89.4584%	92.4770%	89.4584%	Factor		106.2161%
(4) Total Average	279,156	184,699	279,156			215,167
<u>(e) Wage Level Decrease</u>				<u>(e) Wage Level Increase</u>		
(1) Percentage from Exhibit VII-G, Page 1			0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
<u>(f) Combined Social Security, Pension and Wage Level</u>				<u>(f) Combined Percentage</u>		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.4584%			106.2161%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.4584%			106.2161%
(4) Percentage Decrease			10.5416%	Increase		6.2161%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$32,895	Increase		\$12,592
(2) Average after Act 57 (a-2 plus or minus g-1)			\$279,156			\$215,167

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

Source: Exhibit VII-E, Exhibit IX-A & Exhibit VII-G, Page 1 and Page 2.

COAL MINE COMPENSATION RATING BUREAU
State Occupational Disease Classification Credibility

Exhibit VII-B-1-A

Classification	Code	(1)	(2)	(3)	(4)	(5) (6) Credibility		(7)	(8)	(9)	(10)
		Estimated Miner Years 2007-2016	Claim Frequency per 100 Miner Years			Expected Awarded	Factor	Claim Frequency Indicated w/ Credibility	Change in Indication After Cred.	10 Year 2007-2016 Payroll	Claim Frequency Per \$100 of Payroll
			Indicated (Eff 4/1/2017)	Trended to 4/1/2018	Indicated (Eff 4/1/2018)	Claims					
Underground:	Anthracite 1011	212.6	0.510505	0.510505	1.844230	1.085	0.166	0.731903	43.4%	9,780,689	0.159092
	Bituminous 1002	21,441.6	0.106031	0.106031	0.116782	22.735	0.758	0.114180	7.7%	1,496,431,050	0.016360
Surface:	Anthracite 1016	4,072.0	0.174723	0.174723	0.185379	7.115	0.424	0.179241	2.6%	197,526,677	0.036950
	Bituminous 1013	13,034.4	0.015724	0.015724	0.038431	2.050	0.228	0.020901	32.9%	618,706,649	0.004403
Four Standard Classifications		38,760.6	0.085098	0.085098	0.107116	32.984		0.093035	15.8%	2,322,445,065	0.015527
	Coke 1017	1,272.4	0.012475	0.012475	0.009733	0.159	0.063	0.012302	-1.4%	59,287,880	0.002640
	Auger 1019	215.9	0.026040	0.026040	0.009800	0.056	0.038	0.025423	-2.4%	10,114,526	0.005427
Co-Gen:	Anthracite 1022	1,955.6	0.030905	0.030905	0.009729	0.604	0.124	0.028279	-8.5%	94,317,743	0.005863
	Bituminous 1024	2,053.3	0.046822	0.046822	0.009724	0.961	0.156	0.041035	-12.4%	99,219,155	0.008492
Prep Plants:	Anthracite 1026	1,482.0	0.227273	0.227273	0.179142	3.368	0.292	0.213219	-6.2%	71,644,743	0.044105
	Bituminous 1028	4,177.5	0.034649	0.034649	0.013866	1.447	0.191	0.030679	-11.5%	289,122,723	0.004433
Other Classes		11,156.7	0.059125		0.033783	6.596		0.054214	-9.1%	623,706,770	0.009698
Total		49,917.3	0.079293		0.090726	39.581		0.084358	10.2%	2,946,151,835	0.014293

Source: (1) Estimated Miner Years from Exhibit VII-B-2
(2) Exhibit VII-B-1-B Col. 10
(3) Approved claim frequency trended to 4/1/2018 @ 0.0%
(4) Indicated Frequency - Exhibit VII-B-2; totals and subtotals are based on class frequencies weighted with 10 year estimated miner years.
(5) Expected Awarded Claims = (1) x (2) / 100
(6) Factor Z = ((5) / 39.581)^0.5
(7)=(4)*(6)+((3)*(1-(6)))
(8)=(7)/(2)-1 Totals and subtotals are weighted with 10 year estimated miner years.
(9) From Exhibit X-A
(10)=(7) x (1) / ((9) x 100) / 1,000,000

COAL MINE COMPENSATION RATING BUREAU
State Occupational Disease Classification Credibility

Exhibit VII-B-1-B

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Approved Claim Freq.	Payroll	Expected Awarded Claims 2006-2015	Estimated Miner Years	Estimated Miner Years	Adjustment	Average Weekly Wage	Payroll	Estimated Miner Years	Frequency Per 100
<u>Classification</u>	<u>Code</u>	<u>4/1/2017</u>	<u>2006-2015</u>	<u>(1) x (2)</u>	<u>2007-2016</u>	<u>2016</u>	<u>Factor</u>	<u>2006</u>	<u>2006</u>	<u>2006-2015</u>	<u>Miner Years</u>
Underground: Anthracite	1011	0.113046	11,059,453	1.250227	212.6	3.0	1.056	745	1,442,524	244.9	0.510505
	Bituminous 1002	0.015482	1,418,002,772	21.953519	21,441.6	1,945.4	1.505	745	70,465,937	20,704.8	0.106031
Surface: Anthracite	1016	0.036827	188,662,209	6.947863	4,072.0	387.5	1.056	745	11,946,382	3,976.5	0.174723
	Bituminous 1013	0.003381	<u>652,716,582</u>	<u>2.206835</u>	<u>13,034.4</u>	<u>540.0</u>	1.056	745	<u>63,008,975</u>	14,034.6	0.015724
Four Standard Classifications			2,270,441,016	32.358444	38,760.6	2,875.9			146,863,818	38,960.8	
	Coke 1017	0.002757	69,711,550	0.192195	1,272.4	43.1	1.056	745	12,737,394	1,540.7	0.012475
	Auger 1019	0.005664	10,808,861	0.061221	215.9	6.9	1.056	745	1,066,831	235.1	0.026040
Co-Gen: Anthracite	1022	0.006590	91,875,712	0.605461	1,955.6	202.0	1.056	745	8,405,393	1,959.1	0.030905
	Bituminous 1024	0.009973	97,229,898	0.969674	2,053.3	212.0	1.056	745	9,397,580	2,071.0	0.046822
Prep Plants: Anthracite	1026	0.048082	69,559,355	3.344553	1,482.0	129.8	1.056	745	4,885,882	1,471.6	0.227273
	Bituminous 1028	0.005100	<u>284,042,267</u>	<u>1.448616</u>	<u>4,177.5</u>	<u>289.2</u>	1.505	745	<u>17,050,967</u>	<u>4,180.8</u>	0.034649
Other Classes			623,227,643		11,156.7	883.0			53,544,047	11,458.3	
Total			2,893,668,659		49,917.3	3,758.9			200,407,865	50,419.1	

Source: (1) Approved Claim Frequency (4/1/17): See Exhibit III from filing effective 4/1/2017 (See Exhibit X-F)

(2) 10 years Payroll(2006-2015): See Exhibit X-A-1

(3) Expected Awarded Claims = (1)x(2) / 1,000,000

(4) Estimated Miner Years 2007-2016: See Exhibit VII-B-2

(5) Estimated Miner Years 2016: See Exhibit VII-B-2

(6) Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

(7) Average Weekly Wage 2006: See Exhibit XII-D

(8) Payroll 2006: See Exhibit X-A-1

(9) Estimated Miner Years 2006-2015 =(4)-(5)+(8)/((6)x(7)x52)

(10) Frequency Per 100 Miner Years = (3)/((9)/100))

STATE OCCUPATIONAL DISEASE FREQUENCY
WITH FEDERAL EXCESS FREQUENCY

ANTHRACITE UNDERGROUND (1011)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	10-Year Payroll Weighted Frequency
2007	0	0	0	0	0.0000	0.0000	0.000000	1,662,537	0.000000	779	1.056	38.9	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	2,136,713	0.000000	807	1.056	48.2	0.000000	
2009	0	0	0	0	0.0000	0.0000	0.000000	1,335,866	0.000000	836	1.056	29.1	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	1,299,588	0.000000	845	1.056	28.0	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	1,257,944	1.000000	858	1.056	26.7	3.745318	
2012	0	0	0	0	0.0000	0.0000	0.000000	1,029,260	0.000000	888	1.056	21.1	0.000000	
2013	1	1	0	0	0.0000	0.0000	0.000000	381,876	1.000000	917	1.056	7.6	13.157895	
2014	0	0	0	0	0.0000	0.0000	0.000000	258,809	0.000000	932	1.056	5.1	0.000000	
2015	0	0	0	0	0.0120	0.0120	0.011496	254,336	0.011496	951	1.056	4.9	0.234610	
2016	0	0	0	0	0.0407	0.0407	0.039134	163,760	0.039134	978	1.056	3.0	1.304472	
TOTAL	2	2	0	0	0.0526	0.0526	0.050630	9,780,689	2.050630			212.6	18.442295	
Average: State Frequency													1.844230	
Federal Excess Frequency (times 40.0%)													0.737692	

BITUMINOUS UNDERGROUND (1002)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	0	0	0	0	0.0000	0.0000	0.000000	79,904,266	0.000000	779	1.505	1,310.7	0.000000	
2008	2	2	0	0	0.0000	0.0000	0.000000	101,353,977	2.000000	807	1.505	1,604.8	0.124626	
2009	0	0	0	0	0.0000	0.0000	0.000000	101,348,140	0.000000	836	1.505	1,549.1	0.000000	
2010	0	0	0	0	0.1367	0.1367	0.131486	125,393,576	0.131486	845	1.505	1,896.2	0.006934	
2011	2	2	0	0	0.3979	0.3979	0.382818	148,485,709	2.382818	858	1.505	2,211.4	0.107752	
2012	4	3	1	0	0.6959	1.6959	1.631446	153,618,908	4.631446	888	1.505	2,210.5	0.209520	
2013	3	3	0	0	1.0452	1.0452	1.005511	149,747,092	4.005511	917	1.505	2,086.6	0.191964	
2014	2	2	0	0	3.0893	3.0893	2.971926	271,230,707	4.971926	932	1.505	3,718.6	0.133704	
2015	1	1	0	0	3.9287	3.9287	3.779361	216,454,460	4.779361	951	1.505	2,908.3	0.164335	
2016	0	0	0	0	4.6306	4.6306	4.454647	148,894,215	4.454647	978	1.505	1,945.4	0.228984	
TOTAL	14	13	1	0	13.9243	14.9243	14.357196	1,496,431,050	27.357196			21,441.6	1.167819	
Average: State Frequency													0.116782	
Federal Excess Frequency (times 40.0%)													0.046713	

ANTHRACITE SURFACE (1016)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	3	3	0	0	0.0000	0.0000	0.000000	14,555,579	3.000000	779	1.056	340.3	0.881575	
2008	1	1	0	0	0.0000	0.0000	0.000000	16,954,313	1.000000	807	1.056	382.6	0.261370	
2009	0	0	0	0	0.0000	0.0000	0.000000	16,445,462	0.000000	836	1.056	358.2	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	14,295,288	0.000000	845	1.056	308.1	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	21,034,600	1.000000	858	1.056	446.5	0.223964	
2012	0	0	0	0	0.0000	0.0000	0.000000	26,295,907	0.000000	888	1.056	539.3	0.000000	
2013	1	0	0	1	0.0000	0.0000	0.000000	22,449,824	0.000000	917	1.056	445.8	0.000000	
2014	0	0	0	0	0.1081	0.1081	0.103954	20,466,075	0.103954	932	1.056	399.9	0.025995	
2015	0	0	0	0	0.3628	0.3628	0.349014	24,218,779	0.349014	951	1.056	463.8	0.075251	
2016	1	0	1	0	0.5534	1.5534	1.494332	20,810,850	1.494332	978	1.056	387.5	0.385634	
TOTAL	7	5	1	1	1.0242	2.0242	1.947300	197,526,677	6.947300			4,072.0	1.853789	
Average: State Frequency													0.185379	
Federal Excess Frequency (times 40.0%)													0.074152	

BITUMINOUS SURFACE (1013)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	0	0	0	0	0.0000	0.0000	0.000000	63,295,774	0.000000	779	1.056	1,479.7	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	73,054,482	0.000000	807	1.056	1,648.6	0.000000	
2009	0	0	0	0	0.0000	0.0000	0.000000	61,784,394	0.000000	836	1.056	1,345.9	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	72,711,558	0.000000	845	1.056	1,567.0	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	86,074,064	1.000000	858	1.056	1,826.9	0.054738	
2012	2	2	0	0	0.0680	0.0680	0.064544	76,452,811	2.064544	888	1.056	1,567.9	0.131734	
2013	0	0	0	0	0.1166	0.1166	0.112131	61,349,745	0.112131	917	1.056	1,218.4	0.009203	
2014	0	0	0	0	0.1573	0.1573	0.151313	54,050,731	0.151313	932	1.056	1,056.1	0.014328	
2015	1	0	1	0	0.1682	1.1682	1.123847	40,934,048	1.123847	951	1.056	783.9	0.143366	
2016	0	0	0	0	0.1737	0.1737	0.167099	28,999,042	0.167099	978	1.056	540.0	0.030944	
TOTAL	4	3	1	0	0.6838	1.6838	1.619844	618,706,649	4.619844			13,034.4	0.384313	
Average: State Frequency													0.038431	
Federal Excess Frequency (times 40.0%)													0.015372	

FOUR STANDARD CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	3	3	0	0	0.0000	0.0000	0.000000	159,418,156	3.000000	779		3,169.6	0.094649	
2008	3	3	0	0	0.0000	0.0000	0.000000	193,499,485	3.000000	807		3,684.2	0.081429	
2009	0	0	0	0	0.0000	0.0000	0.000000	180,913,862	0.000000	836		3,282.3	0.000000	
2010	0	0	0	0	0.1367	0.1367	0.131486	213,700,010	0.131486	845		3,799.3	0.003461	
2011	5	5	0	0	0.3979	0.3979	0.382818	256,852,317	5.382818	858		4,511.5	0.119313	
2012	6	5	1	0	0.7639	1.7639	1.696901	257,396,886	6.696901	888		4,338.8	0.154349	
2013	5	4	0	1	1.1618	1.1618	1.117642	233,928,537	5.117642	917		3,758.4	0.136165	
2014	2	2	0	0	3.3547	3.3547	3.227193	346,006,322	5.227193	932		5,179.7	0.100917	
2015	2	1	1	0	4.4716	5.4716	5.263718	281,861,623	6.263718	951		4,160.9	0.150538	
2016	1	0	1	0	5.3984	6.3984	6.155213	198,867,867	6.155213	978		2,875.9	0.214027	
TOTAL	27	23	3	1	15.6850	18.6850	17.974970	2,322,445,065	40.974970			38,760.6	1.054848	
Average: State Frequency													0.105485	0.107116
Federal Excess Frequency (times 40.0%)													0.042194	0.042846

Source: Claim counts - CMCRB OD Database as of 08/15/2017

IBNR: Exhibit VII-C

Payroll: Exhibit X-A

The Award Ratios for all classes were set equal to the Grand Total Award Ratio calculated on Exhibit VII-B-2 Page 3.

The Grand Total Award Ratio is equal to Awarded ÷ (Awarded plus Denied) = 25 / (25 + 01) = 0.962

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = [Expected Ult. Awarded / Est. Miner Years] x 100

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Run Date: October 10, 2017 - 11:03:56 AM

PAB

Effective Date - April 01, 2018

9,290,080,522.382280

STATE OCCUPATIONAL DISEASE FREQUENCY
WITH FEDERAL EXCESS FREQUENCY

COKE (1017)

IBNR Factor adjusted by 0.4000										0.962	EXPECTED	Statewide	Adjustment	Estimated	Frequency	10-Year
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR +	AWARD	Payroll	ULTIMATE	RATIO	AWARDED	Average	Factor	Miner	Claims per 100	Payroll
						PENDING						Weekly Wage		Years	Miner Years	Weighted
2007	0	0	0	0	0.0000	0.0000	0.000000	13,669,925	0.000000		779	1.056		319.6	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	9,761,146	0.000000		807	1.056		220.3	0.000000	
2009	0	0	0	0	0.0010	0.0010	0.000962	5,173,552	0.000962		836	1.056		112.7	0.000854	
2010	0	0	0	0	0.0022	0.0022	0.002116	5,435,658	0.002116		845	1.056		117.1	0.001807	
2011	0	0	0	0	0.0027	0.0027	0.002597	3,599,086	0.002597		858	1.056		76.4	0.003400	
2012	0	0	0	0	0.0083	0.0083	0.007985	5,738,105	0.007985		888	1.056		117.7	0.006784	
2013	0	0	0	0	0.0107	0.0107	0.010293	4,791,910	0.010293		917	1.056		95.2	0.010812	
2014	0	0	0	0	0.0136	0.0136	0.013083	4,464,398	0.013083		932	1.056		87.2	0.015004	
2015	0	0	0	0	0.0206	0.0206	0.019817	4,340,376	0.019817		951	1.056		83.1	0.023847	
2016	0	0	0	0	0.0156	0.0156	0.015007	2,313,724	0.015007		978	1.056		43.1	0.034819	
TOTAL	0	0	0	0	0.0747	0.0747	0.071861	59,287,880	0.071861					1,272.4	0.097327	
Average: State Frequency															0.009733	
Federal Excess Frequency (times 40.0%)															0.003893	

AUGER (1019)

IBNR Factor adjusted by 0.4000										0.962	EXPECTED	Statewide	Adjustment	Estimated	Frequency	10-Year
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR +	AWARD	Payroll	ULTIMATE	RATIO	AWARDED	Average	Factor	Miner	Claims per 100	Payroll
						PENDING						Weekly Wage		Years	Miner Years	Weighted
2007	0	0	0	0	0.0000	0.0000	0.000000	1,121,156	0.000000		779	1.056		26.2	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	2,488,558	0.000000		807	1.056		56.2	0.000000	
2009	0	0	0	0	0.0002	0.0002	0.000192	926,163	0.000192		836	1.056		20.2	0.000952	
2010	0	0	0	0	0.0003	0.0003	0.000289	806,696	0.000289		845	1.056		17.4	0.001659	
2011	0	0	0	0	0.0009	0.0009	0.000866	1,176,255	0.000866		858	1.056		25.0	0.003463	
2012	0	0	0	0	0.0012	0.0012	0.001154	808,208	0.001154		888	1.056		16.6	0.006954	
2013	0	0	0	0	0.0023	0.0023	0.002213	1,025,399	0.002213		917	1.056		20.4	0.010846	
2014	0	0	0	0	0.0025	0.0025	0.002405	806,976	0.002405		932	1.056		15.8	0.015222	
2015	0	0	0	0	0.0028	0.0028	0.002694	582,619	0.002694		951	1.056		11.2	0.024050	
2016	0	0	0	0	0.0025	0.0025	0.002405	372,496	0.002405		978	1.056		6.9	0.034855	
TOTAL	0	0	0	0	0.0127	0.0127	0.012217	10,114,526	0.012217					215.9	0.098001	
Average: State Frequency															0.009800	
Federal Excess Frequency (times 40.0%)															0.003920	

ANTHRACITE CO-GEN (1022)

IBNR Factor adjusted by 0.4000										0.962	EXPECTED	Statewide	Adjustment	Estimated	Frequency	10-Year
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR +	AWARD	Payroll	ULTIMATE	RATIO	AWARDED	Average	Factor	Miner	Claims per 100	Payroll
						PENDING						Weekly Wage		Years	Miner Years	Weighted
2007	0	0	0	0	0.0000	0.0000	0.000000	9,160,450	0.000000		779	1.056		214.1	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	7,958,335	0.000000		807	1.056		179.6	0.000000	
2009	0	0	0	0	0.0016	0.0016	0.001539	8,004,644	0.001539		836	1.056		174.4	0.000883	
2010	0	0	0	0	0.0034	0.0034	0.003271	8,481,228	0.003271		845	1.056		182.8	0.001789	
2011	0	0	0	0	0.0087	0.0087	0.008369	11,720,035	0.008369		858	1.056		248.8	0.003364	
2012	0	0	0	0	0.0149	0.0149	0.014334	10,273,004	0.014334		888	1.056		210.7	0.006803	
2013	0	0	0	0	0.0186	0.0186	0.017893	8,342,651	0.017893		917	1.056		165.7	0.010799	
2014	0	0	0	0	0.0275	0.0275	0.026455	9,060,883	0.026455		932	1.056		177.0	0.014946	
2015	0	0	0	0	0.0496	0.0496	0.047715	10,469,089	0.047715		951	1.056		200.5	0.023798	
2016	0	0	0	0	0.0733	0.0733	0.070515	10,847,424	0.070515		978	1.056		202.0	0.034908	
TOTAL	0	0	0	0	0.1976	0.1976	0.190091	94,317,743	0.190091					1,955.6	0.097290	
Average: State Frequency															0.009729	
Federal Excess Frequency (times 40.0%)															0.003892	

BITUMINOUS CO-GEN (1024)

IBNR Factor adjusted by 0.4000										0.962	EXPECTED	Statewide	Adjustment	Estimated	Frequency	10-Year
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR +	AWARD	Payroll	ULTIMATE	RATIO	AWARDED	Average	Factor	Miner	Claims per 100	Payroll
						PENDING						Weekly Wage		Years	Miner Years	Weighted
2007	0	0	0	0	0.0000	0.0000	0.000000	10,789,214	0.000000		779	1.056		252.2	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	8,468,561	0.000000		807	1.056		191.1	0.000000	
2009	0	0	0	0	0.0016	0.0016	0.001539	7,866,413	0.001539		836	1.056		171.4	0.000898	
2010	0	0	0	0	0.0035	0.0035	0.003367	8,732,701	0.003367		845	1.056		188.2	0.001789	
2011	0	0	0	0	0.0067	0.0067	0.006445	9,102,411	0.006445		858	1.056		193.2	0.003336	
2012	0	0	0	0	0.0131	0.0131	0.012602	9,047,745	0.012602		888	1.056		185.5	0.006794	
2013	0	0	0	0	0.0230	0.0230	0.022126	10,355,884	0.022126		917	1.056		205.7	0.010756	
2014	0	0	0	0	0.0356	0.0356	0.034247	11,721,184	0.034247		932	1.056		229.0	0.014955	
2015	0	0	0	0	0.0556	0.0556	0.053487	11,748,205	0.053487		951	1.056		225.0	0.023772	
2016	0	0	0	0	0.0770	0.0770	0.074074	11,386,837	0.074074		978	1.056		212.0	0.034941	
TOTAL	0	0	0	0	0.2161	0.2161	0.207888	99,219,155	0.207888					2,053.3	0.097241	
Average: State Frequency															0.009724	
Federal Excess Frequency (times 40.0%)															0.003890	

Source: Claim counts - CMCRB OD Database as of 08/15/2017

IBNR: Exhibit VII-C-6, p.4

Payroll: Exhibit X-A

The Award Ratios for all classes were set equal to the Grand Total Award Ratio calculated on Exhibit VII-B-2 Page 3.

The Grand Total Award Ratio is equal to Awarded ÷ (Awarded plus Denied) = 25 / [25 + 01] = 0.962

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = [Expected Ult. Awarded / Est. Miner Years] x 100

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Run Date: October 10, 2017 - 11:03:56 AM

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Effective Date - April 01, 2018

526,005,277.254932

STATE OCCUPATIONAL DISEASE FREQUENCY
WITH FEDERAL EXCESS FREQUENCY

ANTHRACITE PREP PLANT (1026)

IBNR Factor adjusted by 1.0000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	10-Year Payroll Weighted Frequency
2007	1	1	0	0	0.0000	0.0000	0.000000	5,756,439	1.000000	779	1.056	134.6	0.742942	
2008	0	0	0	0	0.0000	0.0000	0.000000	6,390,767	0.000000	807	1.056	144.2	0.000000	
2009	0	0	0	0	0.0034	0.0034	0.003271	6,749,748	0.003271	836	1.056	147.0	0.002225	
2010	1	1	0	0	0.0058	0.0058	0.005580	5,762,086	1.005580	845	1.056	124.2	0.809645	
2011	0	0	0	0	0.0134	0.0134	0.012891	7,236,583	0.012891	858	1.056	153.6	0.008392	
2012	0	0	0	0	0.0315	0.0315	0.030303	8,671,140	0.030303	888	1.056	177.8	0.017043	
2013	0	0	0	0	0.0460	0.0460	0.044252	8,265,665	0.044252	917	1.056	164.2	0.026950	
2014	0	0	0	0	0.0626	0.0626	0.060221	8,234,771	0.060221	932	1.056	160.9	0.037428	
2015	0	0	0	0	0.0901	0.0901	0.086676	7,606,274	0.086676	951	1.056	145.7	0.059489	
2016	0	0	0	0	0.1178	0.1178	0.113324	6,971,270	0.113324	978	1.056	129.8	0.087306	
TOTAL	2	2	0	0	0.3706	0.3706	0.356517	71,644,743	2.356517			1,482.0	1.791420	
Average: State Frequency													0.179142	
Federal Excess Frequency (times 40.0%)													0.071657	

BITUMINOUS PREP PLANT (1028)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	0	0	0	0	0.0000	0.0000	0.000000	18,895,192	0.000000	779	1.505	309.9	0.000000	
2008	0	0	0	0	0.0000	0.0000	0.000000	21,250,256	0.000000	807	1.505	336.5	0.000000	
2009	0	0	0	0	0.0040	0.0040	0.003848	19,828,012	0.003848	836	1.505	303.1	0.001270	
2010	0	0	0	0	0.0105	0.0105	0.010101	26,313,130	0.010101	845	1.505	397.9	0.002539	
2011	0	0	0	0	0.0260	0.0260	0.025012	35,155,068	0.025012	858	1.505	523.6	0.004777	
2012	0	0	0	0	0.0497	0.0497	0.047811	34,211,729	0.047811	888	1.505	492.3	0.009712	
2013	0	0	0	0	0.0762	0.0762	0.073304	34,253,697	0.073304	917	1.505	477.3	0.015358	
2014	0	0	0	0	0.1323	0.1323	0.127273	43,520,040	0.127273	932	1.505	596.7	0.021329	
2015	0	0	0	0	0.1590	0.1590	0.152958	33,564,176	0.152958	951	1.505	451.0	0.033915	
2016	0	0	0	0	0.1496	0.1496	0.143915	22,131,423	0.143915	978	1.505	289.2	0.049763	
TOTAL	0	0	0	0	0.6073	0.6073	0.584223	289,122,723	0.584223			4,177.5	0.138663	
Average: State Frequency													0.013866	
Federal Excess Frequency (times 40.0%)													0.005546	

TOTAL OTHER CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	1	1	0	0	0.0000	0.0000	0.000000	59,392,376	1.000000	779	1.256	6	0.079580	
2008	0	0	0	0	0.0000	0.0000	0.000000	56,317,623	0.000000	807		1,127.9	0.000000	
2009	0	0	0	0	0.0118	0.0118	0.011352	48,548,532	0.011352	836		928.8	0.001222	
2010	1	1	0	0	0.0257	0.0257	0.024723	55,531,499	1.024723	845		1,027.6	0.099720	
2011	0	0	0	0	0.0584	0.0584	0.056181	67,989,438	0.056181	858		1,220.6	0.004603	
2012	0	0	0	0	0.1187	0.1187	0.114189	68,749,931	0.114189	888		1,200.6	0.009511	
2013	0	0	0	0	0.1768	0.1768	0.170082	67,035,206	0.170082	917		1,128.5	0.015071	
2014	0	0	0	0	0.2741	0.2741	0.263684	77,808,252	0.263684	932		1,266.6	0.020818	
2015	0	0	0	0	0.3777	0.3777	0.363347	68,310,739	0.363347	951		1,116.5	0.032543	
2016	0	0	0	0	0.4358	0.4358	0.419240	54,023,174	0.419240	978		883.0	0.047479	
TOTAL	2	2	0	0	1.4790	1.4790	1.422798	623,706,770	3.422798			11,156.7	0.310547	
Average: State Frequency													0.031055	0.028988
Federal Excess Frequency (times 40.0%)													0.012422	0.011595

GRAND TOTAL

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.962 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2007	4	4	0	0	0.0000	0.0000	0.000000	218,810,532	4.000000	779		4,426.2	0.090371	
2008	3	3	0	0	0.0000	0.0000	0.000000	249,817,108	3.000000	807		4,812.1	0.062343	
2009	0	0	0	0	0.0118	0.0118	0.011352	229,462,394	0.011352	836		4,211.1	0.000270	
2010	1	1	0	0	0.1624	0.1624	0.156210	269,231,509	1.156210	845		4,826.9	0.023953	
2011	5	5	0	0	0.4563	0.4563	0.438999	324,841,755	5.438999	858		5,732.1	0.094887	
2012	6	5	1	0	0.8826	1.8826	1.811090	326,146,817	6.811090	888		5,539.4	0.122957	
2013	5	4	0	1	1.3386	1.3386	1.287724	300,963,743	5.287724	917		4,886.9	0.108202	
2014	2	2	0	0	3.6288	3.6288	3.490877	423,814,574	5.490877	932		6,446.3	0.085179	
2015	2	1	1	0	4.8493	5.8493	5.627065	350,172,362	6.627065	951		5,277.4	0.125574	
2016	1	0	1	0	5.8342	6.8342	6.574452	252,891,041	6.574452	978		3,758.9	0.174904	
TOTAL	29	25	3	1	17.1640	20.1640	19.397768	2,946,151,835	44.397768			49,917.3	0.888640	
Average: State Frequency													0.088640	0.089654
Federal Excess Frequency (times 40.0%)													0.035546	0.035862

Source: Claim counts - CMCRB OD Database as of 08/15/2017

IBNR: Exhibit VII-C-6, p.4

Payroll: Exhibit X-A

The Award Ratios for all classes were set equal to the Grand Total Award Ratio calculated on Exhibit VII-B-2 Page 3.

The Grand Total Award Ratio is equal to Awarded ÷ (Awarded plus Denied) = 25 / [25 + 01] = 0.962

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = [Expected Ult. Awarded / Est. Miner Years] x 100

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Run Date: October 10, 2017 - 11:03:56 AM

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Effective Date - April 01, 2018

7,861,501,630.849560

Exhibit VII-C-1

Incremental Frequency and IBNR

Incremental Changes

Payroll	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
(\$Millions)																											
	1.54705	0.71815	0.93280	1.18200	1.31068	1.49352	1.61270	1.57161	1.76229	1.81416	1.37016	1.63652	1.38655	1.35427	1.34532	1.41757	1.44252	1.66254	2.13671	1.33587	1.29959	1.25794	1.02926	0.38188	0.25881	0.25434	0.16376

[illegible]

Payrolls; Exhibit X-A pages 1 & 2

PAB
Effective Date - April 01, 2018
110,977.250020

Exhibit VII-C-4

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Effective Date - April 01, 2018
113,183.156440

**COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VII-C-7

IBNR By Class

		CLASSIFICATION					
A. IBNR Factor			Anthracite	Bituminous	Anthracite	Bituminous	
		Coke	Auger	Co-Gen	Co-Gen	Prep Plant	Prep Plant
	Year	1017	1019	1022	1024	1026	1028
	2007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2009	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
	2010	0.00100	0.00100	0.00100	0.00100	0.00100	0.00100
	2011	0.00185	0.00185	0.00185	0.00185	0.00185	0.00185
	2012	0.00363	0.00363	0.00363	0.00363	0.00363	0.00363
	2013	0.00556	0.00556	0.00556	0.00556	0.00556	0.00556
	2014	0.00760	0.00760	0.00760	0.00760	0.00760	0.00760
	2015	0.01184	0.01184	0.01184	0.01184	0.01184	0.01184
	2016	0.01690	0.01690	0.01690	0.01690	0.01690	0.01690
B. Adjustment Factor		0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
C. Payroll Per \$1M							
	2007	13.66993	1.12116	9.16045	10.78921	5.75644	18.89519
	2008	9.76115	2.48856	7.95834	8.46856	6.39077	21.25026
	2009	5.17355	0.92616	8.00464	7.86641	6.74975	19.82801
	2010	5.43566	0.80670	8.48123	8.73270	5.76209	26.31313
	2011	3.59909	1.17626	11.72004	9.10241	7.23658	35.15507
	2012	5.73811	0.80821	10.27300	9.04775	8.67114	34.21173
	2013	4.79191	1.02540	8.34265	10.35588	8.26567	34.25370
	2014	4.46440	0.80698	9.06088	11.72118	8.23477	43.52004
	2015	4.34038	0.58262	10.46909	11.74821	7.60627	33.56418
	2016	2.31372	0.37250	10.84742	11.38684	6.97127	22.13142
D. IBNR							
	2007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2009	0.0010	0.0002	0.0016	0.0016	0.0034	0.0040
	2010	0.0022	0.0003	0.0034	0.0035	0.0058	0.0105
	2011	0.0027	0.0009	0.0087	0.0067	0.0134	0.0260
	2012	0.0083	0.0012	0.0149	0.0131	0.0315	0.0497
	2013	0.0107	0.0023	0.0186	0.0230	0.0460	0.0762
	2014	0.0136	0.0025	0.0275	0.0356	0.0626	0.1323
	2015	0.0206	0.0028	0.0496	0.0556	0.0901	0.1590
	2016	0.0156	0.0025	0.0733	0.0770	0.1178	0.1496

Source: IBNR Factor - Exhibit VII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A pages 1 & 2
IBNR = A times B times C

**COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VII-C-8

IBNR By Class

		CLASSIFICATION					
A. IBNR Factor			Anthracite	Bituminous	Anthracite	Bituminous	
		Coke	Auger	Co-Gen	Co-Gen	Prep Plant	Prep Plant
	Year	1017	1019	1022	1024	1026	1028
	1997	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	1998	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	1999	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2004	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
B. Adjustment Factor		0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
C. Payroll Per \$1M							
	1997	53.11908	1.19349	3.52016	0.85605	1.14940	13.78365
	1998	13.35390	1.23790	3.45878	1.16120	1.03290	11.11210
	1999	12.29348	1.13689	3.60431	1.49428	1.23112	10.69178
	2000	12.09257	1.20588	4.47346	1.87072	1.31947	8.57476
	2001	10.37583	1.42913	5.23447	2.12133	3.60965	10.15503
	2002	10.48501	1.15084	6.35854	2.38612	3.78169	12.64983
	2003	11.53408	1.10222	7.13766	3.05252	3.72130	14.75232
	2004	12.04913	1.05880	7.35151	6.37448	4.40665	18.06729
	2005	12.86098	1.02654	7.85529	8.52475	5.17007	17.69036
	2006	12.73739	1.06683	8.40539	9.39758	4.88588	17.05097
D. IBNR							
	1997	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1998	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: IBNR Factor - Exhibit VII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A pages 1 & 2
IBNR = A times B times C

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 6	\$5,317,544	\$886,257	# 0.0000	\$0	\$0	# 6.0000	\$5,317,544	\$886,257
(ii) Comm./Comp.	# 3	\$1,129,791	\$376,597	# 0.0000	\$0	\$0	# 3.0000	\$1,129,791	\$376,597
(iii) Total	# 9	\$6,447,335	\$716,371	# 0.0000	\$0	\$0	# 9.0000	\$6,447,335	\$716,371
(iv) Average Severity before Adjustment									\$716,371
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
59.192.682.268089

State O.D. Severity- Before Act 57

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	845,721	-	-			-	-		
-	-	-	1	126,573			-	-		
-	-	-	1	188,565			-	-		
-	-	-	1	413,583			-	-		
-	-	-	1	75,901			-	-		
-	-	-	1	165,181			-	-		
-	-	-	1	321,115			-	-		
-	-	-	1	131,514			-	-		
1	843,686	-	-	-			-	-		
1	1,106,397	-	-	-			-	-		
1	1,538,668	-	-	-			-	-		
-	-	1	466,123	-			-	-		
-	-	1	118,192	-			-	-		
1	1,162,436	-	-	-			-	-		
-	-	1	171,711	-			-	-		
-	-	1	34,502	-			-	-		
1	1,454,452	-	-	-			-	-		
-	-	1	77,673	-			-	-		
-	-	1	151,106	-			-	-		
-	-	1	30,339	-			-	-		
-	-	1	149,638	-			-	-		
-	-	1	611,434	-			-	-		
-	-	1	222,349	-			-	-		
-	-	1	116,009	-			-	-		
-	-	1	176,396	-			-	-		
-	-	1	105,644	-			-	-		
-	-	1	111,502	-			-	-		
-	-	1	112,520	-			-	-		
-	-	1	107,709	-			-	-		
-	-	1	111,141	-			-	-		
-	-	1	114,889	-			-	-		
-	-	1	139,051	-			-	-		
-	-	1	113,536	-			-	-		
-	-	1	237,511	-			-	-		
-	-	1	134,623	-			-	-		
-	-	1	209,678	-			-	-		
-	-	1	533,483	-			-	-		
-	-	1	248,003	-			-	-		
-	-	1	114,242	-			-	-		
-	-	1	125,958	-			-	-		
-	-	1	100,297	-			-	-		
-	-	1	91,558	-			-	-		
-	-	1	231,007	-			-	-		
-	-	1	32,647	-			-	-		
-	-	1	82,096	-			-	-		
-	-	1	144,901	-			-	-		
-	-	-	-	-			1	910,687		
-	-	1	285,046	-			-	-		
(i) Total	# 6	\$6,951,359	# 41	\$7,234,948	# 47	\$14,186,307	# 1	\$910,687	# 48	\$15,096,994
(ii) Average		\$1,158,560		\$176,462		\$301,836		\$910,687		\$314,521

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$1,158,560	\$176,462	
(ii) Difference (Col. 2 minus Col. 1)			(\$982,098)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$910,687	\$910,687	
(ii) C/C Difference	\$0	(\$982,098)	
(iii) (e-i) + (e-ii)	\$910,687	\$0	Limited to zero: negative offset is not appropriate.
(iv) Total	\$116,258	\$0	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$116,258

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$6,951,359	\$1,158,560	# 0.1277	\$116,258	\$910,687	# 6.1277	\$7,067,617	\$1,153,396
(ii) Comm./Comp.	# 41	\$7,234,948	\$176,462	# 0.8723	\$0	\$0	# 41.8723	\$7,234,948	\$172,786
(iii) Total	# 47	\$14,186,307	\$301,836	# 1.0000	\$116,258	\$116,258	# 48.0000	\$14,302,565	\$297,970
(iv) Average Severity before Adjustment									\$314,521
(v) Impact									(\$16,551)

Source: Exhibit IX-A

State O.D. Severity- Before Act 57

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	807,441	-	-	-	-	-	-	-	-
-	-	-	1	32,430	-	-	-	-	-	-
1	1	866,447	-	-	-	-	-	-	-	-
1	1	575,362	-	-	-	-	-	-	-	-
1	1	285,103	-	-	-	-	-	-	-	-
-	-	-	1	47,484	-	-	-	-	-	-
1	1	687,925	-	-	-	-	-	-	-	-
1	1	518,988	-	-	-	-	-	-	-	-
-	-	-	1	522,010	-	-	-	-	-	-
1	1	764,963	-	-	-	-	-	-	-	-
1	1	966,922	-	-	-	-	-	-	-	-
1	1	760,273	-	-	-	-	-	-	-	-
1	1	634,387	-	-	-	-	-	-	-	-
1	1	56,213	-	-	-	-	-	-	-	-
-	-	-	1	349,357	-	-	-	-	-	-
1	1	716,153	-	-	-	-	-	-	-	-
1	1	578,819	-	-	-	-	-	-	-	-
1	1	878,802	-	-	-	-	-	-	-	-
-	-	-	1	548,931	-	-	-	-	-	-
1	1	646,042	-	-	-	-	-	-	-	-
1	1	411,565	-	-	-	-	-	-	-	-
1	1	495,238	-	-	-	-	-	-	-	-
1	1	605,712	-	-	-	-	-	-	-	-
1	1	1,298,986	-	-	-	-	-	-	-	-
1	1	470,736	-	-	-	-	-	-	-	-
1	1	720,359	-	-	-	-	-	-	-	-
-	-	-	1	28,881	-	-	-	-	-	-
1	1	986,069	-	-	-	-	-	-	-	-
-	-	-	1	214,644	-	-	-	-	-	-
1	1	558,470	-	-	-	-	-	-	-	-
1	1	664,243	-	-	-	-	-	-	-	-
-	-	-	1	114,006	-	-	-	-	-	-
-	-	-	1	115,183	-	-	-	-	-	-
-	-	-	1	97,176	-	-	-	-	-	-
1	1	439,188	-	-	-	-	-	-	-	-
-	-	-	1	54,223	-	-	-	-	-	-
-	-	-	1	105,830	-	-	-	-	-	-
-	-	-	-	-	-	-	1	1,184,319	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
(i) Total	# 25	\$16,394,405	# 12	\$2,230,155	# 37	\$18,624,560	# 1	\$1,184,319	# 38	\$19,808,879
(ii) Average		\$655,776		\$185,846		\$503,366		\$1,184,319		\$521,286

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 25	# 12	# 37
(ii) Percentage	67.5676%	32.4324%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$655,776	\$185,846	
(ii) Difference (Col. 2 minus Col. 1)			(\$469,930)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	67.5676%	32.4324%	
(ii) Number	# 0.6757	# 0.3243	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$1,184,319	\$1,184,319	
(ii) C/C Difference	\$0	(\$469,930)	
(iii) (e-i) + (e-ii)	\$1,184,319	\$714,389	
(iv) Total	\$800,215	\$231,694	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$1,031,909

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 25	\$16,394,405	\$655,776	# 0.6757	\$800,215	\$1,184,319	# 25.6757	\$17,194,621	\$669,685
(ii) Comm./Comp.	# 12	\$2,230,155	\$185,846	# 0.3243	\$231,694	\$714,389	# 12.3243	\$2,461,849	\$199,755
(iii) Total	# 37	\$18,624,560	\$503,366	# 1.0000	\$1,031,909	\$1,031,909	# 38.0000	\$19,656,469	\$517,276
(iv) Average Severity before Adjustment									\$521,286
(v) Impact									(\$4,011)

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

PAB
Effective Date - April 01, 2018
68,489,244.655087

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(f) Permanent	# 3	\$2,357,898	\$785,966	# 0.0000	\$0	\$0	# 3.0000	\$2,357,898	\$785,966
(ii) Comm./Comp.	# 7	\$762,618	\$108,945	# 0.0000	\$0	\$0	# 7.0000	\$762,618	\$108,945
(iii) Total	# 10	\$3,120,517	\$312,052	# 0.0000	\$0	\$0	# 10.0000	\$3,120,517	\$312,052
(iv) Average Severity before Adjustment									\$312,052
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
28,750,035.913861

State O. D. Severity- Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded- Permanent Basis</u>		<u>Commuted and Compromised- As Settled</u>		<u>Total Awarded- Permanent plus Commuted/Comp.</u>		<u>Pending, on Permanent Basis</u>		<u>Total Claims</u>	
	(1)		(2)		(3) = (1) + (2)		(4)		(5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(f) List	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	296,889	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	269,790	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
(f) Total	# 6	\$566,679	# 3	\$0	# 9	\$566,679	# 0	\$0	# 9	\$566,679
(ii) Average		\$94,446		\$0		\$62,964		\$0		\$62,964

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 3	# 9
(ii) Percentage	66.6667%	33.3333%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$94,446	\$0
(ii) Difference (Col. 2 minus Col. 1)		(\$94,446)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	66.6667%	33.3333%	
(ii) Total	# 0.0000	# 0.0000	# 0.0000

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	(\$94,446)	
(iii) (e-i) + (e-ii)	\$0	\$0	Limited to zero: negative offset is not appropriate.
(iv) Total	\$0	\$0	
(d-ii) x (e-iii)			
(v) Total of (e-iv)			\$0

f. Calculation of Impact of Adjustment

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(f) Permanent	# 6	\$566,679	\$94,446	# 0.0000	\$0	\$0	# 6.0000	\$566,679	\$94,446
(ii) Comm./Comp.	# 3	\$0	\$0	# 0.0000	\$0	\$0	# 3.0000	\$0	\$0
(iii) Total	# 9	\$566,679	\$62,964	# 0.0000	\$0	\$0	# 9.0000	\$566,679	\$62,964
(iv) Average Severity before Adjustment									\$62,964
(v) Impact									\$0

Source: Exhibit IX-A

State O. D. Severity- Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	57,005	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	310,154	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	26,076	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	289,790	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	84	-	-	-	-	-	-
-	-	-	1	44,335	-	-	-	-	-	-
-	-	-	1	76,830	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	53,745	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	31,066	-	-	-	-	-	-
-	-	-	1	23,381	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	2,253	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	29,220	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	45,634	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	48,147	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	1	-	-	-
(i) Total	# 6	\$599,944	# 41	\$437,775	# 47	\$1,037,719	# 1	\$0	# 48	\$1,037,719
(ii) Average		\$99,991		\$10,677		\$22,079		\$0		\$21,619

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$99,991	\$10,677	
(ii) Difference (Col. 2 minus Col. 1)			(\$89,313)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	(\$89,313)	
(iii) (e-i) + (e-ii)	\$0	\$0	Limited to zero: negative offset is not appropriate.
(iv) Total	\$0	\$0	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$0

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$599,944	\$99,991	# 0.1277	\$0	\$0	# 6.1277	\$599,944	\$97,908
(ii) Comm./Comp.	# 41	\$437,775	\$10,677	# 0.8723	\$0	\$0	# 41.8723	\$437,775	\$10,455
(iii) Total	# 47	\$1,037,719	\$22,079	# 1.0000	\$0	\$0	# 48.0000	\$1,037,719	\$21,619
(iv) Average Severity before Adjustment									\$21,619
(v) Impact									\$0

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 25	\$457,634	\$18,305	# 0.6757	\$0	\$0	# 25.6757	\$457,634	\$17,824
(ii) Comm./Comp.	# 12	\$52,565	\$4,380	# 0.3243	\$0	\$0	# 12.3243	\$52,565	\$4,265
(iii) Total	# 37	\$510,199	\$13,789	# 1.0000	\$0	\$0	# 38.0000	\$510,199	\$13,426
(iv) Average Severity before Adjustment									\$13,426
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
4.211.893.139822

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	\$524,262	\$131,066	# 0.2222	\$0	\$0	# 4.2222	\$524,262	\$124,167
(ii) Comm./Comp.	# 14	\$97,920	\$6,994	# 0.7778	\$0	\$0	# 14.7778	\$97,920	\$6,626
(iii) Total	# 18	\$622,182	\$34,566	# 1.0000	\$0	\$0	# 19.0000	\$622,182	\$32,746
(iv) Average Severity before Adjustment									\$32,746
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
5.441.732.732021

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

PAB
Effective Date - April 01, 2018
2,364,140.915676

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 6	\$785,416	\$130,903	# 0.0000	\$0	\$0	# 6.0000	\$785,416	\$130,903
(ii) Comm./Comp.	# 3	\$68,990	\$22,997	# 0.0000	\$0	\$0	# 3.0000	\$68,990	\$22,997
(iii) Total	# 9	\$854,406	\$94,934	# 0.0000	\$0	\$0	# 9.0000	\$854,406	\$94,934
(iv) Average Severity before Adjustment									\$94,934
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
7,709,734.883315

State O.D. Severity- Private Pension Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	347,008	-	-			-	-		
	-	-	1	92,549			-	-		
	-	-	1	137,071			-	-		
	-	-	1	121,749			-	-		
	-	-	1	46,447			-	-		
	-	-	1	45,053			-	-		
	-	-	1	21,478			-	-		
	-	-	1	91,076			-	-		
	1	224,224	-	-			-	-		
	1	340,863	-	-			-	-		
	1	309,166	-	-			-	-		
	-	-	1	142,204			-	-		
	-	-	1	69,708			-	-		
	1	281,232	-	-			-	-		
	-	-	1	77			-	-		
	-	-	1	13,520			-	-		
	1	244,045	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	76,413			-	-		
	-	-	1	-			-	-		
	-	-	1	120			-	-		
	-	-	1	93,156			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	106			-	-		
	-	-	1	68,163			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	52,087			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	68,743			-	-		
	-	-	1	-			-	-		
	-	-	1	129,962			-	-		
	-	-	1	-			-	-		
	-	-	1	131,999			-	-		
	-	-	1	-			-	-		
	-	-	1	58,243			-	-		
	-	-	1	-			-	-		
	-	-	1	65,840			-	-		
	-	-	1	51,424			-	-		
	-	-	1	6,533			-	-		
	-	-	1	-			-	-		
	-	-	1	42,868			-	-		
	-	-	1	83,764			-	-		
	-	-	-	-			1	298,738		
	-	-	1	107,961			-	-		
(i) Total	# 6	\$1,746,539	# 41	\$1,818,314	# 47	\$3,564,853	# 1	\$298,738	# 48	\$3,863,591
(ii) Average		\$291,090		\$44,349		\$75,848		\$298,738		\$80,491

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$291,090	\$44,349	
(ii) Difference (Col. 2 minus Col. 1)			(\$246,741)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$298,738	\$298,738	
(ii) C/C Difference	\$0	(\$246,741)	
(iii) (e-i) + (e-ii)	\$298,738	\$51,997	
(iv) Total	\$38,137	\$45,359	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$83,496

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$1,746,539	\$291,090	# 0.1277	\$38,137	\$298,738	# 6.1277	\$1,784,676	\$291,249
(ii) Comm./Comp.	# 41	\$1,818,314	\$44,349	# 0.8723	\$45,359	\$51,997	# 41.8723	\$1,863,673	\$44,508
(iii) Total	# 47	\$3,564,853	\$75,848	# 1.0000	\$83,496	\$83,496	# 48.0000	\$3,648,349	\$76,007
(iv) Average Severity before Adjustment									\$80,491
(v) Impact									(\$4,484)

Source: Exhibit IX-A

State O.D. Severity- Private Pension Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	172,356	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	1	155,678	-	-	-	-	-	-	-	-
1	1	140,014	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
-	-	-	1	20,066	-	-	-	-	-	-
1	1	227,602	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
-	-	-	1	127,483	-	-	-	-	-	-
1	1	213,161	-	-	-	-	-	-	-	-
1	1	214,590	-	-	-	-	-	-	-	-
1	1	164,206	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	1	151,731	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
1	1	204,345	-	-	-	-	-	-	-	-
-	-	-	1	51,645	-	-	-	-	-	-
1	1	140,244	-	-	-	-	-	-	-	-
1	1	85,955	-	-	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
1	1	187,370	-	-	-	-	-	-	-	-
1	1	322,912	-	-	-	-	-	-	-	-
1	1	99,938	-	-	-	-	-	-	-	-
1	1	196,547	-	-	-	-	-	-	-	-
-	-	-	1	12,674	-	-	-	-	-	-
1	1	95,179	-	-	-	-	-	-	-	-
-	-	-	1	77,619	-	-	-	-	-	-
1	1	152,640	-	-	-	-	-	-	-	-
1	1	150,615	-	-	-	-	-	-	-	-
-	-	-	1	55,875	-	-	-	-	-	-
-	-	-	1	75,625	-	-	-	-	-	-
-	-	-	1	51,471	-	-	-	-	-	-
1	1	-	-	-	-	-	-	-	-	-
-	-	-	1	28,139	-	-	-	-	-	-
-	-	-	1	44,589	-	-	-	-	-	-
-	-	-	-	-	-	-	1	301,337	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
(i) Total	# 25	\$3,075,084	# 12	\$545,185	# 37	\$3,620,269	# 1	\$301,337	# 38	\$3,921,607
(ii) Average		\$123,003		\$45,432		\$97,845		\$301,337		\$103,200

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 25	# 12	# 37
(ii) Percentage	67.5676%	32.4324%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$123,003	\$45,432	
(ii) Difference (Col. 2 minus Col. 1)			(\$77,571)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	67.5676%	32.4324%	
(ii) Number	# 0.6757	# 0.3243	# 1

e. Pending Average from Above: Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$301,337	\$301,337	
(ii) C/C Difference	\$0	(\$77,571)	
(iii) (e-i) + (e-ii)	\$301,337	\$223,766	
(iv) Total	\$203,606	\$72,573	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$276,179

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 25	\$3,075,084	\$123,003	# 0.6757	\$203,606	\$301,337	# 25.6757	\$3,278,691	\$127,696
(ii) Comm./Comp.	# 12	\$545,185	\$45,432	# 0.3243	\$72,573	\$223,766	# 12.3243	\$617,758	\$50,125
(iii) Total	# 37	\$3,620,269	\$97,845	# 1.0000	\$276,179	\$276,179	# 38.0000	\$3,896,448	\$102,538
(iv) Average Severity before Adjustment									\$103,200
(v) Impact									(\$662)

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 4	\$935,594	\$233,898	# 0.2222	\$0	\$0	# 4.2222	\$935,594	\$221,588
(ii) Comm./Comp.	# 14	\$533,388	\$38,099	# 0.7778	\$0	\$0	# 14.7778	\$533,388	\$36,094
(iii) Total	# 18	\$1,468,982	\$81,610	# 1.0000	\$0	\$0	# 19.0000	\$1,468,982	\$77,315
(iv) Average Severity before Adjustment									\$77,315
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
12.829.172.886402

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(f) Permanent	# 3	\$577,935	\$192,645	# 0.0000	\$0	\$0	# 3.0000	\$577,935	\$192,645
(ii) Comm./Comp.	# 7	\$4,626	\$661	# 0.0000	\$0	\$0	# 7.0000	\$4,626	\$661
(iii) Total	# 10	\$582,560	\$58,256	# 0.0000	\$0	\$0	# 10.0000	\$582,560	\$58,256
(iv) Average Severity before Adjustment									\$58,256
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
5.341.057.938736

Federal Excess Before Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		<u>Total Claims</u>	
	(1)		(2)		(3) = (1) + (2)		(4)		(5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	34	-	-			-	-		
	1	-	-	-			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	1	11	-	-			-	-		
	1	17	-	-			-	-		
	-	-	1	208,423			-	-		
	-	-	1	437,712			-	-		
	-	-	1	384,002			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
(i) Total	# 6	\$62	# 3	\$1,030,137	# 9	\$1,030,199	# 0	\$0	# 9	\$1,030,199
(ii) Average		\$10		\$343,379		\$114,467		\$0		\$114,467

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 3	# 9
(ii) Percentage	66.6667%	33.3333%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$10	\$343,379	
(ii) Difference (Col. 2 minus Col. 1)			\$343,369

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	66.6667%	33.3333%	
(ii) Total	# 0.0000	# 0.0000	# 0.0000

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0
(ii) C/C Difference	\$0	\$343,369
(iii) (e-i) + (e-ii)	\$0	\$343,369
(iv) Total	\$0	\$0
(d-ii) x (e-iii)		
(v) Total of (e-iv)		\$0

f. Calculation of Impact of Adjustment

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 6	\$62	\$10	# 0.0000	\$0	\$0	# 6.0000	\$62	\$10
(ii) Comm./Comp.	# 3	\$1,030,137	\$343,379	# 0.0000	\$0	\$0	# 3.0000	\$1,030,137	\$343,379
(iii) Total	# 9	\$1,030,199	\$114,467	# 0.0000	\$0	\$0	# 9.0000	\$1,030,199	\$114,467
(iv) Average Severity before Adjustment									\$114,467
(v) Impact									\$0

Source: Exhibit IX-A

Federal Excess Before Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	206,280			-	-		
	-	-	1	203,835			-	-		
	-	-	1	251,743			-	-		
	-	-	1	220,359			-	-		
	-	-	1	217,674			-	-		
	-	-	1	263,144			-	-		
	-	-	1	202,302			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	229,278			-	-		
	-	-	1	98,384			-	-		
	1	-	-	-			-	-		
	-	-	1	274,028			-	-		
	-	-	1	232,966			-	-		
	1	-	-	-			-	-		
	-	-	1	432,885			-	-		
	-	-	1	260,585			-	-		
	-	-	1	458,666			-	-		
	-	-	1	273,337			-	-		
	-	-	1	259,320			-	-		
	-	-	1	516,972			-	-		
	-	-	1	406,831			-	-		
	-	-	1	251,247			-	-		
	-	-	1	179,984			-	-		
	-	-	1	276,384			-	-		
	-	-	1	300,800			-	-		
	-	-	1	238,443			-	-		
	-	-	1	674,513			-	-		
	-	-	1	351,411			-	-		
	-	-	1	100,539			-	-		
	-	-	1	524,948			-	-		
	-	-	1	206,113			-	-		
	-	-	1	352,902			-	-		
	-	-	1	253,566			-	-		
	-	-	1	462,951			-	-		
	-	-	1	75,820			-	-		
	-	-	1	243,735			-	-		
	-	-	1	113,830			-	-		
	-	-	1	210,667			-	-		
	-	-	1	256,322			-	-		
	-	-	1	282,838			-	-		
	-	-	1	130,019			-	-		
	-	-	1	103,796			-	-		
	-	-	1	92,959			-	-		
	-	-	-	-			1	-		
	-	-	1	239,978			-	-		
(i) Total	# 6	\$0	# 41	\$10,932,355	# 47	\$10,932,355	# 1	\$0	# 48	\$10,932,355
(ii) Average		\$0		\$266,643		\$232,603		\$0		\$227,757

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$0	\$266,643	
(ii) Difference (Col. 2 minus Col. 1)			\$266,643

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	\$266,643	
(iii) (e-i) + (e-ii)	\$0	\$266,643	
(iv) Total	\$0	\$232,603	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$232,603

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$0	\$0	# 0.1277	\$0	\$0	# 6.1277	\$0	\$0
(ii) Comm./Comp.	# 41	\$10,932,355	\$266,643	# 0.8723	\$232,603	\$266,643	# 41.8723	\$11,164,958	\$266,643
(iii) Total	# 47	\$10,932,355	\$232,603	# 1.0000	\$232,603	\$232,603	# 48.0000	\$11,164,958	\$232,603
(iv) Average Severity before Adjustment									\$227,757
(v) Impact									\$4,846

Source: Exhibit IX-A

Federal Excess Before Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commutated and Compromised- As Settled (2)		Total Awarded- Permanent plus Commutated/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-	-	-	-	-	-	-
-	1	14,683	-	-	-	-	-	-	-	-
-	1	36	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	1	294,404	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	1	138,079	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	60,712	-	-	-	-	-	-	-	-
-	1	-	1	260,050	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	0	-	-	-	-	-	-	-	-
-	1	30	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	1	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	1	225,461	-	-	-	-	-	-
-	1	1,637	-	-	-	-	-	-	-	-
-	1	-	1	267,077	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	37	-	-	-	-	-	-	-	-
-	-	-	1	101,069	-	-	-	-	-	-
-	-	-	1	170,537	-	-	-	-	-	-
-	-	-	1	102,615	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	-	-	1	152,539	-	-	-	-	-	-
-	-	-	1	101,549	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
(i) Total	# 25	\$77,138	# 12	\$2,010,181	# 37	\$2,087,319	# 1	\$0	# 38	\$2,087,319
(ii) Average		\$3,086		\$167,515		\$56,414		\$0		\$54,929

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 25	# 12	# 37
(ii) Percentage	67.5676%	32.4324%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$3,086	\$167,515
(ii) Difference (Col. 2 minus Col. 1)		\$164,430

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	67.5676%	32.4324%	
(ii) Number	# 0.6757	# 0.3243	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0
(ii) C/C Difference	\$0	\$164,430
(iii) (e-i) + (e-ii)	\$0	\$164,430
(iv) Total	\$0	\$53,329
(d-iii) x (e-iii)		
(v) Total of (e-iv)		\$53,329

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 25	\$77,138	\$3,086	# 0.6757	\$0	\$0	# 25.6757	\$77,138	\$3,004
(ii) Comm./Comp.	# 12	\$2,010,181	\$167,515	# 0.3243	\$53,329	\$164,430	# 12.3243	\$2,063,510	\$167,434
(iii) Total	# 37	\$2,087,319	\$56,414	# 1.0000	\$53,329	\$53,329	# 38.0000	\$2,140,647	\$56,333
(iv) Average Severity before Adjustment									\$54,929
(v) Impact									\$1,403

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

PAB
Effective Date - April 01, 2018
33.078.232.133333

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(f) Permanent	# 3	\$43	\$14	# 0.0000	\$0	\$0	# 3.0000	\$43	\$14
(ii) Comm./Comp.	# 7	\$2,025,706	\$289,387	# 0.0000	\$0	\$0	# 7.0000	\$2,025,706	\$289,387
(iii) Total	# 10	\$2,025,749	\$202,575	# 0.0000	\$0	\$0	# 10.0000	\$2,025,749	\$202,575
(iv) Average Severity before Adjustment									\$202,575
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
19,244,623.074172

Federal Excess After Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 3	# 9
(ii) Percentage	66.6667%	33.3333%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$12,657	\$343,379	
(ii) Difference (Col. 2 minus Col. 1)			\$330,722

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	66.6667%	33.3333%	
(ii) Total	# 0.0000	# 0.0000	# 0.0000

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0
(ii) C/C Difference	\$0	\$330,722
(iii) (e-i) + (e-ii)	\$0	\$330,722
(iv) Total	\$0	\$0
(d-ii) x (e-iii)		
(v) Total of (e-iv)		\$0

f. Calculation of Impact of Adjustment

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$75,942	\$12,657	# 0.0000	\$0	\$0	# 6.0000	\$75,942	\$12,657
(ii) Comm./Comp.	# 3	\$1,030,137	\$343,379	# 0.0000	\$0	\$0	# 3.0000	\$1,030,137	\$343,379
(iii) Total	# 9	\$1,106,079	\$122,898	# 0.0000	\$0	\$0	# 9.0000	\$1,106,079	\$122,898
(iv) Average Severity before Adjustment									\$122,898
(v) Impact									\$0

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commutated/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-	-	-	-	-	-	-
-	-	-	1	206,280	-	-	-	-	-	-
-	-	-	1	203,835	-	-	-	-	-	-
-	-	-	1	251,743	-	-	-	-	-	-
-	-	-	1	220,359	-	-	-	-	-	-
-	-	-	1	217,674	-	-	-	-	-	-
-	-	-	1	279,802	-	-	-	-	-	-
-	-	-	1	202,302	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	3,322	-	-	-	-	-	-	-	-	-
-	-	-	1	229,278	-	-	-	-	-	-
-	-	-	1	98,384	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	298,072	-	-	-	-	-	-
-	-	-	1	232,966	-	-	-	-	-	-
1	3,826	-	-	-	-	-	-	-	-	-
-	-	-	1	432,885	-	-	-	-	-	-
-	-	-	1	260,585	-	-	-	-	-	-
-	-	-	1	458,751	-	-	-	-	-	-
-	-	-	1	316,900	-	-	-	-	-	-
-	-	-	1	259,320	-	-	-	-	-	-
-	-	-	1	516,972	-	-	-	-	-	-
-	-	-	1	406,831	-	-	-	-	-	-
-	-	-	1	297,497	-	-	-	-	-	-
-	-	-	1	179,984	-	-	-	-	-	-
-	-	-	1	307,441	-	-	-	-	-	-
-	-	-	1	324,181	-	-	-	-	-	-
-	-	-	1	238,443	-	-	-	-	-	-
-	-	-	1	674,513	-	-	-	-	-	-
-	-	-	1	353,664	-	-	-	-	-	-
-	-	-	1	100,539	-	-	-	-	-	-
-	-	-	1	524,948	-	-	-	-	-	-
-	-	-	1	206,113	-	-	-	-	-	-
-	-	-	1	381,920	-	-	-	-	-	-
-	-	-	1	253,566	-	-	-	-	-	-
-	-	-	1	462,951	-	-	-	-	-	-
-	-	-	1	75,820	-	-	-	-	-	-
-	-	-	1	243,735	-	-	-	-	-	-
-	-	-	1	152,918	-	-	-	-	-	-
-	-	-	1	210,667	-	-	-	-	-	-
-	-	-	1	256,322	-	-	-	-	-	-
-	-	-	1	312,014	-	-	-	-	-	-
-	-	-	1	130,019	-	-	-	-	-	-
-	-	-	1	103,796	-	-	-	-	-	-
-	-	-	1	92,959	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	1	239,978	-	-	-	-	-	-
(i) Total	# 6	\$7,148	# 41	\$11,216,927	# 47	\$11,224,074	# 1	\$0	# 48	\$11,224,074
(ii) Average		\$1,191		\$273,584		\$238,810		\$0		\$233,835

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$1,191	\$273,584	
(ii) Difference (Col. 2 minus Col. 1)			\$272,392

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	\$272,392	
(iii) (e-i) + (e-ii)	\$0	\$272,392	
(iv) Total	\$0	\$237,619	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$237,619

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$7,148	\$1,191	# 0.1277	\$0	\$0	# 6.1277	\$7,148	\$1,166
(ii) Comm./Comp.	# 41	\$11,216,927	\$273,584	# 0.8723	\$237,619	\$272,392	# 41.8723	\$11,454,545	\$273,559
(iii) Total	# 47	\$11,224,074	\$238,810	# 1.0000	\$237,619	\$237,619	# 48.0000	\$11,461,693	\$238,785
(iv) Average Severity before Adjustment									\$233,835
(v) Impact									\$4,950

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commutated/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-	-	-	-	-	-	-
-	1	14,683	-	-	-	-	-	-	-	-
-	1	36	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	1	294,404	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	1	138,079	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	60,712	-	-	-	-	-	-	-	-
-	1	-	1	260,050	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	4,122	-	-	-	-	-	-	-	-
-	1	-	1	225,461	-	-	-	-	-	-
-	1	111,509	-	-	-	-	-	-	-	-
-	1	-	1	267,077	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	1	37	-	-	-	-	-	-	-	-
-	-	-	1	101,069	-	-	-	-	-	-
-	-	-	1	170,537	-	-	-	-	-	-
-	-	-	1	102,615	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-
-	-	-	1	152,539	-	-	-	-	-	-
-	-	-	1	101,549	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
(i) Total	# 25	\$191,132	# 12	\$2,010,181	# 37	\$2,201,313	# 1	\$0	# 38	\$2,201,313
(ii) Average		\$7,645		\$167,515		\$59,495		\$0		\$57,929

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 25	# 12	# 37
(ii) Percentage	67.5676%	32.4324%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$7,645	\$167,515	
(ii) Difference (Col. 2 minus Col. 1)			\$159,870

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	67.5676%	32.4324%	
(ii) Number	# 0.6757	# 0.3243	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	\$159,870	
(iii) (e-i) + (e-ii)	\$0	\$159,870	
(iv) Total	\$0	\$51,850	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$51,850

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 25	\$191,132	\$7,645	# 0.6757	\$0	\$0	# 25.6757	\$191,132	\$7,444
(ii) Comm./Comp.	# 12	\$2,010,181	\$167,515	# 0.3243	\$51,850	\$159,870	# 12.3243	\$2,062,031	\$167,314
(iii) Total	# 37	\$2,201,313	\$59,495	# 1.0000	\$51,850	\$51,850	# 38.0000	\$2,253,163	\$59,294
(iv) Average Severity before Adjustment									\$57,929
(v) Impact									\$1,364

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

PAB
Effective Date - April 01, 2018
34.106.780.890003

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(f) Permanent	# 3	\$54,509	\$18,170	# 0.0000	\$0	\$0	# 3.0000	\$54,509	\$18,170
(ii) Comm./Comp.	# 7	\$2,085,900	\$297,986	# 0.0000	\$0	\$0	# 7.0000	\$2,085,900	\$297,986
(iii) Total	# 10	\$2,140,410	\$214,041	# 0.0000	\$0	\$0	# 10.0000	\$2,140,410	\$214,041
(iv) Average Severity before Adjustment									\$214,041
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
20,297,592.641535

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 3	# 9
(ii) Percentage	66.6667%	33.3333%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$59,609	\$363,839	
(ii) Difference (Col. 2 minus Col. 1)			\$304,229

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	66.6667%	33.3333%	
(ii) Total	# 0.0000	# 0.0000	# 0.0000

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0
(ii) C/C Difference	\$0	\$304,229
(iii) (e-i) + (e-ii)	\$0	\$304,229
(iv) Total	\$0	\$0
(d-ii) x (e-iii)		
(v) Total of (e-iv)		\$0

f. Calculation of Impact of Adjustment

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(f) Permanent	# 6	\$357,656	\$59,609	# 0.0000	\$0	\$0	# 6.0000	\$357,656	\$59,609
(ii) Comm./Comp.	# 3	\$1,091,516	\$363,839	# 0.0000	\$0	\$0	# 3.0000	\$1,091,516	\$363,839
(iii) Total	# 9	\$1,449,171	\$161,019	# 0.0000	\$0	\$0	# 9.0000	\$1,449,171	\$161,019
(iv) Average Severity before Adjustment									\$161,019
(v) Impact									\$0

Source: Exhibit IX-A

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount	(5) Count	Amount
<u>a. Numbers and Amounts</u>										
(i) List	1	-	-	-	-	-	-	-	-	-
-	-	-	1	297,910	-	-	-	-	-	-
-	-	-	1	303,669	-	-	-	-	-	-
-	-	-	1	251,743	-	-	-	-	-	-
-	-	-	1	266,806	-	-	-	-	-	-
-	-	-	1	234,568	-	-	-	-	-	-
-	-	-	1	297,315	-	-	-	-	-	-
-	-	-	1	293,379	-	-	-	-	-	-
1	13	-	-	-	-	-	-	-	-	-
1	24	-	-	-	-	-	-	-	-	-
1	128,355	-	-	-	-	-	-	-	-	-
-	-	-	1	229,278	-	-	-	-	-	-
-	-	-	1	152,001	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
-	-	-	1	298,148	-	-	-	-	-	-
-	-	-	1	246,486	-	-	-	-	-	-
1	93,693	-	-	-	-	-	-	-	-	-
-	-	-	1	432,885	-	-	-	-	-	-
-	-	-	1	333,986	-	-	-	-	-	-
-	-	-	1	458,751	-	-	-	-	-	-
-	-	-	1	317,020	-	-	-	-	-	-
-	-	-	1	261,189	-	-	-	-	-	-
-	-	-	1	516,972	-	-	-	-	-	-
-	-	-	1	406,831	-	-	-	-	-	-
-	-	-	1	297,604	-	-	-	-	-	-
-	-	-	1	248,147	-	-	-	-	-	-
-	-	-	1	307,441	-	-	-	-	-	-
-	-	-	1	324,181	-	-	-	-	-	-
-	-	-	1	290,474	-	-	-	-	-	-
-	-	-	1	674,513	-	-	-	-	-	-
-	-	-	1	353,664	-	-	-	-	-	-
-	-	-	1	152,173	-	-	-	-	-	-
-	-	-	1	524,948	-	-	-	-	-	-
-	-	-	1	270,845	-	-	-	-	-	-
-	-	-	1	381,920	-	-	-	-	-	-
-	-	-	1	339,845	-	-	-	-	-	-
-	-	-	1	462,951	-	-	-	-	-	-
-	-	-	1	75,820	-	-	-	-	-	-
-	-	-	1	301,758	-	-	-	-	-	-
-	-	-	1	152,918	-	-	-	-	-	-
-	-	-	1	276,507	-	-	-	-	-	-
-	-	-	1	307,746	-	-	-	-	-	-
-	-	-	1	318,475	-	-	-	-	-	-
-	-	-	1	130,019	-	-	-	-	-	-
-	-	-	1	146,664	-	-	-	-	-	-
-	-	-	1	151,503	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	1	256,335	-	-	-	-	-	-
(i) Total	# 6	\$222,085	# 41	\$12,345,387	# 47	\$12,567,472	# 1	\$0	# 48	\$12,567,472
(ii) Average		\$37,014		\$301,107		\$267,393		\$0		\$261,822

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 6	# 41	# 47
(ii) Percentage	12.7660%	87.2340%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$37,014	\$301,107	
(ii) Difference (Col. 2 minus Col. 1)			\$264,093

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	12.7660%	87.2340%	
(ii) Number	# 0.1277	# 0.8723	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	\$264,093	
(iii) (e-i) + (e-ii)	\$0	\$264,093	
(iv) Total	\$0	\$230,379	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$230,379

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	\$222,085	\$37,014	# 0.1277	\$0	\$0	# 6.1277	\$222,085	\$36,243
(ii) Comm./Comp.	# 41	\$12,345,387	\$301,107	# 0.8723	\$230,379	\$264,093	# 41.8723	\$12,575,765	\$300,336
(iii) Total	# 47	\$12,567,472	\$267,393	# 1.0000	\$230,379	\$230,379	# 48.0000	\$12,797,850	\$266,622
(iv) Average Severity before Adjustment									\$261,822
(v) Impact									\$4,800

Source: Exhibit IX-A

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	0	-	-	-	-	-	-	-	-
-	-	-	1	77,667	-	-	-	-	-	-
1	22,446	-	-	-	-	-	-	-	-	-
1	6,261	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	314,469	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	138,079	-	-	-	-	-	-
1	19	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	60,712	-	-	-	-	-	-	-	-	-
-	-	-	1	260,050	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	69	-	-	-	-	-	-	-	-	-
-	-	-	1	119,134	-	-	-	-	-	-
1	540	-	-	-	-	-	-	-	-	-
1	4,142	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	3	-	-	-	-	-	-	-	-	-
1	2	-	-	-	-	-	-	-	-	-
1	1,589	-	-	-	-	-	-	-	-	-
1	69,040	-	-	-	-	-	-	-	-	-
-	-	-	1	238,135	-	-	-	-	-	-
1	203,114	-	-	-	-	-	-	-	-	-
-	-	-	1	304,773	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
1	4,336	-	-	-	-	-	-	-	-	-
-	-	-	1	153,008	-	-	-	-	-	-
-	-	-	1	246,162	-	-	-	-	-	-
-	-	-	1	154,086	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	180,678	-	-	-	-	-	-
-	-	-	1	146,139	-	-	-	-	-	-
-	-	-	-	-	-	-	1	0	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
(i) Total	# 25	\$372,272	# 12	\$2,332,379	# 37	\$2,704,651	# 1	\$0	# 38	\$2,704,651
(ii) Average		\$14,891		\$194,365		\$73,099		\$0		\$71,175

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

(i) Number	# 25	# 12	# 37
(ii) Percentage	67.5676%	32.4324%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

(i) Average	\$14,891	\$194,365	
(ii) Difference (Col. 2 minus Col. 1)			\$179,474

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

(i) Awarded Mix	67.5676%	32.4324%	
(ii) Number	# 0.6757	# 0.3243	# 1

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

(i) Pending Ave.	\$0	\$0	
(ii) C/C Difference	\$0	\$179,474	
(iii) (e-i) + (e-ii)	\$0	\$179,474	
(iv) Total	\$0	\$58,208	
(d-iii) x (e-iii)			
(v) Total of (e-iv)			\$58,208

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 25	\$372,272	\$14,891	# 0.6757	\$0	\$0	# 25.6757	\$372,272	\$14,499
(ii) Comm./Comp.	# 12	\$2,332,379	\$194,365	# 0.3243	\$58,208	\$179,474	# 12.3243	\$2,390,586	\$193,973
(iii) Total	# 37	\$2,704,651	\$73,099	# 1.0000	\$58,208	\$58,208	# 38.0000	\$2,762,859	\$72,707
(iv) Average Severity before Adjustment									\$71,175
(v) Impact									\$1,532

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

PAB
Effective Date - April 01, 2018
39.817.582.155822

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	<u>Awarded</u>			<u>Pending</u>			<u>Total</u>		
	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>	<u>Count</u>	<u>Amount</u>	<u>Average</u>
(i) Permanent	# 3	\$140,052	\$46,684	# 0.0000	\$0	\$0	# 3.0000	\$140,052	\$46,684
(ii) Comm./Comp.	# 7	\$2,090,455	\$298,636	# 0.0000	\$0	\$0	# 7.0000	\$2,090,455	\$298,636
(iii) Total	# 10	\$2,230,508	\$223,051	# 0.0000	\$0	\$0	# 10.0000	\$2,230,508	\$223,051
(iv) Average Severity before Adjustment									\$223,051
(v) Impact									\$0

PAB
Effective Date - April 01, 2018
21,096,493.265398

a) Average Weekly Wage (Smoothed):

	Year	U/G Anthracite	U/G Bituminous	Surface Anthracite	Surface Bituminous	Wage Level Decrease
Pre Act 57:	1990	\$513.23	701.35	484.53	523.42	5.1817%
	1991	529.88	724.15	498.40	541.05	5.1817%
	1992	547.07	747.69	512.66	559.27	5.1817%
	1993	564.81	772.00	527.33	578.11	5.1817%
	1994	583.13	797.10	542.42	597.58	5.1817%
Mixed Pre & Post Act 57:	1995	602.05	823.01	557.94	617.70	5.1817%
	1996	621.58	849.77	573.91	638.51	3.3220% ***
	1997	641.74 *	877.39 *	590.34 *	660.01 *	0.0%
	1998	662.56 *	905.91 *	607.23 *	682.24 *	0.0%
	1999	684.05 *	935.37 *	624.61 *	705.22 *	0.0%
Post Act 57:	2000	706.24 *	965.77 *	642.48 *	728.97 *	0.0%
	2001	729.15 *	997.17 *	660.87 *	753.52 *	0.0%
	2002	752.81 *	1,029.59 *	679.78 *	778.90 *	0.0%
	2003	777.23 *	1,063.06 *	699.24 *	805.13 *	0.0%
	2004	802.44 *	1,097.62 *	719.25 *	832.25 *	0.0%
	2005	828.47 *	1,133.30 *	739.83 *	860.28 *	0.0%
	2006	855.34 *	1,170.14 *	761.00 *	889.25 *	0.0%
	2007	883.09 *	1,208.18 *	782.78 *	919.20 *	0.0%
	2008	911.73 *	1,247.46 *	805.18 *	950.16 *	0.0%
	2009	941.31 *	1,288.01 *	828.23 *	982.16 *	0.0%
	2010	971.85 *	1,329.88 *	851.93 *	1,015.24 *	0.0%
	2011	1,003.37 *	1,373.12 *	876.31 *	1,049.43 *	0.0%
	2012	1,035.92 *	1,417.75 *	901.39 *	1,084.77 *	0.0%
	2013	1,069.52 *	1,463.84 *	927.18 *	1,121.31 *	0.0%
	2014	1,104.22 *	1,511.43 *	953.72 *	1,159.07 *	0.0%
	2015	1,140.04 *	1,560.57 *	981.01 *	1,198.11 *	0.0%
	2016	1,177.02 *	1,611.30 *	1,009.09 *	1,238.46 *	0.0%
Average:						1.2745%

Projected to:

Pre Act 57:	4/1/2019	1,216.98	1,683.42	1,109.94	1,265.33
Post Act 57:	4/1/2019	1,153.92 *	1,596.19 *	1,052.42 *	1,199.77 *

b) Conversion Calculation:

Pre Act 57:	1996	\$621.58	849.77	573.91	638.51
Pre Act 57:	1997	641.74	877.39	590.34	660.01
Pre Act 57:	1998	662.56	905.91	607.23	682.24
Pre Act 57:	1999	684.05	935.37	624.61	705.22
Pre Act 57:	2000	706.24	965.77	642.48	728.97
Pre Act 57:	2001	729.15	997.17	660.87	753.52
Pre Act 57:	2002	752.81	1,029.59	679.78	778.90
Pre Act 57:	2003	777.23	1,063.06	699.24	805.13
Pre Act 57:	2004	802.44	1,097.62	719.25	832.25
Pre Act 57:	2005	828.47	1,133.30	739.83	860.28
Pre Act 57:	2006	855.34	1,170.14	761.00	889.25
Pre Act 57:	2007	883.09	1,208.18	782.78	919.20
Pre Act 57:	2008	911.73	1,247.46	805.18	950.16
Pre Act 57:	2009	941.31	1,288.01	828.23	982.16
Pre Act 57:	2010	971.85	1,329.88	851.93	1,015.24
Pre Act 57:	2011	1,003.37	1,373.12	876.31	1,049.43
Pre Act 57:	2012	1,035.92	1,417.75	901.39	1,084.77
Pre Act 57:	2013	1,069.52	1,463.84	927.18	1,121.31
Pre Act 57:	2014	1,104.22	1,511.43	953.72	1,159.07
Pre Act 57:	2015	1,140.04	1,560.57	981.01	1,198.11
Pre Act 57:	2016	1,177.02	1,611.30	1,009.09	1,238.46
Pre Act 57:	4/1/2019	1,216.98	1,683.42	1,109.94	1,265.33
Conversion Factor:		5.1817%	5.1817%	5.1817%	5.1817%

Note:

Post Act 57:	1996	\$589.37	\$805.73	\$544.17	\$605.42	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1997	608.49	831.93	559.75	625.81	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1998	628.23	858.97	575.77	646.89	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1999	648.61	886.90	592.24	668.68	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2000	669.65	915.73	609.19	691.20	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2001	691.37	945.50	626.63	714.48	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2002	713.80	976.24	644.56	738.54	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2003	736.95	1,007.97	663.00	763.41	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2004	760.86	1,040.74	681.98	789.12	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2005	785.54	1,074.57	701.50	815.70	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2006	811.02	1,109.51	721.57	843.17	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2007	837.33	1,145.58	742.22	871.57	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2008	864.49	1,182.82	763.46	900.92	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2009	892.53	1,221.27	785.31	931.27	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2010	921.49	1,260.97	807.79	962.63	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2011	951.38	1,301.96	830.90	995.05	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2012	982.24	1,344.29	854.68	1,028.56	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2013	1,014.10	1,387.99	879.14	1,063.21	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2014	1,047.00	1,433.11	904.30	1,099.01	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2015	1,080.96	1,479.70	930.18	1,136.03	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2016	1,116.03	1,527.81	956.80	1,174.29	Pre Act 57 times (1.0 - Factor)
Post Act 57:	4/1/2019	1,153.92	1,596.19	1,052.42	1,199.77	Pre Act 57 times (1.0 - Factor)

c) Wage Level Adjustment Examples:

(i) Year	1993	1995	1997	1999	
(ii) Wage on claim record	\$400.00	\$450.00	\$420.00	\$430.00	
Wage Adjustment:					
(iii) Projection to 04/01/2019	\$1,216.98	\$1,683.42	\$1,052.42	\$1,199.77	
(iv) Wage during year	564.81	823.01	590.34	705.22	
(v) Adjustment Factor	2.154651	2.045434	1.782746	1.701275	(iii) divided by (iv)
(vi) Adjusted to Level	\$861.86	\$920.45	\$748.75	\$731.55	(ii) times (v)

* Post Act 57 for 1997-2016 and Projected to 04/01/2019

** Post Act 57 applies to one 1996 case on or after 8-23-96 - Pre Act 57 applies to four 1996 cases on or before 8-22-96

*** Factor reflects that 234/365ths of 1996 was Pre Act 57.

Source: Average Weekly Wage [Smoothed] - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (8)

Projected 04/01/2019 Weekly Wage - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (6)

Wage level decrease - Exhibit VII-G, Page 2.

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-07-G.H.xlsm]G-1

Run Date: September 15, 2017 - 01:20:12 PM

PAB

Effective Date - April 01, 2018

425,864.172522

COAL MINE COMPENSATION RATING BUREAU

WAGE LEVEL OFFSET (Act 57, Section 309) and PENSION PERCENTAGE

State Occupational Disease and Federal Excess

<u>Calculation of Wage Offset</u>		<u>Average Benefits</u>		State OD
		<u>Before</u>	<u>After</u>	<u>Claim Count</u>
(a) Wage Ranges		<u>Offset</u>	<u>Offset</u>	
Above	869.55	527.00	527.00	32
\$790.50 -	869.55	527.00	503.09	10
\$447.95 -	790.49	408.00	370.95	63
\$395.25 -	447.94	272.00	263.50	11
\$316.20 -	395.24	263.50	263.50	3
\$289.95 -	316.19	263.50	247.94	0
\$0.00 -	289.94	207.00	188.21	1
Average/Total		\$431.90	\$409.52	120

- (b) Selected State Indemnity Factor:
- (i) After ÷ Before (\$409.52 ÷ \$431.90) 94.8183%
 - (ii) Complement (1.0 minus 0.948183) 5.1817%
 - (iii) Reduced by 10% for Phase-in of Act 4.6635%
- (See Exhibit VII-G, Page 1)

Source:

Wage Ranges - Pennsylvania Compensation Rating Bureau
 Evaluation of SB801 Amendments to Section 309 of Act 57
 Above \$869.55 - Claims eligible for maximum under either wage calculation.
 \$790.50-869.55 - Claims at maximum under current but 2/3 of wage under proposed method.
 \$447.95-790.49 - Claims at 2/3 under either wage calculation.
 \$395.25-447.94 - Claims at 2/3 under current method but 50% of maximum under proposed method.
 \$316.20-395.24 - Claims at 50% under either method.
 \$289.95-316.19 - Claims at 50% under current method but 90% of maximum under proposed method.
 \$.00-289.94 - Claims at 90% under either method.
 Average Benefits Before and After Act 57
 State Claim Counts - Claimant wages from 1987 through 1996 Exposure Years from CMCRB database, projected to 1996 level.

Calculation of Pension Offset Percentage

	<u>Estimates</u>
(a) Union Membership	50.0%
(b) Pension Paid by Employers	50.0%
(c) Present Employer Directly Liable for Pension	50.0%
(d) Resulting Offset for State O.D.	12.5%

Sources: Percentage of Miners eligible: estimate.

COAL MINE COMPENSATION RATING BUREAU
Wage Level Adjustment to Current Level - State Occupational Disease Model
Anthracite Underground (1011)

Exhibit VII-H

Page 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Statewide	Claimants' Actual	(2) Adjusted		(3) Ex. High To	(1) Adjusted	(5) & (6) Exponentially	
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Adjusted Avg Wages	Fitted Wages
1990	419.00	539.87	539.87	1.2885	539.87		539.87	513.23
1991	436.00	0.00				510.68	510.68	529.88
1992	455.00	608.33	608.33	1.3370	608.33		608.33	547.07
1993	475.00	419.67	419.67	0.8835 Low		556.37	556.37	564.81
1994	493.00	0.00				577.45	577.45	583.13
1995	509.00	0.00				596.19	596.19	602.05
1996	527.00	0.00				617.27	617.27	621.58
1997	542.00	0.00				634.84	634.84	641.74
1998	561.00	0.00				657.10	657.10	662.56
1999	588.00	501.00	528.38	0.8986	528.38		528.38	684.05
2000	611.00	0.00				715.66	715.66	706.24
2001	644.00	0.00				754.31	754.31	729.15
2002	662.00	0.00				775.40	775.40	752.81
2003	675.00	0.00				790.62	790.62	777.23
2004	690.00	0.00				808.19	808.19	802.44
2005	716.00	0.00				838.65	838.65	828.47
2006	745.00	0.00				872.61	872.61	855.34
2007	779.00	0.00				912.44	912.44	883.09
2008	807.00	0.00				945.23	945.23	911.73
2009	836.00	0.00				979.20	979.20	941.31
2010	845.00	0.00				989.74	989.74	971.85
2011	858.00	1400.00	1476.51	1.7209 High		1004.97	1004.97	1003.37
2012	888.00	0.00				1040.11	1040.11	1035.92
2013	917.00	1009.57	1064.74	1.1611	1064.74		1064.74	1069.52
2014	932.00	0.00				1091.65	1091.65	1104.22
2015	951.00	0.00				1113.90	1113.90	1140.04
2016	978.00	0.00				1145.53	1145.53	1177.02
2017	995.00							

High 1.7209

Low 0.8835

Average Ratio Claimant/State - High & Low 1.1713

Projected

2018	1,020.00
2019	1,045.00
2020	1,072.00

Projected Avg. Wage at Claimants' Level

4/1/2019 1,039.00 $1,039.00 * 1.1713 =$ \$1,216.98

Act 57 Factor: 94.8183%

(1) Statewide average weekly wage

(2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) =(3)/(1), (3a) average index

(5) Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7) Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on raw data in Col.(7)

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Run Date: September 15, 2017 - 01:20:12 PM

Effective Date - April 01, 2018

204,744.668125

COAL MINE COMPENSATION RATING BUREAU
Wage Level Adjustment to Current Level - State Occupational Disease Model
Bituminous Underground (1002)

Exhibit VII-H

Page 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Statewide	Claimants' Actual	(2) Adjusted		(3) Ex. High	(1) Adjusted	(5) & (6) Exponentially	
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Adjusted Avg Wages	Fitted Wages
1990	419.00	779.92	779.92	1.8614	779.92		779.92	701.35
1991	436.00	827.00	827.00	1.8968	827.00		827.00	724.15
1992	455.00	702.04	702.04	1.5429	702.04		702.04	747.69
1993	475.00	729.40	729.40	1.5356	729.40		729.40	772.00
1994	493.00	1043.85	1043.85	2.1173	1043.85		1043.85	797.10
1995	509.00	1525.00	1525.00	2.9961 High		824.70	824.70	823.01
1996	527.00	706.64	706.64	1.3409	706.64		706.64	849.77
1997	542.00	672.19	708.92	1.3080	708.92		708.92	877.39
1998	561.00	1058.08	1115.90	1.9891	1115.90		1115.90	905.91
1999	588.00	675.00	711.89	1.2107	711.89		711.89	935.37
2000	611.00	927.70	978.40	1.6013	978.40		978.40	965.77
2001	644.00	604.79	637.84	0.9904 Low		1043.43	1043.43	997.17
2002	662.00	800.15	843.88	1.2747	843.88		843.88	1029.59
2003	675.00	1324.39	1396.77	2.0693	1396.77		1396.77	1063.06
2004	690.00	876.68	924.59	1.3400	924.59		924.59	1097.62
2005	716.00	912.44	962.30	1.3440	962.30		962.30	1133.30
2006	745.00	0.00				1207.07	1207.07	1170.14
2007	779.00	0.00				1262.16	1262.16	1208.18
2008	807.00	1164.02	1227.63	1.5212	1227.63		1227.63	1247.46
2009	836.00	0.00				1354.51	1354.51	1288.01
2010	845.00	0.00				1369.09	1369.09	1329.88
2011	858.00	1269.97	1339.37	1.5610	1339.37		1339.37	1373.12
2012	888.00	1326.96	1399.48	1.5760	1399.48		1399.48	1417.75
2013	917.00	1480.57	1561.48	1.7028	1561.48		1561.48	1463.84
2014	932.00	2031.17	2142.17	2.2985	2142.17		2142.17	1511.43
2015	951.00	1183.93	1248.63	1.3130	1248.63		1248.63	1560.57
2016	978.00	0.00				1584.58	1584.58	1611.30
2017	995.00							

High 2.9961

Low 0.9904

Average Ratio Claimant/State - High & Low 1.6202

Projected

2018 1,020.00
2019 1,045.00
2020 1,072.00

Projected Avg. Wage at Claimants' Level

4/1/2019 1,039.00 $1,039.00 * 1.6202 =$ \$1,683.42

Act 57 Factor: 94.8183%

(1) Statewide average weekly wage

(2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) =(3)/(1), (3a) average index

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7)Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on raw data in Col.(7)

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Run Date: September 15, 2017 - 01:20:12 PM

Effective Date - April 01, 2018

266,875.874607

COAL MINE COMPENSATION RATING BUREAU
Wage Level Adjustment to Current Level - State Occupational Disease Model
Anthracite Surface (1016)

Exhibit VII-H

Page 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Statewide	Claimants' Actual	(2) Adjusted		(3) Ex. High To Claimants'	(1) Adjusted	(5) & (6) Exponentially	
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Adjusted Avg Wages	Fitted Wages
1990	419.00	549.31	549.31	1.3110	549.31		549.31	484.53
1991	436.00	492.75	492.75	1.1302	492.75		492.75	498.40
1992	455.00	565.40	565.40	1.2426	565.40		565.40	512.66
1993	475.00	544.73	544.73	1.1468	544.73		544.73	527.33
1994	493.00	543.95	543.95	1.1033	543.95		543.95	542.42
1995	509.00	645.11	645.11	1.2674	645.11		645.11	557.94
1996	527.00	453.71	453.71	0.8609	453.71		453.71	573.91
1997	542.00	530.26	559.24	1.0318	559.24		559.24	590.34
1998	561.00	744.92	785.63	1.4004	785.63		785.63	607.23
1999	588.00	571.47	602.70	1.0250	602.70		602.70	624.61
2000	611.00	133.68	140.99	0.2307 Low		652.72	652.72	642.48
2001	644.00	517.49	545.77	0.8475	545.77		545.77	660.87
2002	662.00	589.00	621.19	0.9384	621.19		621.19	679.78
2003	675.00	633.40	668.01	0.9897	668.01		668.01	699.24
2004	690.00	1568.35	1654.06	2.3972 High		737.11	737.11	719.25
2005	716.00	575.91	607.38	0.8483	607.38		607.38	739.83
2006	745.00	0.00				795.87	795.87	761.00
2007	779.00	733.08	773.14	0.9925	773.14		773.14	782.78
2008	807.00	775.13	817.49	1.0130	817.49		817.49	805.18
2009	836.00	0.00				893.08	893.08	828.23
2010	845.00	0.00				902.69	902.69	851.93
2011	858.00	466.84	492.35	0.5738	492.35		492.35	876.31
2012	888.00	0.00				948.63	948.63	901.39
2013	917.00	905.31	954.78	1.0412	954.78		954.78	927.18
2014	932.00	0.00				995.63	995.63	953.72
2015	951.00	0.00				1015.93	1015.93	981.01
2016	978.00	1422.00	1499.71	1.5334	1499.71		1499.71	1009.09
2017	995.00							

High 2.3972

Low 0.2307

Average Ratio Claimant/State - High & Low 1.0683

Projected

2018 1,020.00
2019 1,045.00
2020 1,072.00

Projected Avg. Wage at Claimants' Level

4/1/2019 1,039.00 $1,039.00 * 1.0683 =$ \$1,109.94

Act 57 Factor: 94.8183%

(1) Statewide average weekly wage

(2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) =(3)/(1), (3a) average index

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7)Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on raw data in Col.(7)

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Run Date: September 15, 2017 - 01:20:12 PM

Effective Date - April 01, 2018

217,704.397291

COAL MINE COMPENSATION RATING BUREAU
Wage Level Adjustment to Current Level - State Occupational Disease Model
Bituminous Surface (1013)

Exhibit VII-H

Page 4

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Statewide	Claimants' Actual	(2) Adjusted		(3) Ex. High To	(1) Adjusted	(5) & (6) Exponentially	
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Adjusted	Fitted
							Avg Wages	Wages
1990	419.00	555.88	555.88	1.3267	555.88		555.88	523.42
1991	436.00	612.13	612.13	1.4040	612.13		612.13	541.05
1992	455.00	652.89	652.89	1.4349	652.89		652.89	559.27
1993	475.00	705.41	705.41	1.4851 High		578.47	578.47	578.11
1994	493.00	621.91	621.91	1.2615	621.91		621.91	597.58
1995	509.00	477.90	477.90	0.9389	477.90		477.90	617.70
1996	527.00	628.07	628.07	1.1918	628.07		628.07	638.51
1997	542.00	698.16	736.31	1.3585	736.31		736.31	660.01
1998	561.00	500.00	527.32	0.9400	527.32		527.32	682.24
1999	588.00	569.19	600.30	1.0209	600.30		600.30	705.22
2000	611.00	0.00				744.10	744.10	728.97
2001	644.00	0.00				784.29	784.29	753.52
2002	662.00	0.00				806.21	806.21	778.90
2003	675.00	0.00				822.04	822.04	805.13
2004	690.00	0.00				840.31	840.31	832.25
2005	716.00	676.00	712.94	0.9957	712.94		712.94	860.28
2006	745.00	0.00				907.29	907.29	889.25
2007	779.00	0.00				948.69	948.69	919.20
2008	807.00	0.00				982.79	982.79	950.16
2009	836.00	0.00				1018.11	1018.11	982.16
2010	845.00	0.00				1029.07	1029.07	1015.24
2011	858.00	1111.56	1172.31	1.3663	1172.31		1172.31	1049.43
2012	888.00	1157.60	1220.86	1.3748	1220.86		1220.86	1084.77
2013	917.00	0.00				1116.76	1116.76	1121.31
2014	932.00	0.00				1135.02	1135.02	1159.07
2015	951.00	738.00	778.33	0.8184 Low		1158.16	1158.16	1198.11
2016	978.00	0.00				1191.04	1191.04	1238.46
2017	995.00							

High 1.4851

Low 0.8184

Average Ratio Claimant/State - High & Low 1.2178

Projected

2018	1,020.00
2019	1,045.00
2020	1,072.00

Projected Avg. Wage at Claimants' Level

4/1/2019 1,039.00 $1,039.00 * 1.2178 =$ \$1,265.33

Act 57 Factor: 94.8183%

- (1) Statewide average weekly wage
- (2) CMCRB database, reported State OD average weekly wage
- the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)
- only one of the three claims in 1996 was adjusted by the pre-act 57 wage level
- (3)= Column (2) adjusted for Act 57
- (4) =(3)/(1), (3a) average index
- (5) Actual adjusted wages excluding High and Low
- (6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used
- (7) Adjusted Wages using Cols. (5) & (6)
- (8) Fitted Wages using Regression on raw data in Col.(7)

Social Security - Cost of Living Adjustment History and Projection

The following annual cost of living percentage is used to adjust the Social Security benefit calculated at time of accident to retirement age.

<u>Year</u>	<u>Annual Changes</u>
1988	4.0%
1989	4.7%
1990	5.4%
1991	3.7%
1992	3.0%
1993	2.6%
1994	2.8%
1995	2.6%
1996	2.9%
1997	2.1%
1998	1.3%
1999	2.5%
2000	3.5%
2001	2.6%
2002	1.4%
2003	2.1%
2004	2.7%
2005	4.1%
2006	3.3%
2007	2.3%
2008	5.8%
2009	0.0%
2010	0.0%
2011	3.6%
2012	1.7%
2013	1.5%
2014	1.7%
2015	0.0%
2016	0.3%
2017	2.0%
Average All years	2.5%
Average latest 10 years	1.7%
Average latest 5 years	1.1%
Average latest 3 years	0.8%
Selected Annual Change Last Year's Selection was 2.5%	2.5%

Social Security Formulas - Historic Primary Insurance Amounts (PIA) and Projections

The following projections are used to calculate the PIA (i.e., SS Benefit) in the SS Offset Model.

Monthly Wage Amounts Break Points:								
Year	90% of First:	Percent Change	Plus 32% of next:	Percent Change	Plus 15% of next:	Percent Change	Annual SS Wage Base	Percent Change
1988	319		1,603		1,828		45,000	
1989	339	6.3%	1,705	6.4%	1,956	7.0%	48,000	6.7%
1990	356	5.0%	1,789	4.9%	2,130	8.9%	51,300	6.9%
1991	370	3.9%	1,860	4.0%	2,220	4.2%	53,400	4.1%
1992	387	4.6%	1,946	4.6%	2,292	3.2%	55,500	3.9%
1993	401	3.6%	2,019	3.8%	2,380	3.8%	57,600	3.8%
1994	422	5.2%	2,123	5.2%	2,505	5.3%	60,600	5.2%
1995	426	0.9%	2,141	0.8%	2,533	1.1%	61,200	1.0%
1996	437	2.6%	2,198	2.7%	2,590	2.3%	62,700	2.5%
1997	455	4.1%	2,286	4.0%	2,709	4.6%	65,400	4.3%
1998	477	4.8%	2,398	4.9%	2,825	4.3%	68,400	4.6%
1999	505	5.9%	2,538	5.8%	3,007	6.4%	72,600	6.1%
2000	531	5.1%	2,671	5.2%	3,148	4.7%	76,200	5.0%
2001	561	5.6%	2,820	5.6%	3,319	5.4%	80,400	5.5%
2002	592	5.5%	2,975	5.5%	3,508	5.7%	84,900	5.6%
2003	606	2.4%	3,047	2.4%	3,597	2.5%	87,000	2.5%
2004	612	1.0%	3,077	1.0%	3,636	1.1%	87,900	1.0%
2005	627	2.5%	3,152	2.4%	3,721	2.3%	90,000	2.4%
2006	656	4.6%	3,299	4.7%	3,895	4.7%	94,200	4.7%
2007	680	3.7%	3,420	3.7%	4,025	3.3%	97,500	3.5%
2008	711	4.6%	3,577	4.6%	4,212	4.6%	102,000	4.6%
2009	744	4.6%	3,739	4.5%	4,417	4.9%	106,800	4.7%
2010	761	2.3%	3,825	2.3%	4,314	-2.3%	106,800	0.0%
2011	749	-1.6%	3,768	-1.5%	4,383	1.6%	106,800	0.0%
2012	767	2.4%	3,857	2.4%	4,551	3.8%	110,100	3.1%
2013	791	3.1%	3,977	3.1%	4,707	3.4%	113,700	3.3%
2014	816	3.2%	4,101	3.1%	4,833	2.7%	117,000	2.9%
2015	826	1.2%	4,154	1.3%	4,895	1.3%	118,500	1.3%
2016	856	3.6%	4,301	3.5%	4,718	-3.6%	118,500	0.0%
2017	885	3.4%	4,451	3.5%	5,264	11.6%	127,200	7.3%
2018	896	1.2%	4,503	1.2%	5,326	1.2%	128,700	1.2%
Average All years		3.5%		3.5%		3.7%		3.6%
Average latest 10 years		2.4%		2.3%		2.4%		2.4%
Average latest 5 years		2.5%		2.5%		2.6%		2.5%
Average latest 3 years		2.8%		2.7%		3.0%		2.8%
Last Year's Selection		2.5%		2.5%		2.5%		2.5%
Selection		2.5%		2.5%		2.5%		2.5%
Projections								
		<u>Selected</u>		<u>Selected</u>		<u>Selected</u>		<u>Selected</u>
2018	896	Actual	4,503	Actual	5,326	Actual	128,700	Actual
2019	918	2.5%	4,616	2.5%	5,459	2.5%	131,900	2.5%
2020	941	2.5%	4,731	2.5%	5,595	2.5%	135,200	2.5%
Average Break Point		913		4,588		5,426		131,100
For Policies effective between 4-1-2018 and 4-1-2019								

Note: Weighted average of the three calendar years: 2018, 2019, 2020.

Weights: 2018 28.125%
2019 68.750%
2020 3.125%
100.00%

Notes:

The above weights assume 1-year policies effective between 4-1-2018 and 4-1-2019
E.G.: 28.125% of the losses will occur between 4-1-2018 and 12-31-2018.
68.750% of the losses will occur between 1-1-2019 and 12-31-2019.
3.125% of the losses will occur between 1-1-2020 and 3-31-2020.

Source: Social Security Administration Web Site

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Run Date: November 03, 2017 - 09:00:47 AM

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Effective Date - April 01, 2018
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Social Security Formulas - Primary Insurance Amount (PIA) Calculations
Example Calculations

I. Break Point Monthly Wage Amounts and Factors (Exhibit VII-J, Page 2)

Break Points (Projected to average accident date of 4-1-2019 with a 4-1-2018 filing effective date.)

	Yearly <u>Maximum</u>	<u>Monthly Wages</u>		
		<u>First Break Point</u>	<u>Second Break Point</u>	<u>Third Break Point</u>
Wage Amount:	131,100	913	4,588	5,426
Factor:		90%	32%	15%

II. Example Calculations

<u>Example Number</u>	<u>Monthly Wage</u>	<u>Adjusted Monthly Wage (a)</u>	<u>PIA at each Breakpoint</u>			<u>Total PIA</u>
			<u>First (b)</u>	<u>Second (c)</u>	<u>Third (d)</u>	
1	2,000	2,000	913 <u>90%</u> 822	1,087 <u>32%</u> 348	0 <u>15%</u> 0	1,170
2	4,000	4,000	913 <u>90%</u> 822	3,087 <u>32%</u> 988	0 <u>15%</u> 0	1,810
3	6,000	6,000	913 <u>90%</u> 822	4,588 <u>32%</u> 1,468	499 <u>15%</u> 75	2,365
4	8,000	8,000	913 <u>90%</u> 822	4,588 <u>32%</u> 1,468	2,499 <u>15%</u> 375	2,665
5	10,000	10,000	913 <u>90%</u> 822	4,588 <u>32%</u> 1,468	4,499 <u>15%</u> 675	2,965
6	12,000	10,925	913 <u>90%</u> 822	4,588 <u>32%</u> 1,468	5,424 <u>15%</u> 814	3,103

Notes:

- (a) Monthly Wage limited to Monthly Maximum (\$131,100/12 = \$10,925)
- (b) minimum of adjusted monthly wage and \$913
- (c) minimum of (adjusted monthly wage less \$913) and \$4,588
- (d) minimum of (adjusted monthly wage less \$913 less \$4,588) and \$5,426

Source: Exhibit VII-J, Page 2

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 1

ANTHRACITE UNDERGROUND (0160)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	1	1	-	-	-	-	-	1.00	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	0.0048	0.0019
2016	-	-	-	-	-	-	-	-	-	0.0163	0.0064
Total	2	1	-	1	-	0.15	0.03	1.03	0.97	0.0211	0.0083

Year	(12) Total Awarded (8)+(11)	(13) Payroll (\$M)	(14) Frequency (12)/(13)	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Per 100 Miner Years
	# 0.0000	\$ 1.5716	-	542	1.056	52.8	-
	-	1.7623	-	561	1.056	57.2	-
1997	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-
1999	0.0300	1.8142	0.0165	588	1.056	56.2	0.0534
2000	-	1.3702	-	611	1.056	40.8	-
2001	-	1.6365	-	644	1.056	46.3	-
2002	-	1.3865	-	662	1.056	38.1	-
2003	-	1.3543	-	675	1.056	36.5	-
2004	-	1.3453	-	690	1.056	35.5	-
2005	-	1.4176	-	716	1.056	36.1	-
2006	-	1.4425	-	745	1.056	35.3	-
2007	-	1.6625	-	779	1.056	38.9	-
2008	-	2.1367	-	807	1.056	48.2	-
2009	-	1.3359	-	836	1.056	29.1	-
2010	-	1.2996	-	845	1.056	28.0	-
2011	-	1.2579	-	858	1.056	26.7	-
2012	-	1.0293	-	888	1.056	21.1	-
2013	1.0000	0.3819	2.6185	917	1.056	7.6	13.1579
2014	-	0.2588	-	932	1.056	5.1	-
2015	0.0019	0.2543	0.0074	951	1.056	4.9	0.0385
2016	0.0064	0.1638	0.0392	978	1.056	3.1	0.2070
Total	1.0383	24.8817	0.0417			647.5	0.1604

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 2

BITUMINOUS UNDERGROUND(0158)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 2	# 0	# 0	# 2	# 0.00	# 0.30	# 0.06	# 0.06	# 1.94	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	2	1	-	1	-	0.15	0.03	1.03	0.97	-	-
1999	2	1	-	1	-	0.15	0.03	1.03	0.97	-	-
2000	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2001	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	1	1	-	-	-	-	-	1.00	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	1	1	-	-	-	-	-	1.00	-	0.0547	0.0216
2010	2	2	-	-	-	-	-	2.00	-	0.1592	0.0628
2011	4	1	-	3	-	0.15	0.15	1.15	2.85	0.2784	0.1098
2012	2	-	-	2	-	0.10	0.10	0.10	1.90	0.4181	0.1649
2013	1	-	1	-	0.30	-	-	0.30	0.70	1.2357	0.4874
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	1.5715	0.6198
2015	-	-	-	-	-	-	-	-	-	1.8522	0.7305
2016	-	-	-	-	-	-	-	-	-	-	-
Total	24	9	1	14	0.30	1.10	0.62	9.92	14.08	5.5697	2.1967

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11)	(\$M)	(12)/(13)	Average Weekly Wage	Factor	Miner Years	Per 100 Miner Years
1997	# 0.0600	\$ 70.3967	0.0009	542	1.505	1,659.6	0.0036
1998	-	61.0873	-	561	1.505	1,391.4	-
1999	1.0300	58.6852	0.0176	588	1.505	1,275.3	0.0808
2000	1.0300	47.5206	0.0217	611	1.505	993.8	0.1036
2001	1.0500	48.5226	0.0216	644	1.505	962.8	0.1091
2002	0.0500	40.8380	0.0012	662	1.505	788.3	0.0063
2003	-	36.4984	-	675	1.505	690.9	-
2004	0.0500	46.0739	0.0011	690	1.505	853.2	0.0059
2005	1.0000	66.2758	0.0151	716	1.505	1,182.8	0.0845
2006	-	70.4659	-	745	1.505	1,208.6	-
2007	-	79.9043	-	779	1.505	1,310.7	-
2008	1.0500	101.3540	0.0104	807	1.505	1,604.8	0.0654
2009	-	101.3481	-	836	1.505	1,549.1	-
2010	1.0216	125.3936	0.0081	845	1.505	1,896.2	0.0539
2011	2.0628	148.4857	0.0139	858	1.505	2,211.4	0.0933
2012	1.2598	153.6189	0.0082	888	1.505	2,210.5	0.0570
2013	0.2649	145.1463	0.0018	917	1.505	2,022.5	0.0131
2014	0.7874	183.4320	0.0043	932	1.505	2,514.9	0.0313
2015	0.6698	140.5703	0.0048	951	1.505	1,888.7	0.0355
2016	0.7305	118.8833	0.0061	978	1.505	1,553.3	0.0470
Total	12.1167	1,844.5009	0.0066			29,768.8	0.0407

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Effective Date - April 01, 2018

158,760.191173

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

Page 3

ANTHRACITE SURFACE(0153)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 3	# 1	# 0	# 2	# 0.00	# 0.30	# 0.06	# 1.06	# 1.94	# 0.0000	# 0.0000
1997											
1998	1	-	1	-	0.30	-	-	0.30	0.70	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	1	1	-	-	-	-	-	1.00	-	-	-
2001	1	1	-	-	-	-	-	1.00	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	1	1	-	-	-	-	-	1.00	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2007	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	1	-	1	-	0.30	-	-	0.30	0.70	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0432	0.0170
2015	-	-	-	-	-	-	-	-	-	0.1451	0.0572
2016	-	-	-	-	-	-	-	-	-	0.2213	0.0873
Total	14	5	2	7	0.60	0.55	0.31	5.91	8.09	0.4097	0.1616

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll		Statewide		Estimated	Frequency
	Awarded (8)+(11)	(\$M)	Frequency (12)/(13)	Average Weekly Wage	Adjustment Factor	Miner Years	Per 100 Miner Years
1997	# 1.0600	\$ 17.7831	0.0596	542	1.056	597.5	0.1774
1998	0.3000	17.3763	0.0173	561	1.056	564.1	0.0532
1999	-	18.4411	-	588	1.056	571.1	-
2000	1.0000	16.8078	0.0595	611	1.056	501.0	0.1996
2001	1.0000	12.9237	0.0774	644	1.056	365.5	0.2736
2002	-	11.0466	-	662	1.056	303.9	-
2003	1.0500	11.9282	0.0880	675	1.056	321.8	0.3263
2004	1.0000	12.3597	0.0809	690	1.056	326.2	0.3066
2005	-	12.1409	-	716	1.056	308.8	-
2006	0.0500	12.0653	0.0041	745	1.056	294.9	0.0170
2007	0.1000	14.8666	0.0067	779	1.056	347.5	0.0288
2008	-	16.2202	-	807	1.056	366.0	-
2009	-	15.8935	-	836	1.056	346.2	-
2010	-	13.3192	-	845	1.056	287.0	-
2011	0.3000	19.5074	0.0154	858	1.056	414.0	0.0725
2012	-	24.7347	-	888	1.056	507.3	-
2013	-	20.7200	-	917	1.056	411.5	-
2014	0.0670	18.9113	0.0035	932	1.056	369.5	0.0181
2015	0.0572	22.2344	0.0026	951	1.056	425.8	0.0134
2016	0.0873	19.0433	0.0046	978	1.056	354.6	0.0246
Total	6.0716	328.3233	0.0185			7,984.2	0.0760

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.
Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.
Col.(10): 40% of Exh. VII-C-1 thru VII-C-6
Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144
IBNR Award Ratio(2001 & Subseq.): 0.3944

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Effective Date - April 01, 2018

112,063.106309

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 4

BITUMINOUS SURFACE(0156)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 2	# 0	# 0	# 2	# 0.00	# 0.30	# 0.06	# 0.06	# 1.94	# 0.0000	# 0.0000
1997											
1998	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
1999	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	2	-	-	2	-	0.10	0.10	0.10	1.90	0.0272	0.0107
2013	-	-	-	-	-	-	-	-	-	0.0466	0.0184
2014	1	-	1	-	0.30	-	-	0.30	0.70	0.0629	0.0248
2015	-	-	-	-	-	-	-	-	-	0.0673	0.0265
2016	-	-	-	-	-	-	-	-	-	0.0695	0.0274
Total	7	-	1	6	0.30	0.70	0.22	0.52	6.48	0.2735	0.1079

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11)	(\$M)		Average Weekly Wage	Factor	Miner Years	Per 100 Miner Years
1997	# 0.0600	\$ 67.9058	0.0009	542	1.056	2,281.6	0.0026
1998	0.0300	63.6516	0.0005	561	1.056	2,066.2	0.0015
1999	0.0300	54.1623	0.0006	588	1.056	1,677.5	0.0018
2000	-	49.9356	-	611	1.056	1,488.3	-
2001	-	58.1513	-	644	1.056	1,644.4	-
2002	-	53.5021	-	662	1.056	1,471.8	-
2003	-	47.8737	-	675	1.056	1,291.6	-
2004	-	56.2173	-	690	1.056	1,483.7	-
2005	-	64.8716	-	716	1.056	1,650.0	-
2006	-	63.7985	-	745	1.056	1,559.5	-
2007	-	64.8081	-	779	1.056	1,515.0	-
2008	-	74.6012	-	807	1.056	1,683.5	-
2009	-	63.3067	-	836	1.056	1,379.0	-
2010	-	74.2552	-	845	1.056	1,600.3	-
2011	-	87.7305	-	858	1.056	1,862.1	-
2012	0.1107	77.8905	0.0014	888	1.056	1,597.4	0.0069
2013	0.0184	62.7181	0.0003	917	1.056	1,245.5	0.0015
2014	0.3248	55.3686	0.0059	932	1.056	1,081.9	0.0300
2015	0.0265	42.0001	0.0006	951	1.056	804.3	0.0033
2016	0.0274	29.7589	0.0009	978	1.056	554.1	0.0049
Total	0.6279	1,212.5077	0.0005			29,937.7	0.0021

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Run Date: October 09, 2017 - 02:36:27 PM

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Effective Date - April 01, 2018

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Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 5

FOUR STANDARD CLASSES

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
1997	# 7	# 1	# 0	# 6	# 0.00	# 0.90	# 0.18	# 1.18	# 5.82	# 0.0000	# 0.0000
1998	2	-	1	1	0.30	0.15	0.03	0.33	1.67	-	-
1999	4	1	-	3	-	0.45	0.09	1.09	2.91	-	-
2000	3	2	-	1	-	0.15	0.03	2.03	0.97	-	-
2001	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2005	1	1	-	-	-	-	-	1.00	-	-	-
2006	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2007	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2008	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	0.0547	0.0216
2011	3	2	1	-	0.30	-	-	2.30	0.70	0.1592	0.0628
2012	6	1	-	5	-	0.25	0.25	1.25	4.75	0.3056	0.1205
2013	3	1	-	2	-	0.10	0.10	1.10	1.90	0.4647	0.1833
2014	3	-	2	1	0.60	0.05	0.05	0.65	2.35	1.3419	0.5292
2015	1	-	-	1	-	0.05	0.05	0.05	0.95	1.7887	0.7054
2016	-	-	-	-	-	-	-	-	-	2.1593	0.8516
Total	47	15	4	28	1.20	2.50	1.18	17.38	29.62	6.2740	2.4745

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll		Statewide		Estimated	Frequency
	Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100
1997	(8)+(11)		(12)/(13)	Weekly Wage	Factor	Years	Miner Years
1997	# 1.1800	\$ 157.6572	0.0075	542		4,591.5	0.0257
1998	0.3300	143.8775	0.0023	561		4,078.9	0.0081
1999	1.0900	133.1028	0.0082	588		3,580.1	0.0304
2000	2.0300	115.6342	0.0176	611		3,023.9	0.0671
2001	2.0500	121.2341	0.0169	644		3,019.0	0.0679
2002	0.0500	106.7732	0.0005	662		2,602.1	0.0019
2003	1.0500	97.6546	0.0108	675		2,340.8	0.0449
2004	1.0500	115.9962	0.0091	690		2,698.6	0.0389
2005	1.0000	144.7059	0.0069	716		3,177.7	0.0315
2006	0.0500	147.7722	0.0003	745		3,098.3	0.0016
2007	0.1000	161.2415	0.0006	779		3,212.1	0.0031
2008	1.0500	194.3121	0.0054	807		3,702.5	0.0284
2009	-	181.8842	-	836		3,303.4	-
2010	1.0216	214.2676	0.0048	845		3,811.5	0.0268
2011	2.3628	256.9815	0.0092	858		4,514.2	0.0523
2012	1.3705	257.2734	0.0053	888		4,336.3	0.0316
2013	1.2833	228.9663	0.0056	917		3,687.1	0.0348
2014	1.1792	257.9707	0.0046	932		3,971.4	0.0297
2015	0.7554	205.0591	0.0037	951		3,123.7	0.0242
2016	0.8516	167.8493	0.0051	978		2,465.1	0.0345
Total	19.8545	3,410.2136	0.0058			68,338.2	0.0291

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Sum of Pages 1 to 4

Col.(15): Exhibit XII-D

Col.(16): N/A

Col.(17): Total of 4 std. classes

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Run Date: October 09, 2017 - 02:36:27 PM

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Effective Date - April 01, 2018

239,161.244431

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 6

COKE(0154)

Year	Counts				(5) Pending Awarded (3) * 30% # 0.00	(6) Denied Reopened # 0.00	(7) Denied Awarded # 0.00	(8) Ultimate Awarded (2)+(5)+(7) # 0.00	(9) Ultimate Denied (1)-(8) # 0.00	(10) IBNR # 0.0000	(11) IBNR Awarded (10)xAwd Ratio # 0.0000
	(1)	(2)	(3)	(4)							
	Reported # 0	Awarded # 0	Pending # 0	Denied # 0							
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0004	0.0002
2010	-	-	-	-	-	-	-	-	-	0.0009	0.0003
2011	-	-	-	-	-	-	-	-	-	0.0011	0.0004
2012	-	-	-	-	-	-	-	-	-	0.0033	0.0013
2013	-	-	-	-	-	-	-	-	-	0.0043	0.0017
2014	-	-	-	-	-	-	-	-	-	0.0054	0.0021
2015	-	-	-	-	-	-	-	-	-	0.0082	0.0032
2016	-	-	-	-	-	-	-	-	-	0.0062	0.0025
Total	-	-	-	-	-	-	-	-	-	0.0299	0.0118

Year	(12) Total Awarded (8)+(11) # 0.0000	(13) Payroll (\$M) \$ 53.1191	(14) Frequency (12)/(13) -	(15) Statewide Average Weekly Wage 542	(16) Adjustment Factor 1.056	(17) Estimated Miner Years 1,784.8	(18) Frequency Per 100 Miner Years -
1997	-	13.3539	-	561	1.056	433.5	-
1998	-	12.2935	-	588	1.056	380.7	-
1999	-	12.0926	-	611	1.056	360.4	-
2000	-	10.3758	-	644	1.056	293.4	-
2001	-	10.4850	-	662	1.056	288.4	-
2002	-	11.5341	-	675	1.056	311.2	-
2003	-	12.0491	-	690	1.056	318.0	-
2004	-	12.8610	-	716	1.056	327.1	-
2005	-	12.7374	-	745	1.056	311.4	-
2006	-	13.6699	-	779	1.056	319.6	-
2007	-	9.7611	-	807	1.056	220.3	-
2008	0.0002	5.1736	0.0000	836	1.056	112.7	0.0001
2009	0.0003	5.4357	0.0001	845	1.056	117.1	0.0003
2010	0.0004	3.5991	0.0001	858	1.056	76.4	0.0006
2011	0.0013	5.7381	0.0002	888	1.056	117.7	0.0011
2012	0.0017	4.7919	0.0004	917	1.056	95.2	0.0018
2013	0.0021	4.4644	0.0005	932	1.056	87.2	0.0025
2014	0.0032	4.3404	0.0007	951	1.056	83.1	0.0039
2015	0.0025	2.3137	0.0011	978	1.056	43.1	0.0057
2016	-	-	-	-	-	-	-
Total	0.0118	220.1894	0.0001			6,081.3	0.0002

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Effective Date - April 01, 2018

107,938.933793

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

Page 7

AUGER(0157)

Year	Counts				(5) Pending Awarded (3) * 30% # 0.00	(6) Denied Reopened # 0.00	(7) Denied Awarded # 0.00	(8) Ultimate Awarded (2)+(5)+(7) # 0.00	(9) Ultimate Denied (1)-(8) # 0.00	(10) IBNR # 0.0000	(11) IBNR Awarded (10)xAwd Ratio # 0.0000
	(1)	(2)	(3)	(4)							
	Reported # 0	Awarded # 0	Pending # 0	Denied # 0							
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2010	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2011	-	-	-	-	-	-	-	-	-	0.0004	0.0001
2012	-	-	-	-	-	-	-	-	-	0.0005	0.0002
2013	-	-	-	-	-	-	-	-	-	0.0009	0.0004
2014	-	-	-	-	-	-	-	-	-	0.0010	0.0004
2015	-	-	-	-	-	-	-	-	-	0.0011	0.0004
2016	-	-	-	-	-	-	-	-	-	0.0010	0.0004
Total	-	-	-	-	-	-	-	-	-	0.0051	0.0020

Year	(12) Total Awarded (8)+(11) # 0.0000	(13) Payroll (\$M) 1.1935	(14) Frequency (12)/(13) -	(15) Statewide Average Weekly Wage 542	(16) Adjustment Factor 1.056	(17) Estimated Miner Years 40.1	(18) Frequency Per 100 Miner Years -
1997	-	1.2379	-	561	1.056	40.2	-
1998	-	1.1369	-	588	1.056	35.2	-
1999	-	1.2059	-	611	1.056	35.9	-
2000	-	1.4291	-	644	1.056	40.4	-
2001	-	1.1508	-	662	1.056	31.7	-
2002	-	1.1022	-	675	1.056	29.7	-
2003	-	1.0588	-	690	1.056	27.9	-
2004	-	1.0265	-	716	1.056	26.1	-
2005	-	1.0668	-	745	1.056	26.1	-
2006	-	1.1212	-	779	1.056	26.2	-
2007	-	2.5068	-	807	1.056	56.6	-
2008	0.0000	0.9470	0.0000	836	1.056	20.6	0.0002
2009	0.0000	0.8275	0.0001	845	1.056	17.8	0.0003
2010	0.0001	1.1763	0.0001	858	1.056	25.0	0.0006
2011	0.0002	0.8082	0.0002	888	1.056	16.6	0.0011
2012	0.0004	1.0469	0.0003	917	1.056	20.8	0.0017
2013	0.0004	0.8616	0.0005	932	1.056	16.8	0.0023
2014	0.0004	0.6548	0.0007	951	1.056	12.5	0.0035
2015	0.0004	0.3928	0.0010	978	1.056	7.3	0.0054
2016	0.0004	0.3928	0.0010	978	1.056	7.3	0.0054
Total	0.0020	21.9515	0.0001			553.5	0.0004

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.
Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.
Col.(10): 40% of Exh. VII-C-1 thru VII-C-6
Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144
IBNR Award Ratio(2001 & Subseq.): 0.3944

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 8

ANTHRACITE CO-GEN(0181)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0006	0.0003
2010	-	-	-	-	-	-	-	-	-	0.0014	0.0005
2011	-	-	-	-	-	-	-	-	-	0.0035	0.0014
2012	-	-	-	-	-	-	-	-	-	0.0060	0.0024
2013	-	-	-	-	-	-	-	-	-	0.0074	0.0029
2014	-	-	-	-	-	-	-	-	-	0.0110	0.0043
2015	-	-	-	-	-	-	-	-	-	0.0198	0.0078
2016	-	-	-	-	-	-	-	-	-	0.0293	0.0116
Total	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0790	0.0312

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11)	(\$M)	(12)/(13)	Average Weekly Wage	Factor	Miner Years	Per 100 Miner Years
1997	# 0.0000	\$ 3.5202	-	542	1.056	118.3	-
1998	-	3.4588	-	561	1.056	112.3	-
1999	-	3.6043	-	588	1.056	111.6	-
2000	-	4.4735	-	611	1.056	133.3	-
2001	-	4.6618	-	644	1.056	131.8	-
2002	-	5.6588	-	662	1.056	155.7	-
2003	0.0500	7.0096	0.0071	675	1.056	189.1	0.0264
2004	-	7.3515	-	690	1.056	194.0	-
2005	-	7.8553	-	716	1.056	199.8	-
2006	-	8.4125	-	745	1.056	205.6	-
2007	-	9.1867	-	779	1.056	214.8	-
2008	-	7.5214	-	807	1.056	169.7	-
2009	0.0003	7.5347	0.0000	836	1.056	164.1	0.0002
2010	0.0005	7.9580	0.0001	845	1.056	171.5	0.0003
2011	0.0014	10.9816	0.0001	858	1.056	233.1	0.0006
2012	0.0024	9.3118	0.0003	888	1.056	191.0	0.0012
2013	0.0029	7.6308	0.0004	917	1.056	151.5	0.0019
2014	0.0043	8.3609	0.0005	932	1.056	163.4	0.0027
2015	0.0078	9.5548	0.0008	951	1.056	183.0	0.0043
2016	0.0116	9.7840	0.0012	978	1.056	182.2	0.0063
Total	0.0812	143.8310	0.0006			3,375.8	0.0024

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Run Date: October 09, 2017 - 02:36:27 PM

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Effective Date - April 01, 2018

102,381.731000

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 9

BITUMINOUS CO-GEN(0182)

Year	Counts				(5) Pending Awarded (3) * 30% # 0.00	(6) Denied Reopened # 0.00	(7) Denied Awarded # 0.00	(8) Ultimate Awarded (2)+(5)+(7) # 0.00	(9) Ultimate Denied (1)-(8) # 0.00	(10) IBNR # 0.0000	(11) IBNR Awarded (10)xAwd Ratio # 0.0000
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 0	# 0	# 0	# 0							
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0006	0.0003
2010	-	-	-	-	-	-	-	-	-	0.0014	0.0006
2011	-	-	-	-	-	-	-	-	-	0.0027	0.0011
2012	-	-	-	-	-	-	-	-	-	0.0052	0.0021
2013	-	-	-	-	-	-	-	-	-	0.0092	0.0036
2014	-	-	-	-	-	-	-	-	-	0.0142	0.0056
2015	-	-	-	-	-	-	-	-	-	0.0222	0.0088
2016	-	-	-	-	-	-	-	-	-	0.0308	0.0121
Total	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0864	0.0341

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11) # 0.0000	(\$M) \$ 0.8561	Frequency (12)/(13) -	Average Weekly Wage 542	Factor 1.056	Miner Years 28.8	Per 100 Miner Years -
1997	-	1.1612	-	561	1.056	37.7	-
1998	-	1.4943	-	588	1.056	46.3	-
1999	-	1.8707	-	611	1.056	55.8	-
2000	-	2.1213	-	644	1.056	60.0	-
2001	-	2.3861	-	662	1.056	65.6	-
2002	-	3.0525	-	675	1.056	82.4	-
2003	-	6.3745	-	690	1.056	168.2	-
2004	-	8.5248	-	716	1.056	216.8	-
2005	-	9.4236	-	745	1.056	230.4	-
2006	0.0500	10.8291	0.0046	779	1.056	253.2	0.0197
2007	-	8.4819	-	807	1.056	191.4	-
2008	0.0003	7.8664	0.0000	836	1.056	171.4	0.0001
2009	0.0006	8.7327	0.0001	845	1.056	188.2	0.0003
2010	0.0011	9.1024	0.0001	858	1.056	193.2	0.0005
2011	0.0021	9.0477	0.0002	888	1.056	185.5	0.0011
2012	0.0036	10.3559	0.0004	917	1.056	205.7	0.0018
2013	0.0056	11.7212	0.0005	932	1.056	229.0	0.0025
2014	0.0088	11.7482	0.0007	951	1.056	225.0	0.0039
2015	0.0121	11.3868	0.0011	978	1.056	212.0	0.0057
2016	-	-	-	-	-	-	-
Total	0.0841	136.5374	0.0006			3,046.6	0.0028

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 10

ANTHRACITE PREP PLANT(0183)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 1	# 1	# 0	# 0	# 0.00	# 0.00	# 0.00	# 1.00	# 0.00	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0014	0.0005
2010	1	1	-	-	-	-	-	1.00	-	0.0023	0.0009
2011	-	-	-	-	-	-	-	-	-	0.0054	0.0021
2012	-	-	-	-	-	-	-	-	-	0.0126	0.0050
2013	-	-	-	-	-	-	-	-	-	0.0184	0.0073
2014	-	-	-	-	-	-	-	-	-	0.0250	0.0099
2015	1	-	1	-	0.30	-	-	0.30	0.70	0.0360	0.0142
2016	-	-	-	-	-	-	-	-	-	0.0471	0.0186
Total	4	2	1	1	0.30	0.05	0.05	2.35	1.65	0.1482	0.0585

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11)	(\$M)	(12)/(13)	Average Weekly Wage	Factor	Miner Years	Per 100 Miner Years
1997	# 1.0000	\$ 1.1494	0.8700	542	1.056	38.6	2.5907
1998	-	1.0329	-	561	1.056	33.5	-
1999	-	1.2311	-	588	1.056	38.1	-
2000	-	1.3195	-	611	1.056	39.3	-
2001	-	2.2163	-	644	1.056	62.7	-
2002	-	2.3228	-	662	1.056	63.9	-
2003	-	3.4080	-	675	1.056	91.9	-
2004	-	4.4067	-	690	1.056	116.3	-
2005	-	5.1701	-	716	1.056	131.5	-
2006	-	4.8859	-	745	1.056	119.4	-
2007	0.0500	5.8173	0.0086	779	1.056	136.0	0.0368
2008	-	5.7335	-	807	1.056	129.4	-
2009	0.0005	6.2646	0.0001	836	1.056	136.5	0.0004
2010	1.0009	4.8769	0.2052	845	1.056	105.1	0.9523
2011	0.0021	6.1233	0.0003	858	1.056	130.0	0.0016
2012	0.0050	7.5690	0.0007	888	1.056	155.2	0.0032
2013	0.0073	7.0749	0.0010	917	1.056	140.5	0.0052
2014	0.0099	6.5215	0.0015	932	1.056	127.4	0.0078
2015	0.3142	6.1966	0.0507	951	1.056	118.7	0.2647
2016	0.0186	5.4583	0.0034	978	1.056	101.6	0.0183
Total	2.4085	88.7786	0.0271			2,015.6	0.1195

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Effective Date - April 01, 2018

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Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 11

BITUMINOUS PREP PLANT(0184)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0016	0.0006
2010	-	-	-	-	-	-	-	-	-	0.0042	0.0017
2011	-	-	-	-	-	-	-	-	-	0.0104	0.0041
2012	-	-	-	-	-	-	-	-	-	0.0199	0.0078
2013	-	-	-	-	-	-	-	-	-	0.0305	0.0120
2014	-	-	-	-	-	-	-	-	-	0.0529	0.0209
2015	-	-	-	-	-	-	-	-	-	0.0636	0.0251
2016	-	-	-	-	-	-	-	-	-	0.0598	0.0236
Total	1	-	-	1	-	0.15	0.03	0.03	0.97	0.2429	0.0958

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11)	(\$M)	(12)/(13)	Average Weekly Wage	Factor	Miner Years	Per 100 Miner Years
1997	# 0.0000	\$ 13.7836	-	542	1.505	325.0	-
1998	-	11.1121	-	561	1.505	253.1	-
1999	-	10.6918	-	588	1.505	232.3	-
2000	0.0300	8.5748	0.0035	611	1.505	179.3	0.0167
2001	-	10.1550	-	644	1.505	201.5	-
2002	-	10.0945	-	662	1.505	194.8	-
2003	-	10.1952	-	675	1.505	193.0	-
2004	-	13.4602	-	690	1.505	249.3	-
2005	-	16.5483	-	716	1.505	295.3	-
2006	-	17.0510	-	745	1.505	292.5	-
2007	-	18.8952	-	779	1.505	309.9	-
2008	-	21.2503	-	807	1.505	336.5	-
2009	0.0006	19.8280	0.0000	836	1.505	303.1	0.0002
2010	0.0017	26.3131	0.0001	845	1.505	397.9	0.0004
2011	0.0041	35.1551	0.0001	858	1.505	523.6	0.0008
2012	0.0078	34.2117	0.0002	888	1.505	492.3	0.0016
2013	0.0120	33.6400	0.0004	917	1.505	468.8	0.0026
2014	0.0209	31.8544	0.0007	932	1.505	436.7	0.0048
2015	0.0251	24.3206	0.0010	951	1.505	326.8	0.0077
2016	0.0236	18.5101	0.0013	978	1.505	241.8	0.0098
Total	0.1258	385.6450	0.0003			6,253.5	0.0020

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)
times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 12

TOTAL OTHER CLASSES

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 1	# 1	# 0	# 0	# 0.00	# 0.00	# 0.00	# 1.00	# 0.00	# 0.0000	# 0.0000
1997	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-
2000	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	0.0047	0.0019
2010	1	1	-	-	-	-	-	1.00	-	0.0103	0.0041
2011	-	-	-	-	-	-	-	-	-	0.0234	0.0092
2012	-	-	-	-	-	-	-	-	-	0.0475	0.0187
2013	-	-	-	-	-	-	-	-	-	0.0707	0.0279
2014	-	-	-	-	-	-	-	-	-	0.1096	0.0432
2015	1	-	1	-	0.30	-	-	0.30	0.70	0.1511	0.0596
2016	-	-	-	-	-	-	-	-	-	0.1743	0.0688
Total	7	2	1	4	0.30	0.30	0.18	2.48	4.52	0.5916	0.2333

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll	Frequency	Statewide	Adjustment	Estimated	Frequency
	Awarded (8)+(11) # 1.0000	(\$M) \$ 73.6219	Frequency (12)/(13) 0.0136	Average Weekly Wage 542	Factor 561	Miner Years 2,335.6	Per 100 Miner Years 0.0428
1997	-	31.3568	-	561	910.3	-	-
1998	-	30.4519	-	588	844.2	-	-
1999	0.0300	29.5370	0.0010	611	804.0	0.0037	-
2000	-	30.9593	-	644	789.8	-	-
2001	-	32.0980	-	662	800.1	-	-
2002	0.0500	36.3016	0.0014	675	897.3	0.0056	-
2003	-	44.7008	-	690	1,073.7	-	-
2004	-	51.9860	-	716	1,196.6	-	-
2005	-	53.5772	-	745	1,185.4	-	-
2006	0.1000	59.5194	0.0017	779	1,259.7	0.0079	-
2007	-	55.2550	-	807	1,103.9	-	-
2008	0.0019	47.6143	0.0000	836	908.4	0.0002	-
2009	1.0041	54.1439	0.0185	845	997.6	0.1006	-
2010	0.0092	66.1378	0.0001	858	1,181.3	0.0008	-
2011	0.0187	66.6865	0.0003	888	1,158.3	0.0016	-
2012	0.0279	64.5404	0.0004	917	1,082.5	0.0026	-
2013	0.0432	63.7840	0.0007	932	1,060.5	0.0041	-
2014	0.3596	56.8154	0.0063	951	949.1	0.0379	-
2015	0.0688	47.8457	0.0014	978	788.0	0.0087	-
2016	-	-	-	-	-	-	-
Total	2.7133	996.9329	0.0027	-	-	21,326.3	0.0127

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Sum of Pages 6 to 11

Col.(15): Exhibit XII-D

Col.(16): N/A

Col.(17): Total of other classes

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

Coal Mine Compensation Rating Bureau

Exhibit VII-L

Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Page 13

GRAND TOTAL

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio
	(1)	(2)	(3)	(4)							
	Reported	Awarded	Pending	Denied							
	# 8	# 2	# 0	# 6	# 0.00	# 0.90	# 0.18	# 2.18	# 5.82	# 0.0000	# 0.0000
1997	2	-	1	1	0.30	0.15	0.03	0.33	1.67	-	-
1998	4	1	-	3	-	0.45	0.09	1.09	2.91	-	-
1999	4	2	-	2	-	0.30	0.06	2.06	1.94	-	-
2000	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2001	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2002	3	1	-	2	-	0.10	0.10	1.10	1.90	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	1	1	-	-	-	-	-	1.00	-	-	-
2005	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2006	4	-	-	4	-	0.20	0.20	0.20	3.80	-	-
2007	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	0.0047	0.0019
2009	2	2	-	-	-	-	-	2.00	-	0.0650	0.0256
2010	3	2	1	-	0.30	-	-	2.30	0.70	0.1825	0.0720
2011	6	1	-	5	-	0.25	0.25	1.25	4.75	0.3531	0.1392
2012	3	1	-	2	-	0.10	0.10	1.10	1.90	0.5354	0.2112
2013	3	-	2	1	0.60	0.05	0.05	0.65	2.35	1.4515	0.5725
2014	2	-	1	1	0.30	0.05	0.05	0.35	1.65	1.9397	0.7650
2015	-	-	-	-	-	-	-	-	-	2.3337	0.9204
2016	-	-	-	-	-	-	-	-	-	-	-
Total	54	17	5	32	1.50	2.80	1.36	19.86	34.14	6.8656	2.7078

Year	(12) Total Awarded (8)+(11)	(13) Payroll (\$M)	(14) Frequency (12)/(13)	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Per 100 Miner Years
	# 2.1800	\$ 231.2791	0.0094	542		6,927.1	0.0315
	0.3300	175.2343	0.0019	561		4,989.2	0.0066
1997	1.0900	163.5547	0.0067	588		4,424.3	0.0246
1998	2.0600	145.1712	0.0142	611		3,827.9	0.0538
1999	2.0500	152.1934	0.0135	644		3,808.8	0.0538
2000	0.0500	138.8712	0.0004	662		3,402.2	0.0015
2001	1.1000	133.9562	0.0082	675		3,238.1	0.0340
2002	1.0500	160.6970	0.0065	690		3,772.3	0.0278
2003	1.0000	196.6919	0.0051	716		4,374.3	0.0229
2004	0.0500	201.3494	0.0002	745		4,283.7	0.0012
2005	0.2000	220.7609	0.0009	779		4,471.8	0.0045
2006	1.0500	249.5671	0.0042	807		4,806.4	0.0218
2007	0.0019	229.4985	0.0000	836		4,211.8	0.0000
2008	2.0256	268.4115	0.0075	845		4,809.1	0.0421
2009	2.3720	323.1193	0.0073	858		5,695.5	0.0416
2010	1.3892	323.9599	0.0043	888		5,494.6	0.0253
2011	1.3112	293.5067	0.0045	917		4,769.6	0.0275
2012	1.2225	321.7547	0.0038	932		5,031.9	0.0243
2013	1.1150	261.8745	0.0043	951		4,072.8	0.0274
2014	0.9204	215.6950	0.0043	978		3,253.1	0.0283
2015	-	-	-	-		-	-
2016	-	-	-	-		-	-
Total	22.5678	4,407.1465	0.0051			89,664.5	0.0252

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior
(0.05)xCol.(4);2001 & Subseq.Col.(7): (0.20)xCol.(6);2000 & Prior
(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Sum of Pages 5 & 12

Col.(15): Exhibit XII-D

Col.(16): N/A

Col.(17): Total of all classes

Col.(18): (12) / (17) x 100

IBNR Award Ratio(2000 & Prior): 0.3144

IBNR Award Ratio(2001 & Subseq.): 0.3944

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Run Date: October 09, 2017 - 02:36:27 PM

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Effective Date - April 01, 2018

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**Coal Mine Compensation Rating Bureau
Summary of Individual Claim Detail for Federal Basic
Claims from Exposure Years 1990 to 2016**

Federal Basic Severities

	Indemnity	Medical	Total
Underground Anthracite Class 160			
Total	7,324,646	993,407	8,318,053
Number of Claims	20	20	20
Average	366,232	49,670	415,903
Underground Bituminous Class 158			
Total	25,206,665	3,639,556	28,846,221
Number of Claims	74	74	74
Average	340,631	49,183	389,814
Surface Anthracite Class 153			
Total	11,599,230	1,550,834	13,150,064
Number of Claims	40	40	40
Average	289,981	38,771	328,752
Surface Bituminous Class 156			
Total	14,894,280	1,942,321	16,836,600
Number of Claims	53	53	53
Average	281,024	36,648	317,672
Four Standard Classes Combined			
Total	59,024,821	8,126,118	67,150,939
Number of Claims	187	187	187
Average	315,641	43,455	359,096
Other Classes			
Total	4,063,110	632,358	4,695,468
Number of Claims	13	13	13
Average	312,547	48,643	361,190
All Classes Combined			
Total	63,087,931	8,758,476	71,846,407
Number of Claims	200	200	200
Average	315,440	43,792	359,232

Source: Exhibit IX-B

FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE UNDERGROUND (0160)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.200 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	10-Year Payroll Weighted Frequency
2007	0	0	0	0	0.1668	0.1668	0.033360	1,662,537	0.033360	779	1.056	38.9	0.085758	
2008	1	0	0	1	0.3329	0.3329	0.066584	2,136,713	0.066584	807	1.056	48.2	0.138141	
2009	1	0	0	1	0.2839	0.2839	0.056788	1,335,866	0.056788	836	1.056	29.1	0.195148	
2010	0	0	0	0	0.3500	0.3500	0.070008	1,299,588	0.070008	845	1.056	28.0	0.250029	
2011	2	0	1	1	0.4158	1.4158	0.283150	1,257,944	0.283150	858	1.056	26.7	1.060487	
2012	0	0	0	0	0.4031	0.4031	0.080622	1,029,260	0.080622	888	1.056	21.1	0.382095	
2013	1	0	0	1	0.1813	0.1813	0.036252	381,876	0.036252	917	1.056	7.6	0.477000	
2014	0	0	0	0	0.1451	0.1451	0.029022	258,809	0.029022	932	1.056	5.1	0.569059	
2015	0	0	0	0	0.1806	0.1806	0.036120	254,336	0.036120	951	1.056	4.9	0.737143	
2016	0	0	0	0	0.1534	0.1534	0.030676	163,760	0.030676	978	1.056	3.0	1.022533	
TOTAL	5	0	1	4	2.6129	3.6129	0.722582	9,780,689	0.722582			212.6	4.917393	
AVERAGE													0.491739	

BITUMINOUS UNDERGROUND (0158)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.024 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Payroll Weighted Frequency
2007	4	0	2	2	4.9101	6.9101	0.165843	79,904,266	0.165843	779	1.505	1,310.7	0.012653	
2008	0	0	0	0	7.1424	7.1424	0.171418	101,353,977	0.171418	807	1.505	1,604.8	0.010682	
2009	5	0	0	5	8.1403	8.1403	0.195367	101,348,140	0.195367	836	1.505	1,549.1	0.012612	
2010	4	0	1	3	11.3745	12.3745	0.296987	125,393,576	0.296987	845	1.505	1,896.2	0.015662	
2011	4	0	0	4	15.0490	15.0490	0.361177	148,485,709	0.361177	858	1.505	2,211.4	0.016332	
2012	4	0	0	4	17.3436	17.3436	0.416246	153,618,908	0.416246	888	1.505	2,210.5	0.018830	
2013	6	1	1	4	18.6992	19.6992	0.472781	145,146,253	1.472781	917	1.505	2,022.5	0.072820	
2014	11	0	3	8	26.6435	29.6435	0.711444	183,431,952	0.711444	932	1.505	2,514.9	0.028289	
2015	12	0	3	9	23.0142	26.0142	0.624340	140,570,275	0.624340	951	1.505	1,888.7	0.033057	
2016	6	0	5	1	22.9944	27.9944	0.671866	118,883,295	0.671866	978	1.505	1,553.3	0.043254	
TOTAL	56	1	15	40	155.3111	170.3111	4.087467	1,298,136,351	5.087467			18,762.1	0.264191	
AVERAGE													0.026419	

ANTHRACITE SURFACE (0153)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.400 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Payroll Weighted Frequency
2007	2	2	0	0	0.6159	0.6159	0.246368	14,866,556	0.246368	779	1.056	347.5	0.646437	
2008	1	0	0	1	0.8491	0.8491	0.339652	16,220,231	0.339652	807	1.056	366.0	0.092801	
2009	2	1	0	1	1.0196	1.0196	0.407828	15,893,528	1.407828	836	1.056	346.2	0.406652	
2010	0	0	0	0	1.0167	1.0167	0.406660	13,319,185	0.406660	845	1.056	287.0	0.141693	
2011	1	0	0	1	1.7364	1.7364	0.694544	19,507,428	0.694544	858	1.056	414.0	0.167764	
2012	1	0	0	1	2.6080	2.6080	1.043212	24,734,711	1.043212	888	1.056	507.3	0.205640	
2013	1	1	0	0	2.6180	2.6180	1.047188	20,720,014	2.047188	917	1.056	411.5	0.497494	
2014	1	0	0	1	2.8668	2.8668	1.146708	18,911,339	1.146708	932	1.056	369.5	0.310340	
2015	1	0	0	1	3.9888	3.9888	1.595536	22,234,350	1.595536	951	1.056	425.8	0.374715	
2016	1	0	1	0	4.0096	5.0096	2.003828	19,043,330	2.003828	978	1.056	354.6	0.565095	
TOTAL	11	4	1	6	21.3288	22.3288	8.931524	185,450,672	12.931524			3,829.4	3.408631	
AVERAGE													0.340863	

BITUMINOUS SURFACE (0156)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.222 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Payroll Weighted Frequency
2007	5	1	0	4	1.8321	1.8321	0.406731	64,808,093	1.406731	779	1.056	1,515.0	0.092854	
2008	5	2	1	2	2.4648	3.4648	0.769190	74,601,231	2.769190	807	1.056	1,683.5	0.164490	
2009	0	0	0	0	2.4006	2.4006	0.532931	63,306,695	0.532931	836	1.056	1,379.0	0.038646	
2010	2	0	0	2	3.1908	3.1908	0.708347	74,255,177	0.708347	845	1.056	1,600.3	0.044263	
2011	3	0	1	2	4.3339	5.3339	1.184124	87,730,506	1.184124	858	1.056	1,862.1	0.063591	
2012	8	2	0	6	4.3821	4.3821	0.972831	77,890,500	2.972831	888	1.056	1,597.4	0.186104	
2013	4	0	0	4	4.0447	4.0447	0.897921	62,718,061	0.897921	917	1.056	1,245.5	0.072093	
2014	1	0	1	0	4.0641	5.0641	1.124221	55,368,615	1.124221	932	1.056	1,081.9	0.103912	
2015	3	1	1	1	3.4885	4.4885	0.996454	42,000,092	1.996454	951	1.056	804.3	0.248223	
2016	0	0	0	0	2.8982	2.8982	0.643405	29,758,888	0.643405	978	1.056	554.1	0.116117	
TOTAL	31	6	4	21	33.0998	37.0998	8.236153	632,437,858	14.236153			13,323.1	1.130293	
AVERAGE													0.113029	

FOUR STANDARD CLASSES

										0.134	Expected	Statewide		Estimated	Frequency	
YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR +	Award		Payroll	Ultimate	Average	Adjustment		Miner	Claims per 100	Weighted
						Pending	Ratio			Awarded	Weekly Wage	Factor		Years	Miner Years	Frequency
2007	11	3	2	6	7.5250	9.5250	1.276345		161,241,452	3.852302	779			3,212.1	0.119931	
2008	7	2	1	4	10.7893	11.7893	1.579764		194,312,152	3.346844	807			3,702.5	0.090394	
2009	8	1	0	7	11.8444	11.8444	1.587147		181,884,229	2.192914	836			3,303.4	0.066384	
2010	6	0	1	5	15.9319	16.9319	2.268873		214,267,526	1.482001	845			3,811.5	0.038882	
2011	10	0	2	8	21.5350	23.5350	3.153694		256,981,587	2.522994	858			4,514.2	0.055890	
2012	13	2	0	11	24.7368	24.7368	3.314735		257,273,379	4.512910	888			4,336.3	0.104073	
2013	12	2	1	9	25.5431	26.5431	3.556777		228,966,204	4.454142	917			3,687.1	0.120803	
2014	13	0	4	9	33.7194	37.7194	5.054404		257,970,715	3.011395	932			3,971.4	0.075827	
2015	16	1	4	11	30.6721	34.6721	4.646067		205,059,053	4.252450	951			3,123.7	0.136135	
2016	7	0	6	1	30.0556	36.0556	4.831448		167,849,273	3.349775	978			2,465.0	0.135893	
TOTAL	103	11	21	71	212.3526	233.3526	21.977726		2,125,805,570	32.977726				36,127.2	0.944212	
AVERAGE															0.094421	0.081758

Source: Claim counts - CMCRB OD Database as of 4/30/2017

IBNR: Exhibit VIII-C

Payroll: Exhibit X-A-1

The Award Ratio is equal to Awarded ÷ [Awarded plus Denied]. Other Classes use the Total Award Ratio: 0.126=11 / [11 + 76]

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

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Effective Date - April 01, 2018

8,503,514,224.922050

FEDERAL BASIC OCCUPATIONAL DISEASE

COKE (0154)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	10-Year Payroll Weighted Frequency
2007	0	0	0	0	0.1306	0.1306	0.016456	13,669,925	0.016456	779	1.056	319.6	0.005149	
2008	0	0	0	0	0.1067	0.1067	0.013444	9,761,146	0.013444	807	1.056	220.3	0.006103	
2009	0	0	0	0	0.0637	0.0637	0.008026	5,173,552	0.008026	836	1.056	112.7	0.007122	
2010	0	0	0	0	0.0747	0.0747	0.009412	5,435,658	0.009412	845	1.056	117.1	0.008038	
2011	0	0	0	0	0.0554	0.0554	0.006980	3,599,086	0.006980	858	1.056	76.4	0.009137	
2012	0	0	0	0	0.0982	0.0982	0.012373	5,738,105	0.012373	888	1.056	117.7	0.010512	
2013	0	0	0	0	0.0911	0.0911	0.011479	4,791,910	0.011479	917	1.056	95.2	0.012057	
2014	0	0	0	0	0.0934	0.0934	0.011768	4,464,398	0.011768	932	1.056	87.2	0.013496	
2015	0	0	0	0	0.0997	0.0997	0.012562	4,340,376	0.012562	951	1.056	83.1	0.015117	
2016	0	0	0	0	0.0589	0.0589	0.007421	2,313,724	0.007421	978	1.056	43.1	0.017219	
TOTAL	0	0	0	0	0.8724	0.8724	0.109922	59,287,880	0.109922			1,272.4	0.103950	
AVERAGE													0.010395	

AUGER (0157)

IBNR Factor adjusted by 0.4000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	0	0	0	0	0.0214	0.0214	0.002696	1,121,156	0.002696	779	1.056	26.2	0.010292	
2008	0	0	0	0	0.0548	0.0548	0.006905	2,506,758	0.006905	807	1.056	56.6	0.012199	
2009	0	0	0	0	0.0233	0.0233	0.002936	946,963	0.002936	836	1.056	20.6	0.014251	
2010	1	0	1	0	0.0228	1.0228	0.128873	827,496	0.128873	845	1.056	17.8	0.724004	
2011	0	0	0	0	0.0362	0.0362	0.004561	1,176,255	0.004561	858	1.056	25.0	0.018245	
2012	0	0	0	0	0.0277	0.0277	0.003490	808,208	0.003490	888	1.056	16.6	0.021025	
2013	0	0	0	0	0.0398	0.0398	0.005015	1,046,947	0.005015	917	1.056	20.8	0.024110	
2014	0	0	0	0	0.0361	0.0361	0.004549	861,590	0.004549	932	1.056	16.8	0.027075	
2015	0	0	0	0	0.0301	0.0301	0.003793	654,766	0.003793	951	1.056	12.5	0.030341	
2016	0	0	0	0	0.0200	0.0200	0.002520	392,776	0.002520	978	1.056	7.3	0.034521	
TOTAL	1	0	1	0	0.3122	1.3122	0.165337	10,342,915	0.165337			220.2	0.916063	
AVERAGE													0.091606	

ANTHRACITE CO-GEN (0181)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	0	0	0	0	0.2194	0.2194	0.027644	9,186,706	0.027644	779	1.056	214.8	0.012870	
2008	0	0	0	0	0.2056	0.2056	0.025906	7,521,400	0.025906	807	1.056	169.7	0.015266	
2009	0	0	0	0	0.2320	0.2320	0.029232	7,534,735	0.029232	836	1.056	164.1	0.017814	
2010	0	0	0	0	0.2735	0.2735	0.034461	7,958,048	0.034461	845	1.056	171.5	0.020094	
2011	0	0	0	0	0.4226	0.4226	0.053248	10,981,642	0.053248	858	1.056	233.1	0.022843	
2012	1	0	0	1	0.3983	0.3983	0.050186	9,311,812	0.050186	888	1.056	191.0	0.026275	
2013	1	0	0	1	0.3627	0.3627	0.045700	7,630,762	0.045700	917	1.056	151.5	0.030165	
2014	0	0	0	0	0.4375	0.4375	0.055125	8,360,898	0.055125	932	1.056	163.4	0.033736	
2015	0	0	0	0	0.5487	0.5487	0.069136	9,554,806	0.069136	951	1.056	183.0	0.037779	
2016	0	0	0	0	0.6222	0.6222	0.078397	9,784,031	0.078397	978	1.056	182.2	0.043028	
TOTAL	2	0	0	2	3.7225	3.7225	0.469035	87,824,840	0.469035			1,824.3	0.259870	
AVERAGE													0.025987	

BITUMINOUS CO-GEN (0182)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	1	0	0	1	0.2587	0.2587	0.032596	10,829,140	0.032596	779	1.056	253.2	0.012874	
2008	0	0	0	0	0.2318	0.2318	0.029207	8,481,888	0.029207	807	1.056	191.4	0.015260	
2009	0	0	0	0	0.2422	0.2422	0.030517	7,866,413	0.030517	836	1.056	171.4	0.017805	
2010	0	0	0	0	0.3001	0.3001	0.037813	8,732,701	0.037813	845	1.056	188.2	0.020092	
2011	0	0	0	0	0.3503	0.3503	0.044138	9,102,411	0.044138	858	1.056	193.2	0.022846	
2012	0	0	0	0	0.3870	0.3870	0.048762	9,047,745	0.048762	888	1.056	185.5	0.026287	
2013	0	0	0	0	0.4922	0.4922	0.062017	10,355,884	0.062017	917	1.056	205.7	0.030149	
2014	0	0	0	0	0.6133	0.6133	0.077276	11,721,184	0.077276	932	1.056	229.0	0.033745	
2015	0	0	0	0	0.6746	0.6746	0.085000	11,748,205	0.085000	951	1.056	225.0	0.037778	
2016	0	0	0	0	0.7241	0.7241	0.091237	11,386,837	0.091237	978	1.056	212.0	0.043036	
TOTAL	1	0	0	1	4.2743	4.2743	0.538562	99,272,408	0.538562			2,054.6	0.259872	
AVERAGE													0.025987	

Source: Claim counts - CMCRB OD Database as of 4/30/2017

IBNR: Exhibit VIII-C

Payroll: Exhibit X-A-1

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.126=11 / [11 + 76]

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

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Effective Date - April 01, 2018

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FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE PREP PLANT (0183)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	10-Year Payroll Weighted Frequency
2007	0	0	0	0	0	0.2779	0.035015	5,817,291	0.035015	779	1.056	136.0	0.025747	
2008	0	0	0	0	0	0.3134	0.039488	5,733,543	0.039488	807	1.056	129.4	0.030517	
2009	0	0	0	0	0	0.3858	0.048611	6,264,606	0.048611	836	1.056	136.5	0.035612	
2010	0	0	0	0	0	0.3352	0.042235	4,876,927	0.042235	845	1.056	105.1	0.040186	
2011	0	0	0	0	0	0.4712	0.059371	6,123,259	0.059371	858	1.056	130.0	0.045670	
2012	0	0	0	0	0	0.6475	0.081585	7,569,023	0.081585	888	1.056	155.2	0.052568	
2013	1	0	1	0	0	0.6725	0.210735	7,074,886	0.210735	917	1.056	140.5	0.149989	
2014	1	0	1	0	0	0.6825	0.211995	6,521,541	0.211995	932	1.056	127.4	0.166401	
2015	0	0	0	0	0	0.7117	0.089674	6,196,596	0.089674	951	1.056	118.7	0.075547	
2016	0	0	0	0	0	0.6942	0.087469	5,458,272	0.087469	978	1.056	101.6	0.086092	
TOTAL	2	0	2	0	5.1919	7.1919	0.906179	61,635,944	0.906179			1,280.4	0.708329	
Average													0.070833	

BITUMINOUS PREP PLANT (0184)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	0	0	0	0	0	0.4513	0.056864	18,895,192	0.056864	779	1.505	309.9	0.018349	
2008	0	0	0	0	0	0.5808	0.073181	21,250,256	0.073181	807	1.505	336.5	0.021748	
2009	1	0	0	1	0	0.6105	0.076923	19,828,012	0.076923	836	1.505	303.1	0.025379	
2010	0	0	0	0	0	0.9044	0.113954	26,313,130	0.113954	845	1.505	397.9	0.028639	
2011	1	0	0	1	1	1.3528	0.170453	35,155,068	0.170453	858	1.505	523.6	0.032554	
2012	0	0	0	0	0	1.4634	0.184388	34,211,729	0.184388	888	1.505	492.3	0.037454	
2013	0	0	0	0	0	1.5987	0.201436	33,639,969	0.201436	917	1.505	468.8	0.042968	
2014	0	0	0	0	0	1.6668	0.210017	31,854,431	0.210017	932	1.505	436.7	0.048092	
2015	0	0	0	0	0	1.3966	0.175972	24,320,608	0.175972	951	1.505	326.8	0.053847	
2016	0	0	0	0	0	1.1771	0.148315	18,510,111	0.148315	978	1.505	241.8	0.061338	
TOTAL	2	0	0	2	11.2024	11.2024	1.411502	263,978,506	1.411502			3,837.4	0.370368	
Average													0.037037	

TOTAL OTHER CLASSES

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	1	0	0	1	1	1.3593	0.171272	59,519,410	0.171272	779	1.259	1,259.7	0.013596	
2008	0	0	0	0	0	1.4931	0.188131	55,254,991	0.188131	807	1.103	1,103.9	0.017042	
2009	1	0	0	1	1	1.5575	0.196245	47,614,281	0.196245	836	1.082	908.4	0.021603	
2010	1	0	1	0	0	1.9107	0.366748	54,143,960	0.366748	845	1.082	997.6	0.036763	
2011	1	0	0	1	1	2.6885	0.338751	66,137,721	0.338751	858	1.181	1,181.3	0.028676	
2012	1	0	0	1	1	3.0221	0.380785	66,686,622	0.380785	888	1.158	1,158.3	0.032874	
2013	2	0	1	1	1	3.2570	0.536382	64,540,358	0.536382	917	1.082	1,082.5	0.049550	
2014	1	0	1	0	0	3.5296	0.570730	63,784,042	0.570730	932	1.065	1,065.0	0.053817	
2015	0	0	0	0	0	3.4614	0.436136	56,815,357	0.436136	951	1.065	949.1	0.045953	
2016	0	0	0	0	0	3.2965	0.415359	47,845,751	0.415359	978	1.065	788.0	0.052711	
TOTAL	8	0	3	5	25.5757	28.5757	3.600538	582,342,493	3.600538			10,489.3	0.352585	
Average													0.035259	0.035321

GRAND TOTAL

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.126 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2007	12	3	2	7	8.8843	10.8843	1.371417	220,760,862	4.023573	779	1.259	4,471.8	0.089977	
2008	7	2	1	4	12.2824	13.2824	1.673580	249,567,143	3.534974	807	1.103	4,806.4	0.073547	
2009	9	1	0	8	13.4019	13.4019	1.688637	229,498,510	2.389159	836	1.082	4,211.8	0.056725	
2010	7	0	2	5	17.8426	19.8426	2.500166	268,411,486	1.848750	845	1.082	4,809.1	0.038443	
2011	11	0	2	9	24.2235	26.2235	3.304165	323,119,308	2.861745	858	1.181	5,695.5	0.050246	
2012	14	2	0	12	27.7589	27.7589	3.497625	323,960,001	4.893695	888	1.158	5,494.6	0.089064	
2013	14	2	2	10	28.8001	30.8001	3.880814	293,506,562	4.990524	917	1.065	4,769.6	0.104632	
2014	14	0	5	9	37.2490	42.2490	5.323378	321,754,757	3.582125	932	1.065	5,031.9	0.071188	
2015	16	1	4	11	34.1335	38.1335	4.804826	261,874,410	4.688586	951	1.065	4,072.8	0.115119	
2016	7	0	6	1	33.3521	39.3521	4.958362	215,695,024	3.765134	978	1.065	3,253.0	0.115743	
TOTAL	111	11	24	76	237.9283	261.9283	33.002970	2,708,148,063	36.578264			46,616.5	0.804684	
Average													0.080468	0.071773

Source: Claim counts - CMCRB OD Database as of 4/30/2017

IBNR: Exhibit VIII-C

Payroll: Exhibit X-A-1

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.126=11 / (11 + 76)

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-08-B-2.xlsm\VIII-B-3

Run Date: October 11, 2017 - 03:20:04 PM

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Effective Date - April 01, 2018

7,232,451,946.545290

Exhibit VIII-C-1

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

Reported Claims		Incremental Frequency and IBNR																									
		Year																									
Months	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
12	4	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
24	5	1	1	2	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0
36	7	1	1	2	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0
48	9	1	1	2	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0	2	0	1	0	0	0
60	9	1	2	2	1	0	0	0	0	1	1	2	0	0	0	0	1	0	0	1	0	2	0	1	0	0	0
72	10	1	2	2	1	1	0	0	0	1	1	3	0	0	0	0	1	0	1	1	0	2	0	1	0	0	0
84	13	1	2	2	1	1	0	0	0	1	1	4	0	0	0	0	1	0	1	1	0	2	0	1	0	0	0
96	14	1	2	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	1	0	0	0
108	14	1	2	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	1	0	0	0
120	14	1	2	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	0	1	0	2	0	1	0	0	0
132	14	1	2	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	1	0	0	0
144	14	1	2	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	1	0	0	0
156	14	1	2	2	1	2	0	0	0	2	1	4	1	1	0	0	1	0	1	1	0	2	0	1	0	0	0
168	14	1	2	2	1	2	0	0	0	2	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
180	14	1	2	2	1	2	0	0	1	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
192	14	1	2	2	1	2	0	0	1	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
204	14	1	2	2	1	2	0	0	1	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
216	14	1	2	2	1	2	0	0	2	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
228	15	2	2	2	1	2	0	0	2	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0
240	15	2	2	2	1	2	0	0	2	3	1	4	2	1	0	0	1	0	1	1	0	2	0	1	0	0	0

[illegible][illegible]

Cumulative Factor times Payroll	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04700	0.10033	0.15581	0.21255	0.26935	0.33050	0.39165	0.47465	0.56070	0.71008	0.93662
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06780	0.16680	0.33292	0.28394	0.35004	0.41575	0.40311	0.18126	0.14511	0.18060	0.15338

Payrolls: Exhibit X-A-1 & X-A-2

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\[2017-08-C.xlsm]VIII-C-1

Run Date: October 10, 2017 - 01:06:01 PM

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Effective Date - April 01, 2018

111,277.394810

Exhibit VIII-C-2

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

[illegible][illegible]

Yearroll	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
(\$Millions)	63.27152	58.31824	63.40130	52.75653	60.59094	65.27115	75.22304	70.39669	61.08733	58.68524	47.52056	48.52263	40.83800	36.49841	46.07390	66.27576	70.46594	79.90427	101.35398	101.34814	125.39358	148.48571	153.61891	145.14625	183.43195	140.57028	118.88330		
12-24														0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00987	0.01595	0.00000	0.01302	0.00689	0.01635		0.03557	Average	Smoothed
24-36													0.04897	0.00000	0.02170	0.00000	0.00000	0.02503	0.00000	0.00000	0.00000	0.00000	0.00651	0.02067	0.02726			0.01155	0.01847
36-48												0.00000	0.00000	0.00000	0.02170	0.00000	0.01419	0.00000	0.00000	0.02960	0.00000	0.00000	0.00000	0.00000	0.00000			0.00492	0.01642
48-60											0.00000	0.02061	0.02449	0.00000	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.01347	0.00000					0.00547	0.01593
60-72										0.00000	0.00000	0.02061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00987	0.00797						0.00296	0.01155
72-84								0.00000	0.00000	0.00000	0.04209	0.00000	0.00000	0.00000	0.00000	0.01509	0.00000	0.00000	0.00000	0.00000	0.00797	0.00000						0.00501	0.01064
84-96								0.00000	0.00000	0.00000	0.01704	0.00000	0.00000	0.02449	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000								0.00416	0.01039
96-108						0.00000	0.00000	0.00000	0.00000	0.00000	0.01704	0.00000	0.04122	0.00000	0.02740	0.00000	0.00000	0.00000	0.00000	0.00000								0.00659	0.00985
108-120					0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01704	0.00000	0.00000	0.09795	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000								0.00885	0.00902
120-132					0.00000	0.00000	0.00000	0.01421	0.00000	0.00000	0.01704	0.04209	0.02061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000									0.00723	0.00885
132-144				0.01895	0.00000	0.00000	0.00000	0.00000	0.01421	0.00000	0.06816	0.06313	0.00000	0.04897	0.00000	0.00000	0.00000											0.01642	0.00751
144-156			0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01704	0.00000	0.00000	0.00000	0.02170													0.00675	0.00723
156-168		0.00000	0.01577	0.00000	0.00000	0.01532	0.00000	0.00000	0.00000	0.01637	0.00000	0.06313	0.00000	0.02449	0.00000													0.01039	0.00692
168-180	0.01580	0.00000	0.00000	0.01895	0.01650	0.00000	0.00000	0.00000	0.00000	0.00000	0.01704	0.14730	0.00000	0.02449														0.01847	0.00675
180-192	0.00000	0.01715	0.01577	0.00000	0.01650	0.00000	0.00000	0.00000	0.01637	0.01704	0.27357	0.00000																0.02970	0.00659
192-204	0.00000	0.06859	0.00000	0.01895	0.00000	0.01532	0.01329	0.00000	0.00000	0.01704	0.04209																	0.01593	0.00547
204-216	0.00000	0.00000	0.00000	0.00000	0.01650	0.00000	0.02659	0.01421	0.04911	0.00000																		0.01064	0.00501
216-228	0.00000	0.00000	0.03155	0.01895	0.01650	0.00000	0.00000	0.01421	0.00000																			0.00902	0.00416
228-240	0.00000	0.00000	0.03155	0.00000	0.03301	0.00000	0.00000	0.01421																				0.00985	0.00296
																											Total=	0.19342	0.19342

Cumulative Factor times Payroll	0.00296	0.00712	0.01213	0.01760	0.02419	0.03094	0.03786	0.04509	0.05260	0.06145	0.07047	0.08032	0.09071	0.10135	0.11290	0.12883	0.14525	0.16372	0.19342
0.18082	0.41784	0.57642	0.85400	0.98787	1.12926	1.24436	2.98837	3.70651	4.91012	7.17441	8.14028	11.37445	15.04903	17.34357	18.69919	26.64349	23.0147	22.99441	

Payrolls: Exhibit X-A-1 & X-A-2

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\[2017-08-C.xlsm]VIII-C-2

Run Date: October 10, 2017 - 01:06:01 PM

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Effective Date - April 01, 2018

115,698.718160

Exhibit VIII-C-3

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

[illegible]

Incremental Changes

[illegible]

Payroll	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
(\$Millions)	332.2989	30.95658	29.47612	30.10339	30.21045	20.28889	16.19217	17.78314	17.37629	18.44114	16.80781	12.92375	11.04657	11.92821	12.35973	12.14091	12.06532	14.86656	16.22023	15.89353	13.31919	19.50743	24.73471	20.72001	18.91134	22.23435	19.04333	Average	Smoothed
12-24														0.08383	0.08091	0.08237	0.00000	0.00000	0.06165	0.00000	0.00000	0.05126	0.00000	0.00000	0.00000	0.00000	0.04498	0.03115	0.03115
24-36													0.09053	0.16747	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06292	0.00000	0.00000	0.04043	0.00000	0.00000		0.02781	0.02781
36-48												0.15475	0.09053	0.00000	0.00000	0.00000	0.08288	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.02524	0.02524	
48-60											0.00000	0.07738	0.00000	0.00000	0.08091	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.01218	0.02091	
60-72											0.00000	0.09053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06292	0.00000	0.00000	0.00000		0.01180	0.01643		
72-84											0.00000	0.00000	0.00000	0.08383	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00645	0.01268		
84-96								0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00000	0.01218		
96-108							0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07738	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00595	0.01180		
108-120						0.09858	0.00000	0.00000	0.00000	0.05423	0.11899	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.02091	0.01092		
120-132					0.03310	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07738	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00850	0.00850		
132-144				0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05755	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00443	0.00800		
144-156			0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05623	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00433	0.00645		
156-168		0.00000	0.00000	0.03322	0.03310	0.09858	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.01268	0.00595		
168-180	0.03087	0.00000	0.00000	0.00000	0.00000	0.00000	0.04929	0.06176	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01092	0.00443	0.00000	0.00000		0.00000	0.00433		
180-192	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.01643	0.00377		
192-204	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06176	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00000	0.00000		
204-216	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00377	0.00000		
216-228	0.00000	0.00000	0.00000	0.03393	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00000	0.00000		
228-240	0.03087	0.00000	0.00000	0.00000	0.03310	0.00000	0.00000	0.00000	0.00000																		Total=	0.08000	0.00000
																												0.21055	0.21055

IBNR Claims

[illegible]

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2017

Payrolls: Exhibit X-A-1 & X-A-2

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\[2017-08-C.xlsm]VIII-C-3

Run Date: October 10, 2017 - 01:06:01 PM

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Effective Date - April 01, 2018

114,650.177630

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
BITUMINOUS SURFACE (0156)

Exhibit VIII-C-4

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

Reported Claims

Reported Claims
Months
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
192
204
216
228
240

Incremental Frequency and IBNR

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2002	1	0	1	0	0	2	0	0	1	0	3	2	0	1	0
2003	0	1	0	1	1	1	1	0	1	1	8	3	1	3	
2004	1	1	1	1	1	2	1	0	1	1	8	3	1		
2005	0	1	1	1	2	3	1	0	1	2	8	4			
2006	0	1	1	1	2	4	4	0	2	3	8				
2007	2	1	1	1	4	5	5	0	2						
2008	1	1	1	1	4	5									
2009	0	0	0	0	0	0	0	0							
2010	0	0	0	0	0	0	0	0	0	1	5	1	1	2	
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Incremental Changes

12-24																												
24-36																												
36-48																												
48-60																												
60-72																												
72-84																												
84-96																												
96-108																												
108-120																												
120-132																												
132-144																												
144-156																												
156-168																												
168-180																												
180-192																												
192-204																												
204-216																												
216-228																												
228-240																												

Payroll (\$Millions)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
12-24	124.18907	104.58350	100.99938	94.55659	92.46464	78.75261	77.82841	67.90579	63.65156	54.16227	49.93562	58.15133	53.50209	47.87374	56.21730	64.87156	63.79850	64.80809	74.60123	63.30670	74.25518	87.73051	77.89050	62.71806	55.36862	42.00009	29.75889
24-36																											
36-48												0.00000	0.00000	0.02089	0.00000	0.01542	0.00000	0.00000	0.00000	0.00000	0.00000	0.01140	0.06419	0.01594	0.01806	0.04762	
48-60												0.00000	0.00000	0.00000	0.00000	0.01567	0.01543	0.00000	0.00000	0.00000	0.00000	0.01140	0.00000	0.01594	0.00000		
60-72										0.00000			0.00000	0.00000	0.00000	0.00000	0.00000	0.01543	0.04021	0.00000	0.01347	0.00000	0.00000				
72-84									0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000	0.00000	0.03135	0.00000	0.01340	0.00000	0.00000						
84-96								0.00000	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							
96-108							0.00000	0.00000	0.01571	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.00000								
108-120						0.03809	0.00000	0.01473	0.00000	0.00000	0.00000	0.00000	0.01869	0.02089	0.01779	0.00000	0.00000	0.01543									
120-132					0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000	0.01720	0.01869	0.00000	0.00000	0.00000	0.00000										
132-144				0.00000	0.00000	0.00000	0.00000	0.00000	0.01571	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000											
144-156			0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000												
156-168		0.00000	0.00990	0.00000	0.01081	0.01270	0.01285	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000												
168-180	0.00000	0.01912	0.00000	0.01058	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000														
180-192	0.00805	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01473	0.00000	0.00000	0.02003	0.03439															
192-204	0.01610	0.00956	0.00990	0.02115	0.01081	0.00000	0.00000	0.01473	0.01571	0.00000	0.00000																
204-216	0.00000	0.00000	0.00990	0.00000	0.00000	0.02540	0.01285	0.00000	0.01571	0.01846																	
216-228	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01571																		
228-240	0.00805	0.00956	0.00990	0.00000	0.00000	0.00000	0.01285	0.00000																			

IBNR Claims

Cumulative Factor	0.00121	0.00282	0.00457	0.00699	0.00978	0.01260	0.01542	0.01917	0.02367	0.02827	0.03304	0.03792	0.04297	0.04940	0.05626	0.06449	0.07340	0.08306	0.09739
times Payroll	0.07702	0.15274	0.22821	0.40648	0.52325	0.60321	0.86687	1.24359	1.51011	1.83212	2.46482	2.40059	3.19075	4.33389	4.38212	4.04469	4.06406	3.48853	2.89822

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2017

Payrolls: Exhibit X-A-1 & X-A-2

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Run Date: October 10, 2017 - 01:06:01 PM

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Effective Date - April 01, 2018
115,812,829,560

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
OTHER CLASSIFICATIONS - FEDERAL

Exhibit VIII-C-5

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

Reported Claims			Incremental Frequency and IBNR																										
Months	Year																												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
12	0	0	0	1	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0		
24	0	0	1	1	0	0	0	2	2	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0			
36	0	0	1	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	0	1	1				
48	0	0	1	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	1	2					
60	0	0	2	1	0	0	0	5	2	4	1	0	1	0	1	1	0	0	0	0	0	1	1						
72	0	0	2	1	0	0	0	6	2	4	1	0	2	0	1	1	0	0	0	1	0	1							
84	0	0	2	1	0	0	0	6	3	4	1	0	2	1	1	1	0	0	0	1	1								
96	0	0	2	1	0	0	0	6	3	4	1	0	2	1	1	2	0	0	0	1									
108	0	0	2	1	0	0	0	6	3	4	1	0	2	1	1	2	1	1	0										
120	0	0	2	1	0	0	0	6	3	4	1	0	2	1	1	2	2	1	0										
132	0	0	2	1	0	0	0	6	3	4	1	0	2	1	1	2	2		0										
144	0	0	2	1	0	0	0	6	3	5	1	0	2	1	1	2		1											
156	0	0	2	1	0	0	0	6	3	5	1	0	2	1	1														
168	0	0	2	1	0	0	0	6	3	5	1	0	2	1															
180	0	0	2	1	0	0	0	7	3	5	1	0	2																
192	0	0	2	1	0	0	0	7	3	5	1	1																	
204	0	0	2	1	0	0	0	7	3	5	1																		
216	0	0	2	1	0	0	0	7	3	5																			
228	0	0	2	1	0	0	0	7	3																				
240	0	0	2	1	0	0	0	8																					

Payroll (\$Millions)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	64.28048	55.26295	47.49607	58.74791	60.28848	60.34187	62.83464	73.62183	31.35678	30.45185	29.53686	30.95943	32.09811	36.30165	44.70078	51.98593	53.57718	59.51941	55.25499	47.61428	54.14396	66.13772	66.68662	64.54036	63.78404	56.81536	47.84575

Exhibit VIII-C-6

Claims with File Dates on or before 12-31-2016, Valued as of 4-30-2017

[illegible][illegible]

Payroll	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
(\$Millions)	285.68101	249.83942	242.30567	237.34642	244.86519	226.14804	233.69096	231.27906	175.23425	163.55466	145.17101	152.19366	138.87132	133.95628	160.69703	196.69173	201.34946	220.76087	249.56714	229.49852	268.41150	323.11931	323.96000	293.50656	321.75476	261.87442	215.69503	
12-24														0.00747	0.00622	0.00508	0.00993	0.00000	0.00801	0.00436	0.00745		0.00619	0.02161	0.01022	0.01554	0.03055	
24-36													0.02160	0.02240	0.00622	0.00508	0.00000	0.00906	0.00000	0.00436	0.00000	0.00619	0.00617	0.01022	0.01554			
36-48												0.01314	0.01440	0.00000	0.00622	0.00000	0.01490	0.00453	0.00000	0.01307	0.00000	0.00619	0.00309	0.00681				
48-60											0.00689	0.01314	0.00720	0.00000	0.00622	0.00000	0.00000	0.00453	0.00000	0.00000	0.00000	0.00000	0.00000					
60-72											0.00689	0.01314	0.01440	0.00000	0.00000	0.00000	0.00000	0.00453	0.01603	0.01307	0.00745	0.00000						
72-84									0.00571	0.00000	0.00000	0.01378	0.01314	0.00000	0.01493	0.00000	0.00508	0.00993	0.00000	0.00401	0.00000	0.00745						
84-96								0.00000	0.00571	0.00000	0.00000	0.00611	0.00000	0.00000	0.00720	0.00747	0.00000	0.00508	0.00000	0.00453	0.00000	0.00000						
96-108							0.00000	0.00000	0.00571	0.00611	0.00000	0.01971	0.00000	0.00000	0.01493	0.00000	0.00497	0.00453	0.00000	0.00497	0.00000							
108-120					0.00408	0.02211	0.00000	0.00432	0.00000	0.01223	0.01378	0.00000	0.03600	0.00747	0.00622	0.00000	0.00497	0.00453	0.00000									
120-132							0.00428	0.00432	0.00000	0.00611	0.01378	0.01971	0.00720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000									
132-144				0.00421	0.00000	0.00000	0.00000	0.00432	0.01141	0.03057	0.02067	0.00000	0.01440	0.00747	0.00000	0.00000												
144-156			0.00000	0.00000	0.00000	0.00442	0.00000	0.00432	0.00000	0.01223	0.00000	0.00000	0.02160	0.00747	0.00622													
156-168		0.00000	0.00825	0.00421	0.00817	0.01769	0.00428	0.00000	0.00571	0.00000	0.02067	0.00657	0.01440	0.00000														
168-180	0.00700	0.00801	0.00000	0.00843	0.00408	0.00442	0.00856	0.00432	0.00571	0.01223	0.04822	0.00657	0.00720															
180-192	0.00350	0.00400	0.00413	0.00000	0.00408	0.00000	0.00000	0.00432	0.00571	0.00611	0.09644	0.01971																
192-204	0.00700	0.02001	0.00413	0.01264	0.00408	0.00442	0.00856	0.00432	0.00571	0.00611	0.02755																	
204-216	0.00000	0.00000	0.00413	0.00000	0.00408	0.00884	0.01284	0.00432	0.02853	0.00611																		
216-228	0.00350	0.00400	0.01238	0.00421	0.00408	0.00000	0.00000	0.00432	0.00571																			
228-240	0.00700	0.00400	0.01238	0.00000	0.01225	0.00000	0.00428	0.00865																				

Cumulative Factor times Payroll	0.00278	0.00642	0.01066	0.01496	0.01929	0.02387	0.02956	0.03537	0.04144	0.04777	0.05466	0.06158	0.06874	0.07696	0.08555	0.09505	0.10465	0.11428	0.12718
	0.48715	1.05002	1.54752	2.27682	2.67883	3.19754	4.75020	6.95699	8.34392	10.4575	13.64134	14.13252	18.45061	24.86726	27.71478	27.89780	33.67164	30.07685	27.43209

Source: Counts and Payrolls: Sum of Exhibits VIII-C-1 thru VIII-C-5

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\[2017-08-C.xlsx]VIII-C-6
Run Date: October 10, 2017 - 01:06:01 PM

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Effective Date - April 01, 2018
127,208.826340

**COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VIII-C-7

IBNR By Class

		CLASSIFICATION					
		Anthracite		Bituminous		Anthracite	
		Coke	Auger	Co-Gen	Co-Gen	Prep Plant	Prep Plant
A. IBNR Factor	Year	0154	0157	0181	0182	0183	0184
	2007	0.0478	0.0478	0.0478	0.0478	0.0478	0.0478
	2008	0.0547	0.0547	0.0547	0.0547	0.0547	0.0547
	2009	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616
	2010	0.0687	0.0687	0.0687	0.0687	0.0687	0.0687
	2011	0.0770	0.0770	0.0770	0.0770	0.0770	0.0770
	2012	0.0856	0.0856	0.0856	0.0856	0.0856	0.0856
	2013	0.0951	0.0951	0.0951	0.0951	0.0951	0.0951
	2014	0.1047	0.1047	0.1047	0.1047	0.1047	0.1047
	2015	0.1149	0.1149	0.1149	0.1149	0.1149	0.1149
	2016	0.1272	0.1272	0.1272	0.1272	0.1272	0.1272
B. Adjustment Factor		0.2000	0.4000	0.5000	0.5000	1.0000	0.5000
C. Payroll Per \$1M							
	2007	13.66993	1.12116	9.18671	10.82914	5.81729	18.89519
	2008	9.76115	2.50676	7.52140	8.48189	5.73354	21.25026
	2009	5.17355	0.94696	7.53474	7.86641	6.26461	19.82801
	2010	5.43566	0.82750	7.95805	8.73270	4.87693	26.31313
	2011	3.59909	1.17626	10.98164	9.10241	6.12326	35.15507
	2012	5.73811	0.80821	9.31181	9.04775	7.56902	34.21173
	2013	4.79191	1.04695	7.63076	10.35588	7.07489	33.63997
	2014	4.46440	0.86159	8.36090	11.72118	6.52154	31.85443
	2015	4.34038	0.65477	9.55481	11.74821	6.19660	24.32061
	2016	2.31372	0.39278	9.78403	11.38684	5.45827	18.51011
D. IBNR							
	2007	0.1306	0.0214	0.2194	0.2587	0.2779	0.4513
	2008	0.1067	0.0548	0.2056	0.2318	0.3134	0.5808
	2009	0.0637	0.0233	0.2320	0.2422	0.3858	0.6105
	2010	0.0747	0.0228	0.2735	0.3001	0.3352	0.9044
	2011	0.0554	0.0362	0.4226	0.3503	0.4712	1.3528
	2012	0.0982	0.0277	0.3983	0.3870	0.6475	1.4634
	2013	0.0911	0.0398	0.3627	0.4922	0.6725	1.5987
	2014	0.0934	0.0361	0.4375	0.6133	0.6825	1.6668
	2015	0.0997	0.0301	0.5487	0.6746	0.7117	1.3966
	2016	0.0589	0.0200	0.6222	0.7241	0.6942	1.1771

Source: IBNR Factor - Exhibit VIII-C-6
Adjustment Factor - Judgement
Payroll = Exhibit X-A
IBNR = A times B times C

**COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VIII-C-8

IBNR By Class

		CLASSIFICATION					
			Anthracite	Bituminous	Anthracite	Bituminous	
A. IBNR Factor		Coke	Auger	Co-Gen	Co-Gen	Prep Plant	Prep Plant
	Year	0154	0157	0181	0182	0183	0184
	1997	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1998	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028
	1999	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064
	2000	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107
	2001	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150
	2002	0.0193	0.0193	0.0193	0.0193	0.0193	0.0193
	2003	0.0239	0.0239	0.0239	0.0239	0.0239	0.0239
	2004	0.0296	0.0296	0.0296	0.0296	0.0296	0.0296
	2005	0.0354	0.0354	0.0354	0.0354	0.0354	0.0354
	2006	0.0414	0.0414	0.0414	0.0414	0.0414	0.0414
B. Adjustment Factor		0.2000	0.4000	0.5000	0.5000	1.0000	0.5000
C. Payroll Per \$1M							
	1997	53.11908	1.19349	3.52016	0.85605	1.14940	13.78365
	1998	13.35390	1.23790	3.45878	1.16120	1.03290	11.11210
	1999	12.29348	1.13689	3.60431	1.49428	1.23112	10.69178
	2000	12.09257	1.20588	4.47346	1.87072	1.31947	8.57476
	2001	10.37583	1.42913	4.66181	2.12133	2.21630	10.15503
	2002	10.48501	1.15084	5.65877	2.38612	2.32282	10.09455
	2003	11.53408	1.10222	7.00962	3.05252	3.40800	10.19521
	2004	12.04913	1.05880	7.35151	6.37448	4.40665	13.46020
	2005	12.86098	1.02654	7.85529	8.52475	5.17007	16.54831
	2006	12.73739	1.06683	8.41253	9.42358	4.88588	17.05097
D. IBNR							
	1997	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1998	0.0074	0.0014	0.0048	0.0016	0.0029	0.0154
	1999	0.0158	0.0029	0.0116	0.0048	0.0079	0.0343
	2000	0.0258	0.0051	0.0238	0.0100	0.0141	0.0457
	2001	0.0310	0.0086	0.0349	0.0159	0.0332	0.0760
	2002	0.0405	0.0089	0.0546	0.0230	0.0448	0.0974
	2003	0.0551	0.0105	0.0837	0.0364	0.0813	0.1217
	2004	0.0712	0.0125	0.1087	0.0942	0.1303	0.1989
	2005	0.0910	0.0145	0.1389	0.1508	0.1829	0.2927
	2006	0.1056	0.0177	0.1743	0.1953	0.2025	0.3533

Source: IBNR Factor - Exhibit VIII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A pages 1 & 2
IBNR = A times B times C

Occupational Disease
Federal Benefits

TABLE OF MONTHLY BLACK LUNG BENEFIT RATES

Time Period			Claimant Benefit	Dependent Benefit	Yearly Percentage Increase
10/1/1981	to	9/30/1982	293.20	146.60	
10/1/1982	to	12/31/1983	304.90	152.50	4.0%
1/1/1984	to	12/31/1984	317.10	158.60	4.0%
1/1/1985	to	12/31/1985	328.20	164.10	3.5%
1/1/1986	to	12/31/1986	328.20	164.10	0.0%
1/1/1987	to	12/31/1987	338.00	169.00	3.0%
1/1/1988	to	12/31/1988	344.80	172.40	2.0%
1/1/1989	to	12/31/1989	358.90	179.50	4.1%
1/1/1990	to	12/31/1990	371.80	185.90	3.6%
1/1/1991	to	12/31/1991	387.10	193.60	4.1%
1/1/1992	to	12/31/1992	403.30	201.70	4.2%
1/1/1993	to	12/31/1993	418.20	209.10	3.7%
1/1/1994	to	12/31/1994	427.40	213.70	2.2%
1/1/1995	to	12/31/1995	427.40	213.70	0.0%
1/1/1996	to	12/31/1996	435.10	217.60	1.8%
1/1/1997	to	12/31/1997	445.10	222.60	2.3%
1/1/1998	to	12/31/1998	455.10	227.60	2.2%
1/1/1999	to	12/31/1999	469.50	234.80	3.2%
1/1/2000	to	12/31/2000	487.40	243.60	3.8%
1/1/2001	to	12/31/2001	500.50	250.30	2.7%
1/1/2002	to	12/31/2002	518.50	259.30	3.6%
1/1/2003	to	12/31/2003	534.60	267.30	3.1%
1/1/2004	to	12/31/2004	549.00	274.50	2.7%
1/1/2005	to	12/31/2005	562.80	281.30	2.5%
1/1/2006	to	12/31/2006	574.60	287.20	2.1%
1/1/2007	to	12/31/2007	584.40	292.20	1.7%
1/1/2008	to	12/31/2008	599.00	299.00	2.5%
1/1/2009	to	12/31/2009	616.30	308.20	2.9%
1/1/2010	to	12/31/2010	625.60	312.80	1.5%
1/1/2011	to	12/31/2011	625.60	312.80	0.0%
1/1/2012	to	12/31/2012	625.60	312.80	0.0%
1/1/2013	to	12/31/2013	625.60	312.80	0.0%
1/1/2014	to	12/31/2014	631.80	315.90	1.0%
1/1/2015	to	12/31/2015	638.10	319.10	1.0%
1/1/2016	to	12/31/2016	644.50	322.30	1.0%
1/1/2017	to	12/31/2017	651.00	325.40	1.0%
All Years			Average		2.3%
Last 10 Yrs			Average		1.1%
Last 5 Yrs			Average		0.8%
Last 3 Yrs			Average		1.0%

Selected Benefit Change from	2017	to	2018	1.00%
Selected Benefit Change from	2018	to	2019	1.50%
Selected Benefit Change from	2019	to	2020	2.50%

Selected Average Annual Benefit Change (Last Year's Selection: 2.5%) 2.50%

			Projected Benefit- Claimant	Dependant	Weight
1/1/2018	to	12/31/2018	657.50 a	328.80	28.125%
1/1/2019	to	12/31/2019	667.40 a	333.70	68.750%
1/1/2020	to	12/31/2020	684.10 a	342.10	3.125%
Average Monthly Benefit During the Policy Period Beginning 04/01/2018			665.10 b	332.60	
Average Weekly Benefit During the Policy Period Beginning 04/01/2018			153.50 c	76.80	
Annual (Weekly X 52)			7,982.00	3,991.00	
Annual Miner and Spouse				11,973.00	

- a Previous year's benefit times selected benefit change
b Weighted average of projected benefit levels from 01-01-18 to 12-31-20
c Monthly Benefit times 12 months divided by 52 weeks

Sources: US Department of Labor
Employment Standards Administration
Office of Workers' Compensation Programs
Division of Coal Mine Workers' Compensation

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Anthracite Underground (0160)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	1	-	-	1	-	0.05	0.05
2009	1	-	-	1	-	0.05	0.05
2010	-	-	-	-	-	-	-
2011	2	-	1	1	0.30	0.05	0.05
2012	-	-	-	-	-	-	-
2013	1	-	-	1	-	0.05	0.05
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	5	-	1	4	0.30	0.20	0.20

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.1668	# 0.0331	# 0.0331	\$ 1,662,537	0.0199
	0.05	0.95	0.3329	0.0660	0.1160	2,136,713	0.0543
2007	0.05	0.95	0.2839	0.0563	0.1063	1,335,866	0.0796
2008	-	-	0.3500	0.0694	0.0694	1,299,588	0.0534
2009	0.35	1.65	0.4158	0.0824	0.4324	1,257,944	0.3437
2010	-	-	0.4031	0.0799	0.0799	1,029,260	0.0776
2011	0.05	0.95	0.1813	0.0359	0.0859	381,876	0.2250
2012	-	-	0.1451	0.0288	0.0288	258,809	0.1111
2013	-	-	0.1806	0.0358	0.0358	254,336	0.1407
2014	-	-	0.1534	0.0304	0.0304	163,760	0.1856
2015	-	-	0.1534	0.0304	0.0304	163,760	0.1856
2016	-	-	0.1534	0.0304	0.0304	163,760	0.1856
Total	0.50	4.50	2.6129	0.5179	1.0179	\$ 9,780,689	0.1041

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	38.9	0.0850
	807	1.0560	48.2	0.2406
2007	779	1.0560	38.9	0.0850
2008	807	1.0560	48.2	0.2406
2009	836	1.0560	29.1	0.3652
2010	845	1.0560	28.0	0.2478
2011	858	1.0560	26.7	1.6195
2012	888	1.0560	21.1	0.3787
2013	917	1.0560	7.6	1.1306
2014	932	1.0560	5.1	0.5639
2015	951	1.0560	4.9	0.7305
2016	978	1.0560	3.0	1.0133
Total			212.6	0.4788

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Bituminous Underground (0158)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 4	# 0	# 2	# 2	# 0.60	# 0.10	# 0.10
2008	-	-	-	-	-	-	-
2009	5	-	-	5	-	0.25	0.25
2010	4	-	1	3	0.30	0.15	0.15
2011	4	-	-	4	-	0.20	0.20
2012	4	-	-	4	-	0.20	0.20
2013	6	1	1	4	0.30	0.20	0.20
2014	11	-	3	8	0.90	0.40	0.40
2015	12	-	3	9	0.90	0.45	0.45
2016	6	-	5	1	1.50	0.05	0.05
Total	56	1	15	40	4.50	2.00	2.00

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.70	# 3.30	# 4.9101	# 0.9732	# 1.6732	\$ 79,904,266	0.0209
	-	-	7.1424	1.4156	1.4156	101,353,977	0.0140
2007	-	-	7.1424	1.4156	1.4156	101,353,977	0.0140
2008	0.25	4.75	8.1403	1.6134	1.8634	101,348,140	0.0184
2009	0.45	3.55	11.3745	2.2544	2.7044	125,393,576	0.0216
2010	0.20	3.80	15.0490	2.9827	3.1827	148,485,709	0.0214
2011	0.20	3.80	17.3436	3.4375	3.6375	153,618,908	0.0237
2012	1.50	4.50	18.6992	3.7062	5.2062	145,146,253	0.0359
2013	1.30	9.70	26.6435	5.2807	6.5807	183,431,952	0.0359
2014	1.35	10.65	23.0142	4.5614	5.9114	140,570,275	0.0421
2015	1.55	4.45	22.9944	4.5575	6.1075	118,883,295	0.0514
2016	1.55	4.45	22.9944	4.5575	6.1075	118,883,295	0.0514
Total	7.50	48.50	155.3111	30.7827	38.2827	\$ 1,298,136,351	0.0295

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.5050	1,310.7	0.1277
	807	1.5050	1,604.8	0.0882
2007	779	1.5050	1,310.7	0.1277
2008	807	1.5050	1,604.8	0.0882
2009	836	1.5050	1,549.1	0.1203
2010	845	1.5050	1,896.2	0.1426
2011	858	1.5050	2,211.4	0.1439
2012	888	1.5050	2,210.5	0.1646
2013	917	1.5050	2,022.5	0.2574
2014	932	1.5050	2,514.9	0.2617
2015	951	1.5050	1,888.7	0.3130
2016	978	1.5050	1,553.3	0.3932
Total			18,762.1	0.2040

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Anthracite Surface (0153)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 2	# 2	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	1	-	-	1	-	0.05	0.05
2009	2	1	-	1	-	0.05	0.05
2010	-	-	-	-	-	-	-
2011	1	-	-	1	-	0.05	0.05
2012	1	-	-	1	-	0.05	0.05
2013	1	1	-	-	-	-	-
2014	1	-	-	1	-	0.05	0.05
2015	1	-	-	1	-	0.05	0.05
2016	1	-	1	-	0.30	-	-
Total	11	4	1	6	0.30	0.30	0.30
Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
2007	# 2.00	# 0.00	# 0.6159	# 0.1221	# 2.1221	\$ 14,866,556	0.1427
2008	0.05	0.95	0.8491	0.1683	0.2183	16,220,231	0.0135
2009	1.05	0.95	1.0196	0.2021	1.2521	15,893,528	0.0788
2010	-	-	1.0167	0.2015	0.2015	13,319,185	0.0151
2011	0.05	0.95	1.7364	0.3441	0.3941	19,507,428	0.0202
2012	0.05	0.95	2.6080	0.5169	0.5669	24,734,711	0.0229
2013	1.00	-	2.6180	0.5189	1.5189	20,720,014	0.0733
2014	0.05	0.95	2.8668	0.5682	0.6182	18,911,339	0.0327
2015	0.05	0.95	3.9888	0.7906	0.8406	22,234,350	0.0378
2016	0.30	0.70	4.0096	0.7947	1.0947	19,043,330	0.0575
Total	4.60	6.40	21.3288	4.2274	8.8274	\$ 185,450,672	0.0476
Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years			
2007	779	1.0560	347.5	0.6107			
2008	807	1.0560	366.0	0.0596			
2009	836	1.0560	346.2	0.3617			
2010	845	1.0560	287.0	0.0702			
2011	858	1.0560	414.0	0.0952			
2012	888	1.0560	507.3	0.1118			
2013	917	1.0560	411.5	0.3691			
2014	932	1.0560	369.5	0.1673			
2015	951	1.0560	425.8	0.1974			
2016	978	1.0560	354.6	0.3087			
Total			3,829.4	0.2305			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

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Run Date: October 11, 2017 - 09:27:23 AM

Effective Date - April 01, 2018

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Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Bituminous Surface (0156)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 5	# 1	# 0	# 4	# 0.00	# 0.20	# 0.20
2008	5	2	1	2	0.30	0.10	0.10
2009	-	-	-	-	-	-	-
2010	2	-	-	2	-	0.10	0.10
2011	3	-	1	2	0.30	0.10	0.10
2012	8	2	-	6	-	0.30	0.30
2013	4	-	-	4	-	0.20	0.20
2014	1	-	1	-	0.30	-	-
2015	3	1	1	1	0.30	0.05	0.05
2016	-	-	-	-	-	-	-
Total	31	6	4	21	1.20	1.05	1.05

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 1.20	# 3.80	# 1.8321	# 0.3631	# 1.5631	\$ 64,808,093	0.0241
	2.40	2.60	2.4648	0.4885	2.8885	74,601,231	0.0387
2007	# 1.20	# 3.80	# 1.8321	# 0.3631	# 1.5631	\$ 64,808,093	0.0241
2008	2.40	2.60	2.4648	0.4885	2.8885	74,601,231	0.0387
2009	-	-	2.4006	0.4758	0.4758	63,306,695	0.0075
2010	0.10	1.90	3.1908	0.6324	0.7324	74,255,177	0.0099
2011	0.40	2.60	4.3339	0.8590	1.2590	87,730,506	0.0144
2012	2.30	5.70	4.3821	0.8685	3.1685	77,890,500	0.0407
2013	0.20	3.80	4.0447	0.8017	1.0017	62,718,061	0.0160
2014	0.30	0.70	4.0641	0.8055	1.1055	55,368,615	0.0200
2015	1.35	1.65	3.4885	0.6914	2.0414	42,000,092	0.0486
2016	-	-	2.8982	0.5744	0.5744	29,758,888	0.0193
Total	8.25	22.75	33.0998	6.5604	14.8104	\$ 632,437,858	0.0234

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	1,515.0	0.1032
	807	1.0560	1,683.5	0.1716
2007	779	1.0560	1,515.0	0.1032
2008	807	1.0560	1,683.5	0.1716
2009	836	1.0560	1,379.0	0.0345
2010	845	1.0560	1,600.3	0.0458
2011	858	1.0560	1,862.1	0.0676
2012	888	1.0560	1,597.4	0.1984
2013	917	1.0560	1,245.5	0.0804
2014	932	1.0560	1,081.9	0.1022
2015	951	1.0560	804.3	0.2538
2016	978	1.0560	554.1	0.1037
Total			13,323.1	0.1112

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Four Standard Classes

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 11	# 3	# 2	# 6	# 0.60	# 0.30	# 0.30
2008	7	2	1	4	0.30	0.20	0.20
2009	8	1	-	7	-	0.35	0.35
2010	6	-	1	5	0.30	0.25	0.25
2011	10	-	2	8	0.60	0.40	0.40
2012	13	2	-	11	-	0.55	0.55
2013	12	2	1	9	0.30	0.45	0.45
2014	13	-	4	9	1.20	0.45	0.45
2015	16	1	4	11	1.20	0.55	0.55
2016	7	-	6	1	1.80	0.05	0.05
Total	103	11	21	71	6.30	3.55	3.55

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 3.90	# 7.10	# 7.5250	# 1.4914	# 5.3914	\$ 161,241,452	0.0334
	2.50	4.50	10.7893	2.1384	4.6384	194,312,152	0.0239
2007	2.50	4.50	10.7893	2.1384	4.6384	194,312,152	0.0239
2008	1.35	6.65	11.8444	2.3476	3.6976	181,884,229	0.0203
2009	0.55	5.45	15.9319	3.1577	3.7077	214,267,526	0.0173
2010	1.00	9.00	21.5350	4.2682	5.2682	256,981,587	0.0205
2011	2.55	10.45	24.7368	4.9028	7.4528	257,273,379	0.0290
2012	2.75	9.25	25.5431	5.0626	7.8126	228,966,204	0.0341
2013	1.65	11.35	33.7194	6.6832	8.3332	257,970,715	0.0323
2014	2.75	13.25	30.6721	6.0792	8.8292	205,059,053	0.0431
2015	1.85	5.15	30.0556	5.9570	7.8070	167,849,273	0.0465
2016	20.85	82.15	212.3526	42.0883	62.9383	\$ 2,125,805,570	0.0296
Total	20.85	82.15	212.3526	42.0883	62.9383	\$ 2,125,805,570	0.0296

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779		3,212.1	0.1678
	807		3,702.5	0.1253
2007	779		3,212.1	0.1678
2008	807		3,702.5	0.1253
2009	836		3,303.4	0.1119
2010	845		3,811.5	0.0973
2011	858		4,514.2	0.1167
2012	888		4,336.3	0.1719
2013	917		3,687.1	0.2119
2014	932		3,971.4	0.2098
2015	951		3,123.7	0.2827
2016	978		2,465.0	0.3167
Total			36,127.2	0.1742

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 1 to 4

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

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Run Date: October 11, 2017 - 09:27:23 AM

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Effective Date - April 01, 2018

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Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Coke (0154)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.1306	# 0.0259	# 0.0259	\$ 13,669,925	0.0019
	-	-	0.1067	0.0211	0.0211	9,761,146	0.0022
2008	-	-	0.0637	0.0126	0.0126	5,173,552	0.0024
2009	-	-	0.0747	0.0148	0.0148	5,435,658	0.0027
2010	-	-	0.0554	0.0110	0.0110	3,599,086	0.0031
2011	-	-	0.0982	0.0195	0.0195	5,738,105	0.0034
2012	-	-	0.0911	0.0181	0.0181	4,791,910	0.0038
2013	-	-	0.0934	0.0185	0.0185	4,464,398	0.0041
2014	-	-	0.0997	0.0198	0.0198	4,340,376	0.0046
2015	-	-	0.0589	0.0117	0.0117	2,313,724	0.0050
2016	-	-	0.8724	0.1729	0.1729	\$ 59,287,880	0.0029
Total	-	-	0.8724	0.1729	0.1729	\$ 59,287,880	0.0029

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	319.6	0.0081
	807	1.0560	220.3	0.0096
2007	779	1.0560	319.6	0.0081
2008	807	1.0560	220.3	0.0096
2009	836	1.0560	112.7	0.0112
2010	845	1.0560	117.1	0.0126
2011	858	1.0560	76.4	0.0144
2012	888	1.0560	117.7	0.0165
2013	917	1.0560	95.2	0.0190
2014	932	1.0560	87.2	0.0212
2015	951	1.0560	83.1	0.0238
2016	978	1.0560	43.1	0.0271
Total			1,272.4	0.0136

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Auger (0157)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-
2010	1	-	1	-	0.30	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	1	-	1	-	0.30	-	-

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.0214	# 0.0042	# 0.0042	\$ 1,121,156	0.0038
	-	-	0.0548	0.0109	0.0109	2,506,758	0.0043
2007	-	-	0.0233	0.0046	0.0046	946,963	0.0049
2008	0.30	0.70	0.0228	0.0045	0.3045	827,496	0.3680
2009	-	-	0.0362	0.0072	0.0072	1,176,255	0.0061
2010	-	-	0.0277	0.0055	0.0055	808,208	0.0068
2011	-	-	0.0398	0.0079	0.0079	1,046,947	0.0075
2012	-	-	0.0361	0.0072	0.0072	861,590	0.0083
2013	-	-	0.0301	0.0060	0.0060	654,766	0.0091
2014	-	-	0.0200	0.0040	0.0040	392,776	0.0101
2015	-	-	0.0200	0.0040	0.0040	392,776	0.0101
2016	-	-	0.0200	0.0040	0.0040	392,776	0.0101
Total	0.30	0.70	0.3122	0.0619	0.3619	\$ 10,342,915	0.0350

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	26.2	0.0162
	807	1.0560	56.6	0.0192
2007	807	1.0560	56.6	0.0192
2008	836	1.0560	20.6	0.0224
2009	845	1.0560	17.8	1.7108
2010	858	1.0560	25.0	0.0287
2011	888	1.0560	16.6	0.0331
2012	917	1.0560	20.8	0.0379
2013	932	1.0560	16.8	0.0426
2014	951	1.0560	12.5	0.0477
2015	978	1.0560	7.3	0.0543
2016	978	1.0560	7.3	0.0543
Total			220.2	0.1643

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

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Run Date: October 11, 2017 - 09:27:23 AM

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Effective Date - April 01, 2018

20,755,256.871261

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Anthracite Co-Gen (181)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	1	-	-	1	-	0.05	0.05
2013	1	-	-	1	-	0.05	0.05
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	2	-	-	2	-	0.10	0.10

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.2194	# 0.0435	# 0.0435	\$ 9,186,706	0.0047
	-	-	0.2056	0.0407	0.0407	7,521,400	0.0054
2008	-	-	0.2320	0.0460	0.0460	7,534,735	0.0061
2009	-	-	0.2735	0.0542	0.0542	7,958,048	0.0068
2010	-	-	0.4226	0.0838	0.0838	10,981,642	0.0076
2011	0.05	0.95	0.3983	0.0789	0.1289	9,311,812	0.0138
2012	0.05	0.95	0.3627	0.0719	0.1219	7,630,762	0.0160
2013	-	-	0.4375	0.0867	0.0867	8,360,898	0.0104
2014	-	-	0.5487	0.1088	0.1088	9,554,806	0.0114
2015	-	-	0.6222	0.1233	0.1233	9,784,031	0.0126
2016	-	-	0.6222	0.1233	0.1233	9,784,031	0.0126
Total	0.10	1.90	3.7225	0.7378	0.8378	\$ 87,824,840	0.0095

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	214.8	0.0202
	807	1.0560	169.7	0.0240
2007	779	1.0560	214.8	0.0202
2008	807	1.0560	169.7	0.0240
2009	836	1.0560	164.1	0.0280
2010	845	1.0560	171.5	0.0316
2011	858	1.0560	233.1	0.0359
2012	888	1.0560	191.0	0.0675
2013	917	1.0560	151.5	0.0805
2014	932	1.0560	163.4	0.0531
2015	951	1.0560	183.0	0.0594
2016	978	1.0560	182.2	0.0677
Total			1,824.3	0.0459

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Bituminous Co-Gen (182)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2008	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	1	-	-	1	-	0.05	0.05

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.05	# 0.95	# 0.2587	# 0.0513	# 0.1013	\$ 10,829,140	0.0094
2007	# 0.05	# 0.95	# 0.2587	# 0.0513	# 0.1013	\$ 10,829,140	0.0094
2008	-	-	0.2318	0.0459	0.0459	8,481,888	0.0054
2009	-	-	0.2422	0.0480	0.0480	7,866,413	0.0061
2010	-	-	0.3001	0.0595	0.0595	8,732,701	0.0068
2011	-	-	0.3503	0.0694	0.0694	9,102,411	0.0076
2012	-	-	0.3870	0.0767	0.0767	9,047,745	0.0085
2013	-	-	0.4922	0.0976	0.0976	10,355,884	0.0094
2014	-	-	0.6133	0.1216	0.1216	11,721,184	0.0104
2015	-	-	0.6746	0.1337	0.1337	11,748,205	0.0114
2016	-	-	0.7241	0.1435	0.1435	11,386,837	0.0126
Total	0.05	0.95	4.2743	0.8472	0.8972	\$ 99,272,408	0.0090

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2007	779	1.0560	253.2	0.0400
2008	807	1.0560	191.4	0.0240
2009	836	1.0560	171.4	0.0280
2010	845	1.0560	188.2	0.0316
2011	858	1.0560	193.2	0.0359
2012	888	1.0560	185.5	0.0413
2013	917	1.0560	205.7	0.0474
2014	932	1.0560	229.0	0.0531
2015	951	1.0560	225.0	0.0594
2016	978	1.0560	212.0	0.0677
Total			2,054.6	0.0437

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Anthracite Prep-Plant (183)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	1	-	1	-	0.30	-	-
2014	1	-	1	-	0.30	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	2	-	2	-	0.60	-	-

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.2779	# 0.0551	# 0.0551	\$ 5,817,291	0.0095
	-	-	0.3134	0.0621	0.0621	5,733,543	0.0108
2008	-	-	0.3858	0.0765	0.0765	6,264,606	0.0122
2009	-	-	0.3352	0.0664	0.0664	4,876,927	0.0136
2010	-	-	0.4712	0.0934	0.0934	6,123,259	0.0153
2011	-	-	0.6475	0.1283	0.1283	7,569,023	0.0170
2012	-	-	0.6725	0.1333	0.4333	7,074,886	0.0612
2013	0.30	0.70	0.6825	0.1353	0.4353	6,521,541	0.0667
2014	0.30	0.70	0.7117	0.1411	0.1411	6,196,596	0.0228
2015	-	-	0.6942	0.1376	0.1376	5,458,272	0.0252
2016	-	-	0.6942	0.1376	0.1376	5,458,272	0.0252
Total	0.60	1.40	5.1919	1.0290	1.6290	\$ 61,635,944	0.0264

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.0560	136.0	0.0405
	807	1.0560	129.4	0.0480
2007	779	1.0560	136.0	0.0405
2008	807	1.0560	129.4	0.0480
2009	836	1.0560	136.5	0.0560
2010	845	1.0560	105.1	0.0632
2011	858	1.0560	130.0	0.0718
2012	888	1.0560	155.2	0.0827
2013	917	1.0560	140.5	0.3084
2014	932	1.0560	127.4	0.3417
2015	951	1.0560	118.7	0.1188
2016	978	1.0560	101.6	0.1354
Total			1,280.4	0.1272

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Bituminous Prep-Plant (184)

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2008	-	-	-	-	-	-	-
2009	1	-	-	1	-	0.05	0.05
2010	-	-	-	-	-	-	-
2011	1	-	-	1	-	0.05	0.05
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	2	-	-	2	-	0.10	0.10

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.00	# 0.00	# 0.4513	# 0.0894	# 0.0894	\$ 18,895,192	0.0047
	-	-	0.5808	0.1151	0.1151	21,250,256	0.0054
2007	-	-	0.5808	0.1151	0.1151	21,250,256	0.0054
2008	0.05	0.95	0.6105	0.1210	0.1710	19,828,012	0.0086
2009	-	-	0.9044	0.1793	0.1793	26,313,130	0.0068
2010	0.05	0.95	1.3528	0.2681	0.3181	35,155,068	0.0090
2011	-	-	1.4634	0.2900	0.2900	34,211,729	0.0085
2012	-	-	1.5987	0.3169	0.3169	33,639,969	0.0094
2013	-	-	1.6668	0.3304	0.3304	31,854,431	0.0104
2014	-	-	1.3966	0.2768	0.2768	24,320,608	0.0114
2015	-	-	1.1771	0.2333	0.2333	18,510,111	0.0126
2016	-	-	1.1771	0.2333	0.2333	18,510,111	0.0126
Total	0.10	1.90	11.2024	2.2203	2.3203	\$ 263,978,506	0.0088

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779	1.5050	309.9	0.0289
	807	1.5050	336.5	0.0342
2007	779	1.5050	309.9	0.0289
2008	807	1.5050	336.5	0.0342
2009	836	1.5050	303.1	0.0564
2010	845	1.5050	397.9	0.0450
2011	858	1.5050	523.6	0.0608
2012	888	1.5050	492.3	0.0589
2013	917	1.5050	468.8	0.0676
2014	932	1.5050	436.7	0.0756
2015	951	1.5050	326.8	0.0847
2016	978	1.5050	241.8	0.0965
Total			3,837.4	0.0605

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Total Other Classes

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2007	-	-	-	-	-	-	-
2008	1	-	-	1	-	0.05	0.05
2009	1	-	1	-	0.30	-	-
2010	1	-	-	1	-	0.05	0.05
2011	1	-	-	1	-	0.05	0.05
2012	2	-	1	1	0.30	0.05	0.05
2013	1	-	1	-	0.30	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
Total	8	-	3	5	0.90	0.25	0.25

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.05	# 0.95	# 1.3593	# 0.2694	# 0.3194	\$ 59,519,410	0.0054
2007	-	-	1.4931	0.2959	0.2959	55,254,991	0.0054
2008	0.05	0.95	1.5575	0.3087	0.3587	47,614,281	0.0075
2009	0.30	0.70	1.9107	0.3787	0.6787	54,143,960	0.0125
2010	0.05	0.95	2.6885	0.5329	0.5829	66,137,721	0.0088
2011	0.05	0.95	3.0221	0.5990	0.6490	66,686,622	0.0097
2012	0.35	1.65	3.2570	0.6455	0.9955	64,540,358	0.0154
2013	0.30	0.70	3.5296	0.6996	0.9996	63,784,042	0.0157
2014	-	-	3.4614	0.6860	0.6860	56,815,357	0.0121
2015	-	-	3.2965	0.6534	0.6534	47,845,751	0.0137
2016	-	-	3.2965	0.6534	0.6534	47,845,751	0.0137
Total	1.15	6.85	25.5757	5.0691	6.2191	\$ 582,342,493	0.0107

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2007	779		1,259.7	0.0254
2008	807		1,103.9	0.0268
2009	836		908.4	0.0395
2010	845		997.6	0.0680
2011	858		1,181.3	0.0493
2012	888		1,158.3	0.0560
2013	917		1,082.5	0.0920
2014	932		1,060.5	0.0943
2015	951		949.1	0.0723
2016	978		788.0	0.0829
Total			10,489.3	0.0593

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 6 to 11

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-08-F.xlsm)p 12

Run Date: October 11, 2017 - 09:27:23 AM

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Effective Date - April 01, 2018

1,164,775,055.108620

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Grand Total

Year	Counts				(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2007	# 12	# 3	# 2	# 7	# 0.60	# 0.35	# 0.35
2008	7	2	1	4	0.30	0.20	0.20
2009	9	1	-	8	-	0.40	0.40
2010	7	-	2	5	0.60	0.25	0.25
2011	11	-	2	9	0.60	0.45	0.45
2012	14	2	-	12	-	0.60	0.60
2013	14	2	2	10	0.60	0.50	0.50
2014	14	-	5	9	1.50	0.45	0.45
2015	16	1	4	11	1.20	0.55	0.55
2016	7	-	6	1	1.80	0.05	0.05
Total	111	11	24	76	7.20	3.80	3.80

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 3.95	# 8.05	# 8.8843	# 1.7609	# 5.7109	\$ 220,760,862	0.0259
	2.50	4.50	12.2824	2.4344	4.9344	249,567,143	0.0198
2007	2.50	4.50	12.2824	2.4344	4.9344	249,567,143	0.0198
2008	1.40	7.60	13.4019	2.6563	4.0563	229,498,510	0.0177
2009	0.85	6.15	17.8426	3.5364	4.3864	268,411,486	0.0163
2010	1.05	9.95	24.2235	4.8011	5.8511	323,119,308	0.0181
2011	2.60	11.40	27.7589	5.5018	8.1018	323,960,001	0.0250
2012	3.10	10.90	28.8001	5.7082	8.8082	293,506,562	0.0300
2013	1.95	12.05	37.2490	7.3828	9.3328	321,754,757	0.0290
2014	2.75	13.25	34.1335	6.7653	9.5153	261,874,410	0.0363
2015	1.85	5.15	33.3521	6.6104	8.4604	215,695,024	0.0392
2016	22.00	89.00	237.9283	47.1574	69.1574	\$ 2,708,148,063	0.0255
Total	22.00	89.00	237.9283	47.1574	69.1574	\$ 2,708,148,063	0.0255

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	779		4,471.8	0.1277
	807		4,806.4	0.1027
2007	779		4,471.8	0.1277
2008	807		4,806.4	0.1027
2009	836		4,211.8	0.0963
2010	845		4,809.1	0.0912
2011	858		5,695.5	0.1027
2012	888		5,494.6	0.1475
2013	917		4,769.6	0.1847
2014	932		5,031.9	0.1855
2015	951		4,072.8	0.2336
2016	978		3,253.0	0.2601
Total			46,616.5	0.1484

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 5 & 12

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1982

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-08-F.xlsm)p 13

Run Date: October 11, 2017 - 09:27:23 AM

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Effective Date - April 01, 2018

5,416,459,730.247600

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

															"All Permanent Partial" Scenario (see note)							
			Exp. Yr.	Age of Miner at Comp Date	State Benefit	Medical Before Act 44		Medical After Act 44	Offsets for:		Federal Excess:			State plus Act 44		Offsets for:		Federal Excess:				
ID No.	Class	Pend (1) Type*				Soc. Sec.	Pension		Base	SS	SS, PP	State Benefit	Medical	Soc. Sec.	Pension	Base	SS	SS, PP				
1717	1011	2	1993	61.26	586,466	21,109	1.00	21,109	-	143,881	34	34	5,407	306,608	-	-	77,832	172,646	172,646	172,646		
1721	1011	2	1990	66.83	603,303	15,895	1.00	15,895	-	-	-	-	-	420,746	-	-	-	48,496	48,496	48,496		
2053	1011	2	1992	47.39	1,641,541	35,482	1.00	35,482	296,889	184,863	0	28,551	166,234	593,599	-	-	-	412,903	412,903	412,903		
3070	1011	2	1993	61.22	445,793	21,109	1.00	21,109	-	142,655	-	-	282	271,163	-	-	77,168	82,194	82,194	82,194		
5551	1011	2	1993	64.79	553,575	17,544	1.00	17,544	-	155,057	11	11	2,642	308,909	-	-	102,698	143,941	143,941	144,640		
5717	1011	2	1992	49.97	1,343,431	32,295	1.00	32,295	269,790	158,959	17	47,346	183,091	489,581	-	-	-	415,906	415,906	415,906		
6627	1011	2	LS 1999	62.24	139,057	20,184	1.00	20,184	-	68,990	208,423	208,423	269,802	139,057	-	-	68,990	206,173	206,173	267,552		
10280	1011	2	LS 2011	49.92	517,608	32,295	1.00	32,295	-	-	437,712	437,712	437,712	517,608	-	-	-	441,449	441,449	441,449		
10536	1011	2	LS 2013	53.66	392,565	28,082	1.00	28,082	-	-	384,002	384,002	384,002	392,565	-	-	-	383,092	383,092	383,092		

Total Underground Anthracite	9	6,223,338	223,997	223,997	566,679	854,406	1,030,199	1,106,079	1,449,171	3,439,835	0	0	326,687	2,306,799	2,306,799	2,368,878
Average of 9 claims		691,482	24,889	24,889	62,964	94,934	114,467	122,898	161,019	382,204	0	0	36,299	256,311	256,311	263,209
		6,447,335														
Medical plus Indemnity Adjusted		716,371			62,964	94,934	114,467	122,898	161,019	407,092		0	36,299	256,311	256,311	263,209
										407,092		0	36,299	256,311	256,311	263,209

* Type code is as follows: 500 is 500 Weeks; WO is Widow Only; LS is Lump Sum otherwise the claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits. Widow Only, 500 Week and Lump Sums were the same as in the Base Scenario.

Sources: Individual claim data from CMCRB.

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note)																					
Awd (2)		Exp. Yr.	Age of Miner at Comp Date	State Benefit	Medical	Act 44	Medical	Offsets for:		Federal Excess:			State plus		Offsets for:		Federal Excess:				
ID No.	Class				Pend	Type*	Before Act 44	Factor	After Act 44	Soc.	Pension	Base	SS	SS, PP	Benefit	Act 44	Soc. Sec.	Pension	Base	SS	SS, PP
511	1002	2		1992	63.51	827,319	18,401	1.00	18,401	-	347,008	-	-	-	533,911	-	-	219,848	65,201	65,201	66,815
517	1002	2	LS	1993	64.91	109,029	17,544	1.00	17,544	-	92,549	206,280	206,280	297,910	109,029	-	-	92,549	206,415	206,415	298,045
518	1002	2	LS	1992	63.60	170,164	18,401	1.00	18,401	-	137,071	203,835	203,835	303,669	170,164	-	-	137,071	203,901	203,901	303,735
1330	1002	2	500	1993	63.31	394,302	19,281	1.00	19,281	-	121,749	251,743	251,743	251,743	394,302	-	-	121,749	252,441	252,441	252,441
1892	1002	2	LS	1990	67.38	60,006	15,895	1.00	15,895	-	46,447	220,359	220,359	266,806	60,006	-	-	46,447	219,772	219,772	266,219
3222	1002	2	500	1992	62.84	145,900	19,281	1.00	19,281	-	45,053	217,674	217,674	234,568	145,900	-	-	45,053	217,936	217,936	234,830
3532	1002	2	LS	1995	58.06	297,107	24,008	1.00	24,008	57,005	21,478	263,144	279,802	297,315	297,107	-	57,005	21,478	263,289	279,947	297,459
3706	1002	2	LS	1992	65.08	113,970	17,544	1.00	17,544	-	91,076	202,302	202,302	293,379	113,970	-	-	91,076	202,019	202,019	293,096
5479	1002	2		1992	63.72	825,285	18,401	1.00	18,401	-	224,224	-	-	13	447,060	-	-	142,057	155,740	155,740	156,782
5918	1002	2		1990	66.69	1,090,501	15,895	1.00	15,895	-	340,863	-	-	24	609,731	-	-	267,520	124,138	124,138	125,575
5966	1002	2		1994	58.76	1,515,645	23,023	1.00	23,023	310,154	309,166	-	3,322	128,355	624,051	-	102,451	124,641	287,483	289,190	310,817
6415	1002	2	500	1992	62.41	445,940	20,184	1.00	20,184	-	142,204	229,278	229,278	229,278	445,940	-	-	142,204	228,129	228,129	228,129
6771	1002	2	500	1992	62.49	98,009	20,184	1.00	20,184	-	69,708	98,384	98,384	152,001	98,009	-	-	69,708	98,384	98,384	152,001
7004	1002	2		1992	60.69	1,141,327	21,109	1.00	21,109	-	281,232	-	-	0	590,989	-	-	166,229	180,512	180,512	181,900
7051	1002	2	LS	1997	56.50	146,703	25,009	1.00	25,009	26,076	77	274,028	298,072	298,148	146,703	-	26,076	77	274,001	298,045	298,121
7941	1002	2	LS	1994	66.34	17,793	16,709	1.00	16,709	-	13,520	232,966	232,966	246,486	17,793	-	-	13,520	232,590	232,590	246,110
8028	1002	2		1992	55.50	1,428,429	26,022	1.00	26,022	289,790	244,045	-	3,826	93,693	609,885	-	53,049	56,039	287,587	289,251	293,127
9826	1002	2	LS	1999	52.91	48,546	29,127	1.00	29,127	-	-	432,885	432,885	432,885	48,546	-	-	-	433,109	433,109	433,109
9829	1002	2	LS	2001	61.37	129,997	21,109	1.00	21,109	-	76,413	260,585	260,585	333,986	129,997	-	-	76,413	259,864	259,864	333,265
9835	1002	2	LS	1999	54.98	3,292	27,047	1.00	27,047	84	-	458,666	458,751	458,751	3,292	-	84	-	459,393	459,477	459,477
9841	1002	2	LS	2001	59.31	126,615	23,023	1.00	23,023	44,335	120	273,337	316,900	317,020	126,615	-	44,335	120	272,562	316,124	316,245
9886	1002	2	LS	2000	59.93	589,377	22,056	1.00	22,056	76,830	93,156	259,320	259,320	261,189	589,377	-	76,830	93,156	259,331	259,331	261,200
9901	1002	2	LS	2002	45.33	184,760	37,590	1.00	37,590	-	-	516,972	516,972	516,972	184,760	-	-	-	522,264	522,264	522,264
9996	1002	2	LS	2004	52.31	85,831	30,179	1.00	30,179	-	-	406,831	406,831	406,831	85,831	-	-	-	403,766	403,766	403,766
10016	1002	2	LS	2002	58.68	153,373	23,023	1.00	23,023	53,745	106	251,247	297,497	297,604	153,373	-	53,745	106	250,343	296,593	296,699
10021	1002	2	LS	2000	66.09	88,935	16,709	1.00	16,709	-	68,163	179,984	179,984	248,147	88,935	-	-	68,163	179,663	179,663	247,826
10022	1002	2	LS	2000	59.02	88,479	23,023	1.00	23,023	31,066	-	276,384	307,441	307,441	88,479	-	31,066	-	276,738	307,795	307,795
10025	1002	2	LS	2000	57.74	88,512	24,008	1.00	24,008	23,381	-	300,800	324,181	324,181	88,512	-	23,381	-	300,981	324,362	324,362
10026	1002	2	LS	2000	61.43	86,600	21,109	1.00	21,109	-	52,087	238,443	238,443	290,474	86,600	-	-	52,087	238,175	238,175	290,206
10038	1002	2	LS	2000	44.43	72,512	38,629	1.00	38,629	-	-	674,513	674,513	674,513	72,512	-	-	-	692,902	692,902	692,902
10048	1002	2	LS	2005	54.58	87,841	27,047	1.00	27,047	2,253	-	351,411	353,664	353,664	87,841	-	2,253	-	343,681	345,934	345,934
10088	1002	2	LS	2005	60.48	116,995	22,056	1.00	22,056	-	68,743	100,539	100,539	152,173	116,995	-	-	68,743	100,539	100,539	152,173
10164	1002	2	LS	2001	53.43	84,410	29,127	1.00	29,127	-	-	524,948	524,948	524,948	84,410	-	-	-	534,071	534,071	534,071
10208	1002	2	LS	2005	61.64	217,327	20,184	1.00	20,184	-	129,962	206,113	206,113	270,845	217,327	-	-	129,962	202,535	202,535	267,267
10286	1002	2	LS	2008	57.98	110,615	24,008	1.00	24,008	29,220	-	352,902	381,920	381,920	110,615	-	29,220	-	354,923	383,941	383,941
10330	1002	2	LS	2012	63.34	190,397	19,281	1.00	19,281	-	131,999	253,566	253,566	339,845	190,397	-	-	131,999	252,603	252,603	338,882
10345	1002	2	LS	2008	49.57	501,188	32,295	1.00	32,295	-	-	462,951	462,951	462,951	501,188	-	-	-	467,033	467,033	467,033
10347	1002	2	LS	2011	65.26	230,459	17,544	1.00	17,544	-	-	75,820	75,820	75,820	230,459	-	-	-	75,820	75,820	75,820
10357	1002	2	LS	2012	62.39	94,058	20,184	1.00	20,184	-	58,243	243,735	243,735	301,758	94,058	-	-	58,243	243,957	243,957	301,980
10360	1002	2	LS	2013	59.65	103,902	22,056	1.00	22,056	45,634	-	113,830	152,918	152,918	103,902	-	45,634	-	113,830	152,918	152,918
10433	1002	2	LS	2012	67.99	85,192	15,105	1.00	15,105	-	65,840	210,667	210,667	276,507	85,192	-	-	65,840	210,580	210,580	276,421
10434	1002	2	LS	2013	62.69	72,277	19,281	1.00	19,281	-	51,424	256,322	256,322	307,746	72,277	-	-	51,424	256,335	256,335	307,758
10435	1002	2	LS	2013	58.48	206,999	24,008	1.00	24,008	48,147	6,533	282,838	312,014	318,475	206,999	-	48,147	6,533	283,360	312,536	318,997
10465	1002	2	LS	2011	65.82	15,938	16,709	1.00	16,709	-	-	130,019	130,019	130,019	15,938	-	-	-	130,019	130,019	130,019
10516	1002	2	LS	2014	75.79	72,396	9,700	1.00	9,700	-	42,868	103,796	103,796	146,664	72,396	-	-	42,868	103,680	103,680	146,547
10561	1002	2	LS	2014	60.60	123,792	21,109	1.00	21,109	-	83,764	92,959	92,959	151,503	123,792	-	-	83,764	92,959	92,959	151,503
10599	1002	1		2012	62.02	890,503	20,184	1.00	20,184	-	298,738	-	-	-	545,630	-	-	163,159	78,204	78,204	79,762
10601	1002	2	LS	2015	61.61	264,862	20,184	1.00	20,184	-	107,961	239,978	239,978	256,335	264,862	-	-	107,961	240,553	240,553	256,910
Total Underground Bituminous				48	14,043,410	1,053,584	1,053,584	1,037,719	3,863,591	10,932,355	11,224,074	12,567,472	10,285,657	0	593,275	2,957,806	12,133,309	12,421,252	13,582,253		
Average of 48 claims					292,571	21,950	21,950	21,619	80,491	227,757	233,835	261,822	214,285	0	12,360	61,621	252,777	258,776	282,964		
					15,096,994																

* Type code is as follows: 500 is 500 Weeks; WO is Widow Only; LS is Lump Sum otherwise the claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

															"All Permanent Partial" Scenario (see note)								
		Awd (2)		Exp. Yr.	Age of Miner at Comp Date	State Benefit	Medical Before Act 44		Medical After Act 44	Offsets for:		Federal Excess:			State plus Act 44		Offsets for:		Federal Excess:				
ID No.	Class	Pend	(1) Type*				Act 44	Factor		Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Medical	Soc. Sec.	Pension	Base	SS	SS, PP		
408	1016	2		1994	69.02	793,102	14,339	1.00	14,339	-	172,356	-	-	0	516,304	-	-	145,642	84,518	84,518	85,164	-	
439	1016	2	LS	1999	73.64	21,523	10,907	1.00	10,907	-	-	77,667	77,667	77,667	21,523	-	-	-	77,667	77,667	77,667	-	
566	1016	2		1990	63.64	848,045	18,401	1.00	18,401	-	155,678	14,683	14,683	22,446	314,424	-	-	98,630	439,884	439,884	440,608	-	
636	1016	2		1994	62.25	555,178	20,184	1.00	20,184	-	140,014	36	36	6,261	295,432	-	-	76,470	157,387	157,387	158,117	-	
778	1016	2	WO	1991	N/A	285,103	-	1.00	-	-	-	-	-	-	284,376	-	-	-	-	-	-	-	
924	1016	2	LS	1997	62.59	28,203	19,281	1.00	19,281	-	20,066	294,404	294,404	314,469	28,203	-	-	20,066	294,784	294,784	314,850	-	
1719	1016	2		1996	63.07	668,644	19,281	1.00	19,281	-	227,602	-	-	-	420,450	-	-	134,530	72,410	72,410	73,533	-	
2268	1016	2		1997	66.58	503,092	15,895	1.00	15,895	-	-	-	-	-	350,859	-	-	-	48,947	48,947	48,947	-	
2287	1016	2	LS	1998	67.80	506,905	15,105	1.00	15,105	-	127,483	138,079	138,079	138,079	506,905	-	-	127,483	138,083	138,083	138,083	-	
2479	1016	2		1990	63.94	746,562	18,401	1.00	18,401	-	213,161	-	-	19	423,411	-	-	135,049	134,587	134,587	135,578	-	
2794	1016	2		1993	65.92	950,213	16,709	1.00	16,709	-	214,590	-	-	-	587,345	-	-	175,370	98,379	98,379	99,240	-	
2827	1016	2		1992	66.08	743,564	16,709	1.00	16,709	-	164,206	-	-	0	454,812	-	-	132,592	105,019	105,019	105,690	-	
3350	1016	2	WO	1993	N/A	634,387	-	1.00	-	-	-	-	-	-	638,109	-	-	-	-	-	-	-	
3814	1016	2		1993	71.83	44,011	12,201	1.00	12,201	-	-	60,712	60,712	60,712	34,714	-	-	-	70,009	70,009	70,009	-	
3970	1016	2	LS	1991	43.13	309,703	39,654	1.00	39,654	-	-	260,050	260,050	260,050	309,703	-	-	-	260,050	260,050	260,050	-	
5605	1016	2		1992	69.33	701,814	14,339	1.00	14,339	-	151,731	-	-	0	462,146	-	-	129,500	78,113	78,113	78,668	-	
5805	1016	2		1992	67.23	562,923	15,895	1.00	15,895	-	-	-	-	-	392,585	-	-	-	48,678	48,678	48,678	-	
6071	1016	2		1994	60.28	856,746	22,056	1.00	22,056	-	204,345	-	-	69	445,670	-	-	111,605	179,257	179,257	180,322	-	
6322	1016	2	LS	1991	59.49	525,908	23,023	1.00	23,023	52,565	51,645	119,134	119,134	119,134	525,908	-	52,565	51,645	119,134	119,134	119,134	-	
6481	1016	2		1990	65.74	629,333	16,709	1.00	16,709	-	140,244	0	0	540	349,837	-	-	106,517	146,014	146,014	146,622	-	
6603	1016	2		1995	69.81	397,967	13,599	1.00	13,599	-	85,955	30	30	4,142	254,053	-	-	72,216	94,112	94,112	94,790	-	
6765	1016	2	WO	1990	N/A	495,238	-	1.00	-	-	-	-	-	-	495,573	-	-	-	-	-	-	-	
7028	1016	2		1997	62.27	585,529	20,184	1.00	20,184	-	187,370	-	-	3	358,765	-	-	102,334	79,561	79,561	80,538	-	
7473	1016	2		1995	66.97	1,283,091	15,895	1.00	15,895	-	322,912	-	-	2	616,509	-	-	241,165	182,916	182,916	184,327	-	
7825	1016	2		1995	67.59	455,631	15,105	1.00	15,105	-	99,938	1	1	1,589	287,547	-	-	82,622	96,126	96,126	96,519	-	
7857	1016	2		1993	59.70	698,303	22,056	1.00	22,056	246,295	196,547	-	4,122	69,040	406,367	-	93,077	89,274	93,458	94,787	100,483	-	
9805	1016	2	LS	2000	74.58	18,589	10,293	1.00	10,293	-	12,674	225,461	225,461	238,135	18,589	-	-	12,674	225,407	225,407	238,081	-	
9811	1016	2		2001	48.10	951,648	34,421	1.00	34,421	211,339	95,179	1,637	111,509	203,114	347,826	-	-	-	406,516	406,516	406,516	-	
9939	1016	2	LS	2003	61.41	193,535	21,109	1.00	21,109	-	77,619	267,077	267,077	304,773	193,535	-	-	77,619	265,140	265,140	302,836	-	
9981	1016	2		2004	79.61	550,911	7,558	1.00	7,558	-	152,640	-	-	0	475,408	-	-	149,670	14,724	14,724	14,865	-	
10030	1016	2		2005	60.16	642,186	22,056	1.00	22,056	-	150,615	37	37	4,336	329,002	-	-	82,260	189,165	189,165	189,951	-	
10074	1016	2	LS	2003	61.47	92,897	21,109	1.00	21,109	-	55,875	101,069	101,069	153,008	92,897	-	-	55,875	101,069	101,069	153,008	-	
10140	1016	2	LS	2007	68.81	100,844	14,339	1.00	14,339	-	75,625	170,537	170,537	246,162	100,844	-	-	75,625	170,359	170,359	245,985	-	
10190	1016	2	LS	2007	60.60	76,067	21,109	1.00	21,109	-	51,471	102,615	102,615	154,086	76,067	-	-	51,471	102,615	102,615	154,086	-	
10203	1016	2	WO	2008	N/A	439,188	-	1.00	-	-	-	-	-	-	439,129	-	-	-	-	-	-	-	
10259	1016	2	LS	2007	72.89	42,680	11,543	1.00	11,543	-	28,139	152,539	152,539	180,678	42,680	-	-	28,139	152,207	152,207	180,346	-	
10278	1016	2	LS	2011	76.68	96,700	9,130	1.00	9,130	-	44,589	101,549	101,549	146,139	96,700	-	-	44,589	101,563	101,563	146,153	-	
10602	1016	1		2016	63.69	1,165,918	18,401	1.00	18,401	-	301,337	-	-	0	600,981	-	-	190,913	179,637	179,637	181,038	-	
Total Surface Anthracite Average of 38 claims					38	19,201,882 505,313 19,808,879	606,997 15,974	606,997 15,974		510,199 13,426	3,921,607 103,200	2,087,319 54,929	2,201,313 57,929	2,704,651 71,175	12,595,188 331,452	0 0	145,642 3,833	2,801,544 73,725	5,007,495 131,776	5,008,823 131,811	5,350,479 140,802		
Medical plus Indemnity Adjusted						521,286				13,426	103,200	54,929	57,929	71,175	347,426 347,426		3,833 3,833	73,725 73,725	131,776 131,776	131,811 131,811	140,802 140,802		

* Type code is as follows: 500 is 500 Weeks; WO is Widow Only; LS is Lump Sum otherwise the claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits. Widow Only, 500 Week and Lump Sums were the same as in the Base Scenario.

Sources: Individual claim data from CMCRB.

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

														"All Permanent Partial" Scenario (see note)							
				Age of		Medical		Medical		Federal Excess:				State plus		Federal Excess:					
		Awd (2)		Miner at		Before		After		Offsets for:		After Offsets:		Act 44		Offsets for:		Federal Excess:			
ID No.	Class	Pend	(1) Type*	Exp. Yr.	Comp Date	State Benefit	Act 44	Factor	Act 44	Soc. Sec.	Pension	Base	SS	SS, PP	State Benefit	Act 44 Medical	Soc. Sec.	Pension	Base	SS	SS, PP
513	1013	2		1993	64.41	1,281,487	18,401	1.00	18,401	-	380,415	-	-	2	617,789	-	-	241,013	186,087	186,087	187,855
656	1013	2		1999	53.50	1,019,095	28,082	1.00	28,082	236,740	153,019	16	40,016	169,512	418,939	-	19,487	16,973	313,490	314,873	322,362
1135	1013	2	LS	1990	45.48	566,572	37,590	1.00	37,590	-	-	501,652	501,652	501,652	566,572	-	-	-	504,970	504,970	504,970
2486	1013	2	LS	1996	64.21	75,192	18,401	1.00	18,401	-	60,568	93,511	93,511	154,079	75,192	-	-	60,568	93,511	93,511	154,079
3386	1013	2	LS	1993	57.79	330,142	24,008	1.00	24,008	38,417	36,762	291,371	293,864	315,997	330,142	-	38,417	36,762	292,342	294,835	316,968
3867	1013	2		1994	45.76	1,584,283	36,540	1.00	36,540	287,523	157,103	5	53,084	189,589	542,236	-	-	-	472,155	472,155	472,155
3968	1013	2	500	1991	43.69	423,785	38,629	1.00	38,629	-	-	251,142	251,142	251,142	423,785	-	-	-	251,142	251,142	251,142
5814	1013	2	LS	1997	61.04	10,350	21,109	1.00	21,109	-	6,225	295,616	295,616	301,842	10,350	-	-	6,225	292,805	292,805	299,031
5816	1013	2	LS	1996	61.04	174,908	21,109	1.00	21,109	-	105,202	221,420	221,420	296,741	174,908	-	-	105,202	221,633	221,633	296,954
5963	1013	2	LS	1994	59.11	63,523	23,023	1.00	23,023	22,304	-	334,900	357,204	357,204	63,523	-	22,304	-	335,376	357,680	357,680
5968	1013	2	LS	1995	56.89	307,291	25,009	1.00	25,009	22,367	19,893	329,228	331,821	343,069	307,291	-	22,367	19,893	330,075	332,668	343,916
7788	1013	2	LS	1991	69.22	188,120	14,339	1.00	14,339	-	125,776	91,817	91,817	177,017	188,120	-	-	125,776	91,294	91,294	176,494
9770	1013	2	LS	1999	59.19	42,244	23,023	1.00	23,023	14,832	-	309,014	323,846	323,846	42,244	-	14,832	-	309,475	324,307	324,307
9771	1013	2	LS	1998	62.52	110,503	19,281	1.00	19,281	-	78,620	91,336	91,336	152,091	110,503	-	-	78,620	91,336	91,336	152,091
9999	1013	2	LS	2005	46.21	33,932	36,540	1.00	36,540	-	-	282,816	282,816	282,816	33,932	-	-	-	282,816	282,816	282,816
10439	1013	2		2011	61.51	719,918	20,184	1.00	20,184	-	245,056	-	-	-	449,468	-	-	143,637	75,343	75,343	75,343
10537	1013	2	LS	2012	64.47	104,980	18,401	1.00	18,401	-	84,564	185,206	185,206	268,732	104,980	-	-	84,564	185,058	185,058	268,585
10582	1013	1		2015	72.09	294,277	12,201	1.00	12,201	-	-	-	-	-	232,115	-	-	-	26,677	26,677	26,677
10598	1013	2	LS	2012	61.71	22,755	20,184	1.00	20,184	-	15,777	302,714	302,714	318,491	22,755	-	-	15,777	303,280	303,280	319,057

Total Surface Bituminous	19	7,353,358	456,053	456,053	622,182	1,468,982	3,581,764	3,717,065	4,403,821	4,714,844	0	117,406	935,011	4,658,866	4,702,471	5,132,481
Average of 19 claims		387,019	24,003	24,003	32,746	77,315	188,514	195,635	231,780	248,150	0	6,179	49,211	245,203	247,498	270,131
		7,809,411														
Medical plus Indemnity Adjusted		411,022			32,746	77,315	188,514	195,635	231,780	272,152		6,179	49,211	245,203	247,498	270,131
										272,152		6,179	49,211	245,203	247,498	270,131

* Type code is as follows: 500 is 500 Weeks; WO is Widow Only; LS is Lump Sum otherwise the claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits. Widow Only, 500 Week and Lump Sums were the same as in the Base Scenario.

Sources: Individual claim data from CMCRB.

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

															"All Permanent Partial" Scenario (see note)						
ID No.	Class	Pend (1)	Type*	Exp. Yr.	Age of Miner at Comp Date	State Benefit	Medical Before Act 44		Medical After Act 44	Offsets for:		Federal Excess:			State plus Act 44		Offsets for:		Federal Excess:		
							Factor			Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Medical	Soc. Sec.	Pension	Base	SS	SS, PP
3221	1017	2		1993	60.76	1,406,271	21,109	1.00	21,109	-	400,001	-	-	223	618,083	-	-	236,430	239,946	239,946	241,920
3224	1017	2	LS	1992	56.91	223,389	25,009	1.00	25,009	35,198	4,626	308,601	328,726	333,281	223,389	-	35,198	4,626	308,074	328,200	332,755
9944	1022	2	LS	2003	53.06	81,876	29,127	1.00	29,127	-	-	362,402	362,402	362,402	81,876	-	-	-	362,147	362,147	362,147
10124	1024	2	LS	2006	59.96	111,540	22,056	1.00	22,056	48,988	-	113,459	152,563	152,563	111,540	-	48,988	-	113,459	152,563	152,563
1126	1026	2		1997	55.39	471,967	27,047	1.00	27,047	170,982	90,931	43	54,509	139,824	242,447	-	22,743	17,336	134,501	135,494	147,510
9877	1026	2	LS	1997	54.71	37,604	27,047	1.00	27,047	964	-	198,264	199,229	199,229	37,604	-	964	-	198,264	199,229	199,229
9993	1026	2	LS	2004	N/A	71,331	-	1.00	-	-	-	141,155	141,155	141,155	71,331	-	-	-	140,302	140,302	140,302
10161	1026	2	LS	2007	43.15	28,359	39,654	1.00	39,654	-	-	707,108	707,108	707,108	28,359	-	-	-	722,490	722,490	722,490
10245	1026	2		2010	74.49	420,597	10,907	1.00	10,907	-	87,003	-	-	5	315,031	-	-	80,489	43,102	43,102	43,318
9784	1028	2	LS	2000	N/A	65,627	-	1.00	-	-	-	194,718	194,718	194,718	65,627	-	-	-	196,846	196,846	196,846

Total Surface Bituminous Average of 10 claims	10	2,918,560	201,956	201,956	256,133	582,560	2,025,749	2,140,410	2,230,508	1,795,286	0	107,893	338,881	2,459,131	2,520,318	2,539,079
		291,856	20,196	20,196	25,613	58,256	202,575	214,041	223,051	179,529	0	10,789	33,888	245,913	252,032	253,908
		3,120,517														
Medical plus Indemnity Adjusted		312,052			25,613	58,256	202,575	214,041	223,051	199,724		10,789	33,888	245,913	252,032	253,908
										199,724		10,789	33,888	245,913	252,032	253,908

* Type code is as follows: 500 is 500 Weeks; WO is Widow Only; LS is Lump Sum otherwise the claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits. Widow Only, 500 Week and Lump Sums were the same as in the Base Scenario.

Sources: Individual claim data from CMCRB.

Coal Mine Compensation Rating Bureau
Individual Claim Detail for Federal Basic

Exhibit IX-B
Page 1
Underground Anthracite
Class 160

ID No.	Class	Awd (2) Pend (1)	Exposure Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
9,929	160	2	5/7/2001	0	51.00	435,099	75,570
1,335	160	2	4/4/1994	0	61.23	181,174	51,070
10,200	160	2	10/24/2006	0	53.47	557,274	70,468
2,051	160	2	12/6/1990	0	64.94	291,588	42,446
10,199	160	2	1/1/1990	0	60.50	399,033	53,361
9,876	160	2	6/13/2001	0	64.89	283,413	42,446
3,089	160	2	12/6/1990	0	52.39	578,257	73,013
3,156	160	2	6/22/1990	0	67.11	419,603	38,457
10,423	160	1	4/11/2011	0	58.26	391,496	58,084
3,720	160	2	10/1/1990	WO	N/A	235,673	-
10,532	160	1	2/28/2002	0	60.31	368,032	53,361
4,555	160	2	6/22/1990	0	67.34	288,938	38,457
4,735	160	2	5/5/1992	WO	N/A	269,137	-
10,237	160	2	7/21/2003	0	65.28	275,560	42,446
10,482	160	2	6/1/1991	0	61.87	409,409	48,831
10,395	160	1	6/30/1999	0	59.16	197,602	55,701
9,960	160	1	4/1/1999	0	54.42	430,559	67,941
7,258	160	2	12/2/1993	0	59.78	421,553	53,361
7,489	160	2	6/22/1990	0	54.50	529,882	65,437
7,863	160	2	12/6/1990	0	56.42	361,366	62,958

Total Underground Anthracite 7,324,646 993,407
Average of 20 claims 59.60 366,232 49,670
Medical plus Indemnity 415,903

*Type is "WO" for Widow Only claims; 0 for all other claims.
Source: Individual claim detail from CMCRB.

**Coal Mine Compensation Rating Bureau
Individual Claim Detail for Federal Basic**

**Exhibit IX-B
Page 2
Underground Bituminous
Class 158**

ID No.	Class	Awd (2) Pend (1)	Exposure Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
10,579	158	1	12/29/2014	0	55.63	436,942	62,958
275	158	2	9/25/1992	0	71.39	269,242	31,177
10,530	158	1	5/26/2000	0	60.78	392,738	51,070
508	158	2	8/15/1991	0	75.55	83,254	23,468
917	158	2	4/1/1993	0	62.00	365,339	48,831
10,182	158	2	9/1/2001	0	61.75	336,126	48,831
931	158	2	3/3/1995	0	68.32	283,681	36,544
10,613	158	1	12/31/2002	0	53.34	249,989	70,468
10,162	158	1	12/31/2006	0	57.46	388,825	60,505
9,870	158	2	6/1/1994	WO	N/A	292,561	-
10,299	158	2	2/4/2001	0	65.28	260,812	42,446
10,287	158	1	2/19/2007	0	55.23	466,634	65,437
10,129	158	2	7/1/1993	0	61.63	486,190	48,831
9,863	158	2	5/1/1990	0	73.06	99,067	27,926
10,499	158	1	9/30/1996	0	43.02	340,344	95,938
10,464	158	1	9/12/2014	0	64.50	337,682	42,446
10,387	158	2	10/12/1991	0	61.09	325,099	51,070
9,857	158	2	7/14/1992	0	79.44	154,806	19,500
10,194	158	2	10/10/2001	0	66.61	297,926	38,457
10,327	158	2	12/1/1991	0	68.11	250,768	36,544
10,593	158	1	5/29/2000	0	62.00	336,126	48,831
10,315	158	2	4/1/1993	0	66.37	277,583	40,425
3,481	158	1	5/20/1990	0	36.42	871,749	111,965
10,605	158	1	7/1/2016	0	59.77	377,994	53,361
10,218	158	2	1/1/1999	0	66.66	271,974	38,457
10,446	158	2	12/1/1992	0	69.46	123,068	34,691
10,455	158	2	3/1/2002	0	67.39	263,975	38,457
10,546	158	1	1/5/2015	0	62.18	173,232	48,831
10,529	158	1	5/26/2000	0	66.26	269,655	40,425
10,086	158	2	2/9/2006	0	56.41	459,655	62,958
9,758	158	1	6/28/2000	0	52.23	500,104	73,013
10,523	158	1	4/11/1995	0	66.87	297,926	38,457
10,255	158	1	12/1/1992	0	55.01	490,763	65,437
10,584	158	1	7/15/1996	0	79.41	148,880	19,500
10,291	158	2	6/30/2002	0	67.37	136,428	38,457
10,254	158	2	5/1/1999	0	67.52	250,768	36,544
10,368	158	2	2/24/1996	0	70.14	323,027	32,901
10,558	158	1	9/30/1994	0	45.08	629,065	90,943
10,042	158	2	11/15/2001	0	55.61	459,655	62,958
10,545	158	1	5/31/2013	0	57.43	408,638	60,505
10,580	158	1	8/29/2014	0	55.08	232,141	65,437
10,402	158	2	1/15/2013	0	65.42	291,588	42,446
10,090	158	2	5/1/2004	0	61.18	342,568	51,070
10,573	158	1	6/15/1991	0	38.06	892,531	107,686
10,292	158	1	4/29/2002	0	47.94	295,427	83,276
10,540	158	1	9/11/2015	0	59.75	388,328	53,361
10,032	158	2	1/3/1999	0	74.23	239,040	26,388
10,328	158	2	4/6/1994	0	72.51	197,590	27,926
10,366	158	2	10/12/1991	0	71.12	220,663	31,177
9,839	158	1	11/1/2000	0	49.96	564,996	78,134
8,381	158	2	12/31/1997	0	77.23	168,176	22,089
5,821	158	2	5/1/1992	0	69.52	240,421	32,901
10,065	158	2	10/9/1992	WO	N/A	104,257	-
10,531	158	1	5/26/2000	0	72.80	179,039	27,926
10,293	158	2	12/1/2003	0	65.01	337,682	42,446
10,123	158	2	3/1/1999	0	52.44	477,263	73,013
10,189	158	2	7/11/2002	0	55.34	232,141	65,437
6,950	158	2	9/30/1990	0	57.91	391,496	58,084
10,265	158	2	5/15/1999	0	63.36	427,920	46,647
10,302	158	1	5/1/1994	0	44.37	636,552	93,456
10,585	158	1	2/5/1996	0	76.50	156,238	22,089
7,484	158	2	1/1/1990	WO	N/A	316,669	-
7,689	158	2	9/19/1991	0	54.11	473,768	67,941
10,336	158	1	6/1/1996	0	45.60	726,772	88,402
10,578	158	1	11/23/2015	0	56.91	388,825	60,505
10,630	158	1	1/30/2016	0	62.43	336,126	48,831
10,632	158	1	1/11/2016	0	58.96	374,759	55,701
10,633	158	1	6/29/2016	0	58.76	384,642	55,701
10,498	158	2	5/15/1992	0	75.59	83,254	23,468
10,457	158	1	9/5/2007	0	50.16	636,247	78,134
10,595	158	1	2/11/2010	0	73.01	204,388	27,926
10,629	158	1	1/6/2016	0	60.04	358,446	53,361
10,526	158	1	5/26/2000	0	63.92	343,317	44,519
10,367	158	2	6/10/1997	0	64.04	375,106	44,519

Total Underground Bituminous		25,206,665	3,639,556
Average of 74 claims	61.79	340,631	49,183

Medical plus Indemnity 389,814

*Type is "WO" for Widow Only claims; 0 for all other claims.
Source: Individual claim detail from CMCRB.

**Coal Mine Compensation Rating Bureau
Individual Claim Detail for Federal Basic**

**Exhibit IX-B
Page 3
Surface Anthracite
Class 153**

ID No.	Class	Awd (2) Pend (1)	Exposure Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
10,156	153	2	10/21/2002	0	75.14	203,185	24,902
9,726	153	2	8/10/1995	0	68.28	266,587	36,544
10,232	153	2	7/31/2004	0	56.70	408,638	60,505
10,590	153	1	3/1/2000	0	57.13	214,646	60,505
926	153	2	2/29/1996	0	58.31	381,694	58,084
10,109	153	2	4/4/2003	0	65.00	150,578	42,446
10,261	153	2	5/30/1996	0	67.25	288,938	38,457
10,231	153	2	4/2/2003	0	65.03	283,413	42,446
9,935	153	1	8/16/1994	0	63.92	314,786	44,519
9,739	153	2	12/22/2000	0	73.86	207,248	26,388
10,145	153	2	5/24/2007	0	59.55	410,107	53,361
9,940	153	2	12/1/1990	0	63.20	466,906	46,647
10,107	153	2	1/6/2004	0	56.26	415,778	62,958
2,157	153	1	10/10/1990	0	54.96	557,871	65,437
10,634	153	1	2/16/2016	0	61.88	173,232	48,831
2,299	153	2	1/15/1990	0	60.12	399,033	53,361
10,073	153	2	3/1/2005	0	60.49	377,994	53,361
3,725	153	2	9/30/1995	0	65.56	247,791	40,425
10,049	153	1	11/19/2005	0	61.99	336,126	48,831
3,955	153	2	10/29/1995	0	66.54	316,961	38,457
10,222	153	1	2/2/2006	0	75.81	178,412	23,468
9,760	153	2	2/7/2000	0	75.44	182,442	24,902
4,749	153	2	1/3/1992	0	65.72	234,823	40,425
10,275	153	2	3/31/2003	0	68.92	287,748	34,691
5,044	153	2	2/4/1990	0	71.50	202,176	29,520
5,131	153	2	5/22/1992	0	68.11	311,874	36,544
10,384	153	2	10/23/2007	0	76.31	83,254	23,468
10,429	153	2	5/22/2013	0	54.36	485,557	67,941
5,372	153	2	3/10/1997	0	60.04	388,328	53,361
9,885	153	2	6/1/1998	0	66.88	256,294	38,457
5,952	153	2	1/31/1995	WO	N/A	118,191	-
9,793	153	1	1/26/2001	0	53.76	462,375	67,941
6,287	153	2	10/28/1990	0	73.92	180,431	26,388
6,303	153	2	8/5/1990	WO	N/A	185,121	-
6,581	153	2	6/5/1997	WO	N/A	194,718	-
10,459	153	2	8/3/2009	0	57.34	398,543	60,505
7,032	153	2	2/10/1993	0	62.41	355,230	48,831
7,250	153	2	9/30/1993	WO	N/A	292,561	-
7,263	153	2	3/1/1991	WO	N/A	194,718	-
7,451	153	2	11/5/1990	0	72.80	184,922	27,926

Total Surface Anthracite	11,599,230	1,550,834
Average of 40 claims	64.70	289,981
Medical plus Indemnity	328,752	

*Type is "WO" for Widow Only claims; 0 for all other claims.
Source: Individual claim detail from CMCRB.

**Coal Mine Compensation Rating Bureau
Individual Claim Detail for Federal Basic**

**Exhibit IX-B
Page 4
Surface Bituminous
Class 156**

ID No.	Class	Awd (2) Pend (1)	Exposure Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
178	156	2	9/23/1994	0	70.19	240,421	32,901
9,866	156	2	9/20/1994	0	78.84	69,177	19,500
10,335	156	2	6/1/1995	WO	N/A	214,670	-
600	156	2	9/10/1992	0	62.67	320,843	46,647
601	156	2	6/19/1992	0	66.18	294,410	40,425
9,795	156	2	12/1/1992	0	69.69	240,421	32,901
10,333	156	1	6/15/1992	0	59.87	189,302	53,361
1,356	156	2	5/1/1995	0	55.30	516,453	65,437
10,458	156	1	11/1/2008	0	68.11	258,519	36,544
10,554	156	2	4/13/2015	0	76.53	168,176	22,089
10,418	156	2	1/1/2003	0	73.15	211,504	27,926
10,478	156	1	7/15/2011	0	70.55	235,610	31,177
10,521	156	1	5/1/1996	0	67.06	288,938	38,457
10,453	156	1	2/28/2003	0	55.65	595,928	62,958
10,609	156	1	7/1/1996	0	48.51	613,734	80,703
2,494	156	2	4/19/1996	0	64.66	327,741	42,446
10,414	156	2	4/27/2001	0	75.85	199,311	23,468
9,945	156	2	8/31/1995	0	73.69	193,219	26,388
10,114	156	2	10/26/1991	WO	N/A	166,697	-
3,047	156	2	12/31/1996	0	77.58	146,862	20,767
3,058	156	2	1/17/1991	0	65.64	303,334	40,425
10,003	156	2	5/30/1995	0	72.79	211,504	27,926
10,385	156	2	3/1/2012	WO	N/A	235,673	-
10,221	156	2	1/1/1993	0	81.01	116,493	17,131
10,128	156	2	8/1/1994	0	74.82	182,442	24,902
9,953	156	2	3/1/1994	0	55.28	529,882	65,437
10,204	156	2	2/28/1992	0	69.75	248,304	32,901
5,221	156	2	6/4/1995	0	66.01	269,655	40,425
10,305	156	2	3/1/1995	0	61.87	355,230	48,831
10,217	156	2	11/25/2008	0	63.72	297,567	44,519
5,374	156	2	10/21/1991	WO	N/A	482,569	-
10,351	156	2	12/27/2012	0	58.61	394,899	55,701
5,483	156	2	8/6/1990	0	61.43	181,174	51,070
10,447	156	2	12/1/2008	0	76.83	162,062	22,089
9,761	156	2	9/30/1991	0	74.06	180,431	26,388
9,961	156	2	5/31/2000	0	52.09	564,239	73,013
10,104	156	2	6/1/1990	0	71.51	104,723	29,520
10,566	156	2	8/31/2001	0	76.17	149,533	23,468
6,244	156	2	10/10/1990	0	81.72	97,904	16,051
10,133	156	1	12/1/2006	0	62.84	359,341	46,647
10,517	156	1	4/1/2014	0	66.89	271,974	38,457
9,967	156	2	1/15/1990	0	71.04	213,671	31,177
10,400	156	1	2/28/1993	0	80.02	145,496	18,287
6,949	156	2	12/7/1994	0	54.92	529,882	65,437
10,112	156	2	12/1/2007	0	63.94	225,823	44,519
10,604	156	1	5/1/2001	0	60.37	368,032	53,361
7,245	156	2	9/1/1991	0	77.57	146,862	20,767
7,248	156	2	8/31/1995	0	64.94	291,588	42,446
9,767	156	2	6/1/2000	0	62.11	345,490	48,831
7,893	156	2	2/19/1992	0	61.43	342,568	51,070
8,012	156	2	1/1/1990	0	70.45	225,602	32,901
8,022	156	2	11/1/1995	0	61.86	336,126	48,831
10,607	156	1	1/8/2015	0	59.05	532,270	55,701

Total Surface Bituminous	14,894,280	1,942,321
Average of 53 claims	67.24	36,648
Medical plus Indemnity	317,672	

*Type is "WO" for Widow Only claims; 0 for all other claims.
Source: Individual claim detail from CMCRB.

Coal Mine Compensation Rating Bureau
Individual Claim Detail for Federal Basic

Exhibit IX-B
Page 5
Six Minor Classes
Class - Other

ID No.	Class	Awd (2) Pend (1)	Exposure Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
10,588	157	1	2/1/2010	0	72.29	223,344	29,520
3,158	181	2	3/14/1997	0	62.00	355,230	48,831
9,904	183	2	12/31/1997	WO	N/A	141,155	-
9,992	183	1	7/22/2004	0	62.34	345,490	48,831
10,533	183	1	5/15/2014	0	56.69	452,832	60,505
4,592	183	1	7/19/1997	0	53.33	438,192	70,468
10,620	183	1	10/1/2013	0	53.08	504,866	70,468
9,887	183	1	2/2/2000	0	51.88	259,017	73,013
10,603	183	1	12/31/1997	0	55.95	223,346	62,958
10,338	184	2	10/15/2005	0	68.77	123,068	34,691
10,565	184	1	8/31/2001	0	62.88	359,341	46,647
10,456	184	1	7/1/2006	0	56.10	405,768	62,958
10,135	184	2	2/1/2002	0	75.55	231,462	23,468

Total Other Classes 4,063,110 632,358
Average of 13 claims 60.91 312,547 48,643
Medical plus Indemnity 361,190

*Type is "WO" for Widow Only claims; 0 for all other claims.
Source: Individual claim detail from CMCRB.

COAL MINE COMPENSATION RATING BUREAU
Summary of Developed & Adjusted Payrolls

Exhibit X-A-1

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
<u>Traumatic</u>	(1010)	(1001)	(1012)	(1014)	(1469)	(1015)	(1021)	(1023)	(1025)	(1027)	
1997	591,339	71,376,959	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998	507,288	62,342,332	17,376,290	63,651,561	13,353,903	1,237,897	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999	537,329	59,962,066	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	336,885	48,553,836	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	434,499	49,724,653	13,940,797	58,151,332	10,375,826	1,429,131	5,234,468	2,121,331	3,609,649	10,155,025	155,176,711
2002	197,351	50,439,544	12,251,258	53,502,085	10,485,005	1,150,843	6,358,543	2,386,124	3,781,693	12,649,826	153,202,272
2003	75,855	55,493,906	12,166,211	47,873,740	11,534,080	1,102,223	7,137,655	3,052,523	3,721,296	14,752,318	156,909,807
2004	-	66,842,986	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	18,067,286	184,727,876
2005	-	72,290,188	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	17,690,358	202,430,645
2006	530	71,907,931	11,946,382	63,008,975	12,737,394	1,066,831	8,405,393	9,397,580	4,885,882	17,050,967	200,407,865
2007	-	81,566,803	14,555,579	63,295,774	13,669,925	1,121,156	9,160,450	10,789,214	5,756,439	18,895,192	218,810,532
2008	-	103,490,690	16,954,313	73,054,482	9,761,146	2,488,558	7,958,335	8,468,561	6,390,767	21,250,256	249,817,108
2009	-	102,684,006	16,445,462	61,784,394	5,173,552	926,163	8,004,644	7,866,413	6,749,748	19,828,012	229,462,394
2010	5,700	126,687,464	14,295,288	72,711,558	5,435,658	806,696	8,481,228	8,732,701	5,762,086	26,313,130	269,231,509
2011	110,125	149,633,528	21,034,600	86,074,064	3,599,086	1,176,255	11,720,035	9,102,411	7,236,583	35,155,068	324,841,755
2012	219,407	154,428,761	26,295,907	76,452,811	5,738,105	808,208	10,273,004	9,047,745	8,671,140	34,211,729	326,146,817
2013	175,900	149,953,068	22,449,824	61,349,745	4,791,910	1,025,399	8,342,651	10,355,884	8,265,665	34,253,697	300,963,743
2014	258,809	271,230,707	20,466,075	54,050,731	4,464,398	806,976	9,060,883	11,721,184	8,234,771	43,520,040	423,814,574
2015	254,336	216,454,460	24,218,779	40,934,048	4,340,376	582,619	10,469,089	11,748,205	7,606,274	33,564,176	350,172,362
2016	163,760	148,894,215	20,810,850	28,999,042	2,313,724	372,496	10,847,424	11,386,837	6,971,270	22,131,423	252,891,041

<u>State OD</u>	(1011)	(1002)	(1016)	(1013)	(1017)	(1019)	(1022)	(1024)	(1026)	(1028)	
1997	1,571,605	70,396,693	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998	1,762,286	61,087,334	17,376,290	63,651,561	13,353,903	1,237,897	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999	1,814,157	58,685,238	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	1,370,159	47,520,562	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	1,636,522	48,522,630	13,940,797	58,151,332	10,375,826	1,429,131	5,234,468	2,121,331	3,609,649	10,155,025	155,176,711
2002	1,386,545	49,250,350	12,251,258	53,502,085	10,485,005	1,150,843	6,358,543	2,386,124	3,781,693	12,649,826	153,202,272
2003	1,354,265	54,215,496	12,166,211	47,873,740	11,534,080	1,102,223	7,137,655	3,052,523	3,721,296	14,752,318	156,909,807
2004	1,345,321	65,497,665	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	18,067,286	184,727,876
2005	1,417,568	70,872,620	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	17,690,358	202,430,645
2006	1,442,524	70,465,937	11,946,382	63,008,975	12,737,394	1,066,831	8,405,393	9,397,580	4,885,882	17,050,967	200,407,865
2007	1,662,537	79,904,266	14,555,579	63,295,774	13,669,925	1,121,156	9,160,450	10,789,214	5,756,439	18,895,192	218,810,532
2008	2,136,713	101,353,977	16,954,313	73,054,482	9,761,146	2,488,558	7,958,335	8,468,561	6,390,767	21,250,256	249,817,108
2009	1,335,866	101,348,140	16,445,462	61,784,394	5,173,552	926,163	8,004,644	7,866,413	6,749,748	19,828,012	229,462,394
2010	1,299,588	125,393,576	14,295,288	72,711,558	5,435,658	806,696	8,481,228	8,732,701	5,762,086	26,313,130	269,231,509
2011	1,257,944	148,485,709	21,034,600	86,074,064	3,599,086	1,176,255	11,720,035	9,102,411	7,236,583	35,155,068	324,841,755
2012	1,029,260	153,618,908	26,295,907	76,452,811	5,738,105	808,208	10,273,004	9,047,745	8,671,140	34,211,729	326,146,817
2013	381,876	149,747,092	22,449,824	61,349,745	4,791,910	1,025,399	8,342,651	10,355,884	8,265,665	34,253,697	300,963,743
2014	258,809	271,230,707	20,466,075	54,050,731	4,464,398	806,976	9,060,883	11,721,184	8,234,771	43,520,040	423,814,574
2015	254,336	216,454,460	24,218,779	40,934,048	4,340,376	582,619	10,469,089	11,748,205	7,606,274	33,564,176	350,172,362
2016	163,760	148,894,215	20,810,850	28,999,042	2,313,724	372,496	10,847,424	11,386,837	6,971,270	22,131,423	252,891,041

<u>Federal OD</u>	(0160)	(0158)	(0153)	(0156)	(0154)	(0157)	(0181)	(0182)	(0183)	(0184)	
1997	1,571,605	70,396,693	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998	1,762,286	61,087,334	17,376,290	63,651,561	13,353,903	1,237,897	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999	1,814,157	58,685,238	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	1,370,159	47,520,562	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	1,636,522	48,522,630	12,923,748	58,151,332	10,375,826	1,429,131	4,661,813	2,121,331	2,216,299	10,155,025	152,193,657
2002	1,386,545	40,837,995	11,046,570	53,502,085	10,485,005	1,150,843	5,658,774	2,386,124	2,322,815	10,094,549	138,871,305
2003	1,354,265	36,498,406	11,928,209	47,873,740	11,534,080	1,102,223	7,009,619	3,052,523	3,407,998	10,195,206	133,956,269
2004	1,345,321	46,073,900	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	13,460,201	160,697,026
2005	1,417,568	66,275,755	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	16,548,307	196,691,729
2006	1,442,524	70,465,937	12,065,323	63,798,502	12,737,394	1,066,831	8,412,527	9,423,575	4,885,882	17,050,967	201,349,462
2007	1,662,537	79,904,266	14,866,556	64,808,093	13,669,925	1,121,156	9,186,706	10,829,140	5,817,291	18,895,192	220,760,862
2008	2,136,713	101,353,977	16,220,231	74,601,231	9,761,146	2,506,758	7,521,400	8,481,888	5,733,543	21,250,256	249,567,143
2009	1,335,866	101,348,140	15,893,528	63,306,695	5,173,552	946,963	7,534,735	7,866,413	6,264,606	19,828,012	229,498,510
2010	1,299,588	125,393,576	13,319,185	74,255,177	5,435,658	827,496	7,958,048	8,732,701	4,876,927	26,313,130	268,411,486
2011	1,257,944	148,485,709	19,507,428	87,730,506	3,599,086	1,176,255	10,981,642	9,102,411	6,123,259	35,155,068	323,119,308
2012	1,029,260	153,618,908	24,734,711	77,890,500	5,738,105	808,208	9,311,812	9,047,745	7,569,023	34,211,729	323,960,001
2013	381,876	145,146,253	20,720,014	62,718,061	4,791,910	1,046,947	7,630,762	10,355,884	7,074,886	33,639,969	293,506,562
2014	258,809	183,431,952	18,911,339	55,368,615	4,464,398	861,590	8,360,898	11,721,184	6,521,541	31,854,431	321,754,757
2015	254,336	140,570,275	22,234,350	42,000,092	4,340,376	654,766	9,554,806	11,748,205	6,196,596	24,320,608	261,874,410
2016	163,760	118,883,295	19,043,330	29,758,888	2,313,724	392,776	9,784,031	11,386,837	5,458,272	18,510,111	215,695,024

Note: Federal and State OD payrolls are derived from Traumatic payrolls after adjustments on Exhibits X-C & X-D

Source: Exhibits X-C and X-D
Prior filing for 1997 - 2005

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-10.xlsmX-A-1
Run Date: August 30, 2017 - 02:11:40 PM

PAB
Effective Date - April 01, 2018
27,671,397,306.000000

COAL MINE COMPENSATION RATING BUREAU
History of Reported OD Payrolls 1979-1996

Exhibit X-A-2

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	
<u>State OD</u>	<u>(1011)</u>	<u>(1002)</u>	<u>(1016)</u>	<u>(1013)</u>	<u>(1017)</u>	<u>(1019)</u>	<u>(1022)</u>	<u>(1024)</u>	<u>(1026)</u>	<u>(1028)</u>	<u>Total</u>
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	0	0	0	0	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	0	0	0	0	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	0	0	0	0	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	0	0	0	0	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	0	0	0	0	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	0	0	0	0	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	0	0	0	0	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	0	0	0	0	237,532,755
1987	4,061,875	55,036,577	25,008,155	134,305,891	26,573,681	1,695,582	0	0	0	0	246,681,761
1988	2,745,685	64,843,301	23,099,360	126,493,210	18,498,632	1,626,194	0	0	0	0	237,306,382
1989	2,066,292	74,335,286	27,044,506	125,361,713	12,583,451	1,888,442	0	0	0	0	243,279,690
1990	1,547,051	77,524,448	32,392,891	124,189,071	61,308,712	2,295,585	676,180	0	0	0	299,933,938
1991	718,147	59,439,370	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	0	0	0	250,960,550
1992	932,801	63,646,939	29,476,120	100,999,381	42,761,324	1,181,625	3,505,476	47,640	0	0	242,551,306
1993	1,181,997	52,756,526	30,103,392	94,556,592	53,619,736	1,112,232	3,624,439	391,507	0	0	237,346,421
1994	1,310,675	60,590,938	30,210,452	92,464,635	54,721,324	1,485,044	3,704,499	377,617	0	0	244,865,184
1995	1,493,523	65,271,146	20,288,894	78,752,605	55,000,220	1,499,639	3,481,847	360,161	0	0	226,148,035
1996	1,612,698	75,223,041	16,192,165	77,828,405	54,571,209	846,623	3,758,973	370,201	221,068	3,066,567	233,690,950

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	
<u>Federal OD</u>	<u>(0160)</u>	<u>(0158)</u>	<u>(0153)</u>	<u>(0156)</u>	<u>(0154)</u>	<u>(0157)</u>	<u>(0181)</u>	<u>(0182)</u>	<u>(0183)</u>	<u>(0184)</u>	<u>Total</u>
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	0	0	0	0	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	0	0	0	0	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	0	0	0	0	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	0	0	0	0	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	0	0	0	0	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	0	0	0	0	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	0	0	0	0	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	0	0	0	0	237,532,755
1987	4,061,875	42,076,700	25,008,155	134,305,891	26,573,681	1,695,582	0	0	0	0	233,721,884
1988	2,745,685	51,133,431	23,099,360	126,493,210	18,498,632	1,626,194	0	0	0	0	223,596,512
1989	2,066,292	58,507,532	27,044,506	125,361,713	12,583,451	1,888,442	0	0	0	0	227,451,936
1990	1,547,051	63,271,520	32,392,891	124,189,071	61,308,712	2,295,585	676,180	0	0	0	285,681,010
1991	718,147	58,318,242	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	0	0	0	249,839,422
1992	932,801	63,401,297	29,476,120	100,999,381	42,761,324	1,181,625	3,505,476	47,640	0	0	242,305,664
1993	1,181,997	52,756,526	30,103,392	94,556,592	53,619,736	1,112,232	3,624,439	391,507	0	0	237,346,421
1994	1,310,675	60,590,938	30,210,452	92,464,635	54,721,324	1,485,044	3,704,499	377,617	0	0	244,865,184
1995	1,493,523	65,271,146	20,288,894	78,752,605	55,000,220	1,499,639	3,481,847	360,161	0	0	226,148,035
1996	1,612,698	75,223,041	16,192,165	77,828,405	54,571,209	846,623	3,758,973	370,201	221,068	3,066,567	233,690,950

Source: Prior Filings

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COAL MINE COMPENSATION RATING BUREAU
TRAUMATIC LOSS COST PREMIUM

Exhibit X-B
Page 1

ANTHRACITE UNDERGROUND (1010)				BITUMINOUS UNDERGROUND (1001)			ANTHRACITE SURFACE (1012)			BITUMINOUS SURFACE (1014)		
YEAR	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM
2006	20.44	530	108	6.18	71,907,931	4,443,910	8.27	11,946,382	987,966	2.45	63,008,975	1,543,720
2007	20.44	0	0	6.18	81,566,803	5,040,828	8.27	14,555,579	1,203,746	2.45	63,295,774	1,550,746
2008	20.44	0	0	6.18	103,490,690	6,395,725	8.27	16,954,313	1,402,122	2.45	73,054,482	1,789,835
2009	20.44	0	0	6.18	102,684,006	6,345,872	8.27	16,445,462	1,360,040	2.45	61,784,394	1,513,718
2010	20.44	5,700	1,165	6.18	126,687,464	7,829,285	8.27	14,295,288	1,182,220	2.45	72,711,558	1,781,433
2011	20.44	110,125	22,510	6.18	149,633,528	9,247,352	8.27	21,034,600	1,739,561	2.45	86,074,064	2,108,815
2012	20.44	219,407	44,847	6.18	154,428,761	9,543,697	8.27	26,295,907	2,174,672	2.45	76,452,811	1,873,094
2013	20.44	175,900	35,954	6.18	149,953,068	9,267,100	8.27	22,449,824	1,856,600	2.45	61,349,745	1,503,069
2014	20.44	258,809	52,901	6.18	271,230,707	16,762,058	8.27	20,466,075	1,692,544	2.45	54,050,731	1,324,243
2015	20.44	254,336	51,986	6.18	216,454,460	13,376,886	8.27	24,218,779	2,002,893	2.45	40,934,048	1,002,884
2016	20.44	163,760	33,473	6.18	148,894,215	9,201,662	8.27	20,810,850	1,721,057	2.45	28,999,042	710,477

COKE (1469)				AUGER (1015)			ANTHRACITE CO-GEN (1021)			BITUMINOUS CO-GEN (1023)		
YEAR	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM
2006	4.54	12,737,394	578,278	16.44	1,066,831	175,387	3.12	8,405,393	262,248	1.14	9,397,580	107,132
2007	4.54	13,669,925	620,615	16.44	1,121,156	184,318	3.12	9,160,450	285,806	1.14	10,789,214	122,997
2008	4.54	9,761,146	443,156	16.44	2,488,558	409,119	3.12	7,958,335	248,300	1.14	8,468,561	96,542
2009	4.54	5,173,552	234,879	16.44	926,163	152,261	3.12	8,004,644	249,745	1.14	7,866,413	89,677
2010	4.54	5,435,658	246,779	16.44	806,696	132,621	3.12	8,481,228	264,614	1.14	8,732,701	99,553
2011	4.54	3,599,086	163,399	16.44	1,176,255	193,376	3.12	11,720,035	365,665	1.14	9,102,411	103,767
2012	4.54	5,738,105	260,510	16.44	808,208	132,869	3.12	10,273,004	320,518	1.14	9,047,745	103,144
2013	4.54	4,791,910	217,553	16.44	1,025,399	168,576	3.12	8,342,651	260,291	1.14	10,355,884	118,057
2014	4.54	4,464,398	202,684	16.44	806,976	132,667	3.12	9,060,883	282,700	1.14	11,721,184	133,621
2015	4.54	4,340,376	197,053	16.44	582,619	95,783	3.12	10,469,089	326,636	1.14	11,748,205	133,930
2016	4.54	2,313,724	105,043	16.44	372,496	61,238	3.12	10,847,424	338,440	1.14	11,386,837	129,810

ANTHRACITE PREP PLANT (1025)				BITUMINOUS PREP PLANT (1027)			TOTAL	
YEAR	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	LOSS COST	DEVELOPED PAYROLL	LOSS COST PREMIUM	DEVELOPED PAYROLL	LOSS COST PREMIUM
2006	4.53	4,885,882	221,330	1.81	17,050,967	308,623	200,407,865	8,628,702
2007	4.53	5,756,439	260,767	1.81	18,895,192	342,003	218,810,532	9,611,826
2008	4.53	6,390,767	289,502	1.81	21,250,256	384,630	249,817,108	11,458,931
2009	4.53	6,749,748	305,764	1.81	19,828,012	358,887	229,462,394	10,610,843
2010	4.53	5,762,086	261,022	1.81	26,313,130	476,268	269,231,509	12,274,960
2011	4.53	7,236,583	327,817	1.81	35,155,068	636,307	324,841,755	14,908,569
2012	4.53	8,671,140	392,803	1.81	34,211,729	619,232	326,146,817	15,465,386
2013	4.53	8,265,665	374,435	1.81	34,253,697	619,992	300,963,743	14,421,627
2014	4.53	8,234,771	373,035	1.81	43,520,040	787,713	423,814,574	21,744,166
2015	4.53	7,606,274	344,564	1.81	33,564,176	607,512	350,172,362	18,140,127
2016	4.53	6,971,270	315,799	1.81	22,131,423	400,579	252,891,041	13,017,578

Payroll - Exhibit X-D, pages 1, 2, 3, 4 and 5; Loss Costs - Exhibit X-B Page 2

Coal Mine Compensation Rating Bureau
Traumatic & OD Loss costs
Approved Effective April 1, 2017

Exhibit X-B

Page 2

<u>CLASS DESCRIPTION</u>	<u>CLASS CODE</u>	<u>CURRENT MANUAL LOSS COST</u>	<u>CLASS CODE</u>	<u>CURRENT MANUAL LOSS COST</u>	<u>CLASS CODE</u>	<u>CURRENT MANUAL LOSS COST</u>
	TRAUMATIC		STATE O D		FEDERAL O D	
UNDERGROUND						
Anthracite	1010	\$20.44	1011	\$6.59	0160	\$11.90
Bituminous	1001	\$6.18	1002	\$0.59	0158	\$0.72
SURFACE						
Anthracite	1012	\$8.27	1016	\$1.67	0153	\$2.78
Bituminous	1014	\$2.45	1013	\$0.14	0156	\$0.63
COKE	1469	\$4.54	1017	\$0.12	0154	\$0.09
AUGER	1015	\$16.44	1019	\$0.24	0157	\$0.33
CO-GEN						
Anthracite	1021	\$3.12	1022	\$0.30	0181	\$0.42
Bituminous	1023	\$1.14	1024	\$0.42	0182	\$0.31
PREP PLANT						
Anthracite	1025	\$4.53	1026	\$2.19	0183	\$0.97
Bituminous	1027	\$1.81	1028	\$0.21	0184	\$0.36

<u>CLASS DESCRIPTION</u>	<u>CLASS CODE</u>	<u>UNLOADED APPROVED LOSS COST</u>	<u>CLASS CODE</u>	<u>UNLOADED APPROVED LOSS COST</u>	<u>CLASS CODE</u>	<u>UNLOADED APPROVED LOSS COST</u>
	TRAUMATIC		STATE O D		FEDERAL O D	
UNDERGROUND						
Anthracite	1010	\$20.01	1011	\$6.59	0160	\$11.90
Bituminous	1001	\$5.96	1002	\$0.59	0158	\$0.72
SURFACE						
Anthracite	1012	\$8.13	1016	\$1.67	0153	\$2.78
Bituminous	1014	\$2.39	1013	\$0.14	0156	\$0.63
COKE	1469	\$4.45	1017	\$0.12	0154	\$0.09
AUGER	1015	\$16.14	1019	\$0.24	0157	\$0.33
CO-GEN						
Anthracite	1021	\$3.05	1022	\$0.30	0181	\$0.42
Bituminous	1023	\$1.10	1024	\$0.42	0182	\$0.31
PREP PLANT						
Anthracite	1025	\$4.44	1026	\$2.19	0183	\$0.97
Bituminous	1027	\$1.76	1028	\$0.21	0184	\$0.36

Source: Manual Loss Costs approved effective April 1, 2017; Section 2, pages 2 and 3 of Approved Manual Unloaded Approved Loss Costs from Exhibit V-A, column (9) of current approved filing.

**Coal Mine Compensation Rating Bureau
Adjustments from 2017 Filing**

Exhibit X-B
Page 3

Section 1 Catastrophic Loss Cost (2017)

Underground	
Anthracite	0.13
Bituminous	0.13
 Auger	 0.06 (1/3 Underground, 2/3 Surface)
 Other Classes	 0.02

Section 2 Load Factors (2017)

Experience Rating	1.0000
Merit Rating (Exh XIV-A, page 1)	1.0002
Safety Committee (Exh. XIV-B)	1.0145
	<hr/> 1.0147
 Small Business Advocate (XI-A)	 1.0001

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OD PAYROLL

Exhibit X-C
Page 1

ANTHRACITE UNDERGROUND (1010)

	State OD					Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development		Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000	
Year	(1)	(2)	(3)	(4)	(5)	(6)	
2006	1,442,524	0	0	1.0000	1,442,524	1.442524	
2007	1,662,537	0	0	1.0000	1,662,537	1.662537	
2008	2,136,713	0	0	1.0000	2,136,713	2.136713	
2009	1,335,866	0	0	1.0000	1,335,866	1.335866	
2010	1,299,588	0	0	1.0000	1,299,588	1.299588	
2011	1,257,944	0	0	1.0000	1,257,944	1.257944	
2012	1,029,260	0	0	1.0000	1,029,260	1.029260	
2013	381,876	0	0	1.0000	381,876	0.381876	
2014	258,809	0	0	1.0000	258,809	0.258809	
2015	254,336	0	0	1.0000	254,336	0.254336	
2016	163,760	0	0	1.0000	163,760	0.163760	

BITUMINOUS UNDERGROUND (1001)

	State OD					Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development		Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000	
Year	(1)	(2)	(3)	(4)	(5)	(6)	
2006	70,465,937	0	0	1.0000	70,465,937	70.465937	
2007	79,904,266	0	0	1.0000	79,904,266	79.904266	
2008	101,353,977	0	0	1.0000	101,353,977	101.353977	
2009	101,348,140	0	0	1.0000	101,348,140	101.348140	
2010	125,393,576	0	0	1.0000	125,393,576	125.393576	
2011	148,485,709	0	0	1.0000	148,485,709	148.485709	
2012	153,618,908	0	0	1.0000	153,618,908	153.618908	
2013	149,747,092	4,600,839	0	1.0000	145,146,253	145.146253	
2014	271,230,707	87,798,755	0	1.0000	183,431,952	183.431952	
2015	216,454,460	75,884,185	0	1.0000	140,570,275	140.570275	
2016	148,894,215	30,010,920	0	1.0000	118,883,295	118.883295	

ANTHRACITE SURFACE (1012)

	State OD					Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development		Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000	
Year	(1)	(2)	(3)	(4)	(5)	(6)	
2006	11,946,382	0	118,941	1.0000	12,065,323	12.065323	
2007	14,555,579	0	310,977	1.0000	14,866,556	14.866556	
2008	16,954,313	1,047,741	313,659	1.0000	16,220,231	16.220231	
2009	16,445,462	903,752	351,818	1.0000	15,893,528	15.893528	
2010	14,295,288	1,205,978	229,875	1.0000	13,319,185	13.319185	
2011	21,034,600	1,929,891	402,719	1.0000	19,507,428	19.507428	
2012	26,295,907	1,973,449	412,253	1.0000	24,734,711	24.734711	
2013	22,449,824	2,307,223	577,413	1.0000	20,720,014	20.720014	
2014	20,466,075	2,210,807	656,071	1.0000	18,911,339	18.911339	
2015	24,218,779	2,669,091	684,662	1.0000	22,234,350	22.234350	
2016	20,810,850	2,378,155	618,553	1.0045	19,043,330	19.043330	

BITUMINOUS SURFACE (1014)

	State OD					Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development		Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000	
Year	(1)	(2)	(3)	(4)	(5)	(6)	
2006	63,008,975	0	789,527	1.0000	63,798,502	63.798502	
2007	63,295,774	0	1,512,319	1.0000	64,808,093	64.808093	
2008	73,054,482	0	1,546,749	1.0000	74,601,231	74.601231	
2009	61,784,394	0	1,522,301	1.0000	63,306,695	63.306695	
2010	72,711,558	0	1,543,619	1.0000	74,255,177	74.255177	
2011	86,074,064	0	1,656,442	1.0000	87,730,506	87.730506	
2012	76,452,811	0	1,437,689	1.0000	77,890,500	77.890500	
2013	61,349,745	0	1,368,316	1.0000	62,718,061	62.718061	
2014	54,050,731	0	1,317,884	1.0000	55,368,615	55.368615	
2015	40,934,048	0	1,066,044	1.0000	42,000,092	42.000092	
2016	28,999,042	0	759,846	1.0000	29,758,888	29.758888	

Source: Anthracite Underground (1010) - Exhibit X-C, page 4
Bituminous Underground (1001) - Exhibit X-C, page 4
Anthracite Surface (1012) - Exhibit X-D, page 2
Bituminous Surface (1014) - Exhibit X-D, page 2

COAL MINE COMPENSATION RATING BUREAU
Federal OD Payrolls

Exhibit X-C
Page 2

COKE (1469)

	State OD Developed Payroll	Federal Exempt Reported Payroll	Partnership Reported Payroll	Development Factor	Federal OD Payroll (1) + [(3)-(2)]*(4)	Payroll Per Million (5)/1000000
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2006	12,737,394	0	0	1.0000	12,737,394	12.737394
2007	13,669,925	0	0	1.0000	13,669,925	13.669925
2008	9,761,146	0	0	1.0000	9,761,146	9.761146
2009	5,173,552	0	0	1.0000	5,173,552	5.173552
2010	5,435,658	0	0	1.0000	5,435,658	5.435658
2011	3,599,086	0	0	1.0000	3,599,086	3.599086
2012	5,738,105	0	0	1.0000	5,738,105	5.738105
2013	4,791,910	0	0	1.0000	4,791,910	4.791910
2014	4,464,398	0	0	1.0000	4,464,398	4.464398
2015	4,340,376	0	0	1.0000	4,340,376	4.340376
2016	2,313,724	0	0	1.0000	2,313,724	2.313724

AUGER (1015)

	State OD Developed Payroll	Federal Exempt Reported Payroll	Partnership Reported Payroll	Development Factor	Federal OD Payroll (1) + [(3)-(2)]*(4)	Payroll Per Million (5)/1000000
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2006	1,066,831	0	0	1.0000	1,066,831	1.066831
2007	1,121,156	0	0	1.0000	1,121,156	1.121156
2008	2,488,558	0	18,200	1.0000	2,506,758	2.506758
2009	926,163	0	20,800	1.0000	946,963	0.946963
2010	806,696	0	20,800	1.0000	827,496	0.827496
2011	1,176,255	0	0	1.0000	1,176,255	1.176255
2012	808,208	0	0	1.0000	808,208	0.808208
2013	1,025,399	0	21,548	1.0000	1,046,947	1.046947
2014	806,976	0	54,614	1.0000	861,590	0.861590
2015	582,619	0	72,147	1.0000	654,766	0.654766
2016	372,496	0	20,280	1.0000	392,776	0.392776

ANTHRACITE CO-GEN (1021)

	State OD Developed Payroll	Federal Exempt Reported Payroll	Partnership Reported Payroll	Development Factor	Federal OD Payroll (1) + [(3)-(2)]*(4)	Payroll Per Million (5)/1000000
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2006	8,405,393	0	7,134	1.0000	8,412,527	8.412527
2007	9,160,450	0	26,256	1.0000	9,186,706	9.186706
2008	7,958,335	477,298	40,363	1.0000	7,521,400	7.521400
2009	8,004,644	505,653	35,744	1.0000	7,534,735	7.534735
2010	8,481,228	594,188	71,008	1.0000	7,958,048	7.958048
2011	11,720,035	827,364	88,971	1.0000	10,981,642	10.981642
2012	10,273,004	1,025,112	63,920	1.0000	9,311,812	9.311812
2013	8,342,651	792,519	80,630	1.0000	7,630,762	7.630762
2014	9,060,883	838,824	138,839	1.0000	8,360,898	8.360898
2015	10,469,089	1,048,903	134,620	1.0000	9,554,806	9.554806
2016	10,847,424	1,137,185	73,792	1.0000	9,784,031	9.784031

BITUMINOUS CO-GEN (1023)

	State OD Payroll	Federal Exempt Reported Payroll	Partnership Reported Payroll	Development Factor	Federal OD Payroll (1) + [(3)-(2)]*(4)	Payroll Per Million (5)/1000000
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2006	9,397,580	0	25,995	1.0000	9,423,575	9.423575
2007	10,789,214	0	39,926	1.0000	10,829,140	10.829140
2008	8,468,561	0	13,327	1.0000	8,481,888	8.481888
2009	7,866,413	0	0	1.0000	7,866,413	7.866413
2010	8,732,701	0	0	1.0000	8,732,701	8.732701
2011	9,102,411	0	0	1.0000	9,102,411	9.102411
2012	9,047,745	0	0	1.0000	9,047,745	9.047745
2013	10,355,884	0	0	1.0000	10,355,884	10.355884
2014	11,721,184	0	0	1.0000	11,721,184	11.721184
2015	11,748,205	0	0	1.0000	11,748,205	11.748205
2016	11,386,837	0	0	1.0000	11,386,837	11.386837

Source: Auger (1015) - Exhibit X-D, page 3
Coke (1469) - Exhibit X-D, page 3
Anthracite Co-Gen (1021) - Exhibit X-D, page 4
Bituminous Co-Gen (1023) - Exhibit X-D, page 4

COAL MINE COMPENSATION RATING BUREAU
Federal OD Payrolls

Exhibit X-C
Page 3

ANTHRACITE PREP PLANT (1025)

	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
Year	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
	(1)	(2)	(3)	(4)	(5)	(6)
2006	4,885,882	0	0	1.0000	4,885,882	4.885882
2007	5,756,439	0	60,852	1.0000	5,817,291	5.817291
2008	6,390,767	766,824	109,600	1.0000	5,733,543	5.733543
2009	6,749,748	584,144	99,002	1.0000	6,264,606	6.264606
2010	5,762,086	1,016,835	131,676	1.0000	4,876,927	4.876927
2011	7,236,583	1,246,194	132,870	1.0000	6,123,259	6.123259
2012	8,671,140	1,248,180	146,063	1.0000	7,569,023	7.569023
2013	8,265,665	1,400,236	209,457	1.0000	7,074,886	7.074886
2014	8,234,771	1,877,979	164,749	1.0000	6,521,541	6.521541
2015	7,606,274	1,549,878	140,200	1.0000	6,196,596	6.196596
2016	6,971,270	1,728,560	215,562	1.0000	5,458,272	5.458272

BITUMINOUS PREP PLANT (1027)

	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
Year	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
	(1)	(2)	(3)	(4)	(5)	(6)
2006	17,050,967	0	0	1.0000	17,050,967	17.050967
2007	18,895,192	0	0	1.0000	18,895,192	18.895192
2008	21,250,256	0	0	1.0000	21,250,256	21.250256
2009	19,828,012	0	0	1.0000	19,828,012	19.828012
2010	26,313,130	0	0	1.0000	26,313,130	26.313130
2011	35,155,068	0	0	1.0000	35,155,068	35.155068
2012	34,211,729	0	0	1.0000	34,211,729	34.211729
2013	34,253,697	613,728	0	1.0000	33,639,969	33.639969
2014	43,520,040	11,665,609	0	1.0000	31,854,431	31.854431
2015	33,564,176	9,243,568	0	1.0000	24,320,608	24.320608
2016	22,131,423	3,610,481	0	1.0030	18,510,111	18.510111

Source: Anthracite Prep Plant (1025) - Exhibit X-D, page 5
Bituminous Prep Plant (1027) - Exhibit X-D, page 5

COAL MINE COMPENSATION RATING BUREAU
Payroll Adjustment - UAE Reclassification

Exhibit X-C
Page 4

ANTHRACITE UNDERGROUND (1010)

Year	Developed Payroll (1)	Files 258,330,4027 & 4049 Developed Payroll* (2)	OD Payroll (3) = (1) + (2)	Payroll Per Million (4) = (3)/1000000
2006	530	1,441,994	1,442,524	1.442524
2007	0	1,662,537	1,662,537	1.662537
2008	0	2,136,713	2,136,713	2.136713
2009	0	1,335,866	1,335,866	1.335866
2010	5,700	1,293,888	1,299,588	1.299588
2011	110,125	1,147,819	1,257,944	1.257944
2012	219,407	809,853	1,029,260	1.029260
2013	175,900	205,976	381,876	0.381876
2014	258,809	0	258,809	0.258809
2015	254,336	0	254,336	0.254336
2016	163,760	0	163,760	0.163760

BITUMINOUS UNDERGROUND (1001)

Year	Developed Payroll (1)	Files 258,330,4027 & 4049 Developed Payroll* (2)	OD Payroll (3) = (1) - (2)	Payroll Per Million (4) = (3)/1000000
2006	71,907,931	1,441,994	70,465,937	70.465937
2007	81,566,803	1,662,537	79,904,266	79.904266
2008	103,490,690	2,136,713	101,353,977	101.353977
2009	102,684,006	1,335,866	101,348,140	101.348140
2010	126,687,464	1,293,888	125,393,576	125.393576
2011	149,633,528	1,147,819	148,485,709	148.485709
2012	154,428,761	809,853	153,618,908	153.618908
2013	149,953,068	205,976	149,747,092	149.747092
2014	271,230,707	0	271,230,707	271.230707
2015	216,454,460	0	216,454,460	216.454460
2016	148,894,215	0	148,894,215	148.894215

* The reclassification from Anthracite U/G to Bituminous U/G applies to Traumatic, but not to OD. For Traumatic Files 258, 330, 4027 & 4049 are coded 1001 (payroll and losses).

The above reclassification is made to move State and Federal O.D. exposures from Class 1001 (Bituminous U/G) back to Class 1010 (Anthracite U/G)

Other classification payrolls for these four files are unaffected by the re-classification.

Source: Developed Payroll - Exhibit X-D, page 1

CMCRB database for file 258, 330, 4027 and 4049 Payrolls as of 4-30-2017

COAL MINE COMPENSATION RATING BUREAU
Payroll Adjustment - UAE Reclassification

Exhibit X-C
Page 5

ANTHRACITE UNDERGROUND (1010)

Year	REPORTED PAYROLL*	DEVELOPMENT FACTORS**	DEVELOPED PAYROLL
2006	1,441,994	1.0000	1,441,994
2007	1,662,537	1.0000	1,662,537
2008	2,136,713	1.0000	2,136,713
2009	1,335,866	1.0000	1,335,866
2010	1,293,888	1.0000	1,293,888
2011	1,147,819	1.0000	1,147,819
2012	809,853	1.0000	809,853
2013	205,976	1.0000	205,976
2014	0	1.0000	0
2015	0	1.0000	0
2016	0	1.0000	0

Source: CMCRB database for file 258, 330, 4027 and 4049 Payrolls as of 4-30-2017

* For Traumatic Files 258, 330, 4027 and 4049 only.

** Development Factors are averages of U/G Ant. and U/G Bit. Development Factors from Exhibit X-E-1

COAL MINE COMPENSATION RATING BUREAU
Developed Payrolls

Exhibit X-D
Page 1

ANTHRACITE UNDERGROUND (1010)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	530	1.0000	530	0.000530
2007	-	1.0000	-	0.000000
2008	-	1.0000	-	0.000000
2009	-	1.0000	-	0.000000
2010	5,700	1.0000	5,700	0.005700
2011	110,125	1.0000	110,125	0.110125
2012	219,407	1.0000	219,407	0.219407
2013	175,900	1.0000	175,900	0.175900
2014	258,809	1.0000	258,809	0.258809
2015	254,336	1.0000	254,336	0.254336
2016	163,760	1.0000	163,760	0.163760

BITUMINOUS UNDERGROUND (1001)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	71,907,931	1.0000	71,907,931	71.907931
2007	81,566,803	1.0000	81,566,803	81.566803
2008	103,490,690	1.0000	103,490,690	103.490690
2009	102,684,006	1.0000	102,684,006	102.684006
2010	126,687,464	1.0000	126,687,464	126.687464
2011	149,633,528	1.0000	149,633,528	149.633528
2012	154,428,761	1.0000	154,428,761	154.428761
2013	149,953,068	1.0000	149,953,068	149.953068
2014	271,230,707	1.0000	271,230,707	271.230707
2015	216,454,460	1.0000	216,454,460	216.454460
2016	148,894,215	1.0000	148,894,215	148.894215

(1) Payroll and (2) Development - Exhibit X-E, page 1

COAL MINE COMPENSATION RATING BUREAU
Developed Payrolls

Exhibit X-D
Page 2

ANTHRACITE SURFACE (1012)

YEAR	REPORTED PAYROLL (1)	DEVELOP FACTORS (2)	DEVELOPMENT PAYROLL (3)	PAYROLL PER MILLION (4)
			$= (1) \times (2)$	$= (1) \times (2) / 1000000$
2006	11,946,382	1.0000	11,946,382	11.946382
2007	14,555,579	1.0000	14,555,579	14.555579
2008	16,954,313	1.0000	16,954,313	16.954313
2009	16,445,462	1.0000	16,445,462	16.445462
2010	14,295,288	1.0000	14,295,288	14.295288
2011	21,034,600	1.0000	21,034,600	21.034600
2012	26,295,907	1.0000	26,295,907	26.295907
2013	22,449,824	1.0000	22,449,824	22.449824
2014	20,466,075	1.0000	20,466,075	20.466075
2015	24,218,779	1.0000	24,218,779	24.218779
2016	20,717,621	1.0045	20,810,850	20.810850

BITUMINOUS SURFACE (1014)

YEAR	REPORTED PAYROLL (1)	DEVELOP FACTORS (2)	PAYROLL (3)	PAYROLL PER MILLION (4)
			$= (1) \times (2)$	$= (1) \times (2) / 1000000$
2006	63,008,975	1.0000	63,008,975	63.008975
2007	63,295,774	1.0000	63,295,774	63.295774
2008	73,054,482	1.0000	73,054,482	73.054482
2009	61,784,394	1.0000	61,784,394	61.784394
2010	72,711,558	1.0000	72,711,558	72.711558
2011	86,074,064	1.0000	86,074,064	86.074064
2012	76,452,811	1.0000	76,452,811	76.452811
2013	61,349,745	1.0000	61,349,745	61.349745
2014	54,050,731	1.0000	54,050,731	54.050731
2015	40,934,048	1.0000	40,934,048	40.934048
2016	28,999,042	1.0000	28,999,042	28.999042

(1) Payroll and (2) Development - Exhibit X-E, page 2

COAL MINE COMPENSATION RATING BUREAU
Developed Payrolls

Exhibit X-D
Page 3

COKE (1469)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	12,737,394	1.0000	12,737,394	12.737394
2007	13,669,925	1.0000	13,669,925	13.669925
2008	9,761,146	1.0000	9,761,146	9.761146
2009	5,173,552	1.0000	5,173,552	5.173552
2010	5,435,658	1.0000	5,435,658	5.435658
2011	3,599,086	1.0000	3,599,086	3.599086
2012	5,738,105	1.0000	5,738,105	5.738105
2013	4,791,910	1.0000	4,791,910	4.791910
2014	4,464,398	1.0000	4,464,398	4.464398
2015	4,340,376	1.0000	4,340,376	4.340376
2016	2,313,724	1.0000	2,313,724	2.313724

AUGER (1015)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	1,066,831	1.0000	1,066,831	1.066831
2007	1,121,156	1.0000	1,121,156	1.121156
2008	2,488,558	1.0000	2,488,558	2.488558
2009	926,163	1.0000	926,163	0.926163
2010	806,696	1.0000	806,696	0.806696
2011	1,176,255	1.0000	1,176,255	1.176255
2012	808,208	1.0000	808,208	0.808208
2013	1,025,399	1.0000	1,025,399	1.025399
2014	806,976	1.0000	806,976	0.806976
2015	582,619	1.0000	582,619	0.582619
2016	372,496	1.0000	372,496	0.372496

Source: (1) Payroll and (2) Development - Exhibit X-E, page 3

COAL MINE COMPENSATION RATING BUREAU
Developed Payrolls

Exhibit X-D
Page 4

ANTHRACITE CO-GEN (1021)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3)	PAYROLL PER MILLION (4)
			$= (1) \times (2)$	$= (1) \times (2) / 1000000$
2006	8,405,393	1.0000	8,405,393	8.405393
2007	9,160,450	1.0000	9,160,450	9.160450
2008	7,958,335	1.0000	7,958,335	7.958335
2009	8,004,644	1.0000	8,004,644	8.004644
2010	8,481,228	1.0000	8,481,228	8.481228
2011	11,720,035	1.0000	11,720,035	11.720035
2012	10,273,004	1.0000	10,273,004	10.273004
2013	8,342,651	1.0000	8,342,651	8.342651
2014	9,060,883	1.0000	9,060,883	9.060883
2015	10,469,089	1.0000	10,469,089	10.469089
2016	10,847,424	1.0000	10,847,424	10.847424

BITUMINOUS CO-GEN (1023)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3)	PAYROLL PER MILLION (4)
			$= (1) \times (2)$	$= (1) \times (2) / 1000000$
2006	9,397,580	1.0000	9,397,580	9.397580
2007	10,789,214	1.0000	10,789,214	10.789214
2008	8,468,561	1.0000	8,468,561	8.468561
2009	7,866,413	1.0000	7,866,413	7.866413
2010	8,732,701	1.0000	8,732,701	8.732701
2011	9,102,411	1.0000	9,102,411	9.102411
2012	9,047,745	1.0000	9,047,745	9.047745
2013	10,355,884	1.0000	10,355,884	10.355884
2014	11,721,184	1.0000	11,721,184	11.721184
2015	11,748,205	1.0000	11,748,205	11.748205
2016	11,386,837	1.0000	11,386,837	11.386837

Source: (1) Payroll and (2) Development - Exhibit X-E, page 4

COAL MINE COMPENSATION RATING BUREAU
Developed Payrolls

Exhibit X-D
Page 5

ANTHRACITE PREP PLANT (1025)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	4,885,882	1.0000	4,885,882	4.885882
2007	5,756,439	1.0000	5,756,439	5.756439
2008	6,390,767	1.0000	6,390,767	6.390767
2009	6,749,748	1.0000	6,749,748	6.749748
2010	5,762,086	1.0000	5,762,086	5.762086
2011	7,236,583	1.0000	7,236,583	7.236583
2012	8,671,140	1.0000	8,671,140	8.671140
2013	8,265,665	1.0000	8,265,665	8.265665
2014	8,234,771	1.0000	8,234,771	8.234771
2015	7,606,274	1.0000	7,606,274	7.606274
2016	6,971,270	1.0000	6,971,270	6.971270

BITUMINOUS PREP PLANT (1027)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
2006	17,050,967	1.0000	17,050,967	17.050967
2007	18,895,192	1.0000	18,895,192	18.895192
2008	21,250,256	1.0000	21,250,256	21.250256
2009	19,828,012	1.0000	19,828,012	19.828012
2010	26,313,130	1.0000	26,313,130	26.313130
2011	35,155,068	1.0000	35,155,068	35.155068
2012	34,211,729	1.0000	34,211,729	34.211729
2013	34,253,697	1.0000	34,253,697	34.253697
2014	43,520,040	1.0000	43,520,040	43.520040
2015	33,564,176	1.0000	33,564,176	33.564176
2016	22,065,227	1.0030	22,131,423	22.131423

(1) Payroll and (2) Development - Exhibit X-E, page 5

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 1

PAYROLLS
ANTHRACITE UNDERGROUND (1010)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	530	0	0	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760			
2ND	530	0	0	0	5,700	110,125	219,407	175,900	258,809	254,336				
3RD	530	0	0	0	5,700	110,125	219,407	175,900	258,809					
4TH	530	0	0	0	5,700	110,125	219,407	175,900						
5TH	530	0	0	0	5,700	110,125	219,407							
												5 YEAR		
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	1.0000				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
2-3	1.0000				1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
3-4	1.0000				1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000				1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

PAYROLLS
BITUMINOUS UNDERGROUND (1001)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	71,756,779	81,366,980	102,595,885	100,337,635	126,269,667	150,087,771	156,022,224	148,858,839	269,946,018	216,498,553	148,894,215			
2ND	71,907,931	81,566,803	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460				
3RD	71,907,931	81,566,803	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707					
4TH	71,907,931	81,566,803	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068						
5TH	71,907,931	81,566,803	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761							
												5 YEAR		
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>	
1-2	1.0021	1.0025	1.0087	1.0234	1.0033	0.9970	0.9898	1.0074	1.0048	0.9998	0.9998	0.9998	1.0000	
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000	
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000	

Source: CMCRB Database as of 4-30-2017 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 2

PAYROLLS
ANTHRACITE SURFACE (1012)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	11,844,081	14,568,659	17,094,165	16,464,925	14,316,712	21,041,889	26,061,126	22,127,846	20,422,650	24,275,156	20,717,621			
2ND	11,946,382	14,555,579	16,999,485	16,445,462	14,302,955	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779				
3RD	11,946,382	14,555,579	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075					
4TH	11,946,382	14,555,579	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824						
5TH	11,946,382	14,555,579	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907							
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		5 YEAR AVERAGE	ACCUM.	SELECTED
1ST	1.0086	0.9991	0.9945	0.9988	0.9990	0.9997	1.0090	1.0146	1.0021	0.9977		1.0046	1.0045	1.0045
2-3	1.0000	1.0000	0.9973	1.0000	0.9995	1.0000	1.0000	1.0000	1.0000			0.9999	0.9999	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

PAYROLLS
BITUMINOUS SURFACE (1014)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	63,013,132	62,335,653	72,508,648	62,272,331	72,008,001	84,685,809	77,151,225	63,473,577	54,685,762	41,179,672	28,999,042			
2ND	63,084,439	63,295,774	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048				
3RD	63,008,975	63,295,774	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731					
4TH	63,008,975	63,295,774	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745						
5TH	63,008,975	63,295,774	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811							
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0011	1.0154	1.0075	0.9922	1.0098	1.0164	0.9909	0.9665	0.9884	0.9940		0.9912	0.9912	1.0000
2-3	0.9988	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2017 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 3

PAYROLLS COKE (1469)													
RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
1ST	12,737,394	13,669,925	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,057,561	2,313,724		
2ND	12,737,394	13,669,925	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376			
3RD	12,737,394	13,669,925	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398				
4TH	12,737,394	13,669,925	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910					
5TH	12,737,394	13,669,925	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105						
5 YEAR													
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	AVERAGE	ACCUM.	SELECTED
1-2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0697	1.0139	1.0139	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
PAYROLLS AUGER (1015)													
RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
1ST	1,066,831	1,121,967	2,489,280	935,743	793,313	1,151,902	789,136	1,082,639	876,196	592,775	372,496		
2ND	1,066,831	1,121,156	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619			
3RD	1,066,831	1,121,156	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976				
4TH	1,066,831	1,121,156	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399					
5TH	1,066,831	1,121,156	2,488,558	926,163	806,696	1,176,255	808,208						
5 YEAR													
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	AVERAGE	ACCUM.	SELECTED
1-2	1.0000	0.9993	0.9997	0.9898	1.0169	1.0211	1.0242	0.9471	0.9210	0.9829	0.9793	0.9793	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2017 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 4

PAYROLLS
ANTHRACITE CO-GEN (1021)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	8,378,307	9,157,398	7,974,156	8,083,804	8,455,858	11,710,908	10,377,312	8,678,376	9,279,611	10,646,550	10,847,424			
2ND	8,405,393	9,160,450	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089				
3RD	8,405,393	9,160,450	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883					
4TH	8,405,393	9,160,450	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651						
5TH	8,405,393	9,160,450	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004							
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0032	1.0003	0.9980	0.9902	1.0030	1.0008	0.9899	0.9613	0.9764	0.9833		0.9823	0.9823	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

PAYROLLS
BITUMINOUS CO-GEN (1023)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	9,292,226	9,873,810	8,469,399	7,861,068	9,236,721	9,015,644	9,057,266	13,079,796	11,451,621	11,723,112	11,386,837			
2ND	9,397,580	10,789,214	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205				
3RD	9,397,580	10,789,214	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184					
4TH	9,397,580	10,789,214	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884						
5TH	9,397,580	10,789,214	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745							
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0113	1.0927	0.9999	1.0007	0.9454	1.0096	0.9989	0.7917	1.0235	1.0021		0.9652	0.9652	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2017 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 5

PAYROLLS
ANTHRACITE PREP PLANT (1025)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	4,885,882	5,756,521	6,320,163	6,785,937	5,723,658	7,300,075	8,617,327	8,249,896	8,098,851	7,770,095	6,971,270			
2ND	4,885,882	5,756,439	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274				
3RD	4,885,882	5,756,439	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771					
4TH	4,885,882	5,756,439	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665						
5TH	4,885,882	5,756,439	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140							
												5 YEAR		
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		AVERAGE	ACCUM.	SELECTED
1-2	1.0000	1.0000	1.0112	0.9947	1.0067	0.9913	1.0062	1.0019	1.0168	0.9789		0.9990	0.9990	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

PAYROLLS
BITUMINOUS PREP PLANT (1027)

RPT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
1ST	17,116,808	18,852,719	20,315,099	19,852,091	25,843,606	34,632,323	34,353,700	33,730,152	43,397,620	34,011,862	22,065,227			
2ND	17,050,967	18,895,192	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,207,489	43,520,040	33,564,176				
3RD	17,050,967	18,895,192	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040					
4TH	17,050,967	18,895,192	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697						
5TH	17,050,967	18,895,192	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729							
												5 YEAR		
DEV.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		AVERAGE	ACCUM.	SELECTED
1-2	0.9962	1.0023	1.0460	0.9988	1.0182	1.0151	0.9959	1.0142	1.0028	0.9868		1.0030	1.0033	1.0030
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0014	1.0000			1.0003	1.0003	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2017 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
OD Frequencies From Approved Filing

Exhibit X-F

		State OD Class Code	State OD Indicated Frequency (Eff. 4/1/2017) (1)	Federal OD Class Code	Federal OD Basic Indicated Frequency (Eff. 4/1/2017) (2)	Federal OD Excess Indicated Frequency (Eff. 4/1/2017) (3)
Underground:	Anthracite	1011	0.113046	160	0.271970	0.054973
	Bituminous	1002	0.015482	158	0.014664	0.006156
Surface:	Anthracite	1016	0.036827	153	0.087808	0.015314
	Bituminous	1013	0.003381	156	0.020945	0.001275
	Coke	1017	0.002757	154	0.002421	0.001138
	Auger	1019	0.005664	157	0.009431	0.002379
Co-Gen:	Anthracite	1022	0.006590	181	0.013164	0.002445
	Bituminous	1024	0.009973	182	0.008092	0.003368
Prep Plants:	Anthracite	1026	0.048082	183	0.027242	0.021703
	Bituminous	1028	0.005100	184	0.010790	0.001986

Source: (1): Exhibit III Column (3) of prior filing.
(2) & (3): Exhibit IV-A Column (3) of prior filing.

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\[2017-10.xlsm]X-F
Run Date: August 30, 2017 - 02:11:40 PM

PAB
Effective Date - April 01, 2018
11,846.824166

COAL MINE COMPENSATION RATING BUREAU
Calculation of Coal Class Adjustment Factor to SAWW

Exhibit X-G

Average Coal Class Weekly Wages										
	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant
Year	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
2007	#	999.30	888.96	792.88	865.75	506.05	961.14	1,004.50	709.24	1,059.33
2008	#	1,122.46	933.69	897.20	808.50	362.00	455.00	1,117.25	786.87	980.01
2009	#	1,186.72	889.44	882.89	699.10	450.40	994.20		1,054.05	1,006.54
2010	#	1,196.34	875.36	869.71	428.37	559.30	650.50	868.00	670.27	1,056.50
2011	#	1,268.15	956.16	965.20	509.19	583.00	638.00	902.00	709.93	1,168.50
2012	#	1,409.80	1,026.52	1,027.03		405.00	1,049.67	1,370.33	1,225.08	1,074.90
2013	#	1,450.44	961.94	1,056.17	584.76	556.80	933.53	1,188.00	836.20	1,268.33
2014	#	1,489.37	972.96	988.63	100.00	520.00	843.52	908.00	943.94	1,328.00
2015	#	1,623.05	1,071.78	968.80	564.33	722.00	1,075.00	836.67	1,005.00	1,295.56
2016	#	1,649.95	1,076.47	1,062.83	2,109.00		1,133.39	714.00	1,148.41	1,816.23

Number of Wage Records Used to Calculate Average Coal Class Weekly Wages										
Year	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
2007	#	87	17	28	11	2	5	2	8	3
2008	#	111	24	32	15	2	1	4	8	5
2009	#	119	21	30	10	2	4		4	6
2010	#	113	24	21	1	2	4	2	5	6
2011	#	106	21	31	3	4	2	2	8	12
2012	#	124	20	29		1	6	3	7	10
2013	#	90	25	29	2	5	7	1	7	9
2014	#	216	21	19	1	2	3	5	6	15
2015	#	131	18	10	3	2	3	3	4	8
2016	#	92	20	6	1		7	1	4	9
Total		1189	211	235	47	22	42	23	61	83

Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage											
Year	SAWW	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
2007	779	#	1.283	1.141	1.018	1.111	0.650	1.234	1.289	0.910	1.360
2008	807	#	1.391	1.157	1.112	1.002	0.449	0.564	1.384	0.975	1.214
2009	836	#	1.420	1.064	1.056	0.836	0.539	1.189		1.261	1.204
2010	845	#	1.416	1.036	1.029	0.507	0.662	0.770	1.027	0.793	1.250
2011	858	#	1.478	1.114	1.125	0.593	0.679	0.744	1.051	0.827	1.362
2012	888	#	1.588	1.156	1.157		0.456	1.182	1.543	1.380	1.210
2013	917	#	1.582	1.049	1.152	0.638	0.607	1.018	1.296	0.912	1.383
2014	932	#	1.598	1.044	1.061	0.107	0.558	0.905	0.974	1.013	1.425
2015	951	#	1.707	1.127	1.019	0.593	0.759	1.130	0.880	1.057	1.362
2016	978	#	1.687	1.101	1.087	2.156	0.595	1.159	0.730	1.174	1.857
Average			1.515	1.099	1.082	0.838		0.990	1.130	1.030	1.363

Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage - Classes Combined											
Year	SAWW	Bit. Und. & Prep					All Other Classes				
2007	779	1.286					1.061				
2008	807	1.383					1.083				
2009	836	1.410					1.032				
2010	845	1.408					0.973				
2011	858	1.466					1.028				
2012	888	1.560					1.190				
2013	917	1.564					1.036				
2014	932	1.587					0.999				
2015	951	1.687					1.024				
2016	978	1.702					1.134				
Average		1.505					1.056				
Selected Coal Class Adj. Factor to SAWW		1.505					1.056				

Notes: Average Coal Class Weekly Wages were derived from CMCRB database for Traumatic Claims.

Average Weekly Wages by class exclude years with zero claims.

Data for Anthracite Underground was too thin for inclusion.

SAWW = Statewide Average Weekly Wage

The number of records with wage histories are very close to, but less than, lost time claim counts due to missing wage records for some lost time accidents.

For these Classes and Years, there isn't any data.

SMALL BUSINESS ADVOCATE ASSESSMENT

1. 2017-2018 Small Business Advocate Assessment	\$	275,000
2. 2016 Insurance Carrier Paid Losses		
CMCRB		22,134,229
<u>PCRB</u>		<u>2,399,639,002</u>
Total		2,421,773,231
3. Insurer Assessment Ratio (item 1 divided by item 2)		0.0001

Source: 1. Pa. Dept. of Labor & Industry
2. PCRB
3. CMCRB

COAL MINE COMPENSATION RATING BUREAU

EMPLOYER ASSESSMENT FACTOR

PROPOSED EFFECTIVE April 1, 2018

1) 2017/2018 INSURANCE CARRIER ASSESSMENT AMOUNTS

A)	Administrative Fund	62,001,117
B)	Subsequent Injury Fund	143,103
C)	Supersedeas Fund	12,985,783
D)	Uninsured Employers Guaranty Fund	<u>2,422,583</u>
	TOTAL	77,552,586

2)	2016 Employer Assessment Premium Base	3,559,252,270
3)	2016 Coal Mine Premium Base	17,568,833
4)	Coal Premium percent of Total (3)/(2)	0.494%
5)	Assessments to be paid by coal employers	382,807
6)	Coal Employer Assessment Factor	0.0218

Sources: 1) Pa. Dept. of Labor & Industry
 2) PCRB
 3) CMCRB

COAL MINE COMPENSATION RATING BUREAU

Exhibit XII-A

CATASTROPHE - Spread of Loss Cost to Classes

<u>Classification</u>		(1) 2016 Developed Payrolls	(2) Hazard Weights	(3) Payroll Weight (1)x(2)/1000	(4) Percentage of Exposure	(5) Catastrophe Losses (4)xAverage	(6) Actual Loss Cost Spread [(5)/(1)]x100	(7) Approved Loss Cost Eff 4/1/2017	(8) <u>Selected</u>	(9) Rate Change (8)/(7) - 1
Underground										
Anthracite	1010	\$163,760								
Bituminous	1001	148,894,215								
Total		149,057,975	7	1,043,406	90.9%	271,659	0.18	0.13	0.18	38.5%
Surface										
Anthracite	1012	20,810,850								
Bituminous	1014	28,999,042								
Coke	1469	2,313,724								
Auger	1015	372,496								
Co-Gen Anth.	1021	10,847,424								
Co-Gen Bit.	1023	11,386,837								
Prep Anth.	1025	6,971,270								
Prep Bit.	1027	22,131,423								
Total		103,833,066	1	103,833	9.1%	27,034	0.03	0.02	0.03	50.0%
Grand Total		252,891,041	8	1,147,239	100.0%	298,693	0.12	a-0.08	0.12	50.0%

a - Current Total Loss Cost is based on 2016 Payroll weights
b- Auger = one-third underground & two-thirds surface or \$0.08

Source: Payroll - Exhibit X-A (Developed 2016 Payroll)
Hazard Weights - Judgement
Catastrophe Losses, Grand Total - Exhibit XII-B

COAL MINE COMPENSATION RATING BUREAU
CATASTROPHE CALCULATION
TRAUMATIC ON-LEVEL LOSSES IN EXCESS OF \$1,250,000

Exhibit XII-B

Accident Year	Number of Excess Claims	Excess Loss Dollars
1997	3	817,048
1998	-	-
1999	1	288,585
2000	-	-
2001	-	-
2002	1	333,922
2003	2	456,392
2004	2	1,174,065
2005	3	673,278
2006	-	-
2007	1	2,210,109
2008	1	20,469
2009	-	-
2010	-	-
2011	-	-
2012	-	-
2013	-	-
2014	-	-
2015	-	-
2016	-	-
	<hr/> 14	<hr/> 5,973,868
Average over 20 years		298,693
2016 Payroll from Exhibit XII-A		252,891,041
Loss Cost		0.12

Source: Claims detail from Exhibit XII-C

COAL MINE COMPENSATION RATING BUREAU
CATASTROPHE CALCULATION
TRAUMATIC LOSSES OVER \$1,250,000

Exhibit XII-C

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Key Number	Class	Accident Year	Injury Type	Incurred Indemnity & Funeral	Incurred Medical	Paid Medical	O/S Medical	Act 44 Factor	Trend	Medical w/Trend & Act 44 Factor	Loss at Current Level	Excess Over \$1,250,000
33176	100100	1997	9	173,195	717,420	473,039	244,381	1.0000	1.9170	1,375,294	1,707,309	457,309
33295	100100	1997	1	776,447	11,595	11,595	-	1.0000	1.9170	22,228	1,510,677	260,677
33129	100100	1997	9	117,115	586,621	289,362	297,259	1.0000	1.9170	1,124,552	1,349,062	99,062
34602	100100	1999	9	358,233	512,500	512,500	-	1.0000	1.7670	905,588	1,538,585	288,585
Que Creek	100100	2002	9	892,793	116,396	116,396	-	1.0000	1.5695	182,684	1,583,922	333,922
39990	100100	2003	1	1,015,524	-	-	-	1.0000	1.5393	-	1,563,196	313,196
39840	100100	2003	2	419,207	485,877	270,817	215,060	1.0000	1.5393	747,910	1,393,196	143,196
40926	100100	2004	9	686,414	603,807	450,411	153,396	1.0000	1.5058	909,213	1,942,815	692,815
41102	102700	2004	2	505,991	643,730	643,730	-	1.0000	1.5058	969,329	1,731,250	481,250
41676	100100	2005	2	962,495	125,000	82,740	42,260	1.0000	1.4511	181,388	1,578,064	328,064
41672	100100	2005	2	859,464	200,000	153,475	46,525	1.0000	1.4511	290,220	1,537,388	287,388
41534	101400	2005	1	875,699	25,566	25,566	-	1.0000	1.4511	37,099	1,307,826	57,826
43059	101200	2007	2	594,174	2,000,000	1,576,595	423,405	1.0000	1.3338	2,667,600	3,460,109	2,210,109
43835	100100	2008	1	975,340	11,432	11,432	-	1.0000	1.2875	14,719	1,270,469	20,469

Totals	14										23,473,868	5,973,868
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Sources: Columns (2) through (8) from CMCRB Database.

Injury types are as follows: 1 (Death), 2 (Permanent Total), 9 (Permanent Partial).

Column (9): Exhibit VI-B page 1

Column (10): Exhibit XII-D.

Column (11) is equal to Columns [(7) X (9) + (8)] x (10)

Column (12) is equal to Columns (5) X (10) + (11)

Column (13) is equal to Column (12), minus \$1,250,000

20 Year Average	298,693
2016 Developed Payroll	252,891,041
Loss Cost	0.12

Coal Mine Compensation Rating Bureau
Catastrophe Calculation
Trend Factors for Medical and Indemnity

Exhibit XII-D

<u>Year</u>	<u>Statewide Average Weekly Wage</u>	<u>Yearly Percentage Change</u>	<u>Trend Factor</u>	<u>Year</u>	<u>Statewide Average Weekly Wage</u>	<u>Yearly Percentage Change</u>	<u>Trend Factor</u>
1997	542		1.9170	2008	807	3.6%	1.2875
1998	561	3.5%	1.8520	2009	836	3.6%	1.2428
1999	588	4.8%	1.7670	2010	845	1.1%	1.2296
2000	611	3.9%	1.7005	2011	858	1.5%	1.2110
2001	644	5.4%	1.6134	2012	888	3.5%	1.1700
2002	662	2.8%	1.5695	2013	917	3.3%	1.1330
2003	675	2.0%	1.5393	2014	932	1.6%	1.1148
2004	690	2.2%	1.5058	2015	951	2.0%	1.0925
2005	716	3.8%	1.4511	2016	978	2.8%	1.0624
2006	745	4.1%	1.3946	2017	995	1.7%	1.0442
2007	779	4.6%	1.3338				

Average of All Years= 3.09%
Average of last 10 years= 2.48%
Average of last 5 years= 2.30%
Average of last 3 years= 2.21%

Selected= 2.50% (Last Year's Selection was 2.75%)

	<u>Projected Wage</u>	<u>Weight</u>
01-01-2018	1,020.00 a	28.125%
01-01-2019	1,045.00 a	68.750%
01-01-2020	1,072.00 a	3.125%

Average Weekly Wage For Policies effective between 04-01-2018 and 04-01-2020

\$1,039 b

- a. Previous year's wage times annual increase of 2.50%
b. Weighted average of projected wage levels from 01-01-2018 to 01-01-2020

Source: Statewide Average Weekly Wage data is from the Pennsylvania Workers' Compensation Act booklet or the Department of Labor and Industry website.

Coal Mine Compensation Rating Bureau
Catastrophe Calculation
Traumatic Losses by Class

<u>Class Code</u>	<u>Description</u>	<u>Number of Claims</u>	<u>Excess Over \$1,250,000</u>
1010	Underground Anthracite	-	-
1001	Underground Bituminous	11	3,224,683
1012	Surface Anthracite	1	2,210,109
1014	Surface Bituminous	1	57,826
1469	Coke	-	-
1015	Auger	-	-
1021	Anthracite Co-Gen	-	-
1023	Bituminous Co-Gen	-	-
1025	Anthracite Prep Plant	-	-
1027	Bituminous Prep Plant	1	481,250
	Total	14	\$5,973,868

Sources: Adjusted to On-Level and Post-Act 44 basis in Exhibit XII-C

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating Plan
Basic Data Lookup Tables

Exhibit XIII-A

50K-150K

Page 1

2018 plan factors at 50k and 150 k splits:

Table A: Ratemaking Factors

Year:	2016	2015	2014	Average
Loss Develop.	1.8339	1.2522	1.1266	split by
Layers:	Split of total losses by Layer			Layer
0- 50	0.66776	0.41578	0.45140	0.51165
50-150	0.03673	0.22781	0.15997	0.14150
Over 150	0.29551	0.35641	0.38863	0.34685
Trend	1.0534	1.0479	1.0219	1.0000

Table B: Payroll Development

Classification	Payroll Development
1001 Bit deep	1.0000
1010 Anth deep	1.0000
1012 Anth surf	1.0045
1014 Bit surf	1.0000
1015 Auger	1.0000
1021 Anth Co-gen	1.0000
1023 Bit Co-gen	1.0000
1025 Anth Prep	1.0000
1027 Bit Prep	1.0030
1469 Coke	1.0000

Table C: Unloaded Loss Costs - Traumatic

Classification	Unloaded Loss Cost (1)
1001 Bit deep	5.82
1010 Anth deep	19.20
1012 Anth surf	8.09
1014 Bit surf	2.22
1015 Auger	13.40
1021 Anth Co-gen	3.81
1023 Bit Co-gen	1.13
1025 Anth Prep	4.70
1027 Bit Prep	2.20
1469 Coke	3.47

Table D: Manual Loss Costs - Traumatic

Classification	Unloaded Loss Cost (1)	Loadings			Manual Loss Cost (5)	Off.* Balances
		Catastrophe Exh. XII-A (2)	Small Business Assessment (3)	Off-Balances# (4)		
1001 Bit deep	5.82	0.18	1.0001	1.0151	6.09	1.0002
1010 Anth deep	19.20	0.18	1.0001	1.0151	19.67	1.0149
1012 Anth surf	8.09	0.03	1.0001	1.0151	8.24	
1014 Bit surf	2.22	0.03	1.0001	1.0151	2.28	
1015 Auger	13.40	0.08	1.0001	1.0151	13.68	
1021 Anth Co-gen	3.81	0.03	1.0001	1.0151	3.90	
1023 Bit Co-gen	1.13	0.03	1.0001	1.0151	1.18	
1025 Anth Prep	4.70	0.03	1.0001	1.0151	4.80	
1027 Bit Prep	2.20	0.03	1.0001	1.0151	2.26	
1469 Coke	3.47	0.03	1.0001	1.0151	3.55	
Combined						1.0151

Table E: Expected Traumatic Loss Costs

Table E: Expected Traumatic Loss Costs			2016						2015						2014											
			All Layers			Layer 0-50			Layer 50-150			XS over 150			All Layers			Layer 0-50			Layer 50-150			XS over 150		
			De-trended Loss Cost*	Undeveloped Losses**	Split of total losses by Layer			De-trended Loss Cost*	Undeveloped Losses**	Split of total losses by Layer			De-trended Loss Cost*	Undeveloped Losses**	Split of total losses by Layer											
					0.66776	0.03673	0.29551			0.41578	0.22781	0.35641			0.45140	0.15997	0.38853									
Classification		Unloaded Manual Loss Cost	(4)	(5)	Undeveloped Expected Loss Cost***			(9)	(10)	Undeveloped Expected Loss Cost***			(14)	(15)	Undeveloped Expected Loss Cost***											
(1)	(2)	(3)	(6)	(7)	(8)					(11)	(12)	(13)	(16)	(17)	(18)											
1001	Bit deep	5.82	5.52	3.01	2.01	0.11	0.89	5.55	4.43	1.84	1.01	1.58	5.70	5.06	2.28	0.81	1.97	5.70								
1010	Anth deep	19.20	18.23	9.94	6.64	0.37	2.94	18.32	14.63	6.08	3.33	5.21	18.79	16.68	7.53	2.67	6.48	18.79								
1012	Anth surf	8.09	7.68	4.19	2.80	0.15	1.24	7.72	6.17	2.57	1.41	2.20	7.92	7.03	3.17	1.12	2.73	7.92								
1014	Bit surf	2.22	2.11	1.15	0.77	0.04	0.34	2.12	1.69	0.70	0.38	0.60	2.17	1.93	0.87	0.31	0.73	2.17								
1015	Auger	13.40	12.72	6.94	4.63	0.25	2.05	12.79	10.21	4.25	2.33	3.64	13.11	11.64	5.25	1.86	4.52	13.11								
1021	Anth Co-gen	3.81	3.62	1.97	1.32	0.07	0.58	3.64	2.91	1.21	0.66	1.04	3.73	3.31	1.49	0.53	1.29	3.73								
1023	Bit Co-gen	1.13	1.07	0.58	0.39	0.02	0.17	1.08	0.86	0.36	0.20	0.31	1.11	0.99	0.45	0.16	0.38	1.11								
1025	Anth Prep	4.70	4.46	2.43	1.62	0.09	0.72	4.49	3.59	1.49	0.82	1.28	4.60	4.08	1.84	0.65	1.59	4.60								
1027	Bit Prep	2.20	2.09	1.14	0.76	0.04	0.34	2.10	1.68	0.70	0.38	0.60	2.15	1.91	0.86	0.31	0.74	2.15								
1469	Coke	3.47	3.29	1.79	1.20	0.07	0.53	3.31	2.64	1.10	0.60	0.94	3.40	3.02	1.36	0.48	1.17	3.40								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18									

- * Detrended loss costs are calculated by dividing the unloaded manual lost costs (Table C) by the trend factors (Table A row 7), and rounding.
- ** The total undeveloped loss costs are calculated by dividing the De-trended loss cost by the Total Limits loss development factor (Table A row 2), and rounding; then the costs are allocated to layers.
- *** Detrended, undeveloped loss costs are allocated to layers by the splitting factors (Table A rows 4-6) based on the average shares for the same report age for the latest 6 years, and rounded to 2 decimal places.

Coal Mine Compensation Rating Bureau of Pennsylvania

Experience Rating Plan

Loss Development and Trend Factors by Experience Year

Exhibit XIII-A

50K-150K

Page 2

		Reported <u>Losses</u>	<u>LDF</u>	Untrended Developed <u>Losses</u>	Weight: Percent Indemnity vs <u>Medical</u>	<u>Medical</u> Loss <u>Development</u>	Indemnity Loss <u>Development</u>	Combined Loss Development <u>Weighted by % indemnity</u> <u>vs medical by year</u>
<u>Indemnity</u>	2014	\$11,781,410	1.1090	\$13,065,584	65.09%	1.1594	1.1090	1.1266
	2015	\$9,249,942	1.2879	\$11,913,000	72.06%	1.1600	1.2879	1.2522
	2016	\$4,871,955	2.1106	<u>\$10,282,748</u>	<u>67.19%</u>	1.2672	2.1106	1.8339
				\$35,261,332	67.93%			
<u>Medical</u>	2014	\$6,043,218	1.1594	\$7,006,507	34.91%			
	2015	\$3,981,666	1.1600	\$4,618,733	27.94%			
	2016	\$3,963,291	1.2672	<u>\$5,022,282</u>	<u>32.81%</u>			
				\$16,647,522	32.07%			
Total				\$51,908,854	1.0000			
						Medical / HB 1846 Trend at <u>-2.0%</u>	Indemnity/ Protz Adj. Trend at <u>-0.9%</u>	Combined Trend <u>Weighted by % indemnity</u> <u>vs medical by year</u>
			Years of <u>Trend</u>					
Average Exp date AY 2014			7/1/2014	4.75		0.9021	1.0861	1.0219
Average Exp date AY 2015			7/1/2015	3.75		0.9242	1.0959	1.0479
Average Exp date AY 2016			7/1/2016	2.75		0.9460	1.1058	1.0534
Average Date of Accident			4/1/2019					

Source: Loss Development - Exhibit V-C

Trend - Exhibit V-F

Reported Losses - Exhibit V-B page 1

2018 Credibility Tables

PCRB shape				Credibility Zp or Ze		
Expected	Equivalent	Modified		= (\$*Payroll+I*G)/(J*S*Payroll+K*G)		
Losses	Payroll at	Primary	Excess	[where S adjusts Payroll to Expected Losses]		
<u>Greater than</u>	<u>\$4.95 *</u>	<u>Credibility</u>	<u>Credibility</u>	<u>variable</u>	<u>Layer 1</u>	<u>Layer 2</u>
14,394	300,000	0.30	0.06	Av Claim G	N/A	11,512
17,632	356,207	0.31	0.06	S	N/A	0.054
21,218	428,646	0.32	0.06	I	N/A	43.50
23,729	479,379	0.33	0.06	J	N/A	2.4000
25,895	523,131	0.34	0.07	K	N/A	700.00
28,223	570,167	0.35	0.07			
31,724	640,889	0.36	0.07			
33,340	673,525	0.37	0.07			
36,148	730,263	0.38	0.07			
39,261	793,143	0.39	0.07			
42,723	863,096	0.40	0.07			
46,173	932,780	0.41	0.07			
50,260	1,015,348	0.42	0.07			
54,480	1,100,597	0.43	0.07			
58,930	1,190,500	0.44	0.07			
64,137	1,295,703	0.45	0.07			
69,460	1,403,230	0.46	0.07			
72,885	1,472,422	0.47	0.07			
75,602	1,527,304	0.48	0.07			
78,457	1,584,994	0.49	0.07			
81,395	1,644,337	0.50	0.07			
84,414	1,705,335	0.51	0.07			
87,590	1,769,503	0.52	0.07			
90,840	1,835,148	0.53	0.07			
94,219	1,903,418	0.54	0.07			
97,737	1,974,490	0.55	0.07			
101,336	2,047,189	0.56	0.07			
105,125	2,123,730	0.57	0.07			
109,027	2,202,556	0.58	0.07			
113,042	2,283,667	0.59	0.07			
117,273	2,369,141	0.60	0.08			
121,605	2,456,669	0.61	0.08			
126,119	2,547,856	0.62	0.08			
130,628	2,638,957	0.63	0.08			
135,136	2,730,020	0.64	0.08			
146,976	2,969,215	0.65	0.08			
159,790	3,228,089	0.66	0.08			
174,343	3,522,088	0.67	0.08			
190,774	3,854,026	0.68	0.08			
208,366	4,209,421	0.69	0.08			
228,292	4,611,957	0.70	0.09			
249,705	5,044,545	0.71	0.09			
274,047	5,536,309	0.72	0.09			
302,119	6,103,414	0.73	0.09			
333,210	6,731,515	0.74	0.10			
366,752	7,409,121	0.75	0.10			
407,662	8,235,596	0.76	0.10			
450,677	9,104,579	0.77	0.11			
498,112	10,062,869	0.78	0.11			
558,410	11,281,017	0.79	0.12			
624,012	12,606,300	0.80	0.12			
697,648	14,093,899	0.81	0.13			
788,985	15,939,091	0.82	0.13			
894,945	18,079,697	0.83	0.14			
1,018,370	20,573,131	0.84	0.15			
1,157,231	23,378,407	0.85	0.16			
1,321,831	26,703,653	0.86	0.17			
1,528,079	30,870,286	0.87	0.18			
1,795,880	36,280,396	0.88	0.19			
1,795,880	39,562,251	0.88	0.20			
2,120,319	42,834,727	0.89	0.21			
2,505,663	50,619,455	0.90	0.22			
2,505,663	55,913,525	0.90	0.23			
3,000,680	60,619,791	0.91	0.24			
3,000,680	70,084,630	0.91	0.25			
3,851,016	77,798,296	0.92	0.26			
4,547,151	91,861,636	0.93	0.27			
4,547,151	99,118,112	0.93	0.28			
4,547,151	111,852,096	0.93	0.29			
6,019,437	121,604,791	0.94	0.30			
6,019,437	144,482,928	0.94	0.31			
6,019,437	165,861,750	0.94	0.32			
6,019,437	192,174,145	0.94	0.33			
6,019,437	225,350,644	0.94	0.34			
6,019,437	268,480,093	0.94	0.35			
6,019,437	326,831,699	0.94	0.36			
6,019,437	410,191,138	0.94	0.37			

* The average unloaded loss cost underlying the proposed filing is \$4.95.
the table was updated to reflect this change.

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2018
Mod Comparisons

Exhibit XIII-B

Page 1

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2018 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2017 Mod</u>	<u>Change in Mod Factor</u>
2	2,965	0.832	2,467	0.850	-0.018
37	94,750	0.902	85,465	1.030	-0.128
52	2,246	0.807	1,813	0.785	0.022
55	431,497	0.620	267,528	0.610	0.010
66	4,599	0.971	4,466	0.889	0.082
99	13,894	0.817	11,351	0.821	-0.004
119	96,384	1.077	103,806	1.382	-0.305
121	176,460	0.643	113,464	0.651	-0.008
124	16,412	0.743	12,194	0.740	0.003
214	13,669	0.715	9,773	0.698	0.017
283	33,430	0.626	20,927	0.635	-0.009
288	2,425	0.830	2,013	0.818	0.012
306	75,715	0.964	72,989	0.742	0.222
316	3,013	0.832	2,507	0.837	-0.005
322	11,448	1.189	13,612	1.174	0.015
325	23,019	0.766	17,633	0.768	-0.002
342	4,489	0.799	3,587	1.400	-0.601
352	8,998	1.931	17,375	0.765	1.166
354	15,697	4.981	78,187	2.523	2.458
360	2,717	0.837	2,274	0.833	0.004
370	3,011	0.833	2,508	0.849	-0.016
403	127	0.829	105	1.362	-0.533
418	3,442	0.780	2,685	0.729	0.051
421	2,831	0.784	2,220	0.743	0.041
426	69,894	1.209	84,502	2.177	-0.968
437	1,403	0.762	1,069	0.677	0.085
451	4,590	0.810	3,718	0.816	-0.006
491	20,785	0.786	16,337	0.925	-0.139
652	332,020	1.074	356,589	1.050	0.024
690	23,304	1.607	37,450	0.874	0.733
722	6,402	0.781	5,000	0.769	0.012
910	1,891	0.936	1,770	0.950	-0.014
954	16,507	0.731	12,067	0.715	0.016
1016	5,741	0.847	4,863	0.822	0.025
1037	24,403	1.115	27,209	1.029	0.086
1361	3,482	0.830	2,890	0.850	-0.020
1444	324,163	1.184	383,809	1.237	-0.053
1700	26,994	0.707	19,085	0.975	-0.268
2065	889	1.300	1,156	1.392	-0.092
2265	0	0.837	0	0.796	0.041
2353	13,631	0.790	10,768	1.400	-0.610
2687	36,274	1.111	40,300	1.004	0.107
2839	25,365	0.708	17,958	0.973	-0.265
3157	18,541	0.798	14,796	0.791	0.007
3190	9,148	0.746	6,824	0.700	0.046

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2018
Mod Comparisons

Exhibit XIII-B

Page 2

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2018 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2017 Mod</u>	<u>Change in Mod Factor</u>
3194	7,828	0.828	6,482	1.300	-0.472
3506	2,065	0.831	1,716	0.829	0.002
3552	10,118	0.767	7,761	0.770	-0.003
3614	37,998	2.177	82,722	1.462	0.715
3619	30,217	0.811	24,506	0.828	-0.017
3629	22,255	0.903	20,096	0.889	0.014
3691	54,625	0.857	46,814	0.651	0.206
3798	3,968	0.817	3,242	0.818	-0.001
3804	11,588	0.817	9,467	0.783	0.034
3932	6,833	0.770	5,261	0.747	0.023
3952	195	0.846	165	0.950	-0.104
3970	0	0.838	0	0.925	-0.087
3972	2,621	1.280	3,355	1.220	0.060
3973	73,266	1.025	75,098	0.963	0.062
3977	47,375	0.668	31,647	0.877	-0.209
3978	5,023	0.772	3,878	0.719	0.053
3981	3,528	0.813	2,868	0.802	0.011
3982	5,516	0.754	4,159	0.716	0.038
3988	8,035	1.043	8,381	1.028	0.015
3994	13,594	0.827	11,242	0.829	-0.002
3997	3,886	0.813	3,159	0.801	0.012
4001	80,898	0.612	49,510	0.877	-0.265
4011	16,386	0.683	11,192	0.689	-0.006
4016	32,839	2.004	65,809	2.001	0.003
4024	28,496	1.190	33,910	1.331	-0.141
4025	5,033	0.871	4,384	0.892	-0.021
4030	8,228	2.207	18,159	1.118	1.089
4031	34,205	1.119	38,275	0.776	0.343
4042	71,609	0.642	45,973	0.614	0.028
4044	96,981	1.291	125,202	1.052	0.239
4054	5,816	1.200	6,979	1.200	0.000
4056	0	0.843	0	0.808	0.035
4058	13,593	1.028	13,974	1.019	0.009
4060	10,694	0.888	9,496	0.889	-0.001
4061	4,772	0.845	4,032	0.835	0.010
4062	6,422	1.400	8,991	1.475	-0.075
4063	6,760	0.786	5,313	0.787	-0.001
4065	0	0.754	0	0.690	0.064
4072	333,133	0.954	317,809	0.834	0.120
4074	13,093	0.874	11,443	0.902	-0.028
4077	134,668	0.988	133,052	0.995	-0.007
4078	62,227	0.678	42,190	0.649	0.029
4081	5,182	0.806	4,177	0.835	-0.029
4088	1,157	0.815	943	0.799	0.016
4089	26,395	1.309	34,551	1.438	-0.129

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2018
Mod Comparisons

Exhibit XIII-B

Page 3

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2018 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2017 Mod</u>	<u>Change in Mod Factor</u>
4094	15,975	0.799	12,764	1.200	-0.401
4096	3,788	0.826	3,129	0.817	0.009
4100	3,511,136	1.030	3,616,470	0.944	0.086
4101	17,007	1.229	20,902	1.243	-0.014
4103	16,751	0.829	13,887	n/a	n/a
4104	1,265,902	1.102	1,395,024	1.114	-0.012
4109	6,687	1.955	13,073	2.177	-0.222
4110	13,081	0.796	10,412	n/a	n/a
4111	0	1.133	0	1.180	-0.047
4114	17,421	0.759	13,223	0.765	-0.006
999011	9,320	1.093	10,187	1.025	0.068
999013	0	2.500	0	2.906	-0.406
999019	380,508	0.787	299,460	0.952	-0.165
999020	18,526	1.262	23,380	1.492	-0.230
999024	5,880	0.826	4,857	0.819	0.007
999038	48,398	0.646	31,265	1.107	-0.461
999039	99,744	1.439	143,532	1.616	-0.177
999051	381,330	1.085	413,743	0.924	0.161
999052	18,544	1.400	25,962	1.400	0.000
999053	9,962	2.958	29,468	3.068	-0.110
999061	1,934,652	0.835	1,615,434	0.790	0.045
999063	1,713,784	1.090	1,868,025	1.018	0.072
999065	4,138	0.812	3,360	1.300	-0.488
999075	43,372	1.898	82,320	1.493	0.405
999077	30,601	1.022	31,274	0.950	0.072

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2018
Mod Comparisons

Exhibit XIII-C

The following files have indicated increases or decreases in their Experience Mods of greater than 0.35 as displayed on Exhibit XIII-B, pages 1-3. This list includes all files with increases or decreases of this magnitude. It is proposed that the indicated increases or decreases be limited to a maximum of 0.35. Below are the affected files, their current mod and their proposed mod. If approved, the below stated limited mod would apply to the respective file number.

Experience Mod Caps (plus or minus 0.35)

File	2017 Mod	Proposed 2018 Mod	Limited Mod
342	1.400	0.799	1.050
352	0.765	1.931	1.115
354	2.523	4.981	2.873
403	1.362	0.829	1.012
426	2.177	1.209	1.827
690	0.874	1.607	1.224
2353	1.400	0.790	1.050
3194	1.300	0.828	0.950
3614	1.462	2.177	1.812
4030	1.118	2.207	1.468
4094	1.200	0.799	0.850
999013	2.906	2.500	2.556
999038	1.107	0.646	0.757
999065	1.300	0.812	0.950
999075	1.493	1.898	1.843

MERIT RATING PLAN OFF-BALANCE CALCULATION

Class	(1) 2016 Developed Payroll	(2) Traumatic Proposed Unloaded Loss Cost	(3) Credits/ Surcharge	(4) Loss Cost Premium	Off-Balance
Underground Anthracite (1010)					
Total	\$163,760	19.20		\$31,442	
Credit	39,700	19.20	-5.00%	(381)	
Surcharge	0	19.20	5.00%	0	
Underground Bituminous (1001)					
Total	\$148,894,215	5.82		\$8,665,643	
Credit	0	5.82	-5.00%	0	
Surcharge	0	5.82	5.00%	0	
Surface Anthracite (1012)					
Total	\$20,810,850	8.09		\$1,683,598	
Credit	109,533	8.09	-5.00%	(443)	
Surcharge	0	8.09	5.00%	0	
Surface Bituminous (1014)					
Total	\$28,999,042	2.22		\$643,779	
Credit	683,751	2.22	-5.00%	(759)	
Surcharge	0	2.22	5.00%	0	
Coke (1469)					
Total	\$2,313,724	3.47		\$80,286	
Credit	0	3.47	-5.00%	0	
Surcharge	0	3.47	5.00%	0	
Auger (1015)					
Total	\$372,496	13.40		\$49,914	
Credit	42,654	13.40	-5.00%	(286)	
Surcharge	0	13.40	5.00%	0	
Anthracite Co-Gen (1021)					
Total	\$10,847,424	3.81		\$413,287	
Credit	118,603	3.81	-5.00%	(226)	
Surcharge	0	3.81	5.00%	0	
Bituminous Co-Gen (1023)					
Total	\$11,386,837	1.13		\$128,671	
Credit	0	1.13	-5.00%	0	
Surcharge	0	1.13	5.00%	0	
Anthracite Prep Plant (1025)					
Total	\$6,971,270	4.70		\$327,650	
Credit	62,776	4.70	-5.00%	(148)	
Surcharge	0	4.70	5.00%	0	
Bituminous Prep Plant (1027)					
Total	\$22,131,423	2.20		\$486,891	
Credit	0	2.20	-5.00%	0	
Surcharge	0	2.20	5.00%	0	
All Classes Combined					
Total	\$252,891,041			\$12,511,161	
Credit	1,057,017		-5.00%	(\$2,243)	
Surcharge	0		5.00%	\$0	
				\$12,508,918	1.0002

Source: (1) Exhibit XIV-A Page2

(2) Exhibit II

(4)=(1)*(2)*(3)

File: C:\Clients\Coal Mine\2017 Rate Filing\XL\2017-14-A.xlsm]1

Run Date: November 02, 2017 - 02:28:35 PM

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Effective Date - April 01, 2018

545,425,079.120200

2016 PAYROLL BY CLASS

Class	2016 Total Developed Payroll	2016 Experience Rated Payroll	2016 Merit Rated Payroll	2016 Manual Payroll
Underground Anthracite (1010)	\$163,760	\$124,060	\$39,700	\$0
Underground Bituminous(1001)	148,894,215	148,425,268	0	468,947
Surface Anthracite (1012)	20,810,850	20,278,932	109,533	422,385
Surface Bituminous (1014)	28,999,042	27,189,764	683,751	1,125,527
Coke (1469)	2,313,724	2,313,724	0	0
Auger (1015)	372,496	329,842	42,654	0
Anthracite Co-Gen (1021)	10,847,424	10,652,873	118,603	75,948
Bituminous Co-Gen (1023)	11,386,837	11,312,609	0	74,228
Anthracite Prep Plant(1025)	6,971,270	6,866,894	62,776	41,600
Bituminous Prep Plant(1027)	22,131,423	21,360,570	0	770,853
TOTAL	\$252,891,041	\$248,854,536	\$1,057,017	\$2,979,488

MERIT PAYROLL - CREDIT/SURCHARGE

Class	2016 Merit Rated Payroll	2016 Merit Credit Payroll	2016 Merit No Adjustment Payroll	2016 Merit Surcharge Payroll
Underground Anthracite (1010)	\$39,700	\$39,700	\$0	\$0
Underground Bituminous(1001)	0	0	0	0
Surface Anthracite (1012)	109,533	109,533	0	0
Surface Bituminous (1014)	683,751	683,751	0	0
Coke (1469)	0	0	0	0
Auger (1015)	42,654	42,654	0	0
Anthracite Co-Gen (1021)	118,603	118,603	0	0
Bituminous Co-Gen (1023)	0	0	0	0
Anthracite Prep Plant(1025)	62,776	62,776	0	0
Bituminous Prep Plant(1027)	0	0	0	0
TOTAL	\$1,057,017	\$1,057,017	\$0	\$0

Source: Exhibit X-A and CMCRB database as of 4/30/2017

COAL MINE COMPENSATION RATING BUREAU
SAFETY COMMITTEE CREDIT OFFSET

Exhibit XIV-B

<u>CLASS</u>	(1) 2016 Developed Payroll	(2) Traumatic Proposed Unloaded Loss Cost	(3) Credit	(4) Loss Cost Premium	<u>Off-Balance</u>
Underground Anthracite(1010)					
Total	\$163,760	\$19.20		\$31,442	
Safety Committee	0	19.20	-5.00%	0	
Underground Bituminous(1001)					
Total	148,894,215	5.82		\$8,665,643	
Safety Committee	36,363,132	5.82	-5.00%	(105,817)	
Surface Anthracite(1012)					
Total	20,810,850	8.09		\$1,683,598	
Safety Committee	11,751,097	8.09	-5.00%	(47,533)	
Surface Bituminous(1014)					
Total	28,999,042	2.22		\$643,779	
Safety Committee	3,352,469	2.22	-5.00%	(3,721)	
Coke(1469)					
Total	2,313,724	3.47		\$80,286	
Safety Committee	0	3.47	-5.00%	0	
Auger(1015)					
Total	372,496	13.40		\$49,914	
Safety Committee	0	13.40	-5.00%	0	
Anthracite Co-gen(1021)					
Total	10,847,424	3.81		\$413,287	
Safety Committee	3,067,891	3.81	-5.00%	(5,844)	
Bituminous Co-gen(1023)					
Total	11,386,837	1.13		\$128,671	
Safety Committee	0	1.13	-5.00%	0	
Anthracite Prep Plant(1025)					
Total	6,971,270	4.70		\$327,650	
Safety Committee	3,385,921	4.70	-5.00%	(7,957)	
Bituminous Prep Plant(1027)					
Total	22,131,423	2.20		\$486,891	
Safety Committee	11,247,235	2.20	-5.00%	(12,372)	
<u>All Classes Combined</u>					
Total	252,891,041			12,511,161	
Safety Committee	69,167,745			(183,244)	
				12,327,917	1.0149

Source: (1) Exhibit X-A and CMCRB Database as of 4-30-2017

(2) Exhibit II

(4)=(1)*(2)*(3)