

**COAL MINE COMPENSATION RATING BUREAU
OF PENNSYLVANIA**

COMMERCE BUILDING – SUITE 501
300 NORTH SECOND STREET
HARRISBURG, PENNSYLVANIA 17101

CHARLES A. ROMBERGER
EXECUTIVE DIRECTOR

TELEPHONE/FAX
717-238-5020

November 23, 2020

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

Attention: Michael McKenney, Actuarial Supervisor, Property & Casualty Bureau

RE: Proposal CM-5-2020
Revised Loss Costs for Traumatic, State Occupational Disease
And Federal Occupational Disease
To Be Effective: April 1, 2021

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 -1.3%. By coverage, the proposal requests a change of -1.8% for Traumatic, a change of 0.0% for State Occupational Disease (“SOD”) and a change of 1.5% for Federal Occupational Disease (“FOD”).

The Proposed Traumatic Loss Costs are decreasing overall by \$0.10 from \$5.61 to \$5.51. The overall experience is being driven by the following considerations:

- Indemnity Loss Development Factors changed modestly
 - The first to ultimate factor (i.e., for Accident Year 2019) changed by -2.5% and
 - The other factors changed between -0.2% and 0.1%.
- Indemnity Loss Trend Annual Factor decreased from 1.1% to 0.2%. Consequently, Indemnity Loss Trend Factors changed by -2.4% to -5.9% from newer to older Accident Years.
- The HB 1840 Adjustment Factors that vary by Accident Year decreased modestly. These adjustments are included with the Indemnity Loss Trend Factors. On a combined basis, the changes to the Indemnity Loss Trend Factors range from -3.3% to -6.0% from newer to older Accident Years.
- Medical Loss Development Factors decreased for all years ranging from -0.9% for Accident Year 2015 to -2.6% for Accident Year 2019.
- Medical Loss Trend Annual Factor remained the same at 2.1%.
- The replacement of Accident Year 2014 experience with Accident Year 2019 experience in the five (5) year Traumatic Loss Cost analysis.

- For the April 1, 2020 filing, the Accident Year 2014 Loss Cost was estimated to be \$5.00.
- For the April 1, 2021 filing, the Accident Year 2019 Loss Cost is estimated to be \$4.46 with both Indemnity and Medical components decreasing when compared to Accident Year 2014 from the April 1, 2020 filing.

The Proposed SOD Loss Costs are not changing overall remaining at \$0.59. The overall experience is being driven by the following considerations:

- For all classes combined, claim frequency changed by 0.3%.
- For all classes combined, claim severity changed by 0.7%.
- Note that the overall change is less than the combined frequency-severity change due to individual class capping at +/-25%.

The Proposed FOD Loss Costs are increasing overall by \$0.01 from \$0.65 to \$0.66. The overall experience is being driven by the following considerations:

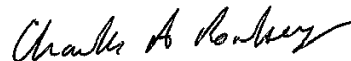
- For all classes combined, Basic claim frequency changed by -1.2%.
- For all classes combined, Excess claim frequency changed by -1.4%.
- For all classes combined, Basic claim severity changed by 1.4%.
- For all classes combined, Excess claim severity changed by 4.0%.

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. 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, 2021. 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 consultant 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

**Actuarial Report
Regarding the CMCRB's April 1, 2021 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, 2021 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, 2021.

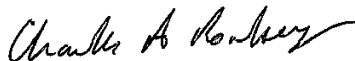
This report and the associated filing exhibits present information that demonstrate the fairness and reasonability of the proposed loss costs and show the CMCRB's continued use of accepted actuarial procedures and application of sound actuarial judgment.

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 and exhibits in support of the CMCRB's adjustments for House Bill 1846 of 2014 (HB 1846).
- Appendix B provides a discussion and exhibits in support of the CMCRB's adjustments concerning House Bill 1840 (HB 1840 or Act 111 of 2018), the legislative response to 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, 2021, 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	\$ 5.61	\$ 5.51	-1.8%
SOD	0.59	0.59	0.0%
<u>FOD (Basic & Excess)</u>	<u>0.65</u>	<u>0.66</u>	<u>1.5%</u>
Total	\$6.85	\$6.76	-1.3%

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 \$5.61 based on 2019 payroll distribution. The Proposed level is \$5.51 or a change of -1.8%.

The key drivers of the change to Traumatic Loss Costs can be identified by comparing Exhibit V-B Page 1 for the April 1, 2021 filing to the April 1, 2020 filing. These drivers include:

- Indemnity Loss Development Factors changed modestly
 - The first to ultimate factor (i.e., for Accident Year 2019) changed by -2.5% and
 - The other factors changed between -0.2% and 0.1%.
- Indemnity Loss Trend Annual Factor decreased from 1.1% to 0.2%. Consequently, Indemnity Loss Trend Factors changed by -2.4% to -5.9% from newer to older Accident Years.
- The HB 1840 Adjustment Factors that vary by Accident Year decreased modestly. These adjustments are included with the Indemnity Loss Trend Factors. On a combined basis, the changes to the Indemnity Loss Trend Factors range from -3.3% to -6.0% from newer to older Accident Years.
- Medical Loss Development Factors decreased
 - The first to ultimate factor (i.e., for Accident Year 2019) changed by -2.6% and
 - The other factors changed by -0.9%.
- Since the Medical Loss Trend Annual Factor did not change, Medical Loss Trend Factors changed only modestly due to the phase-out of the HB 1846 Adjustment Factors that vary by Accident Year that are included with the Medical Loss Trend Factors.

- The replacement of Accident Year 2014 experience with Accident Year 2019 experience in the five (5) year Traumatic Loss Cost analysis.
 - For the April 1, 2020 filing, the Accident Year 2014 Loss Cost was estimated to be \$5.00.
 - For the April 1, 2021 filing, the Accident Year 2019 Loss Cost is estimated to be \$4.46 with both Indemnity and Medical components decreasing.

These drivers generally decrease both the Indemnity and Medical indications. The Indemnity indication changed by -3.6%, from \$3.59 to \$3.46; while the Medical indication changed by -2.6%, from \$1.93 to \$1.88. Prior to the application of credibility and capping changes at +/- 25% by class, the Total Traumatic indication changed by -3.1%, from \$5.51 to \$5.34. 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 -1.7%. Also, the totals on Exhibit II are the result of using payroll for the most recent accident year as weights while the totals on Exhibit V-B Page 1 are the result of using payroll for the most recent five (5) accident years as weights. Capping changes at +/-25% by class was not required given the indicated changes.

State Occupational Disease (SOD) Loss Costs

The Current State Occupational Disease Loss Cost for all classes combined is \$0.59 based on 2019 payroll distribution. The Proposed level is \$0.59 or a change of 0.0%.

The key drivers of this change can be identified by comparing Exhibit III for the April 1, 2021 filing to the April 1, 2020 filing. These drivers include:

- For all classes combined, claim frequency changed by 0.3%. By class, frequency changes varied from -10.8% to 18.0%.
- For all classes combined, claim severity changed by 0.7%. By class, severity changes varied from -1.8% to 3.6%.
- The Proposed Loss Costs for Anthracite Underground and Bituminous Surface are 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 of the capping at +/- 25%.

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

The Current Federal Occupational Disease Basic/Excess Loss Cost for all classes combined is \$0.65 based on 2019 payroll distribution. The Proposed level is \$0.66 or a change of 1.5%.

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	\$ 0.52	\$ 0.52	0.0%
<u>Excess</u>	<u>0.13</u>	<u>0.14</u>	<u>+7.7%</u>
Total	\$0.65	\$0.66	+1.5%

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, 2021 filing to the April 1, 2020 filing. These drivers include:

- For all classes combined, Basic claim frequency changed by -1.2%.
- For all classes combined, Excess claim frequency changed by -1.4%.
- For all classes combined, Basic claim severity changed by 1.4%.
- For all classes combined, Excess claim severity changed by 4.0%.
- 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.) This amount is loaded into the CMCRB's Manual Loss Costs.
- The Employer Assessment Factor changes from 2.03% (or 0.0203) to 2.48% (or 0.0248). (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 did not change from \$0.12. (See Exhibit XII-A.) While the provisions for the Surface Classes and Auger remain the same, the provision for the Underground Classes decreased from 0.19 to 0.18. 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 1.0003 to 0.9973. 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 1.0174 to 1.0182. (See Exhibit XIV-B.) This amount is loaded into the CMCRB's Manual Loss Costs.

Summary of Significant Changes from Last Year's Filing

Concerning Exhibit V-J, for the April 1, 2020 Filing, four claims for Accident Year 2018 individually exceeded the catastrophe limit (\$1,250,000) and were listed on a single Exhibit V-J page. For the April 1, 2021 Filing, these four claims now individually do not exceed the catastrophe limit, so a page for these claims is not included with the filing. However, one claim for Accident Year 2019 exceeds the catastrophe limit and is listed on Exhibit V-J.

On Exhibit VI-B, some notes concerning Act 44 (of 1993) were removed since they were deemed to no longer be relevant.

On Exhibit VIII-C-7 and VIII-C-8, the Classification Adjustment Factors (line B) were revised based on an updated review of claim counts by classification as follows:

	<u>Coke</u>	<u>Auger</u>	<u>Anthracite</u> <u>Co-Gen</u>	<u>Bituminous</u> <u>Co-Gen</u>	<u>Anthracite</u> <u>Prep Plant</u>	<u>Bituminous</u> <u>Prep Plant</u>
	<u>0154</u>	<u>0157</u>	<u>0181</u>	<u>0182</u>	<u>0183</u>	<u>0184</u>
Proposed Factor	0.2000	0.5000	0.5000	0.4000	0.9000	0.4000
Prior Factor	0.2000	0.4000	0.5000	0.5000	1.0000	0.5000

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.

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. For the April 1, 2021 Filing, Bituminous Prep Plants also received full credibility given the level of Five Year Expected Losses for this class exceeding the Five Year Expected Losses for Surface Bituminous.

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 12b 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) -2.5%,
- 2:3 (2nd report to ultimate) -0.2%,
- 3:4 (3rd report to ultimate) 0.0%,
- 4:5 (4th report to ultimate) 0.1%,
- 5:6 (5th report to ultimate) 0.1% and
- 6th report to ultimate and beyond in the range of 0.0% to 0.1%.

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

- 1:2 (1st report to ultimate) -2.6%,
- 2:3 (2nd report to ultimate) -0.9%,
- 3:4 (3rd report to ultimate) -0.9%,
- 4:5 (4th report to ultimate) -0.9%,
- 5:6 (5th report to ultimate) -0.9% and
- 6th report to ultimate and beyond in the range of -0.8% to -0.5%.

- 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 15.02150, producing an average of 1.00143.
- 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 1.00143, so $y(12) = 1.00143$.
- 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:
$$y(12) = 1.00143 = x - (a)(12) \text{ and}$$
$$y(29) = 1.0001 = x - (a)(29).$$
- The solution for this system of equations was found to be:
$$a = 0.0000784 \text{ and}$$
$$x = 1.0023745.$$
- Given these values, $y(5)$ is determined to be $1.0020 = 1.0023745 - (0.0000784)(5)$. (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 0.0000784.
- 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 1.0042019. (There are 17 factors from $t=3$ to $t=19$ so the geometric mean is $(0.9864 \times 1.0175 \times \dots \times 1.0070)^{(1/17)}$).
- 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 1.0739.
- 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, $y(11) = 1.0042019$.
- These conditions result in the following system of equations:

$$y(11) = 1.0042019 = (x)(a^8) \text{ and}$$

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

- The solution for this system of equations was found to be:
 $a = 0.9998484$ and
 $x = 1.00542$.
- At this point, the value 1.00542 (displayed as 1.0054) is entered on Line 3 (for Period 3) of Column 6. The Factor for Period 4 is obtained as (1.00542) times (0.9998484). 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 1.0739 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 from 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 HB 1840 (or Act 111 of 2018).

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 through April 1, 2020 Filings, the CMCRB proposed adjustment factors that varied by Accident Year and maintains that approach for the April 1, 2021 Filing. These factors and their derivation are provided in Appendix A to this report.

Concerning HB 1840, the CMCRB applied a uniform additional charge of 1.59% or a factor of 1.0159 for all Accident Years for the April 1, 2019 Filing. For the April 1, 2020 Filing, the CMCRB proposed adjustment factors that vary by Accident Year and maintains that approach for the April 1, 2021 Filing. These factors and their derivation are provided in Appendix B to this report.

- G. Omitted – Reserved for Future Use.

- 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 presents a summary for or estimates of one of the trend parameters that are under consideration 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.

Exhibit V-J included in the current filing shows data for one large claim for Accident Year 2019 that individually exceed the catastrophe limit. Note that the claims previously reported for Accident Year 2018 do not exceed the threshold (\$1,250,000) at this evaluation. While the Reported Incurred amounts for these claims did not change significantly, the Loss Development Factors for claims at second report level are significantly lower than the Loss Development Factors for claims at first report level, resulting in the lower valuation for this filing.

- K. Exhibit V-K summarizes the twelve (12) estimates of each trend parameter under consideration from the various pages of Exhibit V-I. This exhibit also displays the selected Claim Frequency, Indemnity Severity and Medical Severity Trend Factors. Additionally, on this exhibit, changes to the Composite Trend Factors are capped at +/- 3.0 percentage points from the factors used in prior filing, when applicable.

In prior filings, the CMCRB generally selected trend estimates using averages of some or all of the Estimates 1-12, citing the estimates that were included and the rationale associated with these decisions. For example, for the April 1, 2018 Filing, the CMCRB selected trend estimates using the Average of Estimates 1-4 and 7-10, noting that the estimates that began with Accident Year 2009 involved exceptional variability (especially for Indemnity Severity).

For the April 1, 2019 Filing and April 1, 2020 Filing, the CMCRB departed from this approach, noting that the prior approach did not provide reasonable results. For the April 1, 2021 Filing, the CMCRB continues this current approach and offers the following

expanded discussion concerning the Traumatic trend factor selections displayed on Exhibit V-K.

The CMCRB notes that our database is very small and inherently volatile especially with respect to Traumatic loss trend estimation techniques. Oftentimes, the selection of the years that are used to begin or end a loss trend estimation technique significantly changes the trend estimate that is produced. While this is not a new observation per se, the data in the subject filing continue to seem very sensitive to these considerations.

In calculating and selecting trend assumptions, the CMCRB considers several basic assumptions or observations that include, but are not limited to, the following:

- Claim Frequency Trend – The CMCRB notes that a modest negative claim frequency trend has existed in Pennsylvania for over 20 years and that this is evident in the CMCRB's data and in the PCRB's data. The CMCRB also understands that this phenomenon exists in W.C. data outside of Pennsylvania, but that this phenomenon might not be as consistent outside of Pennsylvania.
- Indemnity Severity Trend – The CMCRB believes that Indemnity Severity Trend is most influenced by wage inflation. However, other conditions or circumstances also influence Indemnity Claim Severity that are more difficult to quantify (e.g., mix of injury severities under consideration).
- Medical Severity Trend – The CMCRB believes that Medical Severity Trend is most influenced by medical cost and utilization inflation. However, like Indemnity Claim Severity, Medical Claim Severity is also influenced by other conditions or circumstances that are more difficult to quantify (e.g., mix of injury severities under consideration).
- Indemnity and Medical Severity Trend relationship – The CMCRB generally expects medical cost and utilization inflation to exceed wage inflation and that Indemnity Severity Trends will usually be slightly lower than Medical Severity Trends.
- Although the CMCRB believes that the theories behind the assumptions listed above are sound and generally well accepted, the CMCRB also believes that actual data should be relied upon to the extent that it is reliable and reasonable.

The CMCRB prepares a variety of trend estimates based on a review of metrics from actual data for the ten most recent Accident Years. The selected trend assumptions are then applied to the most recent five Accident Years. The new Accident Year is least affected by the selected trend assumptions, while the oldest Accident Year is most affected. See Exhibit V-F for the calculations that underlie this statement.

Essentially, each of the five most recent Accident Years produces an estimate of the Loss Costs (or the Claim Frequencies or Claim Severities) that are under consideration. Consequently the CMCRB expects the results for the five most recent Accident Years to be randomly scattered around a horizontal straight line. Of course, with a limited database, actual results can and do vary from this expectation.

Traumatic Trend Factor Selections

- The CMCRB selected a Claim Frequency Trend of -2.75%. This selection results in a 5-year weighted average trended Claim Frequency of 8.6 which is lower than the actual Claim Frequency for each of the five most recent years. This selection also produces a good fit of the Claim Frequency data for the last nine years.
- The CMCRB selected an Indemnity Claim Severity Trend of 3.0%. This selection results in a 5-year weighted average trended Indemnity Claim Severity of \$70,618 which is higher than the actual Indemnity Claim Severity for each of the five most recent years. However, the 3-year weighted average Indemnity Claim Severity from this selection of \$65,151 seems reasonable when considering the actual Indemnity Claim Severities for 2015 and 2016 are \$65,856 and \$64,595 respectively.
- The CMCRB selected a Medical Claim Severity Trend of 5.0%. This selection results in a 5-year weighted average trended Medical Claim Severity of \$13,124 which is higher than the actual Medical Claim Severity for four of the five most recent years. However, this result also seems reasonable when considering the actual Medical Claim Severities for 2017 and 2018 are \$13,428 and \$12,884 respectively.

Observations about Loss Ratio Trends (or Composite Trends)

- Although the CMCRB prefers to separately review Claim Frequency and Claim Severity Trend estimates, the CMCRB notes that the Claim Frequency Trend times the Claim Severity Trend is equivalent to the Loss Ratio Trend.
- Therefore, the CMCRB's implied Indemnity Loss Ratio Trend is the product of 0.9725 (i.e., the selected -2.75% Claim Frequency Trend) and 1.030 (i.e., the selected 3.0% Indemnity Severity Trend) which equals 1.002 (or 0.2%).
- Similarly, the CMCRB's implied Medical Loss Ratio Trend is the product of 0.9725 (i.e., the selected -2.75% Claim Frequency Trend) and 1.050 (i.e., the selected 5.0% Medical Severity Trend) which equals 1.021 (or 2.1%).

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 invalidated a portion of the Act 57 revisions. Subsequently, the Pennsylvania Legislature passed legislation that Governor Wolf signed on October 24, 2018, (Act 111 of 2018) to generally reinstate the provisions invalidated by this decision. The previously mentioned law and claim settlement adjustments used in the Exhibit VI series do not address the

effect of this decision or this legislation. 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 and Act 111 of 2018.

- 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.

For the April 1, 2021 Filing, the Act 44 Medical Law Adjustment Factors are all unity. This indicates that all of the years at the report levels included in this filing are all reported on a post-Act 44 Law level and no longer require adjustment.

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 (i.e., the years and report levels used in this filing) is 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 are no longer necessary.

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 are no longer necessary since this data is reported directly on a post Act 44 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. As noted previously in this Report, all of the factors for all of the years and report levels in this filing are now unity since the data used in this filing is considered to be reported on a post-Act 44 levels. Pages 2 through 15 are reserved for future use.
- 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 details 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 2019 (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 changed this year as discussed in the Summary of Significant Changes from Last Year's Filing section of this report on page 5.

- 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 2019. 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 1.1866% to 1.1471%.

- 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. Page 1 provides Traumatic Payrolls; Page 2 provides SOD Payrolls; and Page 3 provides FOD Payrolls.
- 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

In Section 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 Factor or Ratio. This amount is loaded into the CMCRB's Manual Loss Costs.

In Section 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. Beginning with 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 0.9973. 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

Exhibit XIV – Merit Rating and Safety Committee Credit Off-Balance Calculations

- 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.

The CMCRB believes that one potential source of instability in Traumatic Claim Frequencies (and possibly Severities) that deserves specific mention involves an actual or perceived change in the coal mining work force demographics. The CMCRB has heard reports from member companies that a shift in the Pennsylvania coal mining work force began during 2016 and continued into 2019 where older, more experienced miners were replaced by younger, less experienced miners. The CMCRB has also read reports (e.g., see MSHA’s News Release posted June 6, 2017) about this same shift and the potential impact on losses related to it. While the CMCRB does not have access to data to corroborate this change or estimate its effect, the

CMCRB understands that MSHA's opinion is that less experienced miners – both at a mine and at a specific occupation – suffer injuries at a higher rate than more experienced miners. The CMCRB has not directly or indirectly taken this reported demographic shift or its effect into consideration in the subject filing. However, the CMCRB believes that this phenomenon potentially adds to the uncertainty associated with the subject filing, especially concerning the lack of information that is available to predict when the demographic shift will stop or achieve a new demographic equilibrium.

The CMCRB believes that another potential source of instability involves the influx of new and large entities into the CMCRB's database. On Exhibit X-A, the influx of these new entities is associated with the significant changes in payroll between 2013 and 2019:

- 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 \$96 million or 27% from 2015 to 2016. FOD payroll decreased by about \$44 million or 17% 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.
- For 2017, Traumatic and SOD payroll increased by about \$35 million or 14%. FOD payroll increased by about \$68 million or 31%. However, for 2017, Traumatic and SOD payroll is once again almost the same as FOD payroll.
- For 2018 and 2019, payroll changes have been much more modest increasing by 5-6% with Traumatic and SOD payrolls almost the same as FOD payrolls.

The CMCRB also wants to emphasize that the data for this filing covered periods of time generally understood to occur prior to the known presence of the coronavirus (SARS Cov-2 and/or COVID-19) in Pennsylvania. The CMCRB is not aware of any impacts to either the payroll or losses used in this filing related to the ongoing issues surrounding this situation. Furthermore, the CMCRB has not included any considerations and/or loads related to the coronavirus and/or potential similar future events in this filing.

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:

Charles A. ("Chuck") Romberger, ACAS, MAAA, CPCU, ARM
Attn: Executive Director – Coal Mine Compensation Rating Bureau of Pennsylvania
300 North Second Street – Suite 403
Harrisburg, PA 17101
Phone / Fax: 717-238-5020
Email: cromberger.cmcrb@verizon.net

Actuarial Report – Appendix A
Consideration of House Bill 1846 of 2014 (HB 1846)
Regarding the CMCRB’s April 1, 2021 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 through April 1, 2020 Loss Cost Filings, the CMCRB utilized these two components to derive unique adjustment factors for each of the five Accident Years used in those filings to prepare Traumatic Loss Cost indications. For the April 1, 2021 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 that the PCRB utilized to calculate the medical savings adjustment factor of approximately 0.9908. The PCRB identifies this data 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 the 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 subsequent Paid and Outstanding Losses are fully on a post-law basis and selects 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 7th report level. Beyond 7th 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 expected 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 expected 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	2017	2018	2019
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	2017	2018	2019
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	1.0000	1.0000	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	1.0000	1.0000	1.0000	
3rd	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000		
4th	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000			
5th	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000				
6th	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000					
7th	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000						
8th	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000							
9th	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000								
10th	0.9889	0.9945	1.0000	1.0000	1.0000	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	**	
		CY	2017	1.0000	**	
		CY	2018	1.0000	**	
		CY	2019	1.0000	**	
		Outstanding at:	2019	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 Adjustments for Calendar Years 2016 - 2019 Paid Losses and Outstanding Losses were 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 04-30-2020 from Exhibit VI-E:

<u>Report</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
1	2,751,976	3,211,934	3,607,221	2,405,205	3,932,999	2,543,986	2,330,259	3,485,388	3,814,701	2,490,656
2	3,388,757	4,428,864	4,556,072	3,576,391	5,142,203	3,295,697	3,381,307	4,551,331	4,779,083	
3	3,681,854	4,791,312	4,910,148	3,732,065	5,725,513	3,579,670	3,601,813	4,900,816		
4	4,050,370	4,980,927	5,036,044	3,783,913	5,806,872	3,712,776	3,665,013			
5	4,182,550	5,232,645	5,071,629	3,837,635	5,825,434	3,863,705				
6	4,258,152	5,334,986	5,142,197	3,895,586	5,872,039					
7	4,295,252	5,480,157	5,165,531	3,989,755						
8	4,307,958	5,547,144	5,187,761							
9	4,313,902	5,698,271								
10	4,314,897									

Traumatic Medical Reported Incurred Losses as of 04-30-2020 from Exhibit VI-B-4:

4,315,637	6,232,068	5,445,673	4,152,393	5,882,245	3,909,083	3,905,895	6,006,389	5,421,768	4,076,893
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Traumatic Medical Incurred Loss Development Factors from Exhibit V-C-2:

1.0755	1.0803	1.0853	1.0905	1.0959	1.1015	1.1073	1.1133	1.0979	1.1487
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Ultimate Traumatic Medical Losses = Medical Incurred Losses times Medical Incurred Loss Development Factors:

4,641,468	6,732,503	5,910,189	4,528,185	6,446,352	4,305,855	4,324,998	6,686,913	5,952,559	4,683,127
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Percent Paid = Traumatic Medical Reported Paid Losses divided by Ultimate Traumatic Medical Losses:

<u>Report</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Average</u>	<u>Average</u>	<u>Selected</u>	<u>Selected</u>
											<u>Average</u>	<u>Ex Hi/Lo</u>	<u>Incremental</u>	<u>Cumulative</u>
1	59.29%	47.71%	61.03%	53.12%	61.01%	59.08%	53.88%	52.12%	64.09%	53.18%	56.45%	56.59%	56.00%	56.00%
2	73.01%	65.78%	77.09%	78.98%	79.77%	76.54%	78.18%	68.06%	80.29%		75.30%	75.95%	19.00%	75.00%
3	79.33%	71.17%	83.08%	82.42%	88.82%	83.13%	83.28%	73.29%			80.57%	80.76%	5.50%	80.50%
4	87.26%	73.98%	85.21%	83.56%	90.08%	86.23%	84.74%				84.44%	85.40%	4.50%	85.00%
5	90.11%	77.72%	85.81%	84.75%	90.37%	89.73%					86.42%	87.60%	1.50%	86.50%
6	91.74%	79.24%	87.01%	86.03%	91.09%						87.02%	88.04%	1.00%	87.50%
7	92.54%	81.40%	87.40%	88.11%							87.36%	87.76%	0.50%	88.00%
8	92.81%	82.39%	87.78%								87.66%	87.78%	0.50%	88.50%
9	92.94%	84.64%									88.79%	88.79%	0.50%	89.00%
10	92.96%										92.96%	92.96%	11.00%	100.00%

Notes: The selected distribution is a very close approximation to the actual distribution through 7th report level.
The importance of the selected distribution diminishes beyond 7th report and was accelerated for simplicity.

Incremental Paid and Outstanding Medical Losses per Report Level

												Selected			
Accident Year												Incremental	Cumulative	Outstanding	
												Paid Losses	Paid Losses	Losses	
Report Level	1st	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	56.00%	56.00%	44.00%
	2nd	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900		19.00%	75.00%	25.00%
	3rd	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550			5.50%	80.50%	19.50%
	4th	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450				4.50%	85.00%	15.00%
	5th	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150					1.50%	86.50%	13.50%
	6th	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100						1.00%	87.50%	12.50%
	7th	0.0050	0.0050	0.0050	0.0050	0.0050							0.50%	88.00%	12.00%
	8th	0.0050	0.0050	0.0050	0.0050								0.50%	88.50%	11.50%
	9th	0.0050	0.0050	0.0050									0.50%	89.00%	11.00%
	10th	0.1100	0.1100										11.00%	100.00%	0.00%
	1)	1.0000	1.0000	0.8900	0.8850	0.8800	0.8750	0.8650	0.8500	0.8050	0.7500	0.5600			
	2)	0.0000	0.0000	0.1100	0.1150	0.1200	0.1250	0.1350	0.1500	0.1950	0.2500	0.4400			
	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 Cumulative 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

Report Level	Accident Year											Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1st	0.5591	0.5580	0.5570	0.5559	0.5548	0.5538	0.5569	0.5600	0.5600	0.5600	0.5600	56.00%	56.00%	44.00%
2nd	0.1893	0.1890	0.1886	0.1883	0.1879	0.1890	0.1900	0.1900	0.1900	0.1900	0.1900	19.00%	75.00%	25.00%
3rd	0.0547	0.0546	0.0545	0.0544	0.0547	0.0550	0.0550	0.0550	0.0550	0.0550		5.50%	80.50%	19.50%
4th	0.0447	0.0446	0.0445	0.0448	0.0450	0.0450	0.0450	0.0450				4.50%	85.00%	15.00%
5th	0.0149	0.0148	0.0149	0.0150	0.0150	0.0150	0.0150					1.50%	86.50%	13.50%
6th	0.0099	0.0099	0.0100	0.0100	0.0100	0.0100						1.00%	87.50%	12.50%
7th	0.0050	0.0050	0.0050	0.0050	0.0050							0.50%	88.00%	12.00%
8th	0.0050	0.0050	0.0050	0.0050								0.50%	88.50%	11.50%
9th	0.0050	0.0050	0.0050									0.50%	89.00%	11.00%
10th	0.1100	0.1100										11.00%	100.00%	0.00%
1)	0.9975	0.9960	0.8845	0.8783	0.8724	0.8677	0.8619	0.8500	0.8050	0.7500	0.5600	Accident		
2)	0.0000	0.0000	0.1100	0.1150	0.1200	0.1250	0.1350	0.1500	0.1950	0.2500	0.4400	Year		
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2009		
4)	0.0000	0.0000	0.1100	0.1150	0.1200	0.1250	0.1350	0.1500	0.1950	0.2500	0.4400	2010		
5)	0.9975	0.9960	0.9945	0.9933	0.9924	0.9927	0.9969	1.0000	1.0000	1.0000	1.0000	2011		
												2012		
												2013		
												2014		
												2015		
												2016		
												2017		
												2018		
												2019		

Notes:

- 1) The anticipated Cumulative 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 2019 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 per Report Level (Appendix A-4)

Actuarial Report – Appendix B
Consideration of Protz v. WCAB (Derry Area School District) and
House Bill 1840 (HB 1840 or Act 111 of 2018)
Regarding the CMCRB's April 1, 2021 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 meant that Section 306(a.2) had to be stricken and that Impairment Rating Evaluations were 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.

The CMCRB included a provision (a load to Traumatic Indemnity Losses of 13.37% or 1.1337) in its April 1, 2018 Loss Cost Filing in response to the Protz Decision. Because of data limitations and constraints, this provision was based on PCRB Filing C-369, dated August 15, 2017.

Subsequent to the CMCRB proposing and implementing its April 1, 2018 Loss Cost Filing, the Pennsylvania Legislature passed HB 1840 that was signed by Governor Wolf on October 24, 2018. The CMCRB understands that this legislation re-established Impairment Rating Evaluations in the Act, amending the Impairment Rating Threshold from 50% to 35%, and that this legislation also increased the burial benefit in the Act from \$3,000 to \$7,000. More generally, the CMCRB understands that HB 1840 intends to stabilize the Pennsylvania Workers' Compensation system by fixing the portion of the Act that was struck down in the Protz decision while making the other changes described above.

The CMCRB notes that the PCRB prepared estimations concerning the provisions of HB 1840 and that these estimations were included in the PCRB's Filing C-373 proposed to be effective January 1, 2019. As it did with the Protz Decision, the CMCRB adopts the PCRB's estimations concerning both of these provisions in HB 1840:

- 1) Re-establishment of Impairment Rating Evaluations and Revision to Impairment Rating Threshold from 50% to 35%: The PCRB estimated the impact on Indemnity Benefits (or Indemnity Losses) to be an increase of 1.56% or 1.0156 to move from the pre-Protz Level (i.e., Impairment Rating Threshold of 50%) to the post-HB 1840 Level (i.e., Impairment Rating Threshold of 35%).
- 2) Increase to Burial Benefit: The PCRB estimated the impact on Indemnity Benefits to be an increase of 0.032% or 1.00032 concerning this benefit increase.

Overall, the CMCRB adopts an HB 1840 adjustment factor of 1.59% or 1.0159 to reflect all of the estimable changes in HB 1840. This HB 1840 adjustment factor of 1.0159 is the product of the two component parts listed above or 1.0156 times 1.0003.

For the April 1, 2019 Loss Cost Filing, the CMCRB uniformly applied the HB 1840 adjustment factor of 1.0159 to Traumatic Indemnity Losses for each of the five accident years (i.e., 2013 through 2017) included in the Traumatic Loss Cost indications. The CMCRB did not find any claims that were included in the data with the April 1, 2019 Loss Cost Filing that appeared to be affected by the Protz Decision. In other words, the CMCRB believed that all of the Traumatic loss data included with the April 1, 2019 Loss Cost Filing continued to be reported on a pre-Protz Decision level.

For the April 1, 2020 Loss Cost Filing, the CMCRB proposed an approach to adjust for this law change that was similar to the approach used by the CMCRB for HB 1846 of 2014 and provided in Appendix A. For the April 1, 2021 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.

Application to current data (i.e., to Traumatic Indemnity Losses)

The CMCRB believes that the PCRb's HB 1840 adjustment factor of 1.0159 continues to be the best available estimate of the anticipated increase in Traumatic Indemnity Losses from a pre-HB 1840 level to a post-HB 1840 level or more precisely a pre-Protz Decision level to a post-HB 1840 level.

Appendix B-1 shows the derivation of the HB 1840 adjustment factors for application to the reported or actual Indemnity Paid Losses for the 10 most recent Accident Years and Report Levels. For Calendar Years before 2018, the adjustment factor is 1.0159. For Calendar Year 2018, the adjustment factor is 1.0129, derived from the weights shown on this appendix. For Calendar Year 2019, the adjustment factor is 1.0000 since the CMCRB assumed that Paid Losses would immediately reflect the new law level.

Appendix B-2 shows the derivation of the HB 1840 adjustment factor to Indemnity Outstanding Losses for Calendar Year 2019. The CMCRB assumed that 100% of Outstanding Losses for Calendar Year 2019 reflected the new law level since Calendar Year 2019 reports were to be valued as of April 30, 2020.

Appendix B-3 displays the derivation of the CMCRB's Indemnity Paid Loss Distribution. The CMCRB notes that the Selected Distribution is very close to the Actual Distribution through 9th report level. Beyond 9th 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 B-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 expected 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 B-5 shows the derivation of the Accident Year specific adjustment factors for HB 1840. The triangle on this page is the cell-by-cell product of the HB 1840 Adjustment Factors (B-1) and the Estimated Incremental Paid Losses (B-4). In other words, this triangle represents the Incremental Paid Losses on a post-HB 1840 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 1840 costs.
- Row 2 shows the portion of ultimate losses that are expected to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the HB 1840 costs factor to be applied to outstanding losses.
- Row 4 reflects outstanding losses adjusted to reflect HB 1840 costs.
- Row 5 displays the factor to adjust Ultimate Accident Year losses to reflect HB 1840 costs. This row is also re-displayed in the column to the right.

Application by Type of Coverage

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 process and that adjustments for the Protz Decision or HB 1840 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 or HB 1840 for FOD coverage are not necessary.

The CMCRB also understands that the settlement of Traumatic claims has relied upon the Impairment Rating Evaluation process and that adjustments for the Protz Decision and subsequently HB 1840 for Traumatic coverage are necessary. Consequently, the CMCRB’s proposal includes the application of the adjustment factors from Appendix B-5 for Traumatic Indemnity coverage only.

While HB 1840 is expected to directly impact Indemnity Benefits and Losses, this legislation is not expected to directly impact Medical Benefits and Losses. However, as with any significant law change, 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 a HB 1840 adjustment factor of 1.0000 or 0.0% to be applied to all Traumatic Medical Losses. The CMCRB notes that this is consistent with the treatment of Medical Losses in the most recent PCRB Filing, Proposal C-377, April 1, 2020 Loss Cost Filing.

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 a reliable amount of actual experience under HB 1840 was available.

Attachments

- 1) Appendix B-1 through Appendix B-5

Impact of House Bill 1840 on Indemnity Paid Losses

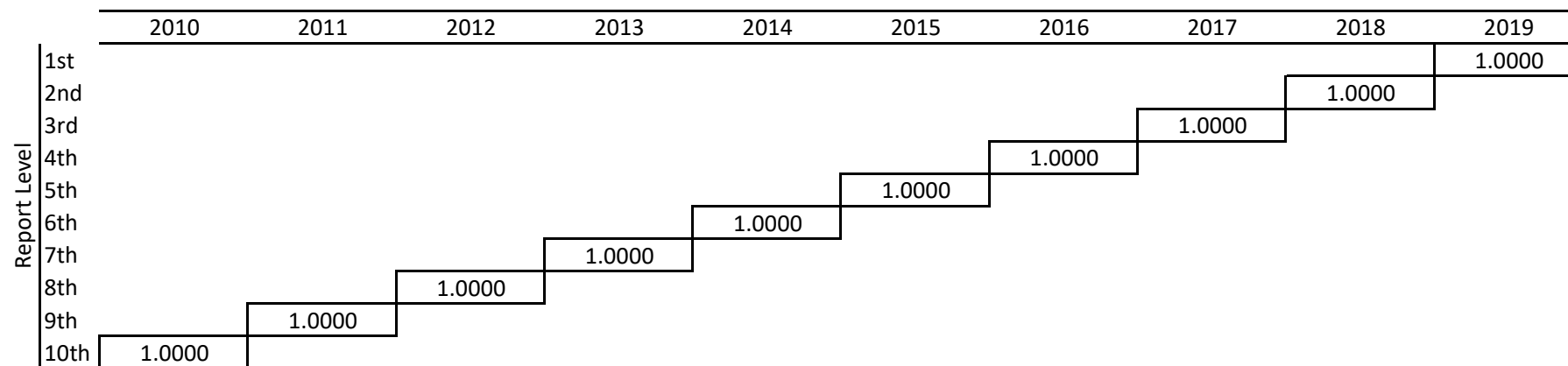
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1st	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000
2nd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000	
3rd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000		
4th	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000			
5th	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000				
6th	1.0159	1.0159	1.0159	1.0129	1.0000					
7th	1.0159	1.0159	1.0129	1.0000						
8th	1.0159	1.0129	1.0000							
9th	1.0129	1.0000								
10th	1.0000									

The CMCRB assumes that Paid Losses will immediately reflect the new law level. The weights below were judgmentally selected with consideration given to the date that House Bill 1840 of 2018 was signed by Governor Wolf of October 24, 2018.

HB 1840 Indemnity Paid Loss Adjustment Factors:

	Combined	Adjustment	Weight	Adjustment	Weight
HB 1840 Adjustment Factor for Calendar Years prior to 2018	1.0159	1.0159	100.0%	1.0000	0.0%
HB 1840 Adjustment Factor for Calendar Year 2018	1.0129	1.0159	81.4%	1.0000	18.6%
HB 1840 Adjustment Factor for Calendar Years after 2018	1.0000	1.0159	0.0%	1.0000	100.0%

Impact of House Bill 1840 on Indemnity Outstanding Losses



The CMCRB assumes that 50% of Outstanding Case Reserve Losses fully reflected the new law level at first report.

HB 1840 Indemnity Outstanding Loss Adjustment Factors:

HB 1840 Adjustment Factor for Calendar Years prior to 2018
 HB 1840 Adjustment Factor for Calendar Year 2018
 HB 1840 Adjustment Factor for Calendar Years after 2018

Combined	Adjustment	Weight	Adjustment	Weight
1.0159	1.0159	100.0%	1.0000	0.0%
1.0080	1.0159	50.0%	1.0000	50.0%
1.0000	1.0000	0.0%	1.0000	100.0%

Derivation of Traumatic Indemnity Incremental Paid Loss Distribution

Traumatic Indemnity Reported Paid Losses as of 04-30-2020 from Exhibit VI-E:

Report	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	1,524,765	1,786,240	2,050,254	1,899,710	4,015,185	2,666,351	2,517,576	2,635,035	2,186,695	2,491,975
2	3,435,863	3,977,654	5,436,521	4,482,404	7,405,014	6,101,619	5,232,352	5,200,669	5,083,269	
3	4,339,688	6,103,091	7,383,427	6,081,014	10,801,053	7,572,770	6,951,711	7,168,082		
4	6,078,298	7,555,055	8,102,574	6,502,458	11,716,598	9,243,177	8,203,849			
5	6,374,543	7,923,836	8,850,340	6,652,885	12,157,797	10,485,291				
6	6,690,310	8,262,491	9,105,598	7,003,338	12,181,905					
7	7,001,167	8,313,908	9,298,463	7,371,130						
8	7,146,676	8,347,645	9,608,807							
9	7,433,505	8,380,513								
10	7,433,505									

Traumatic Indemnity Reported Incurred Losses as of 04-30-2020 from Exhibit VI-A-4:

7,433,505	8,518,075	9,853,320	7,741,765	12,193,222	11,946,924	9,151,489	9,841,483	7,734,859	4,894,467
-----------	-----------	-----------	-----------	------------	------------	-----------	-----------	-----------	-----------

Traumatic Indemnity Incurred Loss Development Factors from Exhibit V-C-1:

1.0160	1.0177	1.0195	1.0214	1.0233	1.0253	1.0517	1.0945	1.2705	1.9988
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Ultimate Traumatic Indemnity Losses = Indemnity Incurred Losses times Indemnity Incurred Loss Development Factors:

7,552,441	8,668,845	10,045,460	7,907,439	12,477,324	12,249,181	9,624,621	10,771,503	9,827,138	9,783,061
-----------	-----------	------------	-----------	------------	------------	-----------	------------	-----------	-----------

Percent Paid = Traumatic Indemnity Reported Paid Losses divided by Ultimate Traumatic Indemnity Losses:

Report	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average	Ex Hi/Lo	Selected Incremental	Selected Cumulative
1	20.19%	20.61%	20.41%	24.02%	32.18%	21.77%	26.16%	24.46%	22.25%	25.47%	23.75%	23.14%	23.50%	23.50%
2	45.49%	45.88%	54.12%	56.69%	59.35%	49.81%	54.36%	48.28%	51.73%		51.75%	51.55%	28.00%	51.50%
3	57.46%	70.40%	73.50%	76.90%	86.57%	61.82%	72.23%	66.55%			70.68%	70.23%	19.00%	70.50%
4	80.48%	87.15%	80.66%	82.23%	93.90%	75.46%	85.24%				83.59%	83.15%	13.00%	83.50%
5	84.40%	91.41%	88.10%	84.13%	97.44%	85.60%					88.51%	87.38%	4.50%	88.00%
6	88.58%	95.31%	90.64%	88.57%	97.63%						92.15%	91.51%	3.50%	91.50%
7	92.70%	95.91%	92.56%	93.22%							93.60%	92.96%	1.50%	93.00%
8	94.63%	96.29%	95.65%								95.52%	95.65%	2.50%	95.50%
9	98.43%	96.67%									97.55%	97.55%	2.00%	97.50%
10	98.43%										98.43%	98.43%	2.50%	100.00%

Notes: The selected distribution is a very close approximation to the actual distribution through 9th report level.
The importance of the selected distribution diminishes beyond 9th report and was accelerated for simplicity.

Incremental Paid and Outstanding Indemnity Losses per Report Level

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
Report Level	1st	0.2350	0.2350	0.2350	0.2350	0.2350	0.2350	0.2350	0.2350	0.2350	0.2350	23.50%	23.50%	76.50%
	2nd	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800		28.00%	51.50%	48.50%
	3rd	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900			19.00%	70.50%	29.50%
	4th	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300				13.00%	83.50%	16.50%
	5th	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450					4.50%	88.00%	12.00%
	6th	0.0350	0.0350	0.0350	0.0350	0.0350						3.50%	91.50%	8.50%
	7th	0.0150	0.0150	0.0150	0.0150							1.50%	93.00%	7.00%
	8th	0.0250	0.0250	0.0250								2.50%	95.50%	4.50%
	9th	0.0200	0.0200									2.00%	97.50%	2.50%
	10th	0.0250										2.50%	100.00%	0.00%
	1)	1.0000	0.9750	0.9550	0.9300	0.9150	0.8800	0.8350	0.7050	0.5150	0.2350			
	2)	0.0000	0.0250	0.0450	0.0700	0.0850	0.1200	0.1650	0.2950	0.4850	0.7650			
	3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			

Notes:

- 1) The anticipated Cumulative 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 times Adjustment Factors

											Selected			
											Incremental	Cumulative	Outstanding	
											Paid Losses	Paid Losses	Losses	
Report Level		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
	1st	0.2387	0.2387	0.2387	0.2387	0.2387	0.2387	0.2387	0.2387	0.2380	0.2350	23.50%	23.50%	76.50%
	2nd	0.2845	0.2845	0.2845	0.2845	0.2845	0.2845	0.2845	0.2836	0.2800		28.00%	51.50%	48.50%
	3rd	0.1930	0.1930	0.1930	0.1930	0.1930	0.1930	0.1925	0.1900			19.00%	70.50%	29.50%
	4th	0.1321	0.1321	0.1321	0.1321	0.1321	0.1317	0.1300				13.00%	83.50%	16.50%
	5th	0.0457	0.0457	0.0457	0.0457	0.0456	0.0450					4.50%	88.00%	12.00%
	6th	0.0356	0.0356	0.0356	0.0355	0.0350						3.50%	91.50%	8.50%
	7th	0.0152	0.0152	0.0152	0.0150							1.50%	93.00%	7.00%
	8th	0.0254	0.0253	0.0250								2.50%	95.50%	4.50%
	9th	0.0203	0.0200									2.00%	97.50%	2.50%
10th	0.0250										2.50%	100.00%	0.00%	
	1)	1.0154	0.9901	0.9697	0.9444	0.9289	0.8929	0.8456	0.7124	0.5180	0.2350		Accident	Adjustment
	2)	0.0000	0.0250	0.0450	0.0700	0.0850	0.1200	0.1650	0.2950	0.4850	0.7650		<u>Year</u>	<u>Factor</u>
	3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		2010	1.0154
	4)	0.0000	0.0250	0.0450	0.0700	0.0850	0.1200	0.1650	0.2950	0.4850	0.7650		2011	1.0151
	5)	1.0154	1.0151	1.0147	1.0144	1.0139	1.0129	1.0106	1.0074	1.0030	1.0000		2012	1.0147

Notes:

- 1) The anticipated Cumulative Adjusted 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 2019 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:

Impact of House Bill 1840 on Indemnity Paid Losses (Appendix B-1)

Incremental Paid and Outstanding Indemnity Losses per Report Level (Appendix B-4)

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

	2019 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Underground Anthracite:				
Traumatic (1010)	\$179,379	\$20.67	\$19.20	-7.1%
State O.D. (1011)	179,379	12.88	16.10	25.0%
*Federal Basic/Ex (0160)	179,379	9.06	9.08	0.2%
Total	xx	42.61	44.38	4.2%
Underground Bituminous:				
Traumatic (1001)	\$185,776,423	\$6.96	\$6.86	-1.4%
State O.D. (1002)	185,776,423	0.58	0.56	-3.4%
*Federal Basic/Ex (0158)	185,962,937	0.59	0.68	15.3%
Total	xx	8.13	8.10	-0.4%
Surface Anthracite:				
Traumatic (1012)	\$23,746,667	\$8.01	\$6.99	-12.7%
State O.D. (1016)	23,746,667	1.06	1.01	-4.7%
*Federal Basic/Ex (0153)	20,632,989	1.72	1.29	-25.0%
Total	xx	10.79	9.29	-13.9%
Surface Bituminous:				
Traumatic (1014)	\$35,476,154	\$1.85	\$1.84	-0.5%
State O.D. (1013)	35,476,154	0.25	0.31	25.0%
*Federal Basic/Ex (0156)	36,395,622	0.82	0.80	-2.4%
Total	xx	2.92	2.95	1.0%
Four Standard Classifications:				
Traumatic	\$245,178,623	\$6.33	\$6.16	-2.7%
State O.D.	245,178,623	0.59	0.58	-1.7%
*Federal Basic/Ex	243,170,927	0.73	0.76	4.1%
Total	xx	7.65	7.50	-2.0%

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

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2020) - 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**

	2019 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Coke:				
Traumatic (1469)	\$4,572,392	\$3.83	\$4.28	11.7%
State O.D. (1017)	4,572,392	0.09	0.09	0.0%
*Federal Basic/Ex (0154)	<u>4,626,532</u>	<u>0.10</u>	<u>0.09</u>	<u>-10.0%</u>
Total	xx	4.02	4.46	10.9%
Auger:				
Traumatic (1015)	\$539,914	\$9.00	\$7.33	-18.6%
State O.D. (1019)	539,914	0.18	0.18	0.0%
*Federal Basic/Ex (0157)	<u>593,214</u>	<u>0.44</u>	<u>0.41</u>	<u>-6.8%</u>
Total	xx	9.62	7.92	-17.7%
Co-Gen Anthracite:				
Traumatic (1021)	\$8,219,127	\$6.09	\$6.39	4.9%
State O.D. (1022)	8,219,127	0.24	0.29	20.8%
*Federal Basic/Ex (0181)	<u>6,821,629</u>	<u>0.37</u>	<u>0.35</u>	<u>-5.4%</u>
Total	xx	6.70	7.03	4.9%
Co-Gen Bituminous:				
Traumatic (1023)	\$11,807,241	\$1.37	\$1.28	-6.6%
State O.D. (1024)	11,807,241	0.24	0.22	-8.3%
*Federal Basic/Ex (0182)	<u>11,807,241</u>	<u>0.29</u>	<u>0.26</u>	<u>-10.3%</u>
Total	xx	1.90	1.76	-7.4%
Prep Plant Anthracite:				
Traumatic (1025)	\$12,646,576	\$4.24	\$4.05	-4.5%
State O.D. (1026)	12,646,576	2.57	2.67	3.9%
*Federal Basic/Ex (0183)	<u>10,584,841</u>	<u>0.88</u>	<u>0.80</u>	<u>-9.1%</u>
Total	xx	7.69	7.52	-2.2%
Prep Plant Bituminous:				
Traumatic (1027)	\$37,605,236	\$2.74	\$3.06	11.7%
State O.D. (1028)	37,605,236	0.16	0.17	6.3%
*Federal Basic/Ex (0184)	<u>37,623,330</u>	<u>0.31</u>	<u>0.26</u>	<u>-16.1%</u>
Total	xx	3.21	3.49	8.7%
Other Classifications:				
Traumatic	\$75,390,486	\$3.25	\$3.41	4.9%
State O.D.	75,390,486	0.58	0.61	5.2%
*Federal Basic/Ex	<u>72,056,787</u>	<u>0.38</u>	<u>0.34</u>	<u>-10.5%</u>
Total	xx	4.21	4.36	3.6%
Grand Total:				
Traumatic	\$320,569,109	\$5.61	\$5.51	-1.8%
State O.D.	320,569,109	0.59	0.59	0.0%
*Federal Basic/Ex	<u>315,227,714</u>	<u>0.65</u>	<u>0.66</u>	<u>1.5%</u>
Total	xx	6.85	6.76	-1.3%

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

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2020) - 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**

	2019 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
Underground Anthracite:					
Traumatic (1010)	\$179,379	\$20.12	\$18.67	\$18.67	-7.2%
State O.D. (1011)	179,379	12.88	17.48	16.10	25.0%
*Federal Basic/Ex (0160)	179,379	9.06	9.08	9.08	0.2%
Total	xx	42.06	45.23	43.85	4.3%
Underground Bituminous:					
Traumatic (1001)	\$185,776,423	\$6.65	\$6.56	\$6.56	-1.4%
State O.D. (1002)	185,776,423	0.58	0.56	0.56	-3.4%
*Federal Basic/Ex (0158)	185,962,937	0.59	0.68	0.68	15.3%
Total	xx	7.82	7.80	7.80	-0.3%
Surface Anthracite:					
Traumatic (1012)	\$23,746,667	\$7.84	\$6.83	\$6.83	-12.9%
State O.D. (1016)	23,746,667	1.06	1.01	1.01	-4.7%
*Federal Basic/Ex (0153)	20,632,989	1.72	1.27	1.29	-25.0%
Total	xx	10.62	9.11	9.13	-14.0%
Surface Bituminous:					
Traumatic (1014)	\$35,476,154	\$1.79	\$1.78	\$1.78	-0.6%
State O.D. (1013)	35,476,154	0.25	0.35	0.31	25.0%
*Federal Basic/Ex (0156)	36,395,622	0.82	0.80	0.80	-2.4%
Total	xx	2.86	2.93	2.89	1.0%
Four Standard Classifications:					
Traumatic	\$245,178,623	\$6.07	\$5.90	\$5.90	-2.8%
State O.D.	245,178,623	0.59	0.59	0.58	-1.7%
*Federal Basic/Ex	243,170,927	0.73	0.75	0.76	4.1%
Total	xx	7.39	7.24	7.24	-2.0%

*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**

		(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
	2019 Developed Payroll				
Coke:					
Traumatic (1469)	\$4,572,392	\$3.73	\$4.17	\$4.17	11.8%
State O.D. (1017)	4,572,392	0.09	0.09	0.09	0.0%
*Federal Basic/Ex (0154)	<u>4,626,532</u>	<u>0.10</u>	<u>0.09</u>	<u>0.09</u>	<u>-10.0%</u>
Total	xx	3.92	4.35	4.35	11.0%
Auger:					
Traumatic (1015)	\$539,914	\$8.76	\$7.12	\$7.12	-18.7%
State O.D. (1019)	539,914	0.18	0.18	0.18	0.0%
*Federal Basic/Ex (0157)	<u>593,214</u>	<u>0.44</u>	<u>0.41</u>	<u>0.41</u>	<u>-6.8%</u>
Total	xx	9.38	7.71	7.71	-17.8%
Co-Gen Anthracite:					
Traumatic (1021)	\$8,219,127	\$5.95	\$6.24	\$6.24	4.9%
State O.D. (1022)	8,219,127	0.24	0.29	0.29	20.8%
*Federal Basic/Ex (0181)	<u>6,821,629</u>	<u>0.37</u>	<u>0.35</u>	<u>0.35</u>	<u>-5.4%</u>
Total	xx	6.56	6.88	6.88	4.9%
Co-Gen Bituminous:					
Traumatic (1023)	\$11,807,241	\$1.32	\$1.23	\$1.23	-6.8%
State O.D. (1024)	11,807,241	0.24	0.22	0.22	-8.3%
*Federal Basic/Ex (0182)	<u>11,807,241</u>	<u>0.29</u>	<u>0.26</u>	<u>0.26</u>	<u>-10.3%</u>
Total	xx	1.85	1.71	1.71	-7.6%
Prep Plant Anthracite:					
Traumatic (1025)	\$12,646,576	\$4.14	\$3.95	\$3.95	-4.6%
State O.D. (1026)	12,646,576	2.57	2.67	2.67	3.9%
*Federal Basic/Ex (0183)	<u>10,584,841</u>	<u>0.88</u>	<u>0.80</u>	<u>0.80</u>	<u>-9.1%</u>
Total	xx	7.59	7.42	7.42	-2.2%
Prep Plant Bituminous:					
Traumatic (1027)	\$37,605,236	\$2.66	\$2.97	\$2.97	11.7%
State O.D. (1028)	37,605,236	0.16	0.17	0.17	6.3%
*Federal Basic/Ex (0184)	<u>37,623,330</u>	<u>0.31</u>	<u>0.26</u>	<u>0.26</u>	<u>-16.1%</u>
Total	xx	3.13	3.40	3.40	8.6%
Other Classifications:					
Traumatic	\$75,390,486	\$3.17	\$3.32	\$3.32	4.7%
State O.D.	75,390,486	0.58	0.61	0.61	5.2%
*Federal Basic/Ex	<u>72,056,787</u>	<u>0.38</u>	<u>0.34</u>	<u>0.34</u>	<u>-10.5%</u>
Total	xx	4.13	4.27	4.27	3.4%
Grand Total:					
Traumatic	\$320,569,109	\$5.39	\$5.30	\$5.30	-1.7%
State O.D.	320,569,109	0.59	0.59	0.59	0.0%
*Federal Basic/Ex	<u>315,227,714</u>	<u>0.65</u>	<u>0.65</u>	<u>0.66</u>	<u>1.5%</u>
Total	xx	6.63	6.54	6.55	-1.2%

*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 unloaded loss cost limited to -25.0%(Exhibit IV-A).

Surface Bituminous

Traumatic (1014)		Indicated Loss Cost.
State O.D. (1013)		Indicated unloaded loss cost limited to 25.0%(Exhibit III).
*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 Loss Cost.
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 Loss Cost.
*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 Loss Cost.
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 4-1-2021**

	2019 Developed Payroll	(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)
Underground Anthracite:						
Traumatic (1010)	\$179,379	\$18.67	\$0.18	\$18.85	\$19.20	\$19.20
State O.D. (1011)	179,379	16.10				16.10
*Federal Basic/Ex (0160)	179,379	9.08				9.08
Total	xx	43.85				44.38
Underground Bituminous:						
Traumatic (1001)	\$185,776,423	\$6.56	\$0.18	\$6.74	\$6.86	\$6.86
State O.D. (1002)	185,776,423	0.56				0.56
*Federal Basic/Ex (0158)	185,962,937	0.68				0.68
Total	xx	7.80				8.10
Surface Anthracite:						
Traumatic (1012)	\$23,746,667	\$6.83	\$0.03	\$6.86	\$6.99	\$6.99
State O.D. (1016)	23,746,667	1.01				1.01
*Federal Basic/Ex (0153)	20,632,989	1.29				1.29
Total	xx	9.13				9.29
Surface Bituminous:						
Traumatic (1014)	\$35,476,154	\$1.78	\$0.03	\$1.81	\$1.84	\$1.84
State O.D. (1013)	35,476,154	0.31				0.31
*Federal Basic/Ex (0156)	36,395,622	0.80				0.80
Total	xx	2.89				2.95
Four Standard Classifications:						
Traumatic	\$245,178,623	\$5.90	\$0.14	\$6.04	\$6.16	\$6.16
State O.D.	245,178,623	0.58				0.58
*Federal Basic/Ex	243,170,927	0.76				0.76
Total	xx	7.24				7.50

*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	1.0182
	Combined	1.0184

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

**Coal Mine Compensation Rating Bureau
Manual Loss Cost Loaded (after Capping)
For Catastrophe, Off-Balances, and Assessment
Proposed to Become Effective 4-1-2021**

	2019	(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)
Coke:						
Traumatic (1469)	\$4,572,392	\$4.17	\$0.03	\$4.20	\$4.28	\$4.28
State O.D. (1017)	4,572,392	0.09				0.09
*Federal Basic/Ex (0154)	4,626,532	0.09				0.09
Total	xx	4.35				4.46
Auger:						
Traumatic (1015)	\$539,914	\$7.12	\$0.08	\$7.20	\$7.33	\$7.33
State O.D. (1019)	539,914	0.18				0.18
*Federal Basic/Ex (0157)	593,214	0.41				0.41
Total	xx	7.71				7.92
Co-Gen Anthracite:						
Traumatic (1021)	\$8,219,127	\$6.24	\$0.03	\$6.27	\$6.39	\$6.39
State O.D. (1022)	8,219,127	0.29				0.29
*Federal Basic/Ex (0181)	6,821,629	0.35				0.35
Total	xx	6.88				7.03
Co-Gen Bituminous:						
Traumatic (1023)	\$11,807,241	\$1.23	\$0.03	\$1.26	\$1.28	\$1.28
State O.D. (1024)	11,807,241	0.22				0.22
*Federal Basic/Ex (0182)	11,807,241	0.26				0.26
Total	xx	1.71				1.76
Prep Plant Anthracite:						
Traumatic (1025)	\$12,646,576	\$3.95	\$0.03	\$3.98	\$4.05	\$4.05
State O.D. (1026)	12,646,576	2.67				2.67
*Federal Basic/Ex (0183)	10,584,841	0.80				0.80
Total	xx	7.42				7.52
Prep Plant Bituminous:						
Traumatic (1027)	\$37,605,236	\$2.97	\$0.03	\$3.00	\$3.06	\$3.06
State O.D. (1028)	37,605,236	0.17				0.17
*Federal Basic/Ex (0184)	37,623,330	0.26				0.26
Total	xx	3.40				3.49
Other Classifications:						
Traumatic	\$75,390,486	\$3.32	\$0.03	\$3.35	\$3.41	\$3.41
State O.D.	\$75,390,486	0.61				0.61
*Federal Basic/Ex	72,056,787	0.34				0.34
Total	xx	4.27				4.36
Grand Total:						
Traumatic	\$320,569,109	\$5.30	\$0.12	\$5.42	\$5.52	\$5.51
State O.D.	320,569,109	0.59				0.59
*Federal Basic/Ex	315,227,714	0.66				0.66
Total	xx	6.55				6.76

*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	1.0182
	Combined	1.0184

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

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

Exhibit II

			(1)	(2)	(3)	(4)	(5)
<u>Classification</u>		<u>Code</u>	2019 Developed Payroll	Approved Unloaded Loss Cost (Eff 4/01/2020)	Indicated Unloaded Loss Cost	Proposed Unloaded Loss Cost	Percent Change
Underground:	Anthracite	1010	179,379	20.12	18.67	18.67	-7.2%
	Bituminous	1001	185,776,423	6.65	6.56	6.56	-1.4%
Surface:	Anthracite	1012	23,746,667	7.84	6.83	6.83	-12.9%
	Bituminous	1014	35,476,154	<u>1.79</u>	<u>1.78</u>	<u>1.78</u>	<u>-0.6%</u>
Four Standard Classes			245,178,623	6.07	5.90	5.90	-2.8%
Other Classes	Coke	1469	4,572,392	3.73	4.17	4.17	11.8%
	Auger	1015	539,914	8.76	7.12	7.12	-18.7%
Co-Gen:	Anthracite	1021	8,219,127	5.95	6.24	6.24	4.9%
	Bituminous	1023	11,807,241	1.32	1.23	1.23	-6.8%
Prep Plants:	Anthracite	1025	12,646,576	4.14	3.95	3.95	-4.6%
	Bituminous	1027	37,605,236	<u>2.66</u>	<u>2.97</u>	<u>2.97</u>	<u>11.7%</u>
Other Classes			75,390,486	3.17	3.32	3.32	4.7%
All Classes Combined			320,569,109	5.39	5.30	5.30	-1.7%

Sources: Column (1) Exhibit X-A
Column (2) Exhibit X-B, Page 2
Column (3) Exhibit V-A-1
Column (4) Exhibit V-A-1
Column (5) Exhibit V-A-1

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

Exhibit III

<u>Classification</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2019 Developed Payroll	Approved Unloaded Loss Cost	Average Freq. per \$1 mill.	Indicated Average Severity	Loss Cost (Rate)	Indicated Change	Proposed Change	Proposed Loss Cost
Underground								
1011 Anthracite	\$179,379	\$12.88	0.239142	\$731,069	\$17.48	35.7%	25.0%	\$16.10
1002 Bituminous	\$185,776,423	\$0.58	0.021065	\$267,271	0.56	-3.4%	-3.4%	0.56
Surface								
1016 Anthracite	\$23,746,667	\$1.06	0.019597	\$516,009	1.01	-4.7%	-4.7%	1.01
1013 Bituminous	\$35,476,154	<u>0.25</u>	0.009170	\$383,757	<u>0.35</u>	<u>40.0%</u>	<u>25.0%</u>	<u>0.31</u>
Four Standard Classes	\$245,178,623	\$0.59			\$0.59	0.0%	-1.7%	\$0.58
1017 Coke	\$4,572,392	0.09	0.002298	383,757	0.09	0.0%	0.0%	0.09
1019 Auger	\$539,914	0.18	0.004738	383,757	0.18	0.0%	0.0%	0.18
Co-Gen								
1022 Anthracite	\$8,219,127	0.24	0.005685	516,009	0.29	20.8%	20.8%	0.29
1024 Bituminous	\$11,807,241	0.24	0.005805	383,757	0.22	-8.3%	-8.3%	0.22
Prep Plant								
1026 Anthracite	\$12,646,576	2.57	0.051764	516,009	2.67	3.9%	3.9%	2.67
1028 Bituminous	\$37,605,236	<u>0.16</u>	0.004407	383,757	<u>0.17</u>	<u>6.3%</u>	<u>6.3%</u>	<u>0.17</u>
Other Classes	\$75,390,486	\$0.58			\$0.61	5.2%	5.2%	\$0.61
All Classes Combined	\$320,569,109	\$0.59			\$0.59	0.0%	0.0%	\$0.59

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)
		2019 Developed Payroll	Approved Unloaded Loss Cost	Average Freq. per \$1 mill.	Average Severity Indicated	Loss Cost (Rate)	Indicated Change	Loss Cost w/ Limitation 25%	% Change w/Limitation 25%
Classification Underground	Anthracite:								
	Basic			0.178841	442,054	7.91			
	Excess			0.088467	132,710	1.17			
	Total	\$179,379	\$9.06			9.08	0.2%	\$ 9.08	0.2%
	Bituminous:								
	Basic			0.011626	411,222	0.48			
	Excess			0.007706	254,361	0.20			
	Total	\$185,962,937	\$0.59			0.68	15.3%	\$ 0.68	15.3%
Surface	Anthracite:								
	Basic			0.032848	365,290	1.20			
	Excess			0.009318	77,115	0.07			
	Total	\$20,632,989	\$1.72			1.27	-26.2%	\$ 1.29	-25.0%
	Bituminous:								
	Basic			0.020519	355,450	0.73			
	Excess			0.003010	216,055	0.07			
	Total	\$36,395,622	\$0.82			0.80	-2.4%	\$ 0.80	-2.4%
Four Standard Classes	Basic					0.58			
	Excess					0.17			
	Total	\$243,170,927	\$0.73			0.75	2.7%	\$ 0.76	4.1%
Coke	Basic			0.002093	355,450	0.07			
	Excess			0.000905	216,055	0.02			
	Total	\$4,626,532	\$0.10			0.09	-10.0%	\$ 0.09	-10.0%
Auger	Basic			0.010516	355,450	0.37			
	Excess			0.001945	216,055	0.04			
	Total	\$593,214	\$0.44			0.41	-6.8%	\$ 0.41	-6.8%
Co-Gen	Anthracite:								
	Basic			0.009027	365,290	0.33			
	Excess			0.002026	77,115	0.02			
	Total	\$6,821,629	\$0.37			0.35	-5.4%	\$ 0.35	-5.4%
	Bituminous:								
	Basic			0.006163	355,450	0.22			
	Excess			0.002001	216,055	0.04			
	Total	\$11,807,241	\$0.29			0.26	-10.3%	\$ 0.26	-10.3%
Prep Plants	Anthracite:								
	Basic			0.017506	365,290	0.64			
	Excess			0.020938	77,115	0.16			
	Total	\$10,584,841	\$0.88			0.80	-9.1%	\$ 0.80	-9.1%
	Bituminous:								
	Basic			0.006561	355,450	0.23			
	Excess			0.001548	216,055	0.03			
	Total	\$37,623,330	\$0.31			0.26	-16.1%	\$ 0.26	-16.1%
Other Classes	Basic					0.29			
	Excess					0.05			
	Total	\$72,056,787	\$0.38			0.34	-10.5%	\$ 0.34	-10.5%
All Classes Combined	Basic					0.51			
	Excess					0.14			
	Total	\$315,227,714	\$0.65			0.65	0.0%	\$ 0.66	1.5%

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

Exhibit IV-B
Page 1

			(1)	(2)	(3)	(4)	(5) (6) Credibility		(7)	(8)	(9)	(10)
			Estimated Miner Years 2010-2019	Claim Frequency Per 100 Miner Years			Expected Awarded Claims	Factor	Claim Frequency Indicated w/ Credibility	Change in Indication After Cred.	Payroll 2010-2019	Frequency Per \$1M Payroll
Classification	Class Code			Approved (Eff 4/1/2020)	Trended to 4/1/2021	Indicated (Eff 4/1/2021)						
Underground:	Anthracite	0160	106.2	0.878461	0.878461	0.927715	0.933	0.151	0.885898	0.8%	5,260,681	0.178841
	Bituminous	0158	20,118.7	0.076868	0.076868	0.098009	15.465	0.613	0.089827	16.9%	1,554,463,625	0.011626
Surface:	Anthracite	0153	3,767.3	0.228353	0.228353	0.103995	8.603	0.457	0.171521	-24.9%	196,715,268	0.032848
	Bituminous	0156	10,546.4	0.103483	0.103483	0.105431	10.914	0.515	0.104486	1.0%	537,043,950	0.020519
Four Standard Classifications			34,538.6	0.103983	0.103983	0.103479	35.915		0.105662		2,293,483,524	0.015912
	Coke	0154	893.6	0.010970	0.010970	0.009323	0.098	0.049	0.010889	-0.7%	46,481,988	0.002093
	Auger	0157	146.7	0.055010	0.055010	0.031193	0.081	0.044	0.053962	-1.9%	7,527,714	0.010516
Co-Gen:	Anthracite	0181	1,664.0	0.049230	0.049230	0.032569	0.819	0.141	0.046881	-4.8%	86,420,303	0.009027
	Bituminous	0182	2,044.6	0.034361	0.034361	0.018997	0.703	0.131	0.032348	-5.9%	107,321,277	0.006163
Prep Plants:	Anthracite	0183	1,284.1	0.100377	0.100377	0.052908	1.289	0.177	0.091975	-8.4%	67,463,610	0.017506
	Bituminous	0184	3,959.2	0.057075	0.057075	0.028580	2.260	0.234	0.050407	-11.7%	304,200,995	0.006561
Other Classes			9,992.2	0.052532	0.052532	0.028726	5.250		0.047985		619,415,887	0.007741
Total			44,530.8	0.092438	0.092438	0.086706	41.165		0.092720		2,912,899,411	0.014175

Source: (1) Exhibit VIII-B-2
(2) Exhibit IV-B-4
(3) = (2) trended to 4/1/2021 @ 0.0%
(4) Exhibit IV-B-3
(5) = (1) x (3) / 100
(6) = [(5) / 41.165]^(0.5)
(7) = (4)*(6)+[(3)*(1-(6))]
(8) = (7)/(2)-1
(9) Exhibit X-A-3
(10) = (7) X (1) / [(9) * 10,000]

Columns (2),(3),(4) & (7) totals and subtotals are weighted with 10 year estimated miner years.

COAL MINE COMPENSATION RATING BUREAU
Federal Excess Occupational Disease Classification Frequency

Exhibit IV-B
Page 2

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			Estimated Miner Years 2010-2019	Claim Frequency Per 100 Miner Years			Credibility		Claim Frequency Indicated w/ Credibility	Change in Indication After Cred.	Payroll 2010-2019	Frequency Per \$1M Payroll
Classification	Class Code			Approved (Eff 4/1/2020)	Trended to 4/1/2021	Indicated (Eff 4/1/2021)	Expected Awarded Claims	Factor				
Underground:	Anthracite	0160	106.2	0.409030	0.409030	0.597392	0.434	0.155	0.438226	7.1%	5,260,681	0.088467
	Bituminous	0158	20,118.7	0.059615	0.059615	0.059526	11.994	0.817	0.059542	-0.1%	1,554,463,625	0.007706
Surface:	Anthracite	0153	3,767.3	0.049188	0.049188	0.047532	1.853	0.321	0.048656	-1.1%	196,715,268	0.009318
	Bituminous	0156	10,546.4	0.013357	0.013357	0.020404	1.409	0.280	0.015330	14.8%	537,043,950	0.003010
Four Standard Classifications			34,538.6	0.045427	0.045427	0.047926	15.690		0.046019		2,293,483,524	0.006930
	Coke	0154	893.6	0.004832	0.004832	0.002291	0.043	0.049	0.004707	-2.6%	46,481,988	0.000905
	Auger	0157	146.7	0.010212	0.010212	0.002248	0.015	0.029	0.009981	-2.3%	7,527,714	0.001945
Co-Gen:	Anthracite	0181	1,664.0	0.009120	0.009120	0.024349	0.152	0.092	0.010521	15.4%	86,420,303	0.002026
	Bituminous	0182	2,044.6	0.011498	0.011498	0.002752	0.235	0.114	0.010501	-8.7%	107,321,277	0.002001
Prep Plants:	Anthracite	0183	1,284.1	0.108318	0.108318	0.114379	1.391	0.278	0.110003	1.6%	67,463,610	0.020938
	Bituminous	0184	3,959.2	0.011537	0.011537	0.013795	0.457	0.159	0.011896	3.1%	304,200,995	0.001548
Other Classes			9,992.2	0.022945	0.022945	0.025021	2.293		0.023318		619,415,887	0.003762
Total			44,530.8	0.040382	0.040382	0.042786	17.983		0.040925		2,912,899,411	0.006256

Source: (1) Exhibit VIII-B-2
(2) Exhibit IV-B-6
(3) = (2) trended to 4/1/2021 @ 0.0%
(4) Exhibit IV-B-5
(5) = (1) x (3) / 100
(6) = [(5) / 17.983]^(0.5)
(7) = (4)*(6)+[(3)*(1-(6))]
(8) = (7)/(2)-1
(9) Exhibit X-A-3
(10) = (7) X (1) / [(9) * 10,000]

Columns (2),(3),(4) & (7) totals and subtotals are weighted with 10 year estimated miner years.

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-04-B.xlsx]IV-B-2
Run Date: 09/18/20 11:14

PAB
Effective Date - April 01, 2021
8,738,876,172.490760

Coal Mine Compensation Rating Bureau

Federal Basic Occupational Disease Classification Frequency

			(1)	(2)	(3)	(4)	(5)	(6)
			Estimated Miner Years <u>2019</u>	Approved Frequency Equivalent Per 100 Miner Years <u>4/1/2020</u>	Modeled Indication	Experience Indication	Weighted Average of Cols. (3) & (4)	Percent Change
<u>Classification</u>			<u>Class Code</u>					
Underground:	Anthracite	0160	3.1	0.878461	0.713861	0.998999	0.927715	5.61%
	Bituminous	0158	2,167.3	0.076868	0.202061	0.063325	0.098009	27.50%
Surface:	Anthracite	0153	354.5	0.228353	0.152095	0.087962	0.103995	-54.46%
	Bituminous	0156	<u>625.3</u>	<u>0.103483</u>	<u>0.113767</u>	<u>0.102652</u>	<u>0.105431</u>	1.88%
Four Standard Classifications			3,150.2	0.099987	0.179416	0.074824	0.100972	0.99%
	Coke	0154	79.5	0.010970	0.014354	0.007646	0.009323	-15.01%
	Auger	0157	10.2	0.055010	0.067454	0.019106	0.031193	-43.30%
Co-Gen:	Anthracite	0181	117.2	0.049230	0.059692	0.023528	0.032569	-33.84%
	Bituminous	0182	202.9	0.034361	0.030108	0.015293	0.018997	-44.71%
Prep Plants:	Anthracite	0183	181.9	0.100377	0.091559	0.040024	0.052908	-47.29%
	Bituminous	0184	<u>438.5</u>	<u>0.057075</u>	<u>0.046678</u>	<u>0.022547</u>	<u>0.028580</u>	-49.93%
Other Classes			1,030.2	0.055776	0.050531	0.023132	0.029982	-46.25%
Total			4,180.4	0.089092	0.147654	0.062085	0.083478	-6.30%

Source: (1) Exhibit VIII-B-2
 (2) Exhibit IV-B-4
 (3) Exhibit VIII-F
 (4) Exhibit VIII-B-2
 (5) = (0.25)*Col.(3)+ (0.75)*Col.(4)
 (6) = (5)/(2) -1

Totals and subtotals are weighted by Miner Years.

PAB

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. 4/1/2020	Payroll 2009-2018	Estimated Awarded Claims 2009-2018 (1) x (2)	Estimated Miner Years 2010-2019	Estimated Miner Years 2019	Adjustment Factor	Average Weekly Wage 2009	Payroll 2009	Estimated Miner Years 2009-2018	Approved Frequency Equivalent Per 100 Miner Years
Classification		Class Code										
Underground:	Anthracite	0160	0.180561	6,417,168	1.158690	106.2	3.1	1.067	836	1,335,866	131.9	0.878461
	Bituminous	0158	0.010163	1,469,848,828	14.938074	20,118.7	2,167.3	1.573	836	101,348,140	19,433.5	0.076868
Surface:	Anthracite	0153	0.044670	191,975,807	8.575559	3,767.3	354.5	1.067	836	15,893,528	3,755.4	0.228353
	Bituminous	0156	0.020709	563,955,023	11.678945	10,546.4	625.3	1.067	836	63,306,695	11,285.9	0.103483
Four Standard Classifications				2,232,196,826		34,538.6	3,150.2			181,884,229	34,607	
	Coke	0154	0.002159	47,029,008	0.101536	893.6	79.5	1.067	836	5,173,552	925.6	0.010970
	Auger	0157	0.010951	7,881,463	0.086310	146.7	10.2	1.067	836	946,963	156.9	0.055010
Co-Gen:	Anthracite	0181	0.009657	87,133,409	0.841447	1,664.0	117.2	1.067	836	7,534,735	1,709.2	0.049230
	Bituminous	0182	0.006685	103,380,449	0.691098	2,044.6	202.9	1.067	836	7,866,413	2,011.3	0.034361
Prep Plants:	Anthracite	0183	0.019669	63,143,375	1.241967	1,284.1	181.9	1.067	836	6,264,606	1,237.3	0.100377
	Bituminous	0184	0.007594	286,405,677	2.174965	3,959.2	438.5	1.573	836	19,828,012	3,810.7	0.057075
Other Classes				594,973,381		9,992.2	1,030.2			47,614,281	9,851.0	
Total				2,827,170,207		44,530.8	4,180.4			229,498,510	44,457.7	

Source: (1) Exhibit X-F (Federal Basic Frequency)
(2) Exhibit X-A-3
(3) = (1)x(2) / 1,000,000
(4) Exhibit VIII-B-2
(5) Exhibit VIII-B-2
(6) Exhibit X-G
(7) Exhibit XII-D
(8) Exhibit X-A-3
(9) = (4)-(5)+(8)/((6)x(7)x52)
(10) = (3)/(9)x100

Coal Mine Compensation Rating Bureau

Federal Excess Occupational Disease Classification Frequency

			(1)	(2)	(3)	(4)	(5)	(6)
		Class Code	Estimated Miner Years 2019	Approved Frequency Equivalent Per 100 Miner Years 4/1/2020	Modeled Indication	Experience Indication	Weighted Average of Cols. (3) & (4)	Percent Change
Underground:	Anthracite	0160	3.1	0.409030	0.206355	0.727738	0.597392	46.05%
	Bituminous	0158	2,167.3	0.059615	0.042125	0.065326	0.059526	-0.15%
Surface:	Anthracite	0153	354.5	0.049188	0.081667	0.036154	0.047532	-3.37%
	Bituminous	0156	<u>625.3</u>	<u>0.013357</u>	<u>0.006191</u>	<u>0.025142</u>	<u>0.020404</u>	52.76%
Four Standard Classifications			3,150.2	0.049603	0.039604	0.054719	0.050940	2.70%
	Coke	0154	79.5	0.004832	0.000238	0.002975	0.002291	-52.59%
	Auger	0157	10.2	0.010212	0.000221	0.002924	0.002248	-77.99%
Co-Gen:	Anthracite	0181	117.2	0.009120	0.003483	0.031304	0.024349	166.98%
	Bituminous	0182	202.9	0.011498	0.002074	0.002978	0.002752	-76.07%
Prep Plants:	Anthracite	0183	181.9	0.108318	0.093420	0.121366	0.114379	5.60%
	Bituminous	0184	<u>438.5</u>	<u>0.011537</u>	<u>0.001481</u>	<u>0.017900</u>	<u>0.013795</u>	19.57%
Other Classes			1,030.2	0.027812	0.017951	0.033455	0.029579	6.35%
Total			4,180.4	0.044233	0.034268	0.049479	0.045676	3.26%

Source: (1) Exhibit VIII-B-2
 (2) Exhibit IV-B-6
 (3) Exhibit VII-L
 (4) Exhibit VII-B-2 (Federal Excess Frequency)
 (5) = (0.25)*Col.(3)+ (0.75)*Col.(4)
 (6) = (5)/(2) -1

Totals and subtotals are weighted with Miner Years

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. 4/1/2020	Payroll 2009-2018	Estimated Awarded Claims 2009-2018 (1) x (2)	Estimated Miner Years 2010-2019	Estimated Miner Years 2019	Adjustment Factor	Average Weekly Wage 2009	Payroll 2009	Estimated Miner Years 2009-2018	Approved Frequency Equivalent Per 100 Miner Years	
Classification	Class Code											
Underground:	Anthracite	0160	0.084073	6,417,168	0.539511	106.2	3.1	1.067	836	1,335,866	131.9	0.409030
	Bituminous	0158	0.007882	1,469,848,828	11.585348	20,118.7	2,167.3	1.573	836	101,348,140	19,433.5	0.059615
Surface:	Anthracite	0153	0.009622	191,975,807	1.847191	3,767.3	354.5	1.067	836	15,893,528	3,755.4	0.049188
	Bituminous	0156	0.002673	563,955,023	1.507452	10,546.4	625.3	1.067	836	63,306,695	11,285.9	0.013357
Four Standard Classifications				2,232,196,826		34,538.6	3,150.2			181,884,229	34,607	
	Coke	0154	0.000951	47,029,008	0.044725	893.6	79.5	1.067	836	5,173,552	925.6	0.004832
	Auger	0157	0.002033	7,881,463	0.016023	146.7	10.2	1.067	836	946,963	156.9	0.010212
Co-Gen:	Anthracite	0181	0.001789	87,133,409	0.155882	1,664.0	117.2	1.067	836	7,534,735	1,709.2	0.009120
	Bituminous	0182	0.002237	103,380,449	0.231262	2,044.6	202.9	1.067	836	7,866,413	2,011.3	0.011498
Prep Plants:	Anthracite	0183	0.021225	63,143,375	1.340218	1,284.1	181.9	1.067	836	6,264,606	1,237.3	0.108318
	Bituminous	0184	0.001535	286,405,677	0.439633	3,959.2	438.5	1.573	836	19,828,012	3,810.7	0.011537
Other Classes				594,973,381		9,992.2	1,030.2			47,614,281	9,851.0	
Total				2,827,170,207		44,530.8	4,180.4			229,498,510	44,457.7	

Source: (1) Exhibit X-F (Federal Excess Frequency)
(2) Exhibit X-A-3
(3) = (1)x(2) / 1,000,000
(4) Exhibit VIII-B-2
(5) Exhibit VIII-B-2
(6) Exhibit X-G
(7) Exhibit XII-D
(8) Exhibit X-A-3
(9) = (4)-(5)+(8)/((6)x(7)x52)
(10) = (3)/(9)x100

COAL MINE COMPENSATION RATING BUREAU
Traumatic Loss and Classification Credibility

Exhibit V-A
Page 1

Classification	Code	(1) 5 Year Payroll	2019 Payroll	(2) (3) (4) Loss Cost/Unloaded			(5) (6) Credibility		(7) (8) Indicated w/ Credibility		(9) Proposed Change after Limitation	(10) Proposed Loss Cost	(11) Proposed Change Excluding Trend
				Approved (Eff 4/01/2020)	Approved on Level	Indicated Eff 04/01/2021	Five Year Expected Losses	Credibility Factor	Indicated Loss Cost	Indicated Change			
Underground: Bituminous	1001	\$904,049,210	\$185,776,423	6.65	6.71	6.56	60,119,272	1.00	6.56	-1.4%	-1.4%	6.56	-2.2%
Surface: Anthracite	1012	\$109,582,806	\$23,746,667	7.84	7.91	6.83	8,591,292	1.00	6.83	-12.9%	-12.9%	6.83	-13.7%
Bituminous	1014	\$173,920,258	\$35,476,154	1.79	1.81	1.78	3,113,173	1.00	1.78	-0.6%	-0.6%	1.78	-1.4%
Three Major Classifications		\$1,187,552,274	\$244,999,244	6.05	6.10	5.88	71,823,737						
Coke	1469	\$22,398,691	\$4,572,392	3.73	3.76	4.54	835,471	0.52	4.17	11.8%	11.8%	4.17	10.8%
Co-Gen: Anthracite	1021	\$48,103,409	\$8,219,127	5.95	6.00	6.25	2,862,153	0.96	6.24	4.9%	4.9%	6.24	3.9%
Bituminous	1023	\$58,361,352	\$11,807,241	1.32	1.33	1.12	770,370	0.50	1.23	-6.8%	-6.8%	1.23	-7.6%
Prep Plants: Anthracite	1025	\$44,669,219	\$12,646,576	4.14	4.18	3.88	1,849,306	0.77	3.95	-4.6%	-4.6%	3.95	-5.4%
Bituminous	1027	\$155,862,623	\$37,605,236	2.66	2.68	2.97	4,145,946	1.00	2.97	11.7%	11.7%	2.97	10.7%
Auger	1015	\$2,544,176	\$539,914	8.76	8.84	2.47	222,870	0.27	7.12	-18.7%	-18.7%	7.12	-19.4%
Subtotal (6)		\$331,939,470	\$75,390,486	3.22	3.25	3.34	10,686,116						
Underground: Anthracite	1010	\$1,033,204	\$179,379	20.12	20.30	17.04	207,881	0.26	18.67	-7.2%	-7.2%	18.67	-8.0%
Subtotal (7)		\$332,972,674	\$75,569,865	3.27	3.30	3.39	10,893,997						
Total (Based on 5-year Payroll)		\$1,520,524,948	\$320,569,109	5.44	5.49	5.34	\$82,717,734		5.35				
Total (Based on 2019 Payroll, see Exhibit II)			\$320,569,109	5.39					5.30	-1.7%	-1.7%	5.30	

Source: (1) Exhibit V-B
(2) Unloaded Loss Cost Current (Eff 4/01/2020) Exhibit X-B page 2
(3) = (2) X Trend = (2) X (1.009)
1.009 = Weighted average of 1.021 and 1.002
Weights derived from 5 year Medical (28,591,901) and Indemnity (52,648,914) ultimate losses. Exhibit V-B, pg. 1
(4) Exhibit V-B except Underground Anthracite, see Ex V-A-2
(5) Expected Losses = Column (1) times Column (2) divided by 100
(6) Factor Z = [(5) divided by 3,113,173]^(1/2)
(7) [Column (4) times Column (6)] plus [Column (3) times (1.0 minus Column (6))], except Underground Anthracite is the average of Column(3) and Column(4).
(8) Column(7) / Column(2) -1.0
(9) Loss costs changes limited to +25% increase , -25% decrease
(10) When Column (8) equals Column (9), then Column (7).
Otherwise, Column (2) * [1 + (9)].
(11) Column(10)/1.009/Column(2)-1.000

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	6.83 *	6.83 *
Indicated Anthracite Underground Loss Cost	<u>18.17</u>	<u>18.17</u>
Comparative Hazard Method #1 (Anthracite vs. Bituminous)		
Differential Factor from Study	2.41	2.41
Indicated Bituminous Underground Loss Cost:	6.56 *	6.56 *
Indicated Anthracite Underground Loss Cost	<u>15.81</u>	<u>15.81</u>
Comparative Hazard Method #2 (Surface vs. Underground)		
Differential Factor from Study	2.51	2.51
Indicated Anthracite Surface Loss Cost:	6.83 *	6.83 *
Indicated Anthracite Underground Loss Cost	<u>17.14</u>	<u>17.14</u>
Average	17.04	17.04

* 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>					
2015	11,946,924	1.0253	1.0267	12,576,234	3.59
2016	9,151,489	1.0517	1.0223	9,839,250	3.87
2017	9,841,483	1.0945	1.0170	10,954,620	3.79
2018	7,734,859	1.2705	1.0105	9,930,324	3.24
<u>2019</u>	<u>4,894,467</u> *	1.9988	1.0055	<u>9,348,486</u> *	<u>2.92</u>
5 Years	\$43,569,222			\$52,648,914	3.46
<u>Medical</u>					
2015	3,909,083	1.1015	1.1470	4,938,815	1.41
2016	3,905,895	1.1073	1.1269	4,873,840	1.91
2017	6,006,389	1.1133	1.1038	7,381,014	2.55
2018	5,421,768	1.0979	1.0811	6,435,312	2.10
<u>2019</u>	<u>4,076,893</u> *	1.1487	1.0588	<u>4,962,920</u> *	<u>1.55</u>
5 Years	\$23,320,028			\$28,591,901	1.88
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	350,172,362			17,515,049	5.00
2016	254,559,392			14,713,090	5.78
2017	289,088,505			18,335,634	6.34
2018	306,135,580			16,365,636	5.35
<u>2019</u>	<u>320,569,109</u>			<u>14,311,406</u>	<u>4.46</u>
5 Years	\$1,520,524,948			\$81,240,815	5.34

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

(2) Exhibit V-C

* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 12b

(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
Three 100% Credibility Classifications (3 Classes)

Exhibit V-B

Page 2

	(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>					
2015	10,859,107	1.0253	1.0267	11,431,116	4.06
2016	7,859,059	1.0517	1.0223	8,449,691	4.26
2017	9,193,957	1.0945	1.0170	10,233,854	4.51
2018	7,170,429	1.2705	1.0105	9,205,686	3.91
<u>2019</u>	<u>3,601,509</u>	1.9988	1.0055	<u>7,238,289</u>	<u>2.95</u>
5 Years	\$38,684,061			\$46,558,636	3.92
<u>Medical</u>					
2015	3,396,753	1.1015	1.1470	4,291,527	1.52
2016	3,197,252	1.1073	1.1269	3,989,583	2.01
2017	4,862,975	1.1133	1.1038	5,975,918	2.63
2018	4,085,466	1.0979	1.0811	4,849,202	2.06
<u>2019</u>	<u>3,460,429</u>	1.1487	1.0588	<u>4,208,724</u>	<u>1.72</u>
5 Years	\$19,002,875			\$23,314,954	1.96
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	281,607,287			15,722,643	5.58
2016	198,557,107			12,439,274	6.26
2017	227,016,632			16,209,772	7.14
2018	235,372,004			14,054,888	5.97
<u>2019</u>	<u>244,999,244</u>			<u>11,447,013</u>	<u>4.67</u>
5 Years	\$1,187,552,274			\$69,873,590	5.88

Source: (1) Sum of Exhibit V-B, pages 3,4 and 5 - 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 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>					
2015	9,783,334	1.0253	1.0267	10,298,676	4.76
2016	6,415,091	1.0517	1.0223	6,897,204	4.64
2017	7,516,120	1.0945	1.0170	8,366,242	4.84
2018	6,577,502	1.2705	1.0105	8,444,462	4.68
<u>2019</u>	<u>2,935,329</u>	1.9988	1.0055	<u>5,899,405</u>	<u>3.18</u>
5 Years	\$33,227,376			\$39,905,989	4.41
<u>Medical</u>					
2015	2,780,562	1.1015	1.1470	3,513,019	1.62
2016	2,352,667	1.1073	1.1269	2,935,696	1.98
2017	4,083,408	1.1133	1.1038	5,017,939	2.91
2018	3,653,717	1.0979	1.0811	4,336,742	2.40
<u>2019</u>	<u>2,943,242</u>	1.1487	1.0588	<u>3,579,699</u>	<u>1.93</u>
5 Years	\$15,813,596			\$19,383,095	2.14
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	216,454,460			13,811,695	6.38
2016	148,556,407			9,832,900	6.62
2017	172,708,778			13,384,181	7.75
2018	180,553,142			12,781,204	7.08
<u>2019</u>	<u>185,776,423</u>			<u>9,479,104</u>	<u>5.10</u>
5 Years	\$904,049,210			\$59,289,084	6.56

Source: (1) CMCRB Database as of 04-30-2020

(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 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>					
2015	533,420	1.0253	1.0267	561,518	2.32
2016	1,150,835	1.0517	1.0223	1,237,324	5.93
2017	1,483,811	1.0945	1.0170	1,651,640	7.80
2018	529,072	1.2705	1.0105	679,244	3.47
<u>2019</u>	<u>373,333</u>	1.9988	1.0055	<u>750,322</u>	<u>3.16</u>
5 Years	\$4,070,471			\$4,880,048	4.45
<u>Medical</u>					
2015	332,590	1.1015	1.1470	420,201	1.74
2016	554,018	1.1073	1.1269	691,313	3.31
2017	595,380	1.1133	1.1038	731,639	3.46
2018	300,638	1.0979	1.0811	356,839	1.82
<u>2019</u>	<u>332,838</u>	1.1487	1.0588	<u>404,812</u>	<u>1.70</u>
5 Years	\$2,115,464			\$2,604,804	2.38
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	24,218,779			981,719	4.05
2016	20,873,611			1,928,637	9.24
2017	21,167,074			2,383,279	11.26
2018	19,576,675			1,036,083	5.29
<u>2019</u>	<u>23,746,667</u>			<u>1,155,134</u>	<u>4.86</u>
5 Years	\$109,582,806			\$7,484,852	6.83

Source: (1) CMCRB Database as of 04-30-2020

(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>					
2015	542,353	1.0253	1.0267	570,922	1.39
2016	293,133	1.0517	1.0223	315,163	1.08
2017	194,026	1.0945	1.0170	215,972	0.65
2018	63,855	1.2705	1.0105	81,980	0.23
<u>2019</u>	<u>292,847</u>	1.9988	1.0055	<u>588,562</u>	<u>1.66</u>
5 Years	\$1,386,214			\$1,772,599	1.02
<u>Medical</u>					
2015	283,601	1.1015	1.1470	358,307	0.88
2016	290,567	1.1073	1.1269	362,574	1.24
2017	184,187	1.1133	1.1038	226,340	0.68
2018	131,111	1.0979	1.0811	155,621	0.44
<u>2019</u>	<u>184,349</u>	1.1487	1.0588	<u>224,213</u>	<u>0.63</u>
5 Years	\$1,073,815			\$1,327,055	0.76
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	40,934,048			929,229	2.27
2016	29,127,089			677,737	2.33
2017	33,140,780			442,312	1.33
2018	35,242,187			237,601	0.67
<u>2019</u>	<u>35,476,154</u>			<u>812,775</u>	<u>2.29</u>
5 Years	\$173,920,258			\$3,099,654	1.78

Source: (1) CMCRB Database as of 04-30-2020
 (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

Exhibit V-B

Traumatic Loss Cost Indication

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>					
2015	1,087,817	1.0253	1.0267	1,145,118	1.67
2016	1,292,430	1.0517	1.0223	1,389,559	2.48
2017	647,526	1.0945	1.0170	720,766	1.16
2018	564,430	1.2705	1.0105	724,638	1.02
<u>2019</u>	<u>1,292,958</u> *	1.9988	1.0055	<u>2,110,197</u> *	<u>2.79</u>
5 Years	\$4,885,161			\$6,090,278	1.83
<u>Medical</u>					
2015	512,330	1.1015	1.1470	647,288	0.94
2016	708,643	1.1073	1.1269	884,257	1.58
2017	1,143,414	1.1133	1.1038	1,405,096	2.26
2018	1,336,302	1.0979	1.0811	1,586,110	2.24
<u>2019</u>	<u>616,464</u> *	1.1487	1.0588	<u>754,196</u> *	<u>1.00</u>
5 Years	\$4,317,153			\$5,276,947	1.58
<u>(6)</u>					
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>				
2015	68,565,075			1,792,406	2.61
2016	56,002,285			2,273,816	4.06
2017	62,071,873			2,125,862	3.42
2018	70,763,576			2,310,748	3.27
<u>2019</u>	<u>75,569,865</u>			<u>2,864,393</u>	<u>3.79</u>
5 Years	\$332,972,674			\$11,367,225	3.41

Source: (1) Sum of Exhibit V-B, pages 7-13 - column (1)

(2) Exhibit V-C

* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 12b

(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>					
2015	114,645	1.0253	1.0267	120,684	2.78
2016	22,494	1.0517	1.0223	24,184	0.55
2017	42,083	1.0945	1.0170	46,843	1.03
2018	99,871	1.2705	1.0105	128,218	2.86
<u>2019</u>	<u>71,300</u>	1.9988	1.0055	<u>143,298</u>	<u>3.13</u>
5 Years	\$350,393			\$463,227	2.07
<u>Medical</u>					
2015	113,551	1.1015	1.1470	143,463	3.31
2016	22,002	1.1073	1.1269	27,454	0.62
2017	185,062	1.1133	1.1038	227,415	4.98
2018	110,693	1.0979	1.0811	131,386	2.93
<u>2019</u>	<u>19,723</u>	1.1487	1.0588	<u>23,988</u>	<u>0.52</u>
5 Years	\$451,031			\$553,706	2.47
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	4,340,376			264,147	6.09
2016	4,435,066			51,638	1.16
2017	4,566,113			274,258	6.01
2018	4,484,744			259,604	5.79
<u>2019</u>	<u>4,572,392</u>			<u>167,286</u>	<u>3.66</u>
5 Years	\$22,398,691			\$1,016,933	4.54

Source: (1) CMCRB Database as of 04-30-2020
 (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

	(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>					
2015	31,531	1.0253	1.0267	33,192	5.70
2016	0	1.0517	1.0223	0	0.00
2017	0	1.0945	1.0170	0	0.00
2018	0	1.2705	1.0105	0	0.00
<u>2019</u>	<u>0</u>	1.9988	1.0055	<u>0</u>	<u>0.00</u>
5 Years	\$31,531			\$33,192	1.30
<u>Medical</u>					
2015	21,114	1.1015	1.1470	26,676	4.58
2016	132	1.1073	1.1269	165	0.04
2017	0	1.1133	1.1038	0	0.00
2018	0	1.0979	1.0811	0	0.00
<u>2019</u>	<u>2,299</u>	1.1487	1.0588	<u>2,796</u>	<u>0.52</u>
5 Years	\$23,545			\$29,637	1.16
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	582,619			59,868	10.28
2016	372,496			165	0.04
2017	449,009			0	0.00
2018	600,138			0	0.00
<u>2019</u>	<u>539,914</u>			<u>2,796</u>	<u>0.52</u>
5 Years	\$2,544,176			\$62,829	2.47

Source: (1) CMCRB Database as of 04-30-2020
 (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>					
2015	100,480	1.0253	1.0267	105,773	1.01
2016	511,549	1.0517	1.0223	549,993	6.11
2017	256,149	1.0945	1.0170	285,121	3.23
2018	90,096	1.2705	1.0105	115,669	1.00
<u>2019</u>	<u>39,221</u>	1.9988	1.0055	<u>78,826</u>	<u>0.96</u>
5 Years	\$997,495			\$1,135,382	2.36

<u>Medical</u>					
2015	75,211	1.1015	1.1470	95,023	0.91
2016	301,663	1.1073	1.1269	376,420	4.18
2017	269,709	1.1133	1.1038	331,435	3.76
2018	844,527	1.0979	1.0811	1,002,403	8.64
<u>2019</u>	<u>52,912</u>	1.1487	1.0588	<u>64,354</u>	<u>0.78</u>
5 Years	\$1,544,022			\$1,869,635	3.89

	(6)		
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>		
2015	10,469,089	200,796	1.92
2016	8,994,602	926,413	10.30
2017	8,819,700	616,556	6.99
2018	11,600,891	1,118,072	9.64
<u>2019</u>	<u>8,219,127</u>	<u>143,180</u>	<u>1.74</u>
5 Years	\$48,103,409	\$3,005,017	6.25

Source: (1) CMCRB Database as of 04-30-2020

(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>					
2015	70,451	1.0253	1.0267	74,162	0.63
2016	6,706	1.0517	1.0223	7,210	0.06
2017	50,986	1.0945	1.0170	56,753	0.50
2018	126,423	1.2705	1.0105	162,307	1.35
<u>2019</u>	<u>8,535</u>	1.9988	1.0055	<u>17,154</u>	<u>0.15</u>
5 Years	\$263,101			\$317,586	0.54
<u>Medical</u>					
2015	29,226	1.1015	1.1470	36,925	0.31
2016	23,310	1.1073	1.1269	29,087	0.26
2017	133,300	1.1133	1.1038	163,807	1.43
2018	65,515	1.0979	1.0811	77,762	0.65
<u>2019</u>	<u>25,641</u>	1.1487	1.0588	<u>31,186</u>	<u>0.26</u>
5 Years	\$276,992			\$338,767	0.58
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	11,748,205			111,087	0.95
2016	11,327,552			36,297	0.32
2017	11,435,057			220,560	1.93
2018	12,043,297			240,069	1.99
<u>2019</u>	<u>11,807,241</u>			<u>48,340</u>	<u>0.41</u>
5 Years	\$58,361,352			\$656,353	1.12

Source: (1) CMCRB Database as of 04-30-2020

(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>					
2015	274,264	1.0253	1.0267	288,711	3.80
2016	168,017	1.0517	1.0223	180,644	2.57
2017	6,566	1.0945	1.0170	7,309	0.09
2018	43,147	1.2705	1.0105	55,394	0.57
<u>2019</u>	<u>207,634</u>	1.9988	1.0055	<u>417,301</u>	<u>3.30</u>
5 Years	\$699,628			\$949,359	2.13
<u>Medical</u>					
2015	130,671	1.1015	1.1470	165,092	2.17
2016	68,171	1.1073	1.1269	85,065	1.21
2017	33,115	1.1133	1.1038	40,694	0.53
2018	196,615	1.0979	1.0811	233,370	2.42
<u>2019</u>	<u>214,557</u>	1.1487	1.0588	<u>260,954</u>	<u>2.06</u>
5 Years	\$643,129			\$785,175	1.76
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	7,606,274			453,803	5.97
2016	7,018,927			265,709	3.79
2017	7,746,154			48,003	0.62
2018	9,651,288			288,764	2.99
<u>2019</u>	<u>12,646,576</u>			<u>678,255</u>	<u>5.36</u>
5 Years	\$44,669,219			\$1,734,534	3.88

Source: (1) CMCRB Database as of 04-30-2020

(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>					
2015	327,577	1.0253	1.0267	344,832	1.03
2016	583,664	1.0517	1.0223	627,528	2.65
2017	291,742	1.0945	1.0170	324,740	1.13
2018	204,893	1.2705	1.0105	263,050	0.82
<u>2019</u>	<u>966,268</u> *	1.9988	1.0055	<u>1,453,618</u> *	<u>3.87</u>
5 Years	\$2,374,144			\$3,013,768	1.93
<u>Medical</u>					
2015	70,257	1.1015	1.1470	88,764	0.26
2016	293,365	1.1073	1.1269	366,066	1.55
2017	522,228	1.1133	1.1038	641,745	2.23
2018	118,952	1.0979	1.0811	141,189	0.44
<u>2019</u>	<u>301,332</u> *	1.1487	1.0588	<u>370,918</u> *	<u>0.99</u>
5 Years	\$1,306,134			\$1,608,682	1.03
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	33,564,176			433,596	1.29
2016	23,689,882			993,594	4.19
2017	28,803,457			966,485	3.36
2018	32,199,872			404,239	1.26
<u>2019</u>	<u>37,605,236</u>			<u>1,824,536</u>	<u>4.85</u>
5 Years	\$155,862,623			\$4,622,450	2.97

Source: (1) CMCRB Database as of 04-30-2020

(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

* Large Claims have been

capped at \$1,250,000. See V-B, page 12b

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

Exhibit V-B
 Page 12b

Adjustment for Large Claim(s) (Accident Year 2019)

	Indemnity	Medical	Total
Uncapped Excess Claims	850,650	20,000	870,650
Percent of Total	97.7%	2.3%	100.00%
Percent x 1,250,000	1,221,250	28,750	1,250,000
Total Reported Loss as of 04-30-2020	966,268	301,332	
Uncapped Excess Claims	850,650	20,000	
Reported Loss ex. Excess Claims	115,618	281,332	
Loss Development Factor	1.9988	1.1487	
Trend Factor	1.0055	1.0588	
Dev & Trended Loss ex. Excess Claims	232,368	342,168	
Excess Claims Capped at \$1,250,000	1,221,250	28,750	
Dev & Trended Loss w/Excess Claims Capped	1,453,618	370,918	

Source: Exhibit V-J

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>					
2015	168,869	1.0253	1.0267	177,764	69.89
2016	0	1.0517	1.0223	0	0.00
2017	0	1.0945	1.0170	0	0.00
2018	0	1.2705	1.0105	0	0.00
<u>2019</u>	<u>0</u>	1.9988	1.0055	<u>0</u>	<u>0.00</u>
5 Years	\$168,869			\$177,764	17.21
<u>Medical</u>					
2015	72,300	1.1015	1.1470	91,345	35.92
2016	0	1.1073	1.1269	0	0.00
2017	0	1.1133	1.1038	0	0.00
2018	0	1.0979	1.0811	0	0.00
<u>2019</u>	<u>0</u>	1.1487	1.0588	<u>0</u>	<u>0.00</u>
5 Years	\$72,300			\$91,345	8.84
<u>Indemnity & Medical</u>					
	(6) Developed <u>Payroll</u>				
2015	254,336			269,109	105.81
2016	163,760			0	0.00
2017	252,383			0	0.00
2018	183,346			0	0.00
<u>2019</u>	<u>179,379</u>			<u>0</u>	<u>0.00</u>
5 Years	\$1,033,204			\$269,109	26.05

Source: (1) CMCRB Database as of 04-30-2020

(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

Exhibit V-B

Traumatic Loss Cost Indication

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>					
2015	887,417	1.0253	1.0267	934,162	1.38
2016	1,292,430	1.0517	1.0223	1,389,559	2.51
2017	647,526	1.0945	1.0170	720,766	1.17
2018	564,430	1.2705	1.0105	724,638	1.04
<u>2019</u>	<u>1,292,958</u> *	1.9988	1.0055	<u>2,110,197</u> *	<u>2.82</u>
5 Years	\$4,684,761			\$5,879,322	1.78
<u>Medical</u>					
2015	418,916	1.1015	1.1470	529,267	0.78
2016	708,511	1.1073	1.1269	884,092	1.59
2017	1,143,414	1.1133	1.1038	1,405,096	2.29
2018	1,336,302	1.0979	1.0811	1,586,110	2.27
<u>2019</u>	<u>614,165</u> *	1.1487	1.0588	<u>751,400</u> *	<u>1.00</u>
5 Years	\$4,221,308			\$5,155,965	1.57
<u>(6)</u>					
Indemnity & <u>Medical</u>	Developed <u>Payroll</u>				
2015	67,728,120			1,463,429	2.16
2016	55,466,029			2,273,651	4.10
2017	61,370,481			2,125,862	3.46
2018	69,980,092			2,310,748	3.30
<u>2019</u>	<u>74,850,572</u>			<u>2,861,597</u>	<u>3.82</u>
5 Years	\$329,395,294			\$11,035,287	3.35

Source: (1) Exhibit V-B, page 6 minus page 8, column (1) minus page 13, column (1)

(2) Exhibit V-C

* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 12b

(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 <u>Period</u>	(2) Average of Middle <u>Four</u>	(3) PCRB <u>Factor</u>	(4) CMCRB vs. PCRB <u>Comparison</u>	(5) Derived Development <u>Factor</u>	(6) Selected <u>Factor</u>	(7) Differences <u>Average vs Selected</u>	(8) Accumulated Selected <u>Factor</u>
1:2	1.5732	1.3333	0.2399	1.5732	1.5732	0.0000	1.9988
2:3	1.1608	1.0830	0.0778	1.1608	1.1608	0.0000	1.2705
3:4	1.0407	1.0145	0.0262	1.0407	1.0407	0.0000	1.0945
4:5	1.0257	1.0019	0.0238	1.0257	1.0257	0.0000	1.0517
5:6	0.9922	1.0073	-0.0151	1.0020	1.0020	-0.0098	1.0253
6:7	1.0108	1.0039	0.0069	1.0019	1.0019	0.0089	1.0233
7:8	1.0060	1.0038	0.0022	1.0018	1.0018	0.0042	1.0214
8:9	1.0042	1.0028	0.0014	1.0017	1.0017	0.0025	1.0195
9:10	1.0004	1.0017	-0.0013	1.0017	1.0017	-0.0013	1.0177
10:11	1.0064	1.0019	0.0045	1.0016	1.0016	0.0048	1.0160
11:12	0.9997	1.0018	-0.0021	1.0015	1.0015	-0.0018	1.0144
12:13	1.0029	1.0014	0.0015	1.0014	1.0014	0.0015	1.0129
13:14	0.9932	1.0011	-0.0079	1.0013	1.0013	-0.0081	1.0115
14:15	0.9986	1.0003	-0.0017	1.0013	1.0013	-0.0027	1.0101
15:16	1.0006	1.0006	0.0000	1.0012	1.0012	-0.0006	1.0088
16:17	1.0015	1.0011	0.0004	1.0011	1.0011	0.0004	1.0076
17:18	1.0011	1.0003	0.0008	1.0010	1.0010	0.0001	1.0065
18:19	1.0035	1.0002	0.0033	1.0010	1.0010	0.0025	1.0055
19:20	1.0004	1.0008	-0.0004	1.0009	1.0009	-0.0005	1.0045
20:Ult	xx	1.0027	xx	1.0036	1.0036		1.0036

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.(5)
- (6) Selected (5)
- (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 <u>Period</u>	(2) Average of Middle <u>Four</u>	(3) PCRB <u>Factor</u>	(4) CMCRB vs. PCRB <u>Comparison</u>	(5) Derived Development <u>Factor</u>	(6) Selected <u>Factor</u>	(7) Differences <u>Average vs Selected</u>	(8) Accumulated Selected <u>Factor</u>
1:2	1.0463	1.0473	-0.0010	1.0463	1.0463	0.0000	1.1487
2:3	0.9862	1.0100	-0.0238	0.9862	0.9862	0.0000	1.0979
3:4	0.9864	0.9998	-0.0134	1.0054	1.0054	-0.0190	1.1133
4:5	1.0175	1.0093	0.0082	1.0053	1.0053	0.0122	1.1073
5:6	0.9959	1.0050	-0.0091	1.0051	1.0051	-0.0092	1.1015
6:7	1.0136	1.0050	0.0086	1.0050	1.0050	0.0086	1.0959
7:8	0.9955	1.0033	-0.0078	1.0048	1.0048	-0.0093	1.0905
8:9	1.0071	0.9988	0.0083	1.0047	1.0047	0.0024	1.0853
9:10	1.0085	1.0030	0.0055	1.0045	1.0045	0.0040	1.0803
10:11	1.0113	1.0037	0.0076	1.0044	1.0044	0.0069	1.0755
11:12	1.0068	1.0074	-0.0006	1.0042	1.0042	0.0026	1.0708
12:13	1.0094	1.0041	0.0053	1.0040	1.0040	0.0054	1.0663
13:14	1.0052	1.0073	-0.0021	1.0039	1.0039	0.0013	1.0620
14:15	1.0079	1.0063	0.0016	1.0037	1.0037	0.0042	1.0579
15:16	0.9921	1.0107	-0.0186	1.0036	1.0036	-0.0115	1.0540
16:17	0.9840	1.0020	-0.0180	1.0034	1.0034	-0.0194	1.0502
17:18	1.0085	1.0034	0.0051	1.0033	1.0033	0.0052	1.0466
18:19	1.0003	1.0104	-0.0101	1.0031	1.0031	-0.0028	1.0432
19:20	1.0095	1.0045	0.0050	1.0030	1.0030	0.0065	1.0399
20:Ult	xx	1.0454	xx	1.0368	1.0368		1.0368

Sources:

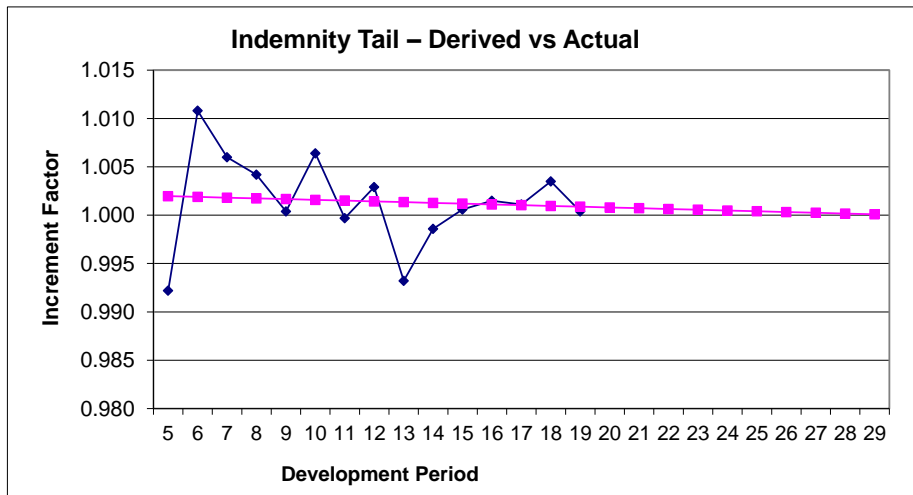
- (1) Reports spanned by age-to-age factors
- (2) Exhibit V-E Page 1 and VI-B Page 4
- (3) Exhibit V-E-3
- (4) Col.(2) - Col.(3)
- (5) Exhibit V-E-2 Col.(6)
- (6) Selected (5)
- (7) Col.(2) - Col.(6)
- (8) Upward accumulation of Col.(6)

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	1.5732	1.5732	1.9914	1.5732	xx	xx	xx			
2	1.1608	1.1608	1.2658	1.1608	xx	xx	xx			
3	1.0407	1.0407	1.0905	1.0407	xx	xx	xx			
4	1.0257	1.0257	1.0478	1.0257	xx	xx	xx			
5	0.9922	1.0020	1.0216	1.0020	1.0216	1.0020	1.0216			
6	1.0108	1.0019	1.0296	1.0019	1.0196	1.0019	1.0196			
7	1.0060	1.0018	1.0186	1.0018	1.0177	1.0018	1.0177			
8	1.0042	1.0017	1.0125	1.0017	1.0158	1.0017	1.0158			
9	1.0004	1.0017	1.0083	1.0017	1.0141	1.0017	1.0141			
10	1.0064	1.0016	1.0079	1.0016	1.0124	1.0016	1.0124			
11	0.9997	1.0015	1.0015	1.0015	1.0108	1.0015	1.0108			
12	1.0029	1.0014	1.0018	1.0014	1.0093	1.0014	1.0093			
13	0.9932	1.0013	0.9989	1.0013	1.0078	1.0013	1.0078			
14	0.9986	1.0013	1.0057	1.0013	1.0065	1.0013	1.0065			
15	1.0006	1.0012	1.0071	1.0012	1.0052	1.0012	1.0052			
16	1.0015	1.0011	1.0065	1.0011	1.0040	1.0011	1.0040			
17	1.0011	1.0010	1.0050	1.0010	1.0029	1.0010	1.0029			
18	1.0035	1.0010	1.0039	1.0010	1.0018	1.0010	1.0018			
19	1.0004	1.0009	1.0004	1.0009	1.0009	1.0009	1.0009			
20		1.0008						20	1.0008	1.0045
21		1.0007						21	1.0007	1.0037
22		1.0006						22	1.0006	1.0029
23		1.0006						23	1.0006	1.0023
24		1.0005						24	1.0005	1.0017
25		1.0004						25	1.0004	1.0013
26		1.0003						26	1.0003	1.0008
27		1.0003						27	1.0003	1.0005
28		1.0002						28	1.0002	1.0003
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	1.0045
PCRB tail factor	1.0027
Selected Tail Factor	1.0036

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	1.3333	1 to Ult	1.5149
2 to 3	1.0830	2 to Ult	1.1362
3 to 4	1.0145	3 to Ult	1.0491
4 to 5	1.0019	4 to Ult	1.0341
5 to 6	1.0073	5 to Ult	1.0321
6 to 7	1.0039	6 to Ult	1.0247
7 to 8	1.0038	7 to Ult	1.0207
8 to 9	1.0028	8 to Ult	1.0168
9 to 10	1.0017	9 to Ult	1.0140
10 to 11	1.0019	10 to Ult	1.0123
11 to 12	1.0018	11 to Ult	1.0103
12 to 13	1.0014	12 to Ult	1.0085
13 to 14	1.0011	13 to Ult	1.0071
14 to 15	1.0003	14 to Ult	1.0060
15 to 16	1.0006	15 to Ult	1.0057
16 to 17	1.0011	16 to Ult	1.0051
17 to 18	1.0003	17 to Ult	1.0040
18 to 19	1.0002	18 to Ult	1.0037
19 to 20	1.0008	19 to Ult	1.0035
20 to Ult	1.0027	20 to Ult	1.0027
20 to 21	1.0002		
21 to 22	1.0003		
22 to 23	1.0000		
23 to 24	0.9999		
24 to 25	0.9996		
25 to 26	1.0013		
26 to 27	1.0002		
27 to 28	1.0007		
28 to 29	0.9999		
29 to 30	0.9999		
Beyond	1.0007		

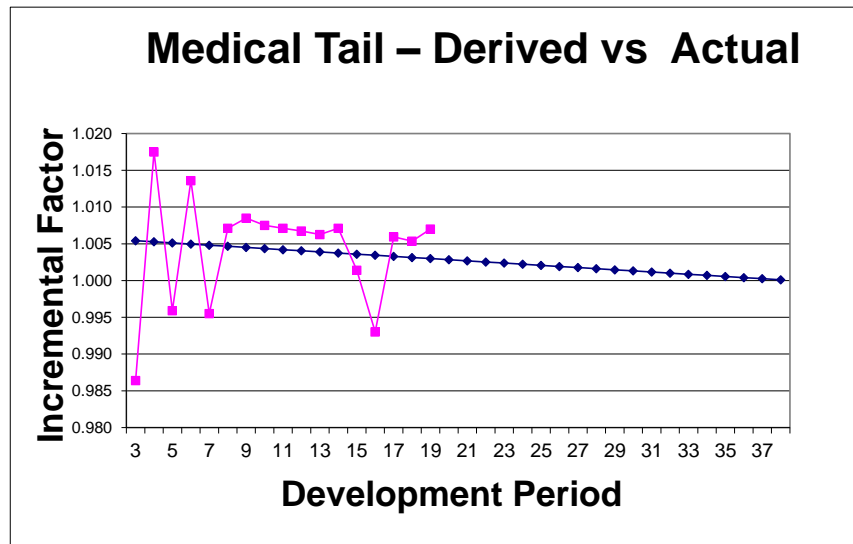
Source:PCRB Loss Cost Filing effective April 1, 2020 - Exhibit 5, page 4, Selected Inc. LDF

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	1.0463		1.0463	1.1081	1.0463	1.1081	20	1.0028	1.0282
2	0.9862		0.9862	1.0591	0.9862	1.0591	21	1.0027	1.0253
3	0.9864		0.9864	1.0739	1.0054	1.0739	22	1.0025	1.0226
4	1.0175		1.0175	1.0887	1.0053	1.0681	23	1.0024	1.0200
5	0.9959		0.9959	1.0700	1.0051	1.0625	24	1.0022	1.0176
6	1.0136		1.0136	1.0744	1.0050	1.0571	25	1.0021	1.0153
7	0.9955		0.9955	1.0600	1.0048	1.0519	26	1.0019	1.0132
8	1.0071		1.0071	1.0647	1.0047	1.0468	27	1.0018	1.0113
9	1.0085		1.0085	1.0572	1.0045	1.0420	28	1.0016	1.0095
10	1.0113	1.0037	1.0075	1.0483	1.0044	1.0373	29	1.0015	1.0078
11	1.0068	1.0074	1.0071	1.0405	1.0042	1.0328	30	1.0013	1.0064
12	1.0094	1.0041	1.0068	1.0332	1.0040	1.0285	31	1.0012	1.0050
13	1.0052	1.0073	1.0063	1.0263	1.0039	1.0243	32	1.0010	1.0039
14	1.0079	1.0063	1.0071	1.0199	1.0037	1.0204	33	1.0009	1.0029
15	0.9921	1.0107	1.0014	1.0127	1.0036	1.0165	34	1.0007	1.0020
16	0.9840	1.0020	0.9930	1.0113	1.0034	1.0129	35	1.0006	1.0013
17	1.0085	1.0034	1.0060	1.0184	1.0033	1.0094	36	1.0004	1.0008
18	1.0003	1.0104	1.0054	1.0124	1.0031	1.0061	37	1.0003	1.0003
19	1.0095	1.0045	1.0070	1.0070	1.0030	1.0030	38	1.0001	1.0001



CMCRB derived tail factor	1.0282
PCRB tail factor	1.0454
Selected	1.0368

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	1.0473	1 to Ult.	1.2023
2 to 3	1.0100	2 to Ult.	1.1480
3 to 4	0.9998	3 to Ult.	1.1367
4 to 5	1.0093	4 to Ult.	1.1369
5 to 6	1.0050	5 to Ult.	1.1264
6 to 7	1.0050	6 to Ult.	1.1208
7 to 8	1.0033	7 to Ult.	1.1152
8 to 9	0.9988	8 to Ult.	1.1116
9 to 10	1.0030	9 to Ult.	1.1129
10 to 11	1.0037	10 to Ult.	1.1096
11 to 12	1.0074	11 to Ult.	1.1055
12 to 13	1.0041	12 to Ult.	1.0974
13 to 14	1.0073	13 to Ult.	1.0929
14 to 15	1.0063	14 to Ult.	1.0850
15 to 16	1.0107	15 to Ult.	1.0782
16 to 17	1.0020	16 to Ult.	1.0668
17 to 18	1.0034	17 to Ult.	1.0646
18 to 19	1.0104	18 to Ult.	1.0610
19 to 20	1.0045	19 to Ult.	1.0501
20 to Ult.	1.0454	20 to Ult.	1.0454
20 to 21	1.0061		
21 to 22	1.0023		
22 to 23	1.0038		
23 to 24	1.0060		
24 to 25	0.9980		
25 to 26	1.0024		
26 to 27	1.0020		
27 to 28	1.0031		
28 to 29	1.0016		
29 to 30	1.0039		
Beyond	1.0154		

Source:PCRB Loss Cost Filing effective April 1, 2020 - Exhibit 5, page 18, Selected Inc. LDF

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

Coal Mine Compensation Rating Bureau

Summary

Traumatic Loss Trend

Indemnity, Funeral and Medical for All Classes Combined

Trend Factors

Indemnity and Funeral

Annual Percentage Change: 0.2%		Annual			HB 1846	HB 1840	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>
2015	7-1-15 to 4-1-2022	6.75	$(1 + 0.002)^{\wedge} 6.75$		1.0136	1.0000	1.0129
2016	7-1-16 to 4-1-2022	5.75	$(1 + 0.002)^{\wedge} 5.75$		1.0116	1.0000	1.0106
2017	7-1-17 to 4-1-2022	4.75	$(1 + 0.002)^{\wedge} 4.75$		1.0095	1.0000	1.0074
2018	7-1-18 to 4-1-2022	3.75	$(1 + 0.002)^{\wedge} 3.75$		1.0075	1.0000	1.0030
2019	7-1-19 to 4-1-2022	2.75	$(1 + 0.002)^{\wedge} 2.75$		1.0055	1.0000	1.0000

Medical and Medical Only

Annual Percentage Change: 2.1%		Annual			HB 1846	HB 1840	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>
2015	7-1-15 to 4-1-2022	6.75	$(1 + 0.021)^{\wedge} 6.75$		1.1506	0.9969	1.0000
2016	7-1-16 to 4-1-2022	5.75	$(1 + 0.021)^{\wedge} 5.75$		1.1269	1.0000	1.0000
2017	7-1-17 to 4-1-2022	4.75	$(1 + 0.021)^{\wedge} 4.75$		1.1038	1.0000	1.0000
2018	7-1-18 to 4-1-2022	3.75	$(1 + 0.021)^{\wedge} 3.75$		1.0811	1.0000	1.0000
2019	7-1-19 to 4-1-2022	2.75	$(1 + 0.021)^{\wedge} 2.75$		1.0588	1.0000	1.0000

Source: Annual Percentage Change - Exhibit V-K

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>
2010	7,433,505	1.0160	7,552,441	13,191,068
2011	8,518,075	1.0177	8,668,845	16,066,739
2012	9,853,320	1.0195	10,045,460	16,661,417
2013	7,741,765	1.0214	7,907,439	15,621,068
2014	12,193,222	1.0233	12,477,324	24,068,030
2015	11,946,924	1.0253	12,249,181	20,074,359
2016	9,151,489	1.0517	9,624,621	14,437,254
2017	9,841,483	1.0945	10,771,503	16,408,011
2018	7,734,859	1.2705	9,827,138	17,213,225
2019	4,894,467	1.9988	9,304,032 *	17,978,151

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 2019 reflect limitation on large claims,
see Exhibit V-J

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>
2010	4,315,637	1.0755	4,641,468	13,191,068
2011	6,232,068	1.0803	6,732,503	16,066,739
2012	5,445,673	1.0853	5,910,189	16,661,417
2013	4,152,393	1.0905	4,528,185	15,621,068
2014	5,882,245	1.0959	6,446,352	24,068,030
2015	3,909,083	1.1015	4,305,855	20,074,359
2016	3,905,895	1.1073	4,324,998	14,437,254
2017	6,006,389	1.1133	6,686,913	16,408,011
2018	5,421,768	1.0979	5,952,559	17,213,225
2019	4,076,893	1.1487	4,688,903 *	17,978,151

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 2019 reflect limitation on large claims,
see Exhibit V-J

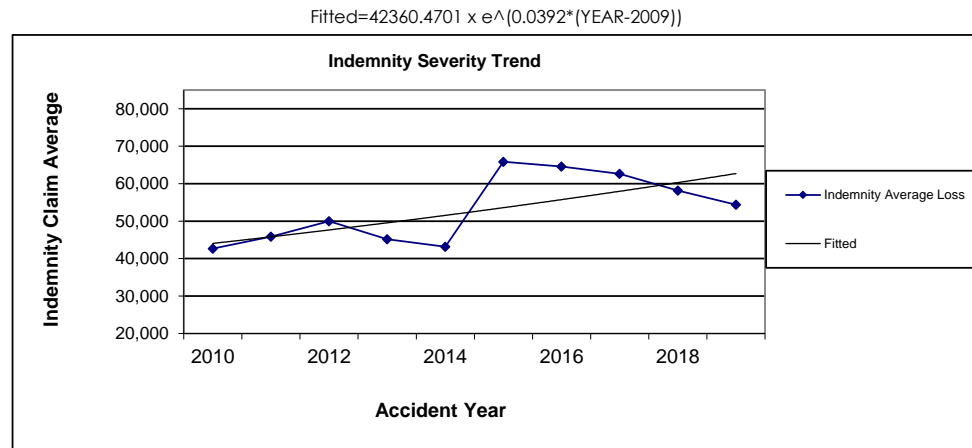
Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I
Page 1
Summary

Severity Trend

	(1)	(2)	(3)	(4)
Year	Ultimate Losses	Claim Counts	Average Loss	Annual Average Loss Change
2010	7,552,441	177	42,669	
2011	8,668,845	189	45,867	7.5%
2012	10,045,460	201	49,977	9.0%
2013	7,907,439	175	45,185	-9.6%
2014	12,477,324	289	43,174	-4.5%
2015	12,249,181	186	65,856	52.5%
2016	9,624,621	149	64,595	-1.9%
2017	10,771,503	172	62,625	-3.0%
2018	9,827,138	169	58,149	-7.1%
2019	9,304,032 *	171	54,410	-6.4%

Indemnity Severity Trend Factor: 1.044
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 2019 reflect limitation on large claims,
see Exhibit V-J

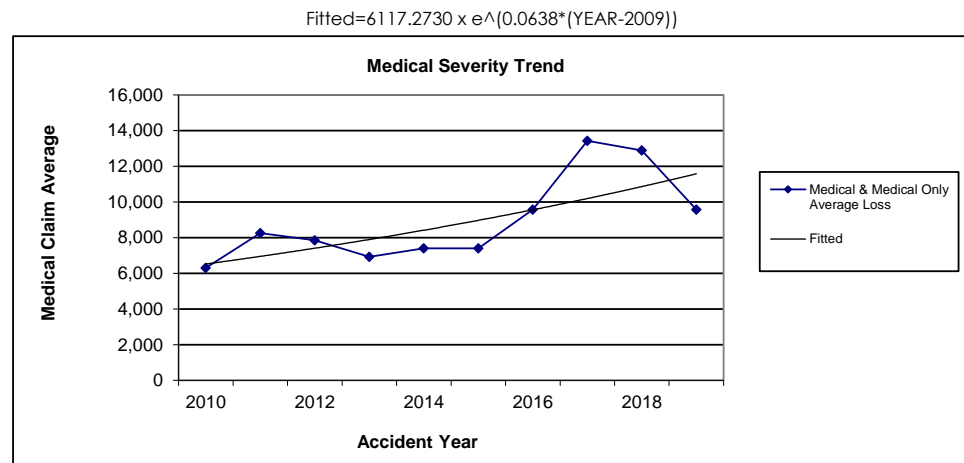
Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

Exhibit V-I
Page 2
Summary

Severity Trend

	(1)	(2)	(3)	(4)
<u>Year</u>	<u>Ultimate Losses</u>	<u>Claim Counts</u>	<u>Average Loss</u>	<u>Annual Average Loss Change</u>
2010	4,641,468	736	6,306	
2011	6,732,503	816	8,251	30.8%
2012	5,910,189	753	7,849	-4.9%
2013	4,528,185	654	6,924	-11.8%
2014	6,446,352	871	7,401	6.9%
2015	4,305,855	582	7,398	0.0%
2016	4,324,998	452	9,569	29.3%
2017	6,686,913	498	13,428	40.3%
2018	5,952,559	462	12,884	-4.1%
2019	4,688,903 *	490	9,569	-25.7%

Medical Severity Trend Factor: 1.081
Source: Summary Exhibit (V-K)



Sources:

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

* Note: Ultimate losses for 2019 reflect limitation on large claims, see Exhibit V-J

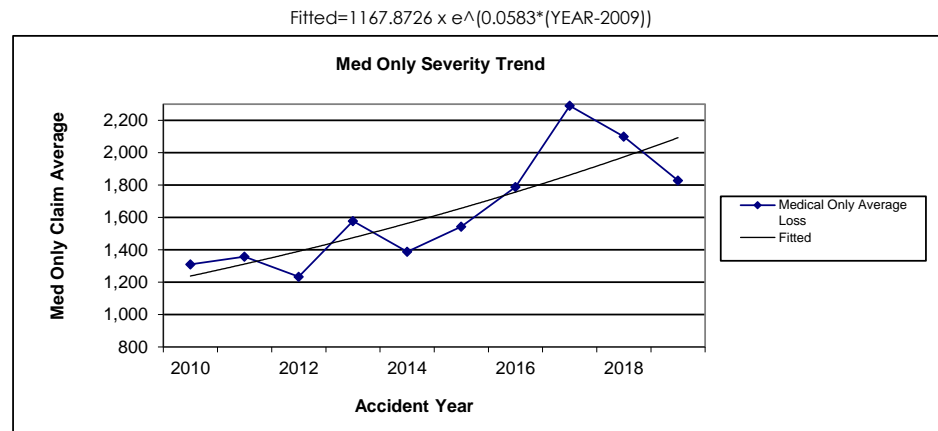
Traumatic Loss Trend
Medical Only Losses for All Classes Combined

Exhibit V-I
Page 3
Summary

Severity Trend

<u>Year</u>	(1) Ultimate Claim Counts	(2) Ultimate Incurred Losses	(3) Average Loss	(4) Annual Average Loss Change
2010	559	732,331	1,310	
2011	627	851,341	1,358	3.7%
2012	552	680,951	1,234	-9.1%
2013	479	756,064	1,578	27.9%
2014	582	808,080	1,388	-12.0%
2015	396	611,456	1,544	11.2%
2016	303	541,639	1,788	15.8%
2017	326	746,688	2,290	28.1%
2018	293	615,429	2,100	-8.3%
2019	319	583,177	1,828	-13.0%

Med. Only Severity Trend Factor: 1.074
Source: Summary Exhibit (V-K)



Sources:

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

Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

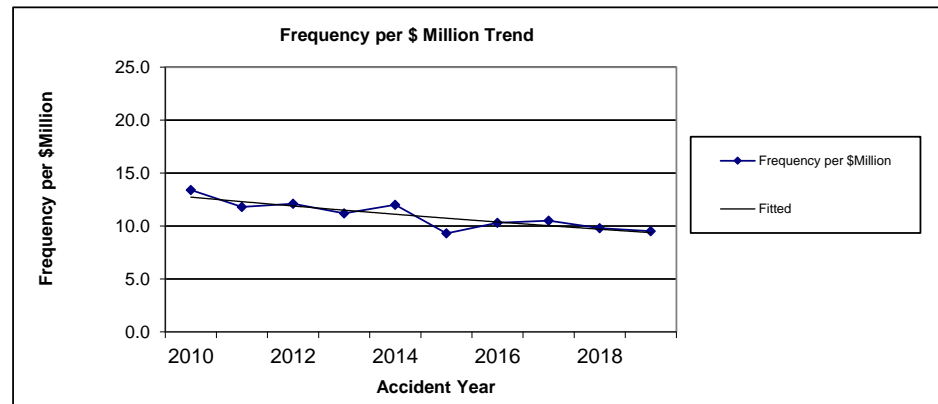
Exhibit V-I
Page 4
Summary

Frequency Trend

Year	(1) Ultimate Claim Counts	(2) Loss Cost Premium	(3) Frequency per(\$M)	(4) Annual Average Loss Change
2010	177	13,191,068	13.4	
2011	189	16,066,739	11.8	-11.9%
2012	201	16,661,417	12.1	2.5%
2013	175	15,621,068	11.2	-7.4%
2014	289	24,068,030	12.0	7.1%
2015	186	20,074,359	9.3	-22.5%
2016	149	14,437,254	10.3	10.8%
2017	172	16,408,011	10.5	1.9%
2018	169	17,213,225	9.8	-6.7%
2019	171	17,978,151	9.5	-3.1%

Frequency per \$Million Trend Factor: 0.968
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 13.1641 \times e^{(-0.0340 \times (\text{YEAR} - 2009))}$$



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'

Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

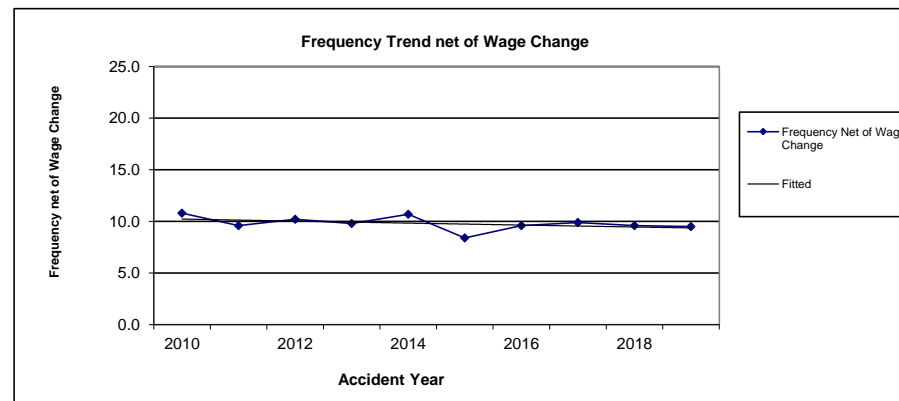
Exhibit V-I
Page 5
Summary

Frequency Trend Net of Wage Trend

Year	(1) Loss Cost <u>Premium</u>	(2) Statewide Average <u>Weekly Wage</u>	(3) On 2019 <u>Level</u>	(4) Loss Cost Premium <u>on 2019 Level</u>	(5) Claim <u>Counts</u>	(6) Adjusted Frequency <u>per(\$M)</u>	(7) Annual Frequency <u>Change</u>
2010	13,191,068	845	1.241	16,370,115	177	10.8	
2011	16,066,739	858	1.223	19,649,622	189	9.6	-11.1%
2012	16,661,417	888	1.181	19,677,133	201	10.2	6.3%
2013	15,621,068	917	1.144	17,870,502	175	9.8	-3.9%
2014	24,068,030	932	1.126	27,100,602	289	10.7	9.2%
2015	20,074,359	951	1.103	22,142,018	186	8.4	-21.5%
2016	14,437,254	978	1.073	15,491,174	149	9.6	14.3%
2017	16,408,011	995	1.054	17,294,044	172	9.9	3.1%
2018	17,213,225	1025	1.023	17,609,129	169	9.6	-3.0%
2019	17,978,151	1049	1.000	17,978,151	171	9.5	-1.0%

Frequency net of Wage Change Trend Factor: 0.993
Source: Summary Exhibit (V-K)

$$\text{Fitted} = 10.3271 \times e^{(-0.0097 * (\text{YEAR} - 2009))}$$



Sources:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2019 is 1.000. Values for other years divided into 2019 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

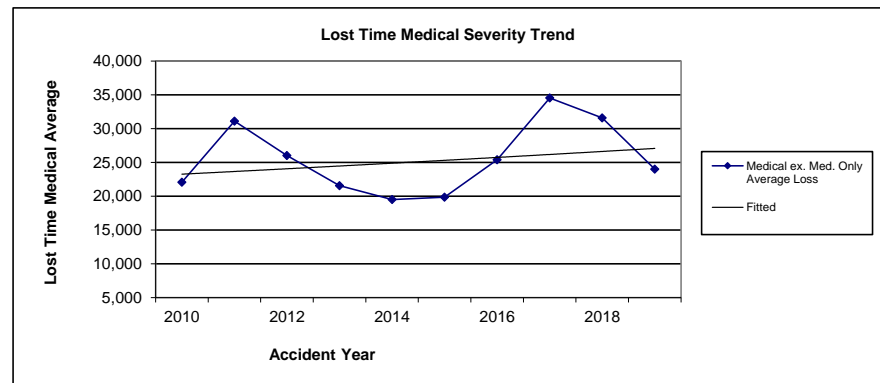
Traumatic Loss Trend
Medical (excl. Medical Only Losses) for All Classes Combined
Severity Trend

Exhibit V-I
Page 6
Summary

	(1)	(2)	(3)	(4)	(5)	(6)
	Ultimate	Med. Only	Ult. Med. On	Claim	Average	Annual
<u>Year</u>	<u>Medical Losses</u>	<u>Ultimate</u>	<u>Lost Time</u>	<u>Counts</u>	<u>Loss</u>	<u>Average Loss</u>
	<u>Incurred</u>	<u>Losses</u>	<u>Claims</u>			<u>Change</u>
2010	4,641,468	732,331	3,909,137	177	22,086	
2011	6,732,503	851,341	5,881,162	189	31,117	40.9%
2012	5,910,189	680,951	5,229,238	201	26,016	-16.4%
2013	4,528,185	756,064	3,772,121	175	21,555	-17.1%
2014	6,446,352	808,080	5,638,272	289	19,510	-9.5%
2015	4,305,855	611,456	3,694,399	186	19,862	1.8%
2016	4,324,998	541,639	3,783,359	149	25,392	27.8%
2017	6,686,913	746,688	5,940,225	172	34,536	36.0%
2018	5,952,559	615,429	5,337,130	169	31,581	-8.6%
2019	4,688,903 *	583,177	4,105,726	171	24,010	-24.0%

Lost Time Medical Severity Trend Factor: 1.030
Source: Summary Exhibit (V-K)

Fitted=22878.9257 x e^{^(0.0169*(YEAR-2009))}



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 2019 reflect limitation on large claims,
see Exhibit V-J

Coal Mine Compensation Rating Bureau

Exhibit V-J

Allocation of Claim 50505 Between Indemnity and Medical
Accident Year 2019

	Reported <u>Incurred</u>	Percent <u>Distribution</u>	Loss Development <u>Factor</u>	Developed <u>Losses</u>
Indemnity	850,650	97.7%	1.9988	1,700,279
Medical	<u>20,000</u>	<u>2.3%</u>	1.1487	<u>22,974</u>
	870,650	100.0%		1,723,253

Developed Incurred is greater than catastrophe limit (\$1.25M) so capping and allocation are necessary.

Total Reported Indemnity (2019) = 4,894,467

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	4,894,467	1.9988	9,783,061
This Claim	850,650	1.9988	1,700,279
Total Indemnity excluding this claim after development=			<u>-</u> 8,082,782

Maximum <u>Claim Size</u>	% <u>Indemnity</u>	Limited <u>Indemnity</u>
1,250,000	97.7%	1,221,250

Total developed Indemnity including these limited claims = 9,304,032

Total Reported Medical (2019) = 4,076,893

	(1) <u>Incurred</u>	(2) <u>LDF</u>	(3) = (1)x(2)
Total	4,076,893	1.1487	4,683,127
This Claim	20,000	1.1487	22,974
Total Medical excluding this claim after development=			<u>-</u> 4,660,153

Maximum <u>Claim Size</u>	% <u>Medical</u>	Limited <u>Medical</u>
1,250,000	2.3%	28,750

Total developed Medical including this limited claim = 4,688,903

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	103.4%	103.0%	102.4%	104.6%	104.4%	104.1%	103.7%	Severity
	Moving Average	Indemnity	103.4%	103.7%	104.8%	105.0%	105.6%	107.6%	105.0%	Severity
									104.4%	Average
V-I-2	Traditional	Total Medical	105.7%	104.1%	105.5%	108.8%	107.5%	110.1%	107.0%	Severity
	Moving Average	Total Medical	107.0%	107.7%	110.1%	108.2%	109.3%	112.8%	109.2%	Severity
									108.1%	Average
V-I-3	Traditional	Medical Only	104.9%	105.2%	106.5%	106.7%	107.3%	109.5%	106.7%	Severity
	Moving Average	Medical Only	106.9%	106.9%	108.2%	108.0%	108.2%	110.1%	108.1%	Severity
									107.4%	Average
V-I-4	Traditional	Frequency	96.4%	97.2%	96.7%	96.3%	97.2%	96.6%	96.7%	Frequency
	Moving Average	Frequency	96.8%	97.3%	96.5%	96.8%	97.3%	96.4%	96.9%	Frequency
									96.8%	Average
V-I-5	Traditional	Frequency	98.8%	99.7%	99.1%	98.7%	99.7%	99.0%	99.2%	Frequency
	Moving Average	Frequency	99.3%	99.7%	99.0%	99.2%	99.6%	98.8%	99.3%	Frequency
									99.3%	Average
V-I-6	Traditional	Medical Ex. M.O.	101.3%	99.0%	101.4%	103.7%	101.3%	105.0%	102.0%	Severity
	Moving Average	Medical Ex. M.O.	101.8%	102.3%	106.1%	102.4%	103.0%	108.1%	104.0%	Severity
									103.0%	Average
			<u>Average Frequency Indication</u>							
	Traditional	Trad Freq	96.4%	97.2%	96.7%	96.3%	97.2%	96.6%	96.7%	
	Moving Average	MA Freq	96.8%	97.3%	96.5%	96.8%	97.2%	96.4%	96.8%	
									96.8%	

	Indemnity	Medical
Selected Frequency Factor	97.25% *	97.25% *
Selected Severity Factor	103.00% **	105.00% ***
Composite Trend Factor	100.20%	102.10%

* Selected Frequency Trend - see Actuarial Report

** Selected Indemnity Severity Trend - see Actuarial Report

*** Selected Medical Severity Trend - see Actuarial Report

Approved 4-1-2020 [101.1%](#) [102.1%](#)

Selected 4-1-2021 [100.2%](#) **** [102.1%](#) ****

**** 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

	(1)	(2)	(3)	(4)	(5)	(6)
Year	Ultimate Losses	Claim Counts	Average Loss	Annual Average Loss Change	3-Year Moving Average	Annual Mov. Avg. Change
2010	7,552,441	177	42,669			
2011	8,668,845	189	45,867	7.5%		
2012	10,045,460	201	49,977	9.0%	46,171	
2013	7,907,439	175	45,185	-9.6%	47,010	1.8%
2014	12,477,324	289	43,174	-4.5%	46,112	-1.9%
2015	12,249,181	186	65,856	52.5%	51,405	11.5%
2016	9,624,621	149	64,595	-1.9%	57,875	12.6%
2017	10,771,503	172	62,625	-3.0%	64,359	11.2%
2018	9,827,138	169	58,149	-7.1%	61,790	-4.0%
2019	9,304,032 *	171	54,410	-6.4%	58,395	-5.5%

Analysis performed on data for 2010 through 2019.	Geometric Average:	2.7%	3.4%	Ests. 1 & 2
	Regression Indication:	4.0%		
	Selected:	3.4%	3.4%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	2.2%	3.7%	Ests. 3 & 4
	Regression Indication:	3.7%		
	Selected:	3.0%	3.7%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	1.2%	4.8%	Ests. 5 & 6
	Regression Indication:	3.6%		
	Selected:	2.4%	4.8%	

* Note: Ultimate losses for 2019 reflect limitation on large claims,
see Exhibit V-J

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
2010	4,641,468	736	6,306			
2011	6,732,503	816	8,251	30.8%		
2012	5,910,189	753	7,849	-4.9%	7,469	
2013	4,528,185	654	6,924	-11.8%	7,675	2.8%
2014	6,446,352	871	7,401	6.9%	7,391	-3.7%
2015	4,305,855	582	7,398	0.0%	7,241	-2.0%
2016	4,324,998	452	9,569	29.3%	8,123	12.2%
2017	6,686,913	498	13,428	40.3%	10,132	24.7%
2018	5,952,559	462	12,884	-4.1%	11,960	18.0%
2019	4,688,903 *	490	9,569	-25.7%	11,960	0.0%

Analysis performed on data for 2010 through 2019.	Geometric Average:	4.7%	7.0%	Ests. 1 & 2
	Regression Indication:	6.6%		
	Selected:	5.7%	7.0%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	1.9%	7.7%	Ests. 3 & 4
	Regression Indication:	6.3%		
	Selected:	4.1%	7.7%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	2.9%	10.1%	Ests. 5 & 6
	Regression Indication:	8.1%		
	Selected:	5.5%	10.1%	

* Note: Ultimate losses for 2019 reflect limitation on large claims,
see Exhibit V-J

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

Year	(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
2010	559	732,331	1,310			
2011	627	851,341	1,358	3.7%		
2012	552	680,951	1,234	-9.1%	1,301	
2013	479	756,064	1,578	27.9%	1,390	6.8%
2014	582	808,080	1,388	-12.0%	1,400	0.7%
2015	396	611,456	1,544	11.2%	1,503	7.4%
2016	303	541,639	1,788	15.8%	1,573	4.7%
2017	326	746,688	2,290	28.1%	1,874	19.1%
2018	293	615,429	2,100	-8.3%	2,059	9.9%
2019	319	583,177	1,828	-13.0%	2,073	0.7%

Analysis performed on data for 2010 through 2019.	Geometric Average:	3.8%	6.9%	Ests. 1 & 2
	Regression Indication:	6.0%		
	Selected:	4.9%	6.9%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	3.8%	6.9%	Ests. 3 & 4
	Regression Indication:	6.5%		
	Selected:	5.2%	6.9%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	5.8%	8.2%	Ests. 5 & 6
	Regression Indication:	7.2%		
	Selected:	6.5%	8.2%	

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
2010	177	13,191,068	13.4			
2011	189	16,066,739	11.8	-11.9%		
2012	201	16,661,417	12.1	2.5%	12.4	
2013	175	15,621,068	11.2	-7.4%	11.7	-5.6%
2014	289	24,068,030	12.0	7.1%	11.8	0.9%
2015	186	20,074,359	9.3	-22.5%	10.8	-8.5%
2016	149	14,437,254	10.3	10.8%	10.5	-2.8%
2017	172	16,408,011	10.5	1.9%	10.0	-4.8%
2018	169	17,213,225	9.8	-6.7%	10.2	2.0%
2019	171	17,978,151	9.5	-3.1%	9.9	-2.9%

Analysis performed on data for 2010 through 2019.	Geometric Average:	-3.8%	-3.2%	Ests. 1 & 2
	Regression Indication:	-3.3%		
	Selected:	-3.6%	-3.2%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	-2.7%	-2.7%	Ests. 3 & 4
	Regression Indication:	-2.9%		
	Selected:	-2.8%	-2.7%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-3.4%	-3.5%	Ests. 5 & 6
	Regression Indication:	-3.1%		
	Selected:	-3.3%	-3.5%	

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-I
Page 5
Estimates 01-06

Frequency Trend Net of Wage Trend

Year	(1) Loss Cost <u>Premium</u>	(2) Statewide Average <u>Weekly Wage</u>	(3) On 2019 <u>Level</u>	(4) Loss Cost Premium <u>on 2019 Level</u>	(5) Claim Counts	(6) Adjusted Frequency per(\$M)	(7) Annual Frequency <u>Change</u>	(8) 3-Year Moving <u>Average</u>	(9) Annual Mov. Avg. <u>Change</u>
2010	13,191,068	845	1.241	16,370,115	177	10.8			
2011	16,066,739	858	1.223	19,649,622	189	9.6	-11.1%		
2012	16,661,417	888	1.181	19,677,133	201	10.2	6.3%	10.2	
2013	15,621,068	917	1.144	17,870,502	175	9.8	-3.9%	9.9	-2.9%
2014	24,068,030	932	1.126	27,100,602	289	10.7	9.2%	10.2	3.0%
2015	20,074,359	951	1.103	22,142,018	186	8.4	-21.5%	9.6	-5.9%
2016	14,437,254	978	1.073	15,491,174	149	9.6	14.3%	9.6	0.0%
2017	16,408,011	995	1.054	17,294,044	172	9.9	3.1%	9.3	-3.1%
2018	17,213,225	1025	1.023	17,609,129	169	9.6	-3.0%	9.7	4.3%
2019	17,978,151	1049	1.000	17,978,151	171	9.5	-1.0%	9.7	0.0%

Analysis performed on data for 2010 through 2019.	Geometric Average:	-1.4%	-0.7%	Ests. 1 & 2
	Regression Indication:	-1.0%		
	Selected:	-1.2%	-0.7%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	-0.1%	-0.3%	Ests. 3 & 4
	Regression Indication:	-0.5%		
	Selected:	-0.3%	-0.3%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-1.0%	-1.0%	Ests. 5 & 6
	Regression Indication:	-0.8%		
	Selected:	-0.9%	-1.0%	

Sources:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2019 is 1.000. Values for other years divided into 2019 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

Severity Trend

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ultimate Medical Losses	Med. Only Ultimate Incurred	Ult. Med. On Lost Time	Claim Counts	Average Loss	Annual Average Loss Change	3-Year Moving Average	Annual Mov. Avg. Change
<u>Year</u>	<u>Incurred</u>	<u>Losses</u>	<u>Claims</u>	<u>Counts</u>	<u>Loss</u>	<u>Change</u>	<u>Average</u>	<u>Change</u>
2010	4,641,468	732,331	3,909,137	177	22,086			
2011	6,732,503	851,341	5,881,162	189	31,117	40.9%		
2012	5,910,189	680,951	5,229,238	201	26,016	-16.4%	26,406	
2013	4,528,185	756,064	3,772,121	175	21,555	-17.1%	26,229	-0.7%
2014	6,446,352	808,080	5,638,272	289	19,510	-9.5%	22,360	-14.8%
2015	4,305,855	611,456	3,694,399	186	19,862	1.8%	20,309	-9.2%
2016	4,324,998	541,639	3,783,359	149	25,392	27.8%	21,588	6.3%
2017	6,686,913	746,688	5,940,225	172	34,536	36.0%	26,597	23.2%
2018	5,952,559	615,429	5,337,130	169	31,581	-8.6%	30,503	14.7%
2019	4,688,903 *	583,177	4,105,726	171	24,010	-24.0%	30,042	-1.5%

Analysis performed on data for 2010 through 2019.	Geometric Average:	0.9%	1.8%	Ests. 1 & 2
	Regression Indication:	1.7%		
	Selected:	1.3%	1.8%	
Analysis performed on data for 2011 through 2019.	Geometric Average:	-3.2%	2.3%	Ests. 3 & 4
	Regression Indication:	1.3%		
	Selected:	-1.0%	2.3%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-1.2%	6.1%	Ests. 5 & 6
	Regression Indication:	4.0%		
	Selected:	1.4%	6.1%	

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 2019 reflect limitation on large claims,
see Exhibit V-J

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>
2010	7,552,441	177	42,669			
2011	8,668,845	189	45,867	7.5%		
2012	10,045,460	201	49,977	9.0%	46,171	
2013	7,907,439	175	45,185	-9.6%	47,010	1.8%
2014	12,477,324	289	43,174	-4.5%	46,112	-1.9%
2015	12,249,181	186	65,856	52.5%	51,405	11.5%
2016	9,624,621	149	64,595	-1.9%	57,875	12.6%
2017	10,771,503	172	62,625	-3.0%	64,359	11.2%
2018	9,827,138	169	58,149	-7.1%	61,790	-4.0%

Analysis performed on data for 2010 through 2018.	Geometric Average:	4.0%	5.0%	Ests. 7 & 8
	Regression Indication:	5.2%		
	Selected:	4.6%	5.0%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	3.5%	5.6%	Ests. 9 & 10
	Regression Indication:	5.2%		
	Selected:	4.4%	5.6%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	2.6%	7.6%	Ests. 11 & 12
	Regression Indication:	5.5%		
	Selected:	4.1%	7.6%	

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 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>
2010	4,641,468	736	6,306			
2011	6,732,503	816	8,251	30.8%		
2012	5,910,189	753	7,849	-4.9%	7,469	
2013	4,528,185	654	6,924	-11.8%	7,675	2.8%
2014	6,446,352	871	7,401	6.9%	7,391	-3.7%
2015	4,305,855	582	7,398	0.0%	7,241	-2.0%
2016	4,324,998	452	9,569	29.3%	8,123	12.2%
2017	6,686,913	498	13,428	40.3%	10,132	24.7%
2018	5,952,559	462	12,884	-4.1%	11,960	18.0%

Analysis performed on data for 2010 through 2018.	Geometric Average:	9.3%	8.2%	Ests. 7 & 8
	Regression Indication:	8.3%		
	Selected:	8.8%	8.2%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	6.6%	9.3%	Ests. 9 & 10
	Regression Indication:	8.4%		
	Selected:	7.5%	9.3%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	8.6%	12.8%	Ests. 11 & 12
	Regression Indication:	11.6%		
	Selected:	10.1%	12.8%	

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 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
2010	559	732,331	1,310			
2011	627	851,341	1,358	3.7%		
2012	552	680,951	1,234	-9.1%	1,301	
2013	479	756,064	1,578	27.9%	1,390	6.8%
2014	582	808,080	1,388	-12.0%	1,400	0.7%
2015	396	611,456	1,544	11.2%	1,503	7.4%
2016	303	541,639	1,788	15.8%	1,573	4.7%
2017	326	746,688	2,290	28.1%	1,874	19.1%
2018	293	615,429	2,100	-8.3%	2,059	9.9%

Analysis performed on data for 2010 through 2018.	Geometric Average:	6.1%	8.0%	Ests. 7 & 8
	Regression Indication:	7.2%		
	Selected:	6.7%	8.0%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	6.4%	8.2%	Ests. 9 & 10
	Regression Indication:	8.2%		
	Selected:	7.3%	8.2%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	9.3%	10.1%	Ests. 11 & 12
	Regression Indication:	9.7%		
	Selected:	9.5%	10.1%	

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 07-12

Frequency Trend

<u>Year</u>	(1) <u>Ultimate Claim Counts</u>	(2) <u>Loss Cost Premium</u>	(3) <u>Frequency per(\$M)</u>	(4) <u>Annual Average Loss Change</u>	(5) <u>3-Year Moving Average</u>	(6) <u>Annual Mov. Avg. Change</u>
2010	177	13,191,068	13.4			
2011	189	16,066,739	11.8	-11.9%		
2012	201	16,661,417	12.1	2.5%	12.4	
2013	175	15,621,068	11.2	-7.4%	11.7	-5.6%
2014	289	24,068,030	12.0	7.1%	11.8	0.9%
2015	186	20,074,359	9.3	-22.5%	10.8	-8.5%
2016	149	14,437,254	10.3	10.8%	10.5	-2.8%
2017	172	16,408,011	10.5	1.9%	10.0	-4.8%
2018	169	17,213,225	9.8	-6.7%	10.2	2.0%

Analysis performed on data for 2010 through 2018.	Geometric Average:	-3.8%	-3.2%	Ests. 7 & 8
	Regression Indication:	-3.5%		
	Selected:	-3.7%	-3.2%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	-2.6%	-2.7%	Ests. 9 & 10
	Regression Indication:	-3.0%		
	Selected:	-2.8%	-2.7%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	-3.5%	-3.6%	Ests. 11 & 12
	Regression Indication:	-3.2%		
	Selected:	-3.4%	-3.6%	

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 <u>Premium</u>	(2) Statewide Average <u>Weekly Wage</u>	(3) On 2019 <u>Level</u>	(4) Loss Cost Premium <u>on 2019 Level</u>	(5) Claim Counts	(6) Adjusted Frequency per(\$M)	(7) Annual Frequency Change	(8) 3-Year Moving Average	(9) Annual Mov. Avg. Change
2010	13,191,068	845	1.241	16,370,115	177	10.8			
2011	16,066,739	858	1.223	19,649,622	189	9.6	-11.1%		
2012	16,661,417	888	1.181	19,677,133	201	10.2	6.3%	10.2	
2013	15,621,068	917	1.144	17,870,502	175	9.8	-3.9%	9.9	-2.9%
2014	24,068,030	932	1.126	27,100,602	289	10.7	9.2%	10.2	3.0%
2015	20,074,359	951	1.103	22,142,018	186	8.4	-21.5%	9.6	-5.9%
2016	14,437,254	978	1.073	15,491,174	149	9.6	14.3%	9.6	0.0%
2017	16,408,011	995	1.054	17,294,044	172	9.9	3.1%	9.3	-3.1%
2018	17,213,225	1,025	1.023	17,609,129	169	9.6	-3.0%	9.7	4.3%

Analysis performed on data for 2010 through 2018.	Geometric Average:	-1.4%	-0.8%	Ests.
	Regression Indication:	-1.1%		7 & 8
	Selected:	-1.3%	-0.8%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	0.0%	-0.4%	Ests.
	Regression Indication:	-0.5%		9 & 10
	Selected:	-0.3%	-0.4%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	-1.0%	-1.2%	Ests.
	Regression Indication:	-1.0%		11 & 12
	Selected:	-1.0%	-1.2%	

Source:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) See Exhibit V-I-5 Estimates 01-06.
- (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 Medical Losses Incurred	Med. Only Ultimate Incurred Losses	Ult. Med. On Lost Time Claims	Claim Counts	Average Loss	Annual Average Loss Change	3-Year Moving Average	Annual Mov. Avg. Change
Year								
2010	4,641,468	732,331	3,909,137	177	22,086			
2011	6,732,503	851,341	5,881,162	189	31,117	40.9%		
2012	5,910,189	680,951	5,229,238	201	26,016	-16.4%	26,406	
2013	4,528,185	756,064	3,772,121	175	21,555	-17.1%	26,229	-0.7%
2014	6,446,352	808,080	5,638,272	289	19,510	-9.5%	22,360	-14.8%
2015	4,305,855	611,456	3,694,399	186	19,862	1.8%	20,309	-9.2%
2016	4,324,998	541,639	3,783,359	149	25,392	27.8%	21,588	6.3%
2017	6,686,913	746,688	5,940,225	172	34,536	36.0%	26,597	23.2%
2018	5,952,559	615,429	5,337,130	169	31,581	-8.6%	30,503	14.7%

Analysis performed on data for 2010 through 2018.	Geometric Average:	4.6%	2.4%	Ests. 7 & 8
	Regression Indication:	2.7%		
	Selected:	3.7%	2.4%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	0.2%	3.0%	Ests. 9 & 10
	Regression Indication:	2.4%		
	Selected:	1.3%	3.0%	
Analysis performed on data for 2012 through 2018.	Geometric Average:	3.3%	8.1%	Ests. 11 & 12
	Regression Indication:	6.6%		
	Selected:	5.0%	8.1%	

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)x100

Exhibit VI-A
Page 1

Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
1	7,495,224	6,865,290	5,169,557	4,616,566	3,404,097	3,705,402	4,478,660	5,436,836	4,367,449	4,077,968	6,150,319	3,325,544	3,275,884	5,594,328	2,447,080	3,188,490	3,669,341	3,724,530	3,455,344	7,192,624	6,961,079	4,871,955	5,741,961	5,566,332	4,894,467	
2	10,132,595	9,862,300	7,204,997	6,425,692	5,685,213	6,056,207	7,551,263	8,904,201	6,352,445	6,450,455	9,269,896	5,595,218	5,094,625	6,615,460	4,426,812	4,704,074	6,714,362	6,826,563	6,561,596	11,723,305	9,306,469	7,983,656	8,233,729	7,734,859		
3	10,822,307	10,812,980	7,650,302	7,184,304	6,107,512	6,887,906	7,965,255	10,824,370	6,965,973	7,304,561	10,301,194	5,998,029	6,026,129	8,947,874	5,084,862	5,837,644	8,225,491	8,319,223	7,346,985	11,781,410	11,330,911	8,661,045	9,841,483			
4	11,321,620	10,935,657	7,955,452	7,644,338	7,314,026	7,362,001	8,490,153	7,666,090	7,287,256	7,268,321	10,018,140	5,597,263	6,053,552	9,233,530	5,276,335	6,918,124	8,373,419	9,121,284	7,461,258	12,108,278	11,602,180	9,151,489				
5	12,031,334	11,473,813	8,698,833	8,242,894	7,591,552	7,291,553	8,760,507	12,323,050	8,286,573	7,374,171	12,453,149	5,496,933	6,217,757	9,406,949	5,433,501	7,301,176	8,616,232	9,293,673	7,695,409	12,255,326	11,946,924					
6	12,009,191	12,045,582	8,527,476	8,275,893	7,679,135	7,454,081	8,994,827	13,133,004	8,109,584	7,418,021	11,984,386	5,215,101	6,349,621	9,432,764	5,295,524	7,158,740	8,635,331	9,459,392	7,652,267	12,193,222						
7	12,001,044	11,885,455	8,464,405	7,685,857	7,462,274	7,685,857	8,879,879	12,772,686	8,140,325	7,478,216	12,178,272	5,237,407	6,471,573	9,542,759	5,295,524	7,274,640	8,518,115	9,796,893	7,741,765							
8	11,831,342	12,057,750	8,453,559	8,382,835	7,718,721	7,475,918	8,693,906	12,539,319	7,865,421	7,498,081	12,484,769	5,251,578	6,933,809	9,453,964	5,295,524	7,246,831	8,518,112	9,853,320								
9	11,903,088	12,181,640	8,385,552	8,467,821	7,754,976	7,486,544	8,481,353	12,455,797	7,459,231	7,539,604	12,600,820	5,372,852	6,720,431	9,672,629	5,295,524	7,433,505	8,518,075									
10	11,956,190	12,047,901	8,461,485	8,565,347	8,091,638	7,480,132	8,515,273	12,228,895	7,494,451	7,586,354	12,368,018	5,948,585	6,652,402	9,452,432	5,295,724	7,433,505										
11	11,961,066	12,121,809	8,504,790	8,647,604	8,094,480	7,481,252	8,549,118	12,023,866	7,400,303	7,633,071	12,470,444	6,000,946	6,693,877	9,539,005	5,425,367											
12	11,959,550	12,194,216	8,674,576	8,654,986	8,095,907	7,481,862	8,582,610	12,101,118	7,425,395	7,603,806	12,133,479	5,875,552	7,052,471	9,562,275												
13	11,968,738	12,323,984	8,712,300	8,662,379	8,054,458	7,481,735	8,612,926	12,053,898	7,450,178	7,631,230	12,176,584	5,890,328	7,174,716													
14	11,976,248	12,373,446	8,797,458	8,760,619	8,050,069	7,481,735	8,419,199	11,535,171	7,474,462	7,660,556	12,084,066	5,905,903														
15	12,153,996	12,414,145	8,824,907	8,763,703	8,050,069	7,481,735	8,433,117	11,541,679	7,498,496	7,687,823	11,732,109															
16	12,270,702	12,454,657	8,629,585	8,763,787	8,050,069	7,481,735	8,431,001	11,531,779	7,522,284	7,715,319																
17	12,278,302	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808																	
18	12,305,704	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724																		
19	12,302,583	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632																			
20	12,309,663	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735																				

B. Act 57 Indemnity Law Adjustment Factors

[illegible]

C. Indemnity Incurred Losses Adjusted to Act 57 Law Level as of 04/30/20

1	6,181,000	6,090,000	5,169,557	4,616,566	3,404,097	3,705,402	4,478,660	5,436,836	4,367,449	4,077,968	6,150,319	3,325,544	3,275,884	5,594,328	2,447,080	3,188,490	3,669,341	3,724,530	3,455,344	7,192,624	6,961,079	4,871,955	5,741,961	5,566,332	4,894,467
2	8,356,000	8,749,000	7,204,997	6,425,692	5,685,213	6,056,207	7,551,263	8,904,201	6,352,445	6,450,455	9,269,896	5,595,218	5,094,625	6,615,460	4,426,812	4,704,074	6,714,362	6,826,563	6,561,596	11,723,305	9,306,469	7,983,656	8,233,729	7,734,859	
3	8,925,000	9,592,000	7,650,302	7,184,304	6,107,512	6,887,906	7,965,255	10,824,370	6,965,973	6,301,194	5,998,029	6,026,129	8,947,874	5,084,862	5,837,644	8,225,491	8,319,223	7,346,985	11,781,410	11,330,911	8,661,045	9,841,483			
4	9,337,000	9,701,000	7,955,452	7,644,338	7,314,026	7,362,001	8,490,153	11,966,090	7,287,256	7,268,321	12,018,140	5,597,263	6,053,552	9,233,530	5,276,335	6,918,124	8,373,419	9,121,284	7,461,258	12,108,278	11,602,180	9,151,489			
5	9,922,000	10,178,000	8,698,833	8,242,894	7,591,552	7,291,553	8,760,507	12,323,050	8,286,573	7,374,171	12,453,149	5,496,933	6,217,757	9,406,949	5,433,501	7,301,176	8,616,232	9,293,673	7,695,409	12,255,326	11,946,924				
6	9,904,000	10,686,000	8,527,476	8,275,893	7,679,135	7,454,081	8,994,827	13,133,004	8,109,584	7,418,021	11,984,386	5,215,101	6,349,621	9,432,764	5,295,524	7,158,740	8,635,331	9,459,392	7,652,267	12,193,222					
7	9,897,000	10,632,000	8,464,405	8,429,042	7,685,857	7,462,274	8,879,879	12,772,686	8,140,325	7,469,216	12,178,272	5,237,407	6,471,573	9,542,759	5,295,524	7,274,640	8,518,115	9,796,893	7,741,765						
8	9,757,000	10,696,000	8,453,559	8,382,835	7,718,721	7,475,918	8,693,906	12,539,319	7,865,421	7,498,081	12,484,769	5,251,578	6,933,809	9,453,964	5,295,524	7,246,831	8,518,112	9,853,320							
9	9,816,000	10,806,000	8,385,552	8,467,821	7,754,976	7,486,544	8,481,353	12,455,797	7,459,231	7,539,604	12,600,820	5,372,852	6,720,431	9,672,629	5,295,524	7,433,505	8,518,075								
10	9,860,000	10,688,000	8,461,485	8,565,347	8,091,638	7,480,132	8,515,273	12,228,895	7,494,451	7,586,354	12,608,018	5,948,585	6,652,402	9,452,432	5,295,724	7,433,505									
11	9,864,000	10,753,000	8,504,790	8,647,604	8,094,480	7,481,252	8,549,118	12,023,866	7,400,303	7,633,071	12,470,444	6,000,946	6,693,877	9,539,005	5,425,367										
12	9,863,000	10,817,000	8,674,576	8,654,986	8,095,907	7,481,862	8,582,610	12,101,118	7,425,395	7,603,806	12,133,479	5,875,552	7,052,471	9,562,275											
13	9,871,000	10,933,000	8,712,300	8,662,379	8,054,458	7,481,735	8,612,926	12,053,898	7,450,178	7,631,230	12,176,584	5,890,328	7,174,716												
14	9,877,000	10,976,000	8,797,458	8,760,619	8,050,069	7,481,735	8,419,199	11,535,171	7,474,462	7,660,556	12,084,066	5,905,903													
15	10,023,000	11,013,000	8,824,907	8,763,703	8,050,069	7,481,735	8,433,117	11,541,679	7,498,496	7,687,823	11,732,109														
16	10,120,000	11,049,000	8,629,585	8,763,787	8,050,069	7,481,735	8,431,001	11,531,779	7,522,284	7,715,319															
17	10,126,000	11,084,000	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808																
18	10,149,000	11,119,000	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724																	
19	10,146,000	11,158,000	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632																		
20	10,152,000	11,193,000	8,812,465	8,772,260	8,050,069	7,481,735																			

Note: Reported Losses times Act 57 factors equals Indemnity Incurred Losses on Act 57 level.

Source: A. CMCRB Database as of 04/30/20 - Validated 08/06/20

B. Act 57 Indemnity Law Factor of 0.8247, 0.8871 (1996) and 1.000

C. A times B equals C

Note: Reported Losses times Act 57 factors equals Indemnity Incurred Losses on Act 57 level.

Source: A. CMCRB Database as of 04/30/20 - Validated 08/06/20
B. Act 57 Indemnity Law Factor of 0.8247, 0.8871 (1996) and 1.000
C. A times B equals C

Exhibit VI-A
Page 2

B. Effect of Claim Settlement Levels Only = (Losses adjusted by Act 57 Law Adj. Factors and Claim Settlement Levels (Exhibit VI-A, page 3) divided by Losses adjusted by Act 57 Law Adj. Factors only (Exhibit VI-A, page 1))

Example: 1995 (2) 0.8447 (Page 3)
divided by 0.8247
equals 1.0243

Source: A. Exhibit VI-A, p. 1 (C)
B. Section C / Section A
C. Exhibit VI-A, p. 3 (C)

Exhibit VI-A
Page 3

Claim Settlement Level Additions are multiplied by the percentages at the top of each column.

Selected Years 0 to 10		Selected Years 11 to 20	
<u>Claim Settlement Level Additives</u>		<u>Claim Settlement Level Additives</u>	
9th Last	+2.0% per year	14th Last	+1.2% per year
8th Last	+2.0% per year	13th Last	+1.2% per year
7th Last	+2.0% per year	12th Last	+1.2% per year
6th Last	+2.0% per year	11th Last	+1.2% per year
5th Last	+1.5% per year	10th Last	+0.9% per year
4th Last	+1.0% per year	9th Last	+0.6% per year
3rd Last	+0.5% per year	8th Last	+0.3% per year
2nd Last	+0.5% per year	7th Last	+0.2% per year
1st Last	+0.5% per year	6th Last	+0.2% per year
		5th Last	+0.2% per year
		4th Last	+0.1% per year
		3rd Last	+0.0% per year
		2nd Last	+0.0% per year
		1st Last	+0.0% per year

Note: 1996 Adjustment Factors are capped at a maximum of 1.0000
The factors in section B were taken unchanged from the corresponding section of last year's (Approved) filing.

Source: A. Exhibit VI-A, p. 1 (A)
B. Act 57 and Claim Settlement Levels Combined
Exhibit VI-A-5a, VI-A-5b, VI-A-5c
C. A times B equals C

A. Indemnity Reported Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/20																									
Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	6,181,000	6,228,000	5,169,557	4,616,566	3,404,097	3,705,402	4,478,660	5,436,836	4,367,449	4,077,968	6,150,319	3,325,544	3,275,884	5,594,328	2,447,080	3,188,490	3,669,341	3,724,530	3,455,344	7,192,624	6,961,079	4,871,955	5,741,961	5,566,332	4,894,467
2	8,559,000	9,143,000	7,204,997	6,425,692	5,685,213	6,056,207	7,551,263	8,904,201	6,352,445	6,450,455	9,269,896	5,595,218	5,094,625	6,615,460	4,426,812	4,704,074	6,714,362	6,826,563	6,561,596	11,723,305	9,306,469	7,983,656	8,233,729	7,734,859	
3	9,358,000	10,241,000	7,650,302	7,184,304	6,107,512	6,887,906	7,965,255	10,824,370	6,965,973	7,304,561	10,301,194	5,998,029	6,026,129	8,947,874	5,084,862	5,837,644	8,225,491	8,319,223	7,346,985	11,781,410	11,330,911	8,661,045	9,841,483		
4	10,016,000	10,576,000	7,955,452	7,644,338	7,314,026	7,362,001	8,490,153	11,966,090	7,287,256	7,268,321	12,018,140	5,597,263	6,053,552	9,233,530	5,276,335	6,918,124	8,373,419	9,121,284	7,461,258	12,108,278	11,602,180	9,151,489			
5	10,885,000	11,268,000	8,698,833	8,242,894	7,591,552	7,291,553	8,760,507	12,323,050	8,286,573	7,374,171	12,453,149	5,496,933	6,217,757	9,406,949	5,433,501	7,301,176	8,616,232	9,293,673	7,695,409	12,255,326	11,946,924				
6	11,045,000	11,950,000	8,527,476	8,275,893	7,679,135	7,454,081	8,994,827	13,133,004	8,109,584	7,418,021	11,984,386	5,215,101	6,349,621	9,432,764	5,295,524	7,158,740	8,635,331	9,459,392	7,652,267	12,193,222					
7	11,157,000	11,951,000	8,464,405	8,429,042	7,685,857	7,462,274	8,879,879	12,772,686	8,140,325	7,469,216	12,178,272	5,237,407	6,471,573	9,542,759	5,295,524	7,274,640	8,518,115	9,796,893	7,741,765						
8	11,059,000	12,057,750	8,453,559	8,382,835	7,718,721	7,475,918	8,693,906	12,539,319	7,865,421	7,498,081	12,484,769	5,251,578	6,933,809	9,453,964	5,295,524	7,246,831	8,518,112	9,853,320							
9	11,185,000	12,181,640	8,385,552	8,467,821	7,754,976	7,486,544	8,481,353	12,455,797	7,459,231	7,539,604	12,600,820	5,372,852	6,720,431	9,672,629	5,295,524	7,433,505	8,518,075								
10	11,295,000	12,047,901	8,461,485	8,565,347	8,091,638	7,480,132	8,515,273	12,228,895	7,494,451	7,586,354	12,368,018	5,948,585	6,652,402	9,452,432	5,295,724	7,433,505									
11	11,324,000	12,121,809	8,504,790	8,647,604	8,094,480	7,481,252	8,549,118	12,023,866	7,400,303	7,633,071	12,470,444	6,000,946	6,693,877	9,539,005	5,425,367										
12	11,334,000	12,194,216	8,674,576	8,654,986	8,095,907	7,481,862	8,582,610	12,101,118	7,425,395	7,603,806	12,133,479	5,875,552	7,052,471	9,562,275											
13	11,343,000	12,323,984	8,712,300	8,662,379	8,054,458	7,481,735	8,612,926	12,053,898	7,450,178	7,631,230	12,176,584	5,890,328	7,174,716												
14	11,350,000	12,373,446	8,797,458	8,760,619	8,050,069	7,481,735	8,419,199	11,535,171	7,474,462	7,660,556	12,084,066	5,905,903													
15	11,518,000	12,414,145	8,824,907	8,763,703	8,050,069	7,481,735	8,433,117	11,541,679	7,498,496	7,687,823	11,732,109														
16	11,629,000	12,454,657	8,629,585	8,763,787	8,050,069	7,481,735	8,431,001	11,531,779	7,522,284	7,715,319															
17	11,636,000	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808																
18	11,662,000	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724																	
19	11,659,000	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632																		
20	11,666,000	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735																			

B. Annual Loss Development Factors																								
1:2															1.8090	1.4753	1.8299	1.8329	1.8990	1.6299	1.3369	1.6387	1.4340	1.3896
2:3														1.3526	1.1487	1.2410	1.2251	1.2187	1.1197	1.0050	1.2175	1.0848	1.1953	
3:4													1.0046	1.0319	1.0377	1.1851	1.0180	1.0964	1.0156	1.0277	1.0239	1.0566		
4:5														1.0271	1.0188	1.0298	1.0554	1.0290	1.0189	1.0314	1.0121	1.0297		
5:6										0.9624	0.9487	1.0212	1.0027	0.9746	0.9805	1.0022	1.0178	0.9944	0.9949					
6:7									1.0069	1.0162	1.0043	1.0192	1.0117	1.0000	1.0162	0.9864	1.0357	1.0117						
7:8							0.9662	1.0039	1.0252	1.0027	1.0714	0.9907	1.0000	0.9962	1.0000	1.0058								
8:9								0.9933	0.9484	1.0055	1.0093	1.0231	0.9692	1.0231	1.0000	1.0258	1.0000							
9:10							1.0040	0.9818	1.0047	1.0062	0.9815	1.1072	0.9899	0.9772	1.0000	1.0000								
10:11						1.0001	1.0040	0.9832	0.9874	1.0062	1.0083	1.0088	1.0062	1.0092	1.0245									
11:12					1.0002	1.0001	1.0039	1.0064	1.0034	0.9962	0.9730	0.9791	1.0536	1.0024										
12:13				1.0009	0.9949	1.0000	1.0035	0.9961	1.0033	1.0036	1.0036	1.0025	1.0173											
13:14			1.0098	1.0113	0.9995	1.0000	0.9775	0.9570	1.0033	1.0038	0.9924	1.0026												
14:15		1.0033	1.0031	1.0004	1.0000	1.0000	1.0017	1.0006	1.0032	1.0036	0.9709													
15:16	1.0096	1.0033	0.9779	1.0000	1.0000	1.0000	0.9997	0.9991	1.0032	1.0036														
16:17	1.0006	1.0032	1.0013	1.0001	1.0000	1.0000	1.0048	1.0010	1.0031															
17:18	1.0022	1.0032	1.0023	1.0003	1.0000	1.0000	1.0016	1.0010																
18:19	0.9997	1.0035	1.0159	1.0047	1.0000	1.0000	1.0016																	
19:20	1.0006	1.0032	1.0017	0.9959	1.0000	1.0000																		

C. Summary	10 Year	6 Year	10 Year	10 Year	6 Year	6 Year	Average of Middle Four
	Straight Average	Straight Average	Weighted Average	Average Ex. Hi/Lo	Average Ex. Hi/Lo	Weighted Average	
1:2	1.6275	1.5547	1.5852	1.6299	1.5231	1.5254	1.5732
2:3	1.1808	1.1402	1.1680	1.1814	1.1543	1.1312	1.1608
3:4	1.0498	1.0397	1.0458	1.0385	1.0316	1.0387	1.0407
4:5	1.0234	1.0294	1.0235	1.0246	1.0273	1.0274	1.0257
5:6	0.9899	0.9941	0.9906	0.9912	0.9930	0.9960	0.9922
6:7	1.0108	1.0103	1.0118	1.0108	1.0099	1.0112	1.0108
7:8	1.0062	1.0107	1.0060	1.0031	1.0005	1.0086	1.0060
8:9	0.9998	1.0069	0.9998	1.0029	1.0116	1.0073	1.0042
9:10	1.0053	1.0093	0.9993	0.9960	0.9929	1.0012	1.0004
10:11	1.0038	1.0105	1.0023	1.0038	1.0081	1.0097	1.0064
11:12	1.0018	1.0013	1.0003	0.9990	0.9953	0.9983	0.9997
12:13	1.0026	1.0044	1.0021	1.0017	1.0033	1.0035	1.0029
13:14	0.9957	0.9894	0.9936	0.9986	0.9940	0.9863	0.9932
14:15	0.9987	0.9967	0.9977	1.0015	1.0014	0.9949	0.9986
15:16	0.9996	1.0009	1.0000	1.0011	1.0007	1.0008	1.0006
16:17	1.0016	1.0015	1.0016	1.0013	1.0011	1.0015	1.0015
17:18	1.0013	1.0009	1.0015	1.0012	1.0007	1.0009	1.0011
18:19	1.0036	1.0043	1.0035	1.0020	1.0025	1.0044	1.0035
19:20	1.0002	1.0002	1.0004	1.0006	1.0006	1.0004	1.0004

A. Loss Development Data: Exhibit VI-A, page 3
B. Annual Loss Development Factors
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
Indemnity Claim Settlement Adjustment Factors
Summary of Data and Selections

Data as of	(1) 0 to 10 <u>Development</u>	(2) 0 to 10 <u>Selection</u>
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 <u>Development</u>	(4) 10 to 20 <u>Selection</u>
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 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1987	18,806	759	4.0%	xx
1988	15,731	926	5.9%	xx
1989	19,920	856	4.3%	xx
1990	30,426	478	1.6%	xx
1991	19,515	319	1.6%	xx
1992	23,283	0	0.0%	xx
1993	17,896	445	2.5%	xx
1994	19,319	0	0.0%	xx
1995	10,133	0	0.0%	xx
Total	175,029	3,783	2.2%	2.0%

Accident	(1) 4/30/1998 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1988	16,032	0	0.0%	xx
1989	19,106	874	4.6%	xx
1990	30,400	1150	3.8%	xx
1991	19,984	544	2.7%	xx
1992	24,216	651	2.7%	xx
1993	19,117	919	4.8%	xx
1994	21,058	337	1.6%	xx
1995	10,822	349	3.2%	xx
1996	9,862	0	0.0%	xx
Total	170,597	4,824	2.8%	2.0%

Accident	(1) 4/30/1999 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1989	18,878	368	1.9%	xx
1990	29,654	1150	3.9%	xx
1991	19,430	596	3.1%	xx
1992	24,122	491	2.0%	xx
1993	19,482	440	2.3%	xx
1994	21,755	656	3.0%	xx
1995	11,322	127	1.1%	xx
1996	10,813	296	2.7%	xx
1997	xx	xx	xx	xx
Total	155,456	4,124	2.7%	2.0%

Accident	(1) 4/30/2000 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1990	29,328	800	2.7%	xx
1991	19,165	457	2.4%	xx
1992	23,117	988	4.3%	xx
1993	20,137	0	0.0%	xx
1994	20,495	1321	6.4%	xx
1995	12,031	0	0.0%	xx
1996	10,936	663	6.1%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
Total	135,209	4,229	3.1%	2.0%

Accident	(1) 4/30/2001 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1991	19,058	244	1.3%	xx
1992	22,030	813	3.7%	xx
1993	19,887	522	2.6%	xx
1994	20,719	434	2.1%	xx
1995	12,009	162	1.3%	xx
1996	11,474	156	1.4%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
1999	xx	xx	xx	xx
Total	105,177	2,331	2.2%	1.5%

Accident	(1) 4/30/2002 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1992	22,275	0	0.0%	xx
1993	20,029	314	1.6%	xx
1994	21,125	214	1.0%	xx
1995	12,001	354	2.9%	xx
1996	12,046	0	0.0%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
1999	xx	xx	xx	xx
2000	xx	xx	xx	xx
Total	87,476	882	1.0%	1.0%

Accident	(1) 4/30/2003 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1993	19,361	236	1.2%	xx
1994	20,681	637	3.1%	xx
1995	11,831	0	0.0%	xx
1996	11,985	0	0.0%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
1999	xx	xx	xx	xx
2000	xx	xx	xx	xx
2001	xx	xx	xx	xx
Total	63,858	873	1.4%	0.5%

Accident	(1) 4/30/2004 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
1994	20,243	368	1.8%	xx
1995	11,907	0	0.0%	xx
1996	11,994	0	0.0%	xx
1997	xx	0	xx	xx
1998	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	44,144	368	0.8%	0.5%

Accident	(1) 4/30/2005 <u>Year</u> <u>Rpt.Loss^(a)</u>	(2) 12 Month <u>Fav. Dev^(a)</u>	(3) <u>(2) / (1)</u>	(4) <u>Selection</u>
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%	1993	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	253,760	573	0.2%	0.2%	Total	266,273	176	0.1%	0.1%	1995	11,969	0	0.0%	xx
															1996	12,194	40	0.3%	xx
															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)	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.														
Year	Rpt.Loss ^(a)	Fav. Dev ^(a)	(2) / (1)	Selection <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td> <td data-kind="ghost"></td>															
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%															

(a) All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a
CMCRB Database as of 04/30/20 - Validated 08/06/20 and prior

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Incurred Medical Losses for All Classes Combined

Exhibit VI-B
Page 1

A. Medical Reported Incurred Losses as of 04/30/20																									
Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	3,946,197	4,135,165	3,185,472	3,370,548	2,714,671	2,468,601	2,225,216	3,150,255	2,579,313	3,189,109	3,700,850	2,871,489	5,478,955	3,509,674	2,761,649	3,630,574	4,362,098	4,806,118	3,639,740	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,076,893
2	4,443,755	4,315,884	3,374,998	3,630,642	3,012,839	2,716,963	2,589,253	3,609,439	2,812,481	3,555,290	4,031,513	3,286,804	5,501,458	3,749,858	3,021,605	3,914,782	5,517,261	5,258,148	4,294,769	6,357,441	3,955,258	4,465,934	5,881,984	5,421,768	
3	4,353,568	4,689,720	3,598,928	3,628,890	3,186,033	2,818,387	2,646,248	3,762,837	2,794,988	4,147,713	4,161,949	3,511,501	5,575,559	3,709,814	2,891,686	4,167,466	5,633,374	5,404,121	4,076,856	6,043,218	3,953,405	4,190,581	6,006,389		
4	4,294,114	4,808,246	3,571,097	3,720,868	3,057,663	2,836,912	2,629,910	3,890,149	2,756,587	4,166,709	4,249,331	3,418,585	5,632,912	3,804,580	2,991,503	4,413,176	5,609,134	5,406,521	3,971,009	5,873,834	3,824,391	3,905,895			
5	4,416,259	4,806,190	3,810,363	3,709,153	3,188,781	2,885,530	2,816,076	3,874,531	2,912,119	4,131,369	4,143,155	3,401,038	5,757,902	3,837,840	2,983,393	4,604,796	5,673,084	5,519,600	4,074,140	5,883,352	3,909,083				
6	4,483,826	4,703,865	3,978,305	3,761,263	3,178,086	2,937,414	2,896,624	4,191,261	2,899,687	4,080,336	4,299,151	3,370,262	5,864,639	3,842,096	2,946,694	4,477,330	5,654,038	5,465,514	4,082,497	5,882,245					
7	4,666,919	4,578,161	3,932,216	3,760,723	3,133,358	2,927,989	2,822,196	4,257,734	2,897,577	4,180,965	4,349,353	3,381,086	5,841,539	3,811,253	2,946,651	4,459,354	6,232,068	5,458,952	4,152,393						
8	4,706,403	4,617,085	3,951,475	3,791,456	3,171,882	2,921,384	2,789,664	4,339,920	2,890,067	4,187,418	4,411,495	3,382,185	5,950,133	3,599,483	2,986,651	4,338,559	6,232,068	5,445,673							
9	4,685,434	4,625,715	4,015,857	3,741,005	3,236,426	2,952,750	2,782,114	4,145,606	3,080,177	4,190,701	4,403,570	3,507,194	5,807,440	3,608,725	3,136,651	4,314,642	6,232,068								
10	4,668,534	4,651,769	4,393,793	3,777,626	3,357,242	2,950,698	2,879,623	4,160,518	3,110,017	4,206,298	4,356,915	3,729,031	5,819,126	3,619,059	3,137,264	4,315,637									
11	4,693,740	4,625,953	4,593,238	3,861,559	3,353,094	2,948,865	2,963,075	4,164,525	3,103,090	4,370,336	4,427,072	3,802,480	5,899,866	3,627,183	3,068,930										
12	4,815,890	4,594,309	4,586,566	3,843,219	3,409,251	3,021,208	3,005,905	4,194,244	3,209,975	4,350,145	4,413,282	3,748,522	5,991,937	3,633,896											
13	4,869,709	4,485,294	4,602,844	3,868,653	3,531,522	3,021,095	3,012,114	4,185,516	3,209,907	4,351,280	4,715,281	3,748,523	5,975,102												
14	4,793,570	4,501,155	4,627,844	3,851,694	3,532,688	3,020,836	3,143,372	4,205,064	3,209,709	4,376,929	4,715,272	3,748,522													
15	4,836,117	4,491,418	4,702,741	3,851,841	3,533,087	3,080,845	3,237,259	4,202,349	3,209,709	4,379,582	4,768,910														
16	4,865,082	4,520,959	4,694,564	3,852,213	3,539,649	3,080,810	3,220,132	3,961,842	3,151,961	4,384,435															
17	4,883,436	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961																
18	4,927,115	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842																	
19	4,917,010	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743																		
20	5,276,620	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279																			
B. Act 44 Medical Law Adjustment Factors																									
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.							

Exhibit VI-B
Page 2

Source: A. Adjustment to Act 44 Law Level Exhibit VI-D Page 1
B. Claim Settlement Adjustments Additions Exhibits VI-B-5 (Refer to selected table above.)
C. A+B (with maximum of 1,000)

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Incurred Medical Losses for All Classes Combined

Exhibit VI-B
Page 3

A. Medical Reported Incurred Losses as of 04/30/20																									
Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	3,946,197	4,135,165	3,185,472	3,370,548	2,714,671	2,468,601	2,225,216	3,150,255	2,579,313	3,189,109	3,700,850	2,871,489	5,478,955	3,509,674	2,761,649	3,630,574	4,362,098	4,806,118	3,639,740	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,076,893
2	4,443,755	4,315,884	3,374,998	3,630,642	3,012,839	2,716,963	2,589,253	3,609,439	2,812,481	3,555,290	4,031,513	3,286,804	5,501,458	3,749,858	3,021,605	3,914,782	5,517,261	5,258,148	4,294,769	6,357,441	3,955,258	4,465,934	5,881,984	5,421,768	
3	4,353,568	4,689,720	3,598,928	3,628,890	3,186,033	2,818,387	2,646,248	3,762,837	2,794,988	4,147,713	4,161,949	3,511,501	5,575,559	3,709,814	2,891,686	4,167,466	5,633,374	5,404,121	4,076,856	6,043,218	3,953,405	4,190,581	6,006,389		
4	4,294,114	4,808,246	3,571,097	3,720,868	3,057,663	2,836,912	2,629,910	3,890,149	2,756,587	4,166,709	4,249,331	3,418,585	5,632,912	3,804,580	2,991,503	4,413,176	5,609,134	5,406,521	3,971,009	5,873,834	3,824,391	3,905,895			
5	4,416,259	4,806,190	3,810,363	3,709,153	3,188,781	2,885,530	2,816,076	3,874,531	2,912,119	4,131,369	4,143,155	3,401,038	5,757,902	3,837,840	2,983,393	4,604,796	5,673,084	5,519,600	4,074,140	5,883,352	3,909,083				
6	4,483,826	4,703,865	3,978,305	3,761,263	3,178,086	2,937,414	2,896,624	4,191,261	2,899,687	4,080,336	4,299,151	3,370,262	5,864,639	3,842,096	2,946,694	4,477,330	5,654,038	5,465,514	4,082,497	5,882,245					
7	4,666,919	4,578,161	3,932,216	3,760,723	3,133,358	2,927,989	2,822,196	4,257,734	2,897,577	4,180,965	4,349,353	3,381,086	5,841,539	3,811,253	2,946,651	4,459,354	6,232,068	5,458,952	4,152,393						
8	4,706,403	4,617,085	3,951,475	3,791,456	3,171,882	2,921,384	2,789,664	4,339,920	2,890,067	4,187,418	4,411,495	3,382,185	5,950,133	3,599,483	2,986,651	4,338,559	6,232,068	5,445,673							
9	4,685,434	4,625,715	4,015,857	3,741,005	3,236,426	2,952,750	2,782,114	4,145,606	3,080,177	4,190,701	4,403,570	3,507,194	5,807,440	3,608,725	3,136,651	4,314,642	6,232,068								
10	4,668,534	4,651,769	4,393,793	3,777,626	3,357,242	2,950,698	2,879,623	4,160,518	3,110,017	4,206,298	4,356,915	3,729,031	5,819,126	3,619,059	3,137,264	4,315,637									
11	4,693,740	4,625,953	4,593,238	3,861,559	3,353,094	2,948,865	2,963,075	4,164,525	3,103,090	4,370,336	4,427,072	3,802,480	5,899,866	3,627,183	3,068,930										
12	4,815,890	4,594,309	4,586,566	3,843,219	3,409,251	3,021,208	3,005,905	4,194,244	3,209,975	4,350,145	4,413,282	3,748,522	5,991,937	3,633,896											
13	4,869,709	4,485,294	4,602,844	3,868,653	3,531,522	3,021,095	3,012,114	4,185,516	3,209,907	4,351,280	4,715,281	3,748,523	5,975,102												
14	4,793,570	4,501,155	4,627,844	3,851,694	3,532,688	3,020,836	3,143,372	4,205,064	3,209,709	4,376,929	4,715,272	3,748,522													
15	4,836,117	4,491,418	4,702,741	3,851,841	3,533,087	3,080,845	3,237,259	4,202,349	3,209,709	4,379,582	4,768,910														
16	4,865,082	4,520,959	4,694,564	3,852,213	3,539,649	3,080,810	3,220,132	3,961,842	3,151,961	4,384,435															
17	4,883,436	4,514,259	4,723,464	3,838,125	3,539,760	3,006,814	3,961,842		3,151,961																
18	4,927,115	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842																	
19	4,917,010	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743																		
20	5,276,620	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279																			
B. Act 44 Medical Law Adjustment Factors and Claim Settlement Levels																									
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		

**Exhibit V-E-1
and
Exhibit VI-B-4**

Report	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	3,946,197	4,135,165	3,185,472	3,370,548	2,714,671	2,468,601	2,225,216	3,150,255	2,579,313	3,189,109	3,700,850	2,871,489	5,478,955	3,509,674	2,761,649	3,630,574	4,362,098	4,806,118	3,639,740	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,076,893
2	4,443,755	4,315,884	3,374,998	3,630,642	3,012,839	2,716,963	2,589,253	3,609,439	2,812,481	3,555,290	4,031,513	3,286,804	5,501,458	3,749,858	3,021,605	3,914,782	5,517,261	5,258,148	4,294,769	6,357,441	3,955,258	4,465,934	5,881,984	5,421,768	
3	4,353,568	4,689,720	3,598,928	3,628,890	3,186,033	2,818,387	2,646,248	3,762,837	2,794,988	4,147,713	4,161,949	3,511,501	5,575,559	3,709,814	2,891,686	4,167,466	5,633,374	5,404,121	4,076,856	6,043,218	3,953,405	4,190,581	6,006,389		
4	4,294,114	4,808,246	3,571,097	3,720,868	3,057,663	2,836,912	2,629,910	3,890,149	2,756,587	4,166,709	4,249,331	3,418,585	5,632,912	3,804,580	2,991,503	4,413,176	5,609,134	5,406,521	3,971,009	5,873,834	3,824,391	3,905,895			
5	4,416,259	4,806,190	3,810,363	3,709,153	3,188,781	2,885,530	2,816,076	3,874,531	2,912,119	4,131,369	4,143,155	3,401,038	5,757,902	3,837,840	2,983,393	4,604,796	5,673,084	5,519,600	4,074,140	5,883,352	3,909,083				
6	4,483,826	4,703,865	3,978,305	3,761,263	3,178,086	2,937,414	2,896,624	4,191,261	2,899,687	4,080,336	4,299,151	3,370,262	5,864,639	3,842,096	2,946,694	4,477,330	5,654,038	5,465,514	4,082,497	5,882,245					
7	4,666,919	4,578,161	3,932,216	3,760,723	3,133,358	2,927,989	2,822,196	4,257,734	2,897,577	4,180,965	4,349,353	3,381,086	5,841,539	3,811,253	2,946,651	4,459,354	6,232,068	5,458,952	4,152,393						
8	4,706,403	4,617,085	3,951,475	3,791,456	3,171,882	2,921,384	2,789,664	4,339,920	2,890,067	4,187,418	4,411,495	3,382,185	5,950,133	3,599,483	2,986,651	4,338,559	6,232,068	5,445,673							
9	4,685,434	4,625,715	4,015,857	3,741,005	3,236,426	2,952,750	2,782,114	4,145,606	3,080,177	4,190,701	4,403,570	3,507,194	5,807,440	3,608,725	3,136,651	4,314,642	6,232,068								
10	4,668,534	4,651,769	4,393,793	3,777,626	3,357,242	2,950,698	2,879,623	4,160,518	3,110,017	4,206,298	4,356,915	3,729,031	5,819,126	3,619,055	3,137,264	4,315,637									
11	4,693,740	4,625,953	4,593,238	3,861,559	3,353,094	2,948,865	2,963,075	4,164,525	3,103,090	4,370,336	4,427,072	3,802,480	5,899,866	3,627,183	3,068,930										
12	4,815,890	4,594,309	4,586,566	3,843,219	3,409,251	3,021,208	3,005,905	4,194,244	3,209,975	4,350,145	4,413,282	3,748,522	5,991,937	3,633,896											
13	4,869,709	4,485,294	4,602,844	3,868,653	3,531,522	3,021,095	3,012,114	4,185,516	3,209,907	4,351,280	4,715,281	3,748,523	5,975,102												

[illegible]

	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
C. <u>Summary</u>							
1:2	1.0730	1.0332	1.0594	1.0681	1.0245	1.0182	1.0463
2:3	0.9919	0.9811	0.9927	0.9895	0.9802	0.9822	0.9862
3:4	0.9971	0.9736	0.9953	0.9975	0.9773	0.9757	0.9864
4:5	1.0149	1.0209	1.0155	1.0138	1.0201	1.0195	1.0175
5:6	0.9997	0.9915	1.0001	0.9984	0.9936	0.9920	0.9959
6:7	1.0142	1.0177	1.0166	1.0060	1.0030	1.0224	1.0136
7:8	0.9961	0.9912	0.9969	0.9997	0.9960	0.9931	0.9955
8:9	1.0080	1.0101	1.0026	1.0074	1.0085	1.0044	1.0071
9:10	1.0110	1.0097	1.0092	1.0072	1.0013	1.0080	1.0085
10:11	1.0096	1.0115	1.0107	1.0099	1.0130	1.0132	1.0113
11:12	1.0093	1.0050	1.0082	1.0091	1.0025	1.0047	1.0068
12:13	1.0108	1.0106	1.0110	1.0054	0.9996	1.0107	1.0094
13:14	1.0055	1.0090	1.0048	1.0020	1.0027	1.0076	1.0052
14:15	1.0075	1.0102	1.0070	1.0060	1.0080	1.0092	1.0079
15:16	0.9934	0.9871	0.9936	0.9980	0.9945	0.9860	0.9921
16:17	0.9857	0.9771	0.9887	0.9903	0.9825	0.9791	0.9840
17:18	1.0095	1.0108	1.0113	1.0023	1.0007	1.0138	1.0085
18:19	1.0002	1.0006	1.0002	1.0001	1.0002	1.0007	1.0003
19:20	1.0119	1.0119	1.0142	1.0000	1.0000	1.0142	1.0095

Source: A. Incurred Losses Adjusted to Act 44 Law Level and Claim Settlement Levels; Exhibit VI-B-3
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
Medical Claim Settlement Adjustment Factors

Accident Year					Accident Year					Accident Year					Accident Year				
(1) 4/30/1994					(1) 4/30/1995					(1) 4/30/1996					(1) 4/30/1997				
12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month 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) 4/30/1998					(1) 4/30/1999					(1) 4/30/2000					(1) 4/30/2001				
12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month 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) 4/30/2002					(1) 4/30/2003					(1) 4/30/2004					(1) 4/30/2005				
12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month 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) 4/30/2006					(1) 4/30/2007					(1) 4/30/2008					(1) 4/30/2009				
12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month Rpt.Loss ^(a) Fav. Dev ^(a) (2) / (1) Selection					12 Month 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 04/30/20																				
Report	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	240	227	241	196	219	203	156	163	193	170	168	175	169	149	258	161	140	159	150	153
2	250	238	244	196	227	228	163	164	206	193	177	182	195	171	286	181	147	168	166	
3	252	237	246	197	230	229	165	164	203	195	177	188	199	174	289	184	149	171		
4	254	237	246	198	231	230	166	164	205	195	177	189	200	175	290	186	149			
5	254	237	246	199	231	230	166	164	204	195	177	189	200	175	290	186				
6	254	237	246	199	231	230	166	164	204	195	177	189	200	175	289					
7	254	237	246	199	231	230	166	164	204	195	177	189	201	175						
8	254	237	246	199	231	230	166	164	204	195	177	189	201							
9	254	237	246	199	231	230	166	164	204	195	177	189								
10	254	237	246	199	231	230	166	164	204	195	177									
11	254	237	246	199	231	230	166	164	204	195										
12	254	237	246	199	231	230	166	164	204											
13	254	237	246	199	231	230	166	164												
14	254	237	246	199	231	230	166													
15	254	237	246	199	231	230														
16	254	237	246	199	231															
17	254	237	246	199																
18	254	237	246																	
19	254	237																		
20	254																			

B. Annual Claim Count Development																			
1:2										1.1353	1.0536	1.0400	1.1538	1.1477	1.1085	1.1242	1.0500	1.0566	1.1067
2:3									0.9854	1.0104	1.0000	1.0330	1.0205	1.0175	1.0105	1.0166	1.0136	1.0179	
3:4								1.0000	1.0099	1.0000	1.0000	1.0053	1.0050	1.0057	1.0035	1.0109	1.0000		
4:5							1.0000	1.0000	0.9951	1.0000	1.0000	1.0000	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	0.9966				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0050	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	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	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	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		of Middle				
	<u>Average</u>	<u>Average</u>	<u>Average</u>	<u>ex. Hi&Lo</u>	<u>ex. Hi&Lo</u>	<u>Average</u>		<u>Four</u>	<u>Selected</u>	<u>Cumulative</u>	<u>Acc. Year</u>	<u>Ultimate</u>
1:2	1.0976	1.0990	1.0983	1.0978	1.0990	1.1003		1.0985	1.0985	1.1193	2019	171
2:3	1.0125	1.0161	1.0121	1.0134	1.0164	1.0157		1.0144	1.0144	1.0190	2018	169
3:4	1.0040	1.0051	1.0042	1.0037	1.0049	1.0051		1.0045	1.0045	1.0045	2017	172
4:5	0.9995	1.0000	0.9995	1.0000	1.0000	1.0000		0.9999	1.0000	1.0000	2016	149
5:6	0.9997	0.9994	0.9995	1.0000	1.0000	0.9992		0.9996	1.0000	1.0000	2015	186
6:7	1.0005	1.0008	1.0005	1.0000	1.0000	1.0009		1.0005	1.0000	1.0000	2014	289
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2013	175
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2012	201
9:10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2011	189
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2010	177
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2009	195
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2008	204
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2007	164
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2006	166
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2005	230
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2004	231
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2003	199
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2002	246
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	2001	237
											2000	254

Source: A. Loss Development Data: CMCRB Database as of 04/30/20 - Validated 08/06/20

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-2

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

A. Medical Only Reported Incurred Claims Valued as of 04/30/20

Report	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	488	519	487	453	516	476	456	488	523	479	559	628	563	472	592	402	295	321	297	319
2	500	536	499	462	524	479	453	494	527	469	560	632	554	477	583	399	304	327	293	
3	503	539	500	461	523	480	451	495	528	469	559	627	553	478	581	397	303	326		
4	497	535	500	461	522	479	450	495	527	469	559	627	553	478	580	396	303			
5	497	535	500	461	522	479	450	495	528	469	559	627	553	478	581	396				
6	498	535	500	461	522	479	450	495	528	469	559	627	553	479	582					
7	498	535	500	461	522	479	450	495	528	469	559	627	552	479						
8	498	535	500	461	522	479	450	495	528	469	559	627	552							
9	498	535	500	461	522	479	450	495	528	469	559	627								
10	498	535	500	461	522	479	450	495	528	469	559									
11	498	535	500	461	522	479	450	495	528	469										
12	498	535	500	461	522	479	450	495	528											
13	498	535	500	461	522	479	450	495												
14	498	535	500	461	522	479	450													
15	498	535	500	461	522	479														
16	498	535	500	461	522															
17	498	535	500	461																
18	498	535	500																	
19	498	535																		
20	498																			

B. Annual Claim Count Development

1:2										0.9791	1.0018	1.0064	0.9840	1.0106	0.9848	0.9925	1.0305	1.0187	0.9865
2:3									1.0019	1.0000	0.9982	0.9921	0.9982	1.0021	0.9966	0.9950	0.9967	0.9969	
3:4								1.0000	0.9981	1.0000	1.0000	1.0000	1.0000	1.0000	0.9983	0.9975	1.0000		
4:5							1.0000	1.0000	1.0019	1.0000	1.0000	1.0000	1.0000	1.0000	1.0017	1.0000			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0021	1.0017				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9982	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 Straight	6 Year Straight	10 Year Weighted	10 Year Average	6 Year Average	6 Year Weighted	Average of Middle													
	Average	Average	Average	ex. Hi&Lo	ex. Hi&Lo	Average	Four	Selected		Cumulative		Acc. Year	Ultimate							
1:2	0.9995	1.0039	0.9978	0.9982	1.0021	1.0017	1.0004	1.0000		1.0000		2019	319							
2:3	0.9978	0.9976	0.9977	0.9979	0.9971	0.9977	0.9977	1.0000		1.0000		2018	293							
3:4	0.9994	0.9993	0.9994	0.9996	0.9996	0.9993	0.9994	1.0000		1.0000		2017	326							
4:5	1.0004	1.0003	1.0004	1.0002	1.0000	1.0003	1.0003	1.0000		1.0000		2016	303							
5:6	1.0004	1.0006	1.0004	1.0002	1.0004	1.0006	1.0004	1.0000		1.0000		2015	396							
6:7	0.9998	0.9997	0.9998	1.0000	1.0000	0.9997	0.9998	1.0000		1.0000		2014	582							
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2013	479							
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2012	552							
9:10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2011	627							
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2010	559							
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2009	469							
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2008	528							
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2007	495							
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2006	450							
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2005	479							
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2004	522							
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2003	461							
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2002	500							
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000		2001	535							
												2000	498							

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 04/30/20 - Validated 08/06/20

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-3

Traumatic Loss Development

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

A. Medical Only Reported Incurred Losses Valued as of 04/30/20																				
Report	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	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	708,070	617,296	580,738
2	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	644,826	559,034	748,018	615,429	
3	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	617,302	541,639	746,688		
4	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	806,211	611,456	541,639			
5	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	755,607	807,295	611,456				
6	305,104	341,085	345,393	346,252	499,175	577,565	464,210	663,201	578,077	487,454	732,324	851,341	710,586	756,064	808,080					
7	305,104	341,085	345,393	346,252	499,175	577,565	464,210	663,201	584,120	487,454	732,324	851,341	680,951	756,064						
8	305,104	347,675	345,393	346,252	499,182	439,393	464,210	663,201	586,976	487,454	732,324	851,341	680,951							
9	305,104	347,675	345,393	346,318	499,182	439,393	464,210	663,201	593,200	487,454	732,331	851,341								
10	305,104	347,675	345,393	346,318	499,182	439,463	464,210	663,201	600,587	488,067	732,331									

B. Annual Loss Development																			
1:2										0.9520	1.0334	1.0405	0.9773	1.1016	0.9679	0.9298	0.9862	1.0564	0.9970
2:3								1.0178	1.0253	1.0272	0.9797	0.9813	1.0415	1.0021	0.9573	0.9689	0.9982		
3:4								1.0036	0.9781	1.0001	1.0000	1.0042	1.0007	1.0008	0.9840	0.9905	1.0000		
4:5							1.0000	1.0060	1.0130	1.0002	1.0000	1.0015	1.0001	1.0008	1.0013	1.0000			
5:6						1.0000	1.0000	1.0080	1.0155	1.0000	1.0000	1.0000	1.0001	1.0006	1.0010				
6:7					1.0000	1.0000	1.0000	1.0000	1.0105	1.0000	1.0000	1.0000	0.9583	1.0000					
7:8				1.0000	1.0000	0.7608	1.0000	1.0000	1.0049	1.0000	1.0000	1.0000	1.0000						
8:9			1.0000	1.0002	1.0000	1.0000	1.0000	1.0000	1.0106	1.0000	1.0000	1.0000							
9:10		1.0000	1.0000	1.0000	1.0000	1.0002	1.0000	1.0000	1.0125	1.0013	1.0000								

C. Summary														
	10 Year	6 Year	10 Year	10 Year	6 Year	6 Year	Average							
	Straight	Straight	Weighted	Average	Average	Weighted	of Middle							
	<u>Average</u>	<u>Average</u>	<u>Average</u>	<u>ex. Hi&Lo</u>	<u>ex. Hi&Lo</u>	<u>Average</u>	<u>Four</u>		<u>Selected</u>		<u>Cumulative</u>		<u>Acc. Year</u>	<u>Ultimate</u>
1:2	1.0042	1.0065	1.0054	1.0013	1.0019	1.0052	1.0042		1.0042		1.0042		2019	583,177
2:3	0.9999	0.9916	0.9994	1.0001	0.9876	0.9934	0.9961		1.0000		1.0000		2018	615,429
3:4	0.9962	0.9967	0.9964	0.9975	0.9980	0.9967	0.9968		1.0000		1.0000		2017	746,688
4:5	1.0023	1.0006	1.0022	1.0012	1.0006	1.0007	1.0012		1.0000		1.0000		2016	541,639
5:6	1.0025	1.0003	1.0023	1.0012	1.0002	1.0003	1.0010		1.0000		1.0000		2015	611,456
6:7	0.9969	0.9948	0.9963	1.0000	1.0000	0.9943	0.9970		1.0000		1.0000		2014	808,080
7:8	0.9766	1.0008	0.9770	1.0000	1.0000	1.0007	0.9944		1.0000		1.0000		2013	756,064
8:9	1.0011	1.0018	1.0012	1.0000	1.0000	1.0016	1.0010		1.0000		1.0000		2012	680,951
9:10	1.0014	1.0023	1.0016	1.0002	1.0004	1.0024	1.0014		1.0000		1.0000		2011	851,341

Source: A. Loss Development Data: CMCRB Database as of 04/30/20 - Validated 08/06/20

B. Annual Loss Development Ratios

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

Coal Mine Compensation Rating Bureau
Traumatic - Medical Losses
Summary of Adjustments to Development Factors for Act 44[#]

Report	Accident Year																								
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Adjustments to development factors applicable to medical loss evaluated as of 04/30/2020
Act 44 became effective in 1993.

Source: Unity adjustments for Accident Years 1995 and subsequent

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 04/30/20

<u>Report</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</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>2017</u>	<u>2018</u>	<u>2019</u>
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	2,517,576	2,635,035	2,186,695	2,491,975
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	6,101,619	5,232,352	5,200,669	5,083,269	
3	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	7,572,770	6,951,711	7,168,082		
4	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	11,716,598	9,243,177	8,203,849			
5	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	6,652,885	12,157,797	10,485,291				
6	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	9,105,598	7,003,338	12,181,905					
7	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	8,313,908	9,298,463	7,371,130						
8	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	7,146,676	8,347,645	9,608,807							
9	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	5,164,786	7,433,505	8,380,513								
10	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	8,342,088	5,206,003	7,433,505									
11	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	6,340,857	8,901,130	5,425,367										
12	8,408,704	7,879,189	7,480,909	7,855,086	11,009,570	6,873,904	7,236,947	10,392,475	5,671,285	6,488,602	8,944,239											
13	8,460,058	8,038,850	7,481,735	7,919,766	11,120,644	6,908,899	7,276,930	10,542,895	5,694,209	6,942,382												
14	8,717,825	8,050,069	7,481,735	8,081,870	11,269,601	6,946,798	7,319,605	10,679,371	5,717,956													
15	8,731,745	8,050,069	7,481,735	8,115,379	11,305,361	6,981,697	7,362,281	10,920,744														
16	8,742,665	8,050,069	7,481,735	8,142,053	11,400,129	7,016,692	7,346,334															
17	8,753,585	8,050,069	7,481,735	8,205,378	11,418,631	7,051,687																
18	8,764,505	8,050,069	7,481,735	8,226,812	11,437,132																	
19	8,772,505	8,050,069	7,481,735	8,248,304																		
20	8,772,260	8,050,069	7,481,735																			

Medical Reported Paid Losses as of 04/30/20

<u>Report</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</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>2017</u>	<u>2018</u>	<u>2019</u>
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	3,485,388	3,814,701	2,490,656
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	3,295,697	3,381,307	4,551,331	4,779,083	
3	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	3,579,670	3,601,813	4,900,816		
4	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	5,806,872	3,712,776	3,665,013			
5	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	3,837,635	5,825,434	3,863,705				
6	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	5,142,197	3,895,586	5,872,039					
7	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	5,480,157	5,165,531	3,989,755						
8	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	4,307,958	5,547,144	5,187,761							
9	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	2,993,791	4,313,902	5,698,271								
10	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	3,544,208	3,030,936	4,314,897									
11	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	5,404,879	3,552,431	3,068,930										
12	3,625,447	3,339,216	2,791,316	2,821,879	3,760,085	2,830,668	4,186,218	4,188,666	3,554,600	5,505,708	3,559,244											
13	3,640,675	3,530,763	2,794,972	2,865,653	3,783,035	2,860,666	4,197,884	4,398,535	3,591,568	5,690,592												
14	3,686,245	3,531,885	2,799,305	2,899,480	3,795,599	2,889,252	4,212,622	4,408,224	3,600,198													
15	3,716,598	3,532,238	2,823,807	2,925,169	3,944,740	2,926,491	4,228,643	4,496,066														
16	3,733,612	3,532,944	2,831,581	2,939,820	3,961,842	2,943,126	4,241,385															
17	3,750,418	3,533,634	2,872,279	3,006,814	3,961,842	2,943,548																
18	3,764,284	3,533,807	2,872,279	3,017,086	3,961,842																	
19	3,772,745	3,534,720	2,872,279	3,018,743																		
20	3,774,660	3,535,038	2,872,279																			

Source: CMCRB Database as of 04/30/20 - Validated 08/06/20

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

Exhibit VII-A
Page 1
Underground Anthracite

	<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>						
(1) Number of Claims	# 9			# 9		
(2) Average Amounts	\$812,317	\$462,502	\$812,317	\$120,694	\$276,217	\$120,694
(3) Index (Base)	100%		100.0000%	100%		100.0000%
<u>(b) Social Security Offset</u>						
(1) Total (including above)	-	-	-	\$127,656	\$276,217	\$127,656
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$65,630	\$0	\$65,630	6,962	0	6,962
(3) Index (to a(2))	8.0794%	0.0000%	8.0794%	5.7683%	0.0000%	5.7683%
(4) Complement	91.9206%	100.0000%	91.9206%	94.2317%	100.0000%	94.2317%
<u>(c) Pension Offset (after Social Security Offset)</u>						
(1) Total (including above)	-	-	-	\$168,089	\$283,710	\$168,089
(2) Difference (Federal= c-1 minus b-1)	\$124,947	\$56,415	\$124,947	40,433	7,493	40,433
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	15,618	7,052	15,618	5,054	937	5,054
(5) Index (to a-2)	1.9227%	1.5247%	1.9227%	4.1876%	0.3391%	4.1876%
(6) Complement	98.0773%	98.4753%	98.0773%			
<u>(d) Combined Social Security and Pension Offsets</u>						
(1) Average Amounts (b-2 plus c-4)	\$81,248	\$7,052	\$81,248	\$12,016	\$937	\$12,016
(2) Index (to a-2)	10.0021%	1.5247%	10.0021%			9.9559%
(3) Complement	89.9979%	98.4753%	89.9979%	Factor		109.9559%
(4) Total Average	731,069	455,450	731,069			132,710
<u>(e) Wage Level Decrease</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>						
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.9979%	(d-3) times (e-4)		109.9559%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.9979%			109.9559%
(4) Percentage Decrease			10.0021%	Increase		9.9559%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3) Decrease			\$81,248	Increase		\$12,016
(2) Average after Act 57 (a-2 plus or minus g-1)			\$731,069			\$132,710

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 2
Underground Bituminous

	<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>						
(1) Number of Claims	# 66			# 66		
(2) Average Amounts	\$296,418	\$237,883	\$296,418	\$244,032	\$262,732	\$244,032
(3) Index (Base)	100%		100.0000%	100%		100.0000%
<u>(b) Social Security Offset</u>						
(1) Total (including above)	-	-	-	\$250,893	\$269,484	\$250,893
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$20,021	\$12,757	\$20,021	6,861	6,752	6,861
(3) Index (to a(2))	6.7543%	5.3627%	6.7543%	2.8115%	2.5699%	2.8115%
(4) Complement	93.2457%	94.6373%	93.2457%	97.1885%	97.4301%	97.1885%
<u>(c) Pension Offset (after Social Security Offset)</u>						
(1) Total (including above)	-	-	-	\$278,638	\$294,372	\$278,638
(2) Difference (Federal= c-1 minus b-1)	\$73,010	\$60,335	\$73,010	27,745	24,888	27,745
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,126	7,542	9,126	3,468	3,111	3,468
(5) Index (to a-2)	3.0788%	3.1704%	3.0788%	1.4212%	1.1841%	1.4212%
(6) Complement	96.9212%	96.8296%	96.9212%			
<u>(d) Combined Social Security and Pension Offsets</u>						
(1) Average Amounts (b-2 plus c-4)	\$29,147	\$20,299	\$29,147	\$10,329	\$9,863	\$10,329
(2) Index (to a-2)	9.8332%	8.5331%	9.8332%			4.2327%
(3) Complement	90.1668%	91.4669%	90.1668%	Factor		104.2327%
(4) Total Average	267,271	217,584	267,271			254,361
<u>(e) Wage Level Decrease</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>						
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			90.1668%			104.2327%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			90.1668%			104.2327%
(4) Percentage Decrease			9.8332%	Increase		4.2327%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3)			\$29,147	Increase		\$10,329
(2) Average after Act 57 (a-2 plus or minus g-1)			\$267,271			\$254,361

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 3
Surface Anthracite

	<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>						
(1) Number of Claims	# 38			# 38		
(2) Average Amounts	\$543,716	\$369,752	\$543,716	\$72,195	\$147,835	\$72,195
(3) Index (Base)	100%		100.0000%	100%		100.0000%
<u>(b) Social Security Offset</u>						
(1) Total (including above)	-	-	-	\$75,001	\$147,872	\$75,001
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$14,219	\$4,156	\$14,219	2,806	37	2,806
(3) Index (to a(2))	2.6152%	1.1240%	2.6152%	3.8867%	0.0250%	3.8867%
(4) Complement	97.3848%	98.8760%	97.3848%	96.1133%	99.9750%	96.1133%
<u>(c) Pension Offset (after Social Security Offset)</u>						
(1) Total (including above)	-	-	-	\$91,909	\$160,354	\$91,909
(2) Difference (Federal= c-1 minus b-1)	\$107,901	\$78,662	\$107,901	16,908	12,482	16,908
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	13,488	9,833	13,488	2,114	1,560	2,114
(5) Index (to a-2)	2.4806%	2.6593%	2.4806%	2.9275%	1.0554%	2.9275%
(6) Complement	97.5194%	97.3407%	97.5194%			
<u>(d) Combined Social Security and Pension Offsets</u>						
(1) Average Amounts (b-2 plus c-4)	\$27,707	\$13,989	\$27,707	\$4,920	\$1,597	\$4,920
(2) Index (to a-2)	5.0958%	3.7833%	5.0958%			6.8142%
(3) Complement	94.9042%	96.2167%	94.9042%	Factor		106.8142%
(4) Total Average	516,009	355,763	516,009			77,115
<u>(e) Wage Level Decrease</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>						
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			94.9042%			106.8142%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			94.9042%			106.8142%
(4) Percentage Decrease			5.0958%	Increase		6.8142%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3)			\$27,707	Increase		\$4,920
(2) Average after Act 57 (a-2 plus or minus g-1)			\$516,009			\$77,115

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 4
Surface Bituminous

	<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>						
(1) Number of Claims	# 21			# 21		
(2) Average Amounts	\$426,006	\$293,243	\$426,006	\$204,623	\$256,822	\$204,623
(3) Index (Base)	100%		100.0000%	100%		100.0000%
<u>(b) Social Security Offset</u>						
(1) Total (including above)	-	-	-	\$211,598	\$260,038	\$211,598
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$32,607	\$7,445	\$32,607	6,975	3,216	6,975
(3) Index (to a(2))	7.6541%	2.5389%	7.6541%	3.4087%	1.2522%	3.4087%
(4) Complement	92.3459%	97.4611%	92.3459%	96.5913%	98.7478%	96.5913%
<u>(c) Pension Offset (after Social Security Offset)</u>						
(1) Total (including above)	-	-	-	\$247,256	\$282,501	\$247,256
(2) Difference (Federal= c-1 minus b-1)	\$77,136	\$49,185	\$77,136	35,658	22,463	35,658
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,642	6,148	9,642	4,457	2,808	4,457
(5) Index (to a-2)	2.2633%	2.0966%	2.2633%	2.1783%	1.0933%	2.1783%
(6) Complement	97.7367%	97.9034%	97.7367%			
<u>(d) Combined Social Security and Pension Offsets</u>						
(1) Average Amounts (b-2 plus c-4)	\$42,249	\$13,593	\$42,249	\$11,432	\$6,024	\$11,432
(2) Index (to a-2)	9.9175%	4.6354%	9.9175%			5.5870%
(3) Complement	90.0825%	95.3646%	90.0825%	Factor		105.5870%
(4) Total Average	383,757	279,650	383,757			216,055
<u>(e) Wage Level Decrease</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>						
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			90.0825%			105.5870%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			90.0825%			105.5870%
(4) Percentage Decrease			9.9175%	Increase		5.5870%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3)			\$42,249	Increase		\$11,432
(2) Average after Act 57 (a-2 plus or minus g-1)			\$383,757			\$216,055

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.

PAB

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>						
(1) Number of Claims	# 15			# 15		
(2) Average Amounts	\$287,140	\$205,919	\$287,140	\$219,296	\$248,672	\$219,296
(3) Index (Base)	100%		100.0000%	100%		100.0000%
<u>(b) Social Security Offset</u>						
(1) Total (including above)	-	-	-	\$230,138	\$256,233	\$230,138
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$20,783	\$10,342	\$20,783	10,842	7,561	10,842
(3) Index (to a(2))	7.2379%	5.0224%	7.2379%	4.9440%	3.0406%	4.9440%
(4) Complement	92.7621%	94.9776%	92.7621%	95.0560%	96.9594%	95.0560%
<u>(c) Pension Offset (after Social Security Offset)</u>						
(1) Total (including above)	-	-	-	\$250,778	\$271,517	\$250,778
(2) Difference (Federal= c-1 minus b-1)	\$55,529	\$37,569	\$55,529	20,640	15,284	20,640
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	6,941	4,696	6,941	2,580	1,911	2,580
(5) Index (to a-2)	2.4173%	2.2806%	2.4173%	1.1765%	0.7683%	1.1765%
(6) Complement	97.5827%	97.7194%	97.5827%			
<u>(d) Combined Social Security and Pension Offsets</u>						
(1) Average Amounts (b-2 plus c-4)	\$27,724	\$15,038	\$27,724	\$13,422	\$9,472	\$13,422
(2) Index (to a-2)	9.6553%	7.3029%	9.6553%			6.1205%
(3) Complement	90.3447%	92.6971%	90.3447%	Factor		106.1205%
(4) Total Average	259,416	190,881	259,416			232,718
<u>(e) Wage Level Decrease</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>						
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			90.3447%			106.1205%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			90.3447%			106.1205%
(4) Percentage Decrease			9.6553%	Increase		6.1205%
<u>(g) Combined Dollar Effect</u>						
(1) (d-1) plus (e-3)			\$27,724	Increase		\$13,422
(2) Average after Act 57 (a-2 plus or minus g-1)			\$259,416			\$232,718

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 2010-2019	Claim Frequency per 100 Miner Years			Expected Awarded Claims	Factor	Claim Frequency Indicated w/ Credibility	Change in Indication After Cred.	10 Year 2010-2019 Payroll	Claim Frequency Per \$100 of Payroll
			Indicated (Eff 4/1/2020)	Trended to 4/1/2021	Indicated (Eff 4/1/2021)						
Underground: Anthracite	1011	106.2	1.075218	1.075218	1.819346	1.142	0.147	1.184605	10.2%	5,260,681	0.239142
Bituminous	1002	22,679.5	0.160170	0.160170	0.163314	36.326	0.830	0.162780	1.6%	1,752,525,202	0.021065
Surface: Anthracite	1016	4,096.8	0.107317	0.107317	0.090385	4.397	0.289	0.102424	-4.6%	214,124,500	0.019597
Bituminous	1013	<u>10,303.8</u>	<u>0.040367</u>	0.040367	<u>0.062855</u>	<u>4.159</u>	0.281	<u>0.046686</u>	<u>15.7%</u>	<u>524,559,167</u>	0.009170
Four Standard Classifications		37,186.3	0.123765	0.123765	0.132173	46.024		0.126881	4.8%	2,496,469,550	0.018899
Coke	1017	892.7	0.012164	0.012164	0.007437	0.109	0.045	0.011951	-1.8%	46,427,848	0.002298
Auger	1019	140.0	0.024712	0.024712	0.007310	0.035	0.026	0.024260	-1.8%	7,167,710	0.004738
Co-Gen: Anthracite	1022	1,844.0	0.024603	0.024603	0.078261	0.454	0.093	0.029593	20.3%	95,981,210	0.005685
Bituminous	1024	2,044.6	0.033436	0.033436	0.007445	0.684	0.114	0.030473	-8.9%	107,321,277	0.005805
Prep Plants: Anthracite	1026	1,573.4	0.260588	0.260588	0.303415	4.100	0.279	0.272537	4.6%	82,839,464	0.051764
Bituminous	1028	<u>4,284.1</u>	<u>0.031788</u>	0.031788	<u>0.044749</u>	<u>1.362</u>	0.161	<u>0.033875</u>	<u>6.6%</u>	<u>329,316,287</u>	0.004407
Other Classes		10,778.8	0.062553		0.077587	6.742		0.065394	4.9%	669,053,796	0.010535
Total		47,965.1	0.110009		0.119906	52.766		0.113064	4.8%	3,165,523,346	0.017131

Source: (1) Estimated Miner Years from Exhibit VII-B-2
(2) Exhibit VII-B-1-B Col. 10
(3) Approved claim frequency trended to 4/1/2021 @ 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) / 52.766)^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 2009-2018	Estimated Miner Years 2010-2019	Estimated Miner Years 2019	Adjustment	Average Weekly Wage 2009	Payroll 2009	Estimated Miner Years 2009-2018	Frequency Per 100 Miner Years
<u>Classification</u>	<u>Code</u>	<u>4/1/2020</u>	<u>2009-2018</u>	<u>(1) x (2)</u>	<u>2010-2019</u>	<u>2019</u>	<u>Factor</u>	<u>2009</u>	<u>2009</u>	<u>2009-2018</u>	<u>Miner Years</u>
Underground: Anthracite	1011	0.221003	6,417,168	1.418213	106.2	3.1	1.067	836	1,335,866	131.9	1.075218
	Bituminous 1002	0.021121	1,668,096,919	35.231875	22,679.5	2,165.1	1.573	836	101,348,140	21,996.5	0.160170
Surface: Anthracite	1016	0.020980	206,823,295	4.339153	4,096.8	408.0	1.067	836	16,445,462	4,043.3	0.107317
	Bituminous 1013	0.008080	<u>550,867,407</u>	<u>4.451009</u>	<u>10,303.8</u>	<u>609.5</u>	1.067	836	<u>61,784,394</u>	11,026.3	0.040367
Four Standard Classifications			2,432,204,789	45.440250	37,186.3	3,185.7			180,913,862	37,198.0	
	Coke 1017	0.002394	47,029,008	0.112587	892.7	78.6	1.067	836	5,173,552	925.6	0.012164
	Auger 1019	0.004930	7,553,959	0.037241	140.0	9.3	1.067	836	926,163	150.7	0.024712
Co-Gen: Anthracite	1022	0.004818	95,766,727	0.461404	1,844.0	141.2	1.067	836	8,004,644	1,875.4	0.024603
	Bituminous 1024	0.006505	103,380,449	0.672490	2,044.6	202.9	1.067	836	7,866,413	2,011.3	0.033436
Prep Plants: Anthracite	1026	0.050856	76,942,636	3.912995	1,573.4	217.3	1.067	836	6,749,748	1,501.6	0.260588
	Bituminous 1028	0.004220	<u>311,539,063</u>	<u>1.314695</u>	<u>4,284.1</u>	<u>438.3</u>	1.573	836	<u>19,828,012</u>	<u>4,135.8</u>	0.031788
Other Classes			642,211,842		10,778.8	1,087.6			48,548,532	10,600.4	
Total			3,074,416,631		47,965.1	4,273.3			229,462,394	47,798.4	

Source: (1) Approved Claim Frequency (4/1/20): See Exhibit III from filing effective 4/1/2020 (See Exhibit X-F)

(2) 10 years Payroll(2009-2018): See Exhibit X-A-1

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

(4) Estimated Miner Years 2010-2019: See Exhibit VII-B-2

(5) Estimated Miner Years 2019: See Exhibit VII-B-2

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

(7) Average Weekly Wage 2009: See Exhibit XII-D

(8) Payroll 2009: See Exhibit X-A-1

(9) Estimated Miner Years 2009-2018 =(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	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	1,299,588	0.000000	845	1.067	27.7	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	1,257,944	1.000000	858	1.067	26.4	3.787879	
2012	0	0	0	0	0.0000	0.0000	0.000000	1,029,260	0.000000	888	1.067	20.9	0.000000	
2013	1	1	0	0	0.0000	0.0000	0.000000	381,876	1.000000	917	1.067	7.5	13.333333	
2014	0	0	0	0	0.0000	0.0000	0.000000	258,809	0.000000	932	1.067	5.0	0.000000	
2015	0	0	0	0	0.0000	0.0000	0.000000	254,336	0.000000	951	1.067	4.8	0.000000	
2016	0	0	0	0	0.0000	0.0000	0.000000	163,760	0.000000	978	1.067	3.0	0.000000	
2017	0	0	0	0	0.0000	0.0000	0.000000	252,383	0.000000	995	1.067	4.6	0.000000	
2018	0	0	0	0	0.0000	0.0000	0.000000	183,346	0.000000	1,025	1.067	3.2	0.000000	
2019	0	0	0	0	0.0361	0.0361	0.033240	179,379	0.033240	1,049	1.067	3.1	1.072245	
TOTAL	2	2	0	0	0.0361	0.0361	0.033240	5,260,681	2.033240			106.2	18.193457	
Average: State Frequency														1.819346
Federal Excess Frequency (times 40.0%)														0.727738

BITUMINOUS UNDERGROUND (1002)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	0	0	0	0	0.0000	0.0000	0.000000	125,393,576	0.000000	845	1.573	1,814.2	0.000000	
2011	2	2	0	0	0.0000	0.0000	0.000000	148,485,709	2.000000	858	1.573	2,115.8	0.094527	
2012	4	3	1	0	0.0000	1.0000	0.920000	153,618,908	3.920000	888	1.573	2,114.9	0.185352	
2013	7	6	0	1	0.0764	0.0764	0.070260	149,747,092	6.070260	917	1.573	1,996.4	0.304060	
2014	8	8	0	0	0.3553	0.3553	0.326885	271,230,707	8.326885	932	1.573	3,557.9	0.234039	
2015	6	5	0	1	0.6277	0.6277	0.577502	216,454,460	5.777502	951	1.573	2,782.6	0.200442	
2016	4	4	0	0	0.8601	0.8601	0.791329	148,556,407	4.791329	978	1.573	1,857.0	0.258014	
2017	0	0	0	0	1.5509	1.5509	1.426846	172,708,778	1.426846	995	1.573	2,122.1	0.067237	
2018	2	1	0	1	2.3887	2.3887	2.197622	180,553,142	3.197622	1,025	1.573	2,153.5	0.148485	
2019	0	0	0	0	3.3180	3.3180	3.052532	185,776,423	3.052532	1,049	1.573	2,165.1	0.140988	
TOTAL	33	29	1	3	9.1772	10.1772	9.362978	1,752,525,202	38.362978			22,679.5	1.633144	
Average: State Frequency														1.633144
Federal Excess Frequency (times 40.0%)														0.653226

ANTHRACITE SURFACE (1016)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	0	0	0	0	0.0000	0.0000	0.000000	14,295,288	0.000000	845	1.067	304.9	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	21,034,600	1.000000	858	1.067	441.9	0.226296	
2012	0	0	0	0	0.0000	0.0000	0.000000	26,295,907	0.000000	888	1.067	533.7	0.000000	
2013	1	0	0	1	0.0000	0.0000	0.000000	22,449,824	0.000000	917	1.067	441.2	0.000000	
2014	0	0	0	0	0.0000	0.0000	0.000000	20,466,075	0.000000	932	1.067	395.8	0.000000	
2015	0	0	0	0	0.0000	0.0000	0.000000	24,218,779	0.000000	951	1.067	459.0	0.000000	
2016	2	2	0	0	0.0000	0.0000	0.000000	20,873,611	2.000000	978	1.067	384.7	0.519886	
2017	0	0	0	0	0.0726	0.0726	0.066792	21,167,074	0.066792	995	1.067	383.4	0.017421	
2018	0	0	0	0	0.1705	0.1705	0.156869	19,576,675	0.156869	1,025	1.067	344.2	0.045575	
2019	0	0	0	0	0.4198	0.4198	0.386253	23,746,667	0.386253	1,049	1.067	408.0	0.094670	
TOTAL	4	3	0	1	0.6630	0.6630	0.609914	214,124,500	3.609914			4,096.8	0.903848	
Average: State Frequency														0.90385
Federal Excess Frequency (times 40.0%)														0.036154

BITUMINOUS SURFACE (1013)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	0	0	0	0	0.0000	0.0000	0.000000	72,711,558	0.000000	845	1.067	1,550.9	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	86,074,064	1.000000	858	1.067	1,808.1	0.055307	
2012	2	2	0	0	0.0000	0.0000	0.000000	76,452,811	2.000000	888	1.067	1,551.7	0.128891	
2013	0	0	0	0	0.0000	0.0000	0.000000	61,349,745	0.000000	917	1.067	1,205.8	0.000000	
2014	1	1	0	0	0.0000	0.0000	0.000000	54,050,731	1.000000	932	1.067	1,045.2	0.095675	
2015	2	2	0	0	0.0000	0.0000	0.000000	40,934,048	2.000000	951	1.067	775.8	0.257798	
2016	0	0	0	0	0.0294	0.0294	0.027066	29,127,089	0.027066	978	1.067	536.8	0.005042	
2017	0	0	0	0	0.0958	0.0958	0.088118	33,140,780	0.088118	995	1.067	600.3	0.014679	
2018	0	0	0	0	0.1875	0.1875	0.172491	35,242,187	0.172491	1,025	1.067	619.7	0.027835	
2019	0	0	0	0	0.2870	0.2870	0.264040	35,476,154	0.264040	1,049	1.067	609.5	0.043321	
TOTAL	6	6	0	0	0.5997	0.5997	0.551715	524,559,167	6.551715			10,303.8	0.628548	
Average: State Frequency														0.62855
Federal Excess Frequency (times 40.0%)														0.025142

FOUR STANDARD CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	0	0	0	0	0.0000	0.0000	0.000000	213,700,010	0.000000	845		3,697.7	0.000000	
2011	5	5	0	0	0.0000	0.0000	0.000000	256,852,317	5.000000	858		4,392.2	0.113838	
2012	6	5	1	0	0.0000	1.0000	0.920000	257,396,886	5.920000	888		4,221.2	0.140244	
2013	9	7	0	2	0.0764	0.0764	0.070260	233,928,537	7.070260	917		3,650.9	0.193658	
2014	9	9	0	0	0.3553	0.3553	0.326885	346,006,322	9.326885	932		5,003.9	0.186392	
2015	8	7	0	1	0.6277	0.6277	0.577502	281,861,623	7.577502	951		4,022.2	0.188392	
2016	6	6	0	0	0.8896	0.8896	0.818395	198,720,867	6.818395	978		2,781.5	0.245134	
2017	0	0	0	0	1.7193	1.7193	1.581756	227,269,015	1.581756	995		3,110.4	0.050854	
2018	2	1	0	1	2.7467	2.7467	2.526982	235,555,350	3.526982	1,025		3,120.6	0.113023	
2019	0	0	0	0	4.0609	4.0609	3.736065	245,178,623	3.736065	1,049		3,185.7	0.117276	
TOTAL	45	40	1	4	10.4759	11.4759	10.557846	2,496,469,550	50.557846			37,186.3	1.348811	
Average: State Frequency														0.134881
Federal Excess Frequency (times 40.0%)														0.053952

Source: Claim counts - CMCRB OD Database as of 08/06/2020

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) = 46 / [46 + 04] = 0.920

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:\Users\Forum\OneDrive\Coal Mine\2020 Rate Filing\XL\2020-07-B-2.xlsx\VII-B-1

Run Date: September 18, 2020 - 02:45:19 PM

PAB

Effective Date - April 01, 2021

9,986,175,653.589880

STATE OCCUPATIONAL DISEASE FREQUENCY
WITH FEDERAL EXCESS FREQUENCY

COKE (1017)

IBNR Factor adjusted by 0.4000										0.920	EXPECTED	Statewide	Adjustment	Estimated	Frequency	Weighted
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	IBNR +	AWARD	PAYROLL	RATIO	ULTIMATE	Average	Factor	Miner	Claims per 100	
							PENDING	RATIO			AWARDED	Weekly Wage		Years	Miner Years	Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	0.000000	5,435,658	0.000000	0.000000	845	1.067	115.9	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	0.000000	3,599,086	0.000000	0.000000	858	1.067	75.6	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	0.000000	5,738,105	0.000000	0.000000	888	1.067	116.5	0.000000	
2013	0	0	0	0	0.0005	0.0005	0.000460	0.000460	4,791,910	0.000460	0.000460	917	1.067	94.2	0.000488	
2014	0	0	0	0	0.0014	0.0014	0.001288	0.001288	4,464,398	0.001288	0.001288	932	1.067	86.3	0.001492	
2015	0	0	0	0	0.0039	0.0039	0.003588	0.003588	4,340,376	0.003588	0.003588	951	1.067	82.3	0.004360	
2016	0	0	0	0	0.0072	0.0072	0.006624	0.006624	4,435,066	0.006624	0.006624	978	1.067	81.7	0.008108	
2017	0	0	0	0	0.0110	0.0110	0.010120	0.010120	4,566,113	0.010120	0.010120	995	1.067	82.7	0.012237	
2018	0	0	0	0	0.0168	0.0168	0.015456	0.015456	4,484,744	0.015456	0.015456	1,025	1.067	78.9	0.019589	
2019	0	0	0	0	0.0240	0.0240	0.022080	0.022080	4,572,392	0.022080	0.022080	1,049	1.067	78.6	0.028092	
TOTAL	0	0	0	0	0.0648	0.0648	0.059616	0.059616	46,427,848	0.059616	0.059616			892.7	0.074366	
Average: State Frequency																0.007437
Federal Excess Frequency (times 40.0%)																0.002975

AUGER (1019)

IBNR Factor adjusted by 0.4000										0.920	EXPECTED	Statewide	Adjustment	Estimated	Frequency	Weighted
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	IBNR +	AWARD	PAYROLL	RATIO	ULTIMATE	Average	Factor	Miner	Claims per 100	
							PENDING	RATIO			AWARDED	Weekly Wage		Years	Miner Years	Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	0.000000	806,696	0.000000	0.000000	845	1.067	17.2	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	0.000000	1,176,255	0.000000	0.000000	858	1.067	24.7	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	0.000000	808,208	0.000000	0.000000	888	1.067	16.4	0.000000	
2013	0	0	0	0	0.0001	0.0001	0.000092	0.000092	1,025,399	0.000092	0.000092	917	1.067	20.2	0.000455	
2014	0	0	0	0	0.0002	0.0002	0.000184	0.000184	806,976	0.000184	0.000184	932	1.067	15.6	0.001179	
2015	0	0	0	0	0.0005	0.0005	0.000460	0.000460	582,619	0.000460	0.000460	951	1.067	11.0	0.004182	
2016	0	0	0	0	0.0006	0.0006	0.000552	0.000552	372,496	0.000552	0.000552	978	1.067	6.9	0.008000	
2017	0	0	0	0	0.0011	0.0011	0.001012	0.001012	449,009	0.001012	0.001012	995	1.067	8.1	0.012494	
2018	0	0	0	0	0.0022	0.0022	0.002024	0.002024	600,138	0.002024	0.002024	1,025	1.067	10.6	0.019094	
2019	0	0	0	0	0.0028	0.0028	0.002576	0.002576	539,914	0.002576	0.002576	1,049	1.067	9.3	0.027699	
TOTAL	0	0	0	0	0.0075	0.0075	0.006900	0.006900	7,167,710	0.006900	0.006900			140.0	0.073103	
Average: State Frequency																0.007310
Federal Excess Frequency (times 40.0%)																0.002924

ANTHRACITE CO-GEN (1022)

IBNR Factor adjusted by 0.4000										0.920	EXPECTED	Statewide	Adjustment	Estimated	Frequency	Weighted
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	IBNR +	AWARD	PAYROLL	RATIO	ULTIMATE	Average	Factor	Miner	Claims per 100	
							PENDING	RATIO			AWARDED	Weekly Wage		Years	Miner Years	Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	0.000000	8,481,228	0.000000	0.000000	845	1.067	180.9	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	0.000000	11,720,035	0.000000	0.000000	858	1.067	246.2	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	0.000000	10,273,004	0.000000	0.000000	888	1.067	208.5	0.000000	
2013	0	0	0	0	0.0009	0.0009	0.000828	0.000828	8,342,651	0.000828	0.000828	917	1.067	164.0	0.000505	
2014	0	0	0	0	0.0028	0.0028	0.002576	0.002576	9,060,883	0.002576	0.002576	932	1.067	175.2	0.001470	
2015	0	0	0	0	0.0095	0.0095	0.008740	0.008740	10,469,089	0.008740	0.008740	951	1.067	198.4	0.004405	
2016	0	0	0	0	0.0146	0.0146	0.013432	0.013432	8,994,602	0.013432	0.013432	978	1.067	165.8	0.008101	
2017	0	0	0	0	0.0213	0.0213	0.019596	0.019596	8,819,700	0.019596	0.019596	995	1.067	159.8	0.012263	
2018	0	0	0	0	0.0434	0.0434	0.039928	0.039928	11,600,891	0.039928	0.039928	1,025	1.067	204.0	0.019573	
2019	1	1	0	0	0.0431	0.0431	0.039652	0.039652	8,219,127	0.039652	0.039652	1,049	1.067	141.2	0.736297	
TOTAL	1	1	0	0	0.1356	0.1356	0.124752	0.124752	95,981,210	0.124752	0.124752			1,844.0	0.782614	
Average: State Frequency																0.078261
Federal Excess Frequency (times 40.0%)																0.031304

BITUMINOUS CO-GEN (1024)

IBNR Factor adjusted by 0.4000										0.920	EXPECTED	Statewide	Adjustment	Estimated	Frequency	Weighted
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	IBNR +	AWARD	PAYROLL	RATIO	ULTIMATE	Average	Factor	Miner	Claims per 100	
							PENDING	RATIO			AWARDED	Weekly Wage		Years	Miner Years	Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	0.000000	8,732,701	0.000000	0.000000	845	1.067	186.3	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	0.000000	9,102,411	0.000000	0.000000	858	1.067	191.2	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	0.000000	9,047,745	0.000000	0.000000	888	1.067	183.6	0.000000	
2013	0	0	0	0	0.0011	0.0011	0.001012	0.001012	10,355,884	0.001012	0.001012	917	1.067	203.5	0.000497	
2014	0	0	0	0	0.0036	0.0036	0.003312	0.003312	11,721,184	0.003312	0.003312	932	1.067	226.7	0.001461	
2015	0	0	0	0	0.0107	0.0107	0.009844	0.009844	11,748,205	0.009844	0.009844	951	1.067	222.7	0.004420	
2016	0	0	0	0	0.0184	0.0184	0.016928	0.016928	11,327,552	0.016928	0.016928	978	1.067	208.8	0.008107	
2017	0	0	0	0	0.0276	0.0276	0.025392	0.025392	11,435,057	0.025392	0.025392	995	1.067	207.1	0.012261	
2018	0	0	0	0	0.0451	0.0451	0.041492	0.041492	12,043,297	0.041492	0.041492	1,025	1.067	211.8	0.019590	
2019	0	0	0	0	0.0620	0.0620	0.057040	0.057040	11,807,241	0.057040	0.057040	1,049	1.067	202.9	0.028112	
TOTAL	0	0	0	0	0.1685	0.1685	0.155020	0.155020	107,321,277	0.155020	0.155020			2,044.6	0.074448	
Average: State Frequency																0.007445
Federal Excess Frequency (times 40.0%)																0.002978

Source: Claim counts - CMCRB OD Database as of 08/06/2020

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) = 46 / [46 + 04] = 0.920

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:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-07-B-2.xlsx\VII-B-2

Run Date: September 18, 2020 - 02:45:19 PM

PAB

Effective Date - April 01, 2021

513,924,322.000448

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	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	1	1	0	0	0.0000	0.0000	0.000000	5,762,086	1.000000	845	1.067	122.9	0.813670	
2011	0	0	0	0	0.0000	0.0000	0.000000	7,236,583	0.000000	858	1.067	152.0	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	8,671,140	0.000000	888	1.067	176.0	0.000000	
2013	0	0	0	0	0.0021	0.0021	0.001932	8,265,665	0.001932	917	1.067	162.5	0.001189	
2014	1	1	0	0	0.0063	0.0063	0.005796	8,234,771	1.005796	932	1.067	159.2	0.631781	
2015	1	1	0	0	0.0173	0.0173	0.015916	7,606,274	1.015916	951	1.067	144.2	0.704519	
2016	0	0	0	0	0.0286	0.0286	0.026312	7,018,927	0.026312	978	1.067	129.3	0.020350	
2017	1	1	0	0	0.0468	0.0468	0.043056	7,746,154	1.043056	995	1.067	140.3	0.743447	
2018	0	0	0	0	0.0903	0.0903	0.083076	9,651,288	0.083076	1,025	1.067	169.7	0.048955	
2019	0	0	0	0	0.1659	0.1659	0.152628	12,646,576	0.152628	1,049	1.067	217.3	0.070238	
TOTAL	4	4	0	0	0.3573	0.3573	0.328716	82,839,464	4.328716			1,573.4	3.034149	
Average: State Frequency														0.303415
Federal Excess Frequency (times 40.0%)														0.121366

BITUMINOUS PREP PLANT (1028)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	0	0	0	0	0.0000	0.0000	0.000000	26,313,130	0.000000	845	1.573	380.7	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	35,155,068	0.000000	858	1.573	500.9	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	34,211,729	0.000000	888	1.573	471.0	0.000000	
2013	0	0	0	0	0.0036	0.0036	0.003312	34,253,697	0.003312	917	1.573	456.7	0.000725	
2014	0	0	0	0	0.0132	0.0132	0.012144	43,520,040	0.012144	932	1.573	570.9	0.002127	
2015	0	0	0	0	0.0305	0.0305	0.028060	33,564,176	0.028060	951	1.573	431.5	0.006503	
2016	1	1	0	0	0.0386	0.0386	0.035512	23,689,882	1.035512	978	1.573	296.1	0.349717	
2017	0	0	0	0	0.0696	0.0696	0.064032	28,803,457	0.064032	995	1.573	353.9	0.018093	
2018	0	0	0	0	0.1206	0.1206	0.110952	32,199,872	0.110952	1,025	1.573	384.1	0.028886	
2019	0	0	0	0	0.1974	0.1974	0.181608	37,605,236	0.181608	1,049	1.573	438.3	0.041435	
TOTAL	1	1	0	0	0.4735	0.4735	0.435620	329,316,287	1.435620			4,284.1	0.447486	
Average: State Frequency														0.044749
Federal Excess Frequency (times 40.0%)														0.017900

TOTAL OTHER CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	1	1	0	0	0.0000	0.0000	0.000000	55,531,499	1.000000	845		1,003.9	0.099612	
2011	0	0	0	0	0.0000	0.0000	0.000000	67,989,438	0.000000	858		1,190.6	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	68,749,931	0.000000	888		1,172.0	0.000000	
2013	0	0	0	0	0.0083	0.0083	0.007636	67,035,206	0.007636	917		1,101.1	0.000693	
2014	1	1	0	0	0.0275	0.0275	0.025300	77,808,252	1.025300	932		1,233.9	0.083094	
2015	1	1	0	0	0.0724	0.0724	0.066608	68,310,739	1.066608	951		1,090.1	0.097845	
2016	1	1	0	0	0.1080	0.1080	0.099360	55,838,525	1.099360	978		888.6	0.123718	
2017	1	1	0	0	0.1774	0.1774	0.163208	61,819,490	1.163208	995		951.9	0.122199	
2018	0	0	0	0	0.3184	0.3184	0.292928	70,580,230	0.292928	1,025		1,059.1	0.027658	
2019	1	1	0	0	0.4952	0.4952	0.455584	75,390,486	1.455584	1,049		1,087.6	0.133834	
TOTAL	6	6	0	0	1.2072	1.2072	1.110624	669,053,796	7.110624			10,778.8	0.688653	
Average: State Frequency														0.068865
Federal Excess Frequency (times 40.0%)														0.027546
														0.077587
														0.031035

GRAND TOTAL

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.920 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2010	1	1	0	0	0.0000	0.0000	0.000000	269,231,509	1.000000	845		4,701.6	0.021269	
2011	5	5	0	0	0.0000	0.0000	0.000000	324,841,755	5.000000	858		5,582.8	0.089561	
2012	6	5	1	0	0.0000	1.0000	0.920000	326,146,817	5.920000	888		5,393.2	0.109768	
2013	9	7	0	2	0.0847	0.0847	0.077896	300,963,743	7.077896	917		4,752.0	0.148946	
2014	10	10	0	0	0.3828	0.3828	0.352185	423,814,574	10.352185	932		6,237.8	0.165959	
2015	9	8	0	1	0.7001	0.7001	0.644110	350,172,362	8.644110	951		5,112.3	0.169085	
2016	7	7	0	0	0.9976	0.9976	0.917755	254,559,392	7.917755	978		3,670.1	0.215737	
2017	1	1	0	0	1.8967	1.8967	1.744964	289,088,505	2.744964	995		4,062.3	0.067572	
2018	2	1	0	1	3.0651	3.0651	2.819910	306,135,580	3.819910	1,025		4,179.7	0.091392	
2019	1	1	0	0	4.5561	4.5561	4.191649	320,569,109	5.191649	1,049		4,273.3	0.121490	
TOTAL	51	46	1	4	11.6831	12.6831	11.668470	3,165,523,346	57.668470			47,965.1	1.200779	
Average: State Frequency														0.120078
Federal Excess Frequency (times 40.0%)														0.048031
														0.119907
														0.047963

Source: Claim counts - CMCRB OD Database as of 08/06/2020

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) = 46 / [46 + 04] = 0.920

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:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-07-B-2.xlsx\VII-B-3

Run Date: September 18, 2020 - 02:45:19 PM

PAB

Effective Date - April 01, 2021

8,493,713,835.708770

Exhibit VII-C-1

Incremental Frequency and IBNR

Incremental Changes

[illegible][illegible]

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-07-C.xlsx]VII-C-1
Run Date: September 18, 2020 - 11:14:55 AM

Exhibit VII-C-2

Incremental Frequency and IBNR

Incremental Changes

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Payroll (\$Millions)	52,756,653	60,509,944	65,271,115	75,223,044	70,396,649	61,087,333	58,685,244	47,520,566	48,522,623	49,250,353	54,211,550	65,497,767	70,872,642	70,465,944	79,904,227	101,353,938	101,348,814	125,393,558	148,485,717	153,618,911	149,747,009	271,230,371	216,455,446	148,556,641	172,708,708	180,553,314	185,779,642

IBNR Claims

PAB
Effective Date - April 01, 2021
114,581.019250

Exhibit VII-C-3

Incremental Frequency and IBNR

Incremental Changes

[illegible]

Cumulative Factor
times Payroll

PAB
Effective Date - April 01, 2021
112,146.081770

Exhibit VII-C-4

Incremental Frequency and IBNR

Incremental Changes

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Payroll (\$Millions)	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	63.00898	63.29577	73.05448	61.78439	72.71156	86.07406	76.45281	61.34975	54.05073	40.93405	29.12709	33.14078	35.24219	35.47615

IBNR Claims

PAB
Effective Date - April 01, 2021
112,924.330800

Exhibit VII-C-5

Incremental Frequency and IBNR

Incremental Changes

IBNR Claims																					
Cumulative Factor	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	0.00099	0.00349	0.00622
times Payroll	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	0.06120	0.24633	0.46893

PAB
Effective Date - April 01, 2021
112,541.402970

Exhibit VII-C-6

Incremental Frequency and IBNR

Incremental Changes

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(\$Millions)	237,346.42	244,865.19	226,148.04	233,690.96	231,279.06	175,234.25	163,554.66	145,171.01	155,176.71	153,202.28	156,909.82	184,727.88	202,430.64	200,407.87	218,810.54	249,817.10	229,462.39	269,231.52	324,841.75	326,146.82	300,963.75	423,814.58	350,172.37	254,559.40	289,088.50	306,135.59	320,569.11

IBNR Claims

Source: Counts and Payrolls: Sum of Exhibits VII-C-1 thru VII-C-5

**COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VII-C-7

IBNR By Class

		CLASSIFICATION					
A. IBNR Factor		Coke	Auger	Anthracite Co-Gen	Bituminous Co-Gen	Anthracite Prep Plant	Bituminous Prep Plant
	Year	1017	1019	1022	1024	1026	1028
	2010	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2011	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2012	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2013	0.00026	0.00026	0.00026	0.00026	0.00026	0.00026
	2014	0.00076	0.00076	0.00076	0.00076	0.00076	0.00076
	2015	0.00227	0.00227	0.00227	0.00227	0.00227	0.00227
	2016	0.00407	0.00407	0.00407	0.00407	0.00407	0.00407
	2017	0.00604	0.00604	0.00604	0.00604	0.00604	0.00604
	2018	0.00936	0.00936	0.00936	0.00936	0.00936	0.00936
	2019	0.01312	0.01312	0.01312	0.01312	0.01312	0.01312
B. Adjustment Factor		0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
C. Payroll Per \$1M							
	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	4.43507	0.37250	8.99460	11.32755	7.01893	23.68988
	2017	4.56611	0.44901	8.81970	11.43506	7.74615	28.80346
	2018	4.48474	0.60014	11.60089	12.04330	9.65129	32.19987
	2019	4.57239	0.53991	8.21913	11.80724	12.64658	37.60524
D. IBNR							
	2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2013	0.0005	0.0001	0.0009	0.0011	0.0021	0.0036
	2014	0.0014	0.0002	0.0028	0.0036	0.0063	0.0132
	2015	0.0039	0.0005	0.0095	0.0107	0.0173	0.0305
	2016	0.0072	0.0006	0.0146	0.0184	0.0286	0.0386
	2017	0.0110	0.0011	0.0213	0.0276	0.0468	0.0696
	2018	0.0168	0.0022	0.0434	0.0451	0.0903	0.1206
	2019	0.0240	0.0028	0.0431	0.0620	0.1659	0.1974

Source: IBNR Factor - Exhibit VII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A-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		<u>Coke</u>	<u>Auger</u>	<u>Anthracite</u> <u>Co-Gen</u>	<u>Bituminous</u> <u>Co-Gen</u>	<u>Anthracite</u> <u>Prep Plant</u>	<u>Bituminous</u> <u>Prep Plant</u>
	<u>Year</u>	<u>1017</u>	<u>1019</u>	<u>1022</u>	<u>1024</u>	<u>1026</u>	<u>1028</u>
	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
	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	0.00000	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							
	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
	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
D. IBNR							
	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
	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: IBNR Factor - Exhibit VII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A-2
IBNR = A times B times C

[illegible]

PAB

State O.D. Severity- Before Act 57

Underground Bituminous

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 (5) Amount	
	(1) Count	Amount	(2) Count	Amount	(3) = (1) + (2) Count	Amount	(4) Count	Amount		
a. Numbers and Amounts										
(i) List	1	928,663	-	-	-	-	-	-	-	
-	-	-	1	150,902	-	-	-	-	-	
-	-	-	1	221,552	-	-	-	-	-	
-	-	-	1	474,471	-	-	-	-	-	
-	-	-	1	93,663	-	-	-	-	-	
-	-	-	1	195,614	-	-	-	-	-	
-	-	-	1	371,035	-	-	-	-	-	
-	-	-	1	156,806	-	-	-	-	-	
1	960,251	-	-	-	-	-	-	-	-	
1	1,210,600	-	-	-	-	-	-	-	-	
1	1,702,506	-	-	-	-	-	-	-	-	
-	-	1	524,018	-	-	-	-	-	-	
-	-	1	143,066	-	-	-	-	-	-	
1	1,287,520	-	-	-	-	-	-	-	-	
-	-	1	205,178	-	-	-	-	-	-	
-	-	1	46,904	-	-	-	-	-	-	
1	1,625,431	-	-	-	-	-	-	-	-	
-	-	1	100,697	-	-	-	-	-	-	
-	-	1	180,738	-	-	-	-	-	-	
-	-	1	47,267	-	-	-	-	-	-	
-	-	1	176,491	-	-	-	-	-	-	
-	-	1	685,991	-	-	-	-	-	-	
-	-	1	263,430	-	-	-	-	-	-	
-	-	1	142,385	-	-	-	-	-	-	
-	-	1	205,484	-	-	-	-	-	-	
-	-	1	125,096	-	-	-	-	-	-	
-	-	1	134,776	-	-	-	-	-	-	
-	-	1	136,401	-	-	-	-	-	-	
-	-	1	132,027	-	-	-	-	-	-	
-	-	1	142,326	-	-	-	-	-	-	
-	-	1	139,271	-	-	-	-	-	-	
-	-	1	166,179	-	-	-	-	-	-	
-	-	1	139,884	-	-	-	-	-	-	
-	-	1	275,164	-	-	-	-	-	-	
-	-	1	158,201	-	-	-	-	-	-	
-	-	1	234,550	-	-	-	-	-	-	
-	-	1	593,433	-	-	-	-	-	-	
-	-	1	275,226	-	-	-	-	-	-	
-	-	1	133,062	-	-	-	-	-	-	
-	-	1	146,307	-	-	-	-	-	-	
-	-	1	115,397	-	-	-	-	-	-	
-	-	1	108,127	-	-	-	-	-	-	
-	-	1	259,331	-	-	-	-	-	-	
-	-	1	44,026	-	-	-	-	-	-	
-	-	1	92,592	-	-	-	-	-	-	
-	-	1	168,941	-	-	-	-	-	-	
-	-	-	-	-	-	1	1,214,100	-	-	
-	-	1	320,407	-	-	-	-	-	-	
-	-	1	194,828	-	-	-	-	-	-	
-	-	1	254,817	-	-	-	-	-	-	
1	1,174,383	-	-	-	-	-	-	-	-	
-	-	1	138,329	-	-	-	-	-	-	
-	-	1	88,620	-	-	-	-	-	-	
-	-	1	93,406	-	-	-	-	-	-	
-	-	1	38,629	-	-	-	-	-	-	
-	-	1	92,928	-	-	-	-	-	-	
-	-	1	90,427	-	-	-	-	-	-	
-	-	1	83,749	-	-	-	-	-	-	
-	-	1	94,764	-	-	-	-	-	-	
-	-	1	95,327	-	-	-	-	-	-	
-	-	1	92,572	-	-	-	-	-	-	
-	-	1	48,094	-	-	-	-	-	-	
-	-	1	236,048	-	-	-	-	-	-	
-	-	1	39,042	-	-	-	-	-	-	
-	-	1	96,324	-	-	-	-	-	-	
-	-	1	228,442	-	-	-	-	-	-	
(i) Total	# 7	\$8,889,356	# 58	\$10,432,765	# 65	\$19,322,121	# 1	\$1,214,100	# 66	\$20,536,221
(ii) Average		\$1,269,908		\$179,875		\$297,263		\$1,214,100		\$311,155
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$1,269,908		\$179,875						
(ii) Difference (Col. 2 minus Col. 1)						(\$1,090,033)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Total	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$1,214,100		\$1,214,100						
(ii) C/C Difference		\$0		(\$1,090,033)						
(iii) (e-i) + (e-ii)		\$1,214,100		\$124,067						
(iv) Total		\$130,749		\$110,706						
(d-ii) x (e-iii)										
(v) Total of (e-iv)								\$241,455		
f. Calculation of Impact of Adjustment										
	Awarded			Pending			Total			
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average	
(i) Permanent	# 7	\$8,889,356	\$1,269,908	# 0.1077	\$130,749	\$1,214,100	# 7.1077	\$9,020,105	\$1,269,062	
(ii) Comm./Comp.	# 58	\$10,432,765	\$179,875	# 0.8923	\$110,706	\$124,067	# 58.8923	\$10,543,471	\$179,030	
(iii) Total	# 65	\$19,322,121	\$297,263	# 1.0000	\$241,455	\$241,455	# 66.0000	\$19,563,576	\$296,418	
(iv) Average Severity before Adjustment									\$311,155	
(v) Impact									(\$14,737)	

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

PAB
Effective Date - April 01, 2021
77,616,056.004883

[illegible]

PAB

[illegible]

C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-07-E-a,b,c,d,e,f.xlsx]B SS 1-UA
October 20, 2020 - 12:53:14 PM

State O. D. Severity- Social Security Offset

Underground Bituminous

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	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	63,060	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	337,160	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	15,239	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
1	313,919	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	93	-	-	-	-	-	-
-	-	-	1	48,733	-	-	-	-	-	-
-	-	-	1	84,553	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	59,030	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	34,283	-	-	-	-	-	-
-	-	-	1	25,802	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	2,453	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	31,561	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	48,634	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	52,082	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	41,236	-	-	-	-	-	-
-	-	-	1	31,958	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	2,429	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	25,996	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	82,364	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	20,782	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
(i) Total	# 7	\$651,079	# 58	\$670,289	# 65	\$1,321,368	# 1	\$0	# 66	\$1,321,368
(ii) Average		\$93,011		\$11,557		\$20,329		\$0		\$20,021
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$93,011		\$11,557						
(ii) Difference (Col. 2 minus Col. 1)						(\$81,455)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Number	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above: Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference		\$0		(\$81,455)						
(iii) (e-i) + (e-ii)		\$0		\$0						limited to zero: negative offset is impossible
(iv) Total		\$0		\$0						
(d-ii) 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	# 7	\$651,079	\$93,011	# 0.1077	\$0	\$0	# 7.1077	\$651,079	\$91,602	
(ii) Comm./Comp.	# 58	\$670,289	\$11,557	# 0.8923	\$0	\$0	# 58.8923	\$670,289	\$11,382	
(iii) Total	# 65	\$1,321,368	\$20,329	# 1.0000	\$0	\$0	# 66.0000	\$1,321,368	\$20,021	
(iv) Average Severity before Adjustment									\$20,021	
(v) Impact										\$0

Source: Exhibit IX-A

State O. D. Severity- Social Security Offset

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

State O. D. Severity- Social Security Offset

Surface Bituminous

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

State O. D. Severity- Social Security Offset

Other Classes

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

[illegible]

PAB

State O. D. Severity- Private Pension Offset

Underground Bituminous

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	391,277	-	-	-	-	-	-	-	-
-	-	-	1	104,073	-	-	-	-	-	-
-	-	-	1	154,557	-	-	-	-	-	-
-	-	-	1	136,909	-	-	-	-	-	-
-	-	-	1	52,654	-	-	-	-	-	-
-	-	-	1	50,800	-	-	-	-	-	-
-	-	-	1	24,722	-	-	-	-	-	-
-	-	-	1	102,695	-	-	-	-	-	-
1	252,829	-	-	-	-	-	-	-	-	-
1	386,415	-	-	-	-	-	-	-	-	-
1	347,041	-	-	-	-	-	-	-	-	-
-	-	-	1	160,345	-	-	-	-	-	-
-	-	-	1	29,476	-	-	-	-	-	-
1	317,109	-	-	-	-	-	-	-	-	-
-	-	-	1	8	-	-	-	-	-	-
-	-	-	1	15,162	-	-	-	-	-	-
1	275,893	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	86,634	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	197	-	-	-	-	-	-
-	-	-	1	102,804	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	79	-	-	-	-	-	-
-	-	-	1	75,223	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	59,211	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	77,103	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	145,128	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	141,050	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	164,069	-	-	-	-	-	-
-	-	-	1	62,236	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	70,355	-	-	-	-	-	-
-	-	-	1	54,804	-	-	-	-	-	-
-	-	-	1	6,193	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	45,562	-	-	-	-	-	-
-	-	-	1	91,305	-	-	-	-	-	-
-	-	-	-	-	-	-	1	319,222	-	-
-	-	-	1	117,370	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	6,277	-	-	-	-	-	-
1	256,372	-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	3,762	-	-	-	-	-	-
-	-	-	1	43,991	-	-	-	-	-	-
-	-	-	1	48,933	-	-	-	-	-	-
-	-	-	1	30,036	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	41,478	-	-	-	-	-	-
-	-	-	1	50,661	-	-	-	-	-	-
-	-	-	1	14,833	-	-	-	-	-	-
-	-	-	1	5,684	-	-	-	-	-	-
-	-	-	1	9,656	-	-	-	-	-	-
-	-	-	1	-	-	-	-	-	-	-
-	-	-	1	131,579	-	-	-	-	-	-
(i) Total	# 7	\$2,226,936	# 58	\$2,517,617	# 65	\$4,744,553	# 1	\$319,222	# 66	\$5,063,776
(ii) Average		\$318,134		\$43,407		\$72,993		\$319,222		\$76,724
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$318,134		\$43,407						
(ii) Difference (Col. 2 minus Col. 1)						(\$274,727)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Number	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above: Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$319,222		\$319,222						
(ii) C/C Difference		\$0		(\$274,727)						
(iii) (e-i) + (e-ii)		\$319,222		\$44,496						
(iv) Total		\$34,378		\$39,704						
(d-ii) x (e-iii)										
(v) Total of (e-iv)								\$74,082		
f. Calculation of Impact of Adjustment										
	Awarded			Pending			Total			
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average	
(i) Permanent	# 7	\$2,226,936	\$318,134	# 0.1077	\$34,378	\$319,222	# 7.1077	\$2,261,314	\$318,150	
(ii) Comm./Comp.	# 58	\$2,517,617	\$43,407	# 0.8923	\$39,704	\$44,496	# 58.8923	\$2,557,321	\$43,424	
(iii) Total	# 65	\$4,744,553	\$72,993	# 1.0000	\$74,082	\$74,082	# 66.0000	\$4,818,635	\$73,010	
(iv) Average Severity before Adjustment										\$76,724
(v) Impact										(\$3,714)

Source: Exhibit IX-A

State O. D. Severity- Private Pension Offset

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

State O. D. Severity- Private Pension Offset

Surface Bituminous

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

State O. D. Severity- Private Pension Offset

Other Classes

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess Before Offsets

Underground Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess Before Offsets

Underground Bituminous

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	211,562	-	-	-	-	-	-
-	-	-	1	214,501	-	-	-	-	-	-
-	-	-	1	265,519	-	-	-	-	-	-
-	-	-	1	228,484	-	-	-	-	-	-
-	-	-	1	229,086	-	-	-	-	-	-
-	-	-	1	277,544	-	-	-	-	-	-
-	-	-	1	207,893	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	241,825	-	-	-	-	-	-
-	-	-	1	103,383	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	296,159	-	-	-	-	-	-
-	-	-	1	244,717	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	454,298	-	-	-	-	-	-
-	-	-	1	270,874	-	-	-	-	-	-
-	-	-	1	483,612	-	-	-	-	-	-
-	-	-	1	286,242	-	-	-	-	-	-
-	-	-	1	273,511	-	-	-	-	-	-
-	-	-	1	544,857	-	-	-	-	-	-
-	-	-	1	426,235	-	-	-	-	-	-
-	-	-	1	264,694	-	-	-	-	-	-
-	-	-	1	186,378	-	-	-	-	-	-
-	-	-	1	287,784	-	-	-	-	-	-
-	-	-	1	313,500	-	-	-	-	-	-
-	-	-	1	246,284	-	-	-	-	-	-
-	-	-	1	708,215	-	-	-	-	-	-
-	-	-	1	367,982	-	-	-	-	-	-
-	-	-	1	103,676	-	-	-	-	-	-
-	-	-	1	550,179	-	-	-	-	-	-
-	-	-	1	213,477	-	-	-	-	-	-
-	-	-	1	369,762	-	-	-	-	-	-
-	-	-	1	267,331	-	-	-	-	-	-
-	-	-	1	488,285	-	-	-	-	-	-
-	-	-	1	174,783	-	-	-	-	-	-
-	-	-	1	255,993	-	-	-	-	-	-
-	-	-	1	120,003	-	-	-	-	-	-
-	-	-	1	221,243	-	-	-	-	-	-
-	-	-	1	269,661	-	-	-	-	-	-
-	-	-	1	298,212	-	-	-	-	-	-
-	-	-	1	136,910	-	-	-	-	-	-
-	-	-	1	109,060	-	-	-	-	-	-
-	-	-	1	95,742	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	1	250,045	-	-	-	-	-	-
-	-	-	1	134,532	-	-	-	-	-	-
-	-	-	1	295,780	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	368,816	-	-	-	-	-	-
-	-	-	1	46,115	-	-	-	-	-	-
-	-	-	1	103,550	-	-	-	-	-	-
-	-	-	1	337,889	-	-	-	-	-	-
-	-	-	1	301,121	-	-	-	-	-	-
-	-	-	1	277,437	-	-	-	-	-	-
-	-	-	1	323,264	-	-	-	-	-	-
-	-	-	1	342,916	-	-	-	-	-	-
-	-	-	1	266,280	-	-	-	-	-	-
-	-	-	1	266,887	-	-	-	-	-	-
-	-	-	1	288,552	-	-	-	-	-	-
-	-	-	1	275,536	-	-	-	-	-	-
-	-	-	1	315,676	-	-	-	-	-	-
-	-	-	1	155,918	-	-	-	-	-	-
-	-	-	1	202,287	-	-	-	-	-	-
(i) Total	# 7	\$0	# 58	\$15,862,057	# 65	\$15,862,057	# 1	\$0	# 66	\$15,862,057
(ii) Average		\$0		\$273,484		\$244,032		\$0		\$240,334
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$0		\$273,484						
(ii) Difference (Col. 2 minus Col. 1)						\$273,484				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Number	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above: Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference		\$0		\$273,484						
(iii) (e-i) + (e-ii)		\$0		\$273,484						
(iv) Total		\$0		\$244,032						
(d-ii) x (e-iii)										
(v) Total of (e-iv)								\$244,032		
f. Calculation of Impact of Adjustment										
	Awarded			Pending			Total			
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average	
(i) Permanent	# 7	\$0	\$0	# 0.1077	\$0	\$0	# 7.1077	\$0	\$0	
(ii) Comm./Comp.	# 58	\$15,862,057	\$273,484	# 0.8923	\$244,032	\$273,484	# 58.8923	\$16,106,089	\$273,484	
(iii) Total	# 65	\$15,862,057	\$244,032	# 1.0000	\$244,032	\$244,032	# 66.0000	\$16,106,089	\$244,032	
(iv) Average Severity before Adjustment										\$240,334
(v) Impact										\$3,697

Source: Exhibit IX-A

Federal Excess Before Offsets

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess Before Offsets

Surface Bituminous

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Awarded-Permanent Basis		Commuted and Compromised-As Settled		Total Awarded-Permanent plus Commuted/Comp.		Pending, on Permanent Basis		Total Claims	
(1)		(2)		(3) = (1) + (2)		(4)		(5)	
Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount

(i) List

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Underground Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Underground Bituminous

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	211,562	-	-	-	-	-	-
-	-	-	1	214,501	-	-	-	-	-	-
-	-	-	1	265,519	-	-	-	-	-	-
-	-	-	1	228,484	-	-	-	-	-	-
-	-	-	1	229,086	-	-	-	-	-	-
-	-	-	1	293,382	-	-	-	-	-	-
-	-	-	1	207,893	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
1	2,425	-	-	-	-	-	-	-	-	-
-	-	-	1	241,825	-	-	-	-	-	-
-	-	-	1	103,383	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	309,736	-	-	-	-	-	-
-	-	-	1	244,717	-	-	-	-	-	-
1	2,301	-	-	-	-	-	-	-	-	-
-	-	-	1	454,298	-	-	-	-	-	-
-	-	-	1	270,874	-	-	-	-	-	-
-	-	-	1	483,705	-	-	-	-	-	-
-	-	-	1	333,864	-	-	-	-	-	-
-	-	-	1	273,511	-	-	-	-	-	-
-	-	-	1	544,857	-	-	-	-	-	-
-	-	-	1	426,235	-	-	-	-	-	-
-	-	-	1	313,511	-	-	-	-	-	-
-	-	-	1	186,378	-	-	-	-	-	-
-	-	-	1	322,000	-	-	-	-	-	-
-	-	-	1	339,272	-	-	-	-	-	-
-	-	-	1	246,284	-	-	-	-	-	-
-	-	-	1	708,215	-	-	-	-	-	-
-	-	-	1	370,435	-	-	-	-	-	-
-	-	-	1	103,676	-	-	-	-	-	-
-	-	-	1	550,179	-	-	-	-	-	-
-	-	-	1	213,477	-	-	-	-	-	-
-	-	-	1	401,081	-	-	-	-	-	-
-	-	-	1	267,331	-	-	-	-	-	-
-	-	-	1	488,285	-	-	-	-	-	-
-	-	-	1	174,783	-	-	-	-	-	-
-	-	-	1	255,993	-	-	-	-	-	-
-	-	-	1	161,233	-	-	-	-	-	-
-	-	-	1	221,243	-	-	-	-	-	-
-	-	-	1	269,661	-	-	-	-	-	-
-	-	-	1	329,684	-	-	-	-	-	-
-	-	-	1	136,910	-	-	-	-	-	-
-	-	-	1	109,060	-	-	-	-	-	-
-	-	-	1	95,742	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-	-
-	-	-	1	250,045	-	-	-	-	-	-
-	-	-	1	160,271	-	-	-	-	-	-
-	-	-	1	315,357	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-
-	-	-	1	371,245	-	-	-	-	-	-
-	-	-	1	46,115	-	-	-	-	-	-
-	-	-	1	103,550	-	-	-	-	-	-
-	-	-	1	337,889	-	-	-	-	-	-
-	-	-	1	301,121	-	-	-	-	-	-
-	-	-	1	277,437	-	-	-	-	-	-
-	-	-	1	323,264	-	-	-	-	-	-
-	-	-	1	368,912	-	-	-	-	-	-
-	-	-	1	266,280	-	-	-	-	-	-
-	-	-	1	266,887	-	-	-	-	-	-
-	-	-	1	288,552	-	-	-	-	-	-
-	-	-	1	330,521	-	-	-	-	-	-
-	-	-	1	315,676	-	-	-	-	-	-
-	-	-	1	176,700	-	-	-	-	-	-
-	-	-	1	202,287	-	-	-	-	-	-
(i) Total	# 7	\$4,726	# 58	\$16,303,975	# 65	\$16,308,700	# 1	\$0	# 66	\$16,308,700
(ii) Average		\$675		\$281,103		\$250,903		\$0		\$247,102
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$675		\$281,103						
(ii) Difference (Col. 2 minus Col. 1)						\$280,428				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Number	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above: Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference		\$0		\$280,428						
(iii) (e-i) + (e-ii)		\$0		\$280,428						
(iv) Total		\$0		\$250,228						
(d-ii) x (e-iii)										
(v) Total of (e-iv)								\$250,228		
f. Calculation of Impact of Adjustment										
	Awarded			Pending			Total			
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average	
(i) Permanent	# 7	\$4,726	\$675	# 0.1077	\$0	\$0	# 7.1077	\$4,726	\$665	
(ii) Comm./Comp.	# 58	\$16,303,975	\$281,103	# 0.8923	\$250,228	\$280,428	# 58.8923	\$16,554,203	\$281,093	
(iii) Total	# 65	\$16,308,700	\$250,903	# 1.0000	\$250,228	\$250,228	# 66.0000	\$16,558,928	\$250,893	
(iv) Average Severity before Adjustment										\$247,102
(v) Impact										\$3,791

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Surface Bituminous

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess After Social Security Offset

Other Classes

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess After Social Security and Private Pension Offsets

Underground Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

[illegible]

Source: Exhibit IX-A

Federal Excess After Social Security and Private Pension Offsets

Underground Bituminous

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis		Commutated 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	314,213	-	-	-	-	-	-
-	-	-	1	319,654	-	-	-	-	-	-
-	-	-	1	265,519	-	-	-	-	-	-
-	-	-	1	281,139	-	-	-	-	-	-
-	-	-	1	242,595	-	-	-	-	-	-
-	-	-	1	313,585	-	-	-	-	-	-
-	-	-	1	309,383	-	-	-	-	-	-
1	3	-	-	-	-	-	-	-	-	-
1	47	-	-	-	-	-	-	-	-	-
1	143,289	-	-	-	-	-	-	-	-	-
-	-	-	1	241,825	-	-	-	-	-	-
-	-	-	1	112,556	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
-	-	-	1	309,744	-	-	-	-	-	-
-	-	-	1	259,879	-	-	-	-	-	-
1	94,706	-	-	-	-	-	-	-	-	-
-	-	-	1	454,298	-	-	-	-	-	-
-	-	-	1	351,832	-	-	-	-	-	-
-	-	-	1	483,705	-	-	-	-	-	-
-	-	-	1	334,061	-	-	-	-	-	-
-	-	-	1	275,002	-	-	-	-	-	-
-	-	-	1	544,857	-	-	-	-	-	-
-	-	-	1	426,235	-	-	-	-	-	-
-	-	-	1	313,591	-	-	-	-	-	-
-	-	-	1	261,601	-	-	-	-	-	-
-	-	-	1	322,000	-	-	-	-	-	-
-	-	-	1	339,272	-	-	-	-	-	-
-	-	-	1	305,324	-	-	-	-	-	-
-	-	-	1	708,215	-	-	-	-	-	-
-	-	-	1	370,435	-	-	-	-	-	-
-	-	-	1	160,311	-	-	-	-	-	-
-	-	-	1	550,179	-	-	-	-	-	-
-	-	-	1	284,433	-	-	-	-	-	-
-	-	-	1	401,081	-	-	-	-	-	-
-	-	-	1	358,264	-	-	-	-	-	-
-	-	-	1	488,285	-	-	-	-	-	-
-	-	-	1	253,504	-	-	-	-	-	-
-	-	-	1	317,946	-	-	-	-	-	-
-	-	-	1	161,233	-	-	-	-	-	-
-	-	-	1	291,598	-	-	-	-	-	-
-	-	-	1	324,465	-	-	-	-	-	-
-	-	-	1	335,807	-	-	-	-	-	-
-	-	-	1	136,910	-	-	-	-	-	-
-	-	-	1	154,623	-	-	-	-	-	-
-	-	-	1	159,745	-	-	-	-	-	-
-	-	-	-	-	-	-	1	0	-	-
-	-	-	1	267,957	-	-	-	-	-	-
-	-	-	1	160,271	-	-	-	-	-	-
-	-	-	1	321,519	-	-	-	-	-	-
1	0	-	-	-	-	-	-	-	-	-
-	-	-	1	371,245	-	-	-	-	-	-
-	-	-	1	46,115	-	-	-	-	-	-
-	-	-	1	103,550	-	-	-	-	-	-
-	-	-	1	341,651	-	-	-	-	-	-
-	-	-	1	345,112	-	-	-	-	-	-
-	-	-	1	326,371	-	-	-	-	-	-
-	-	-	1	353,300	-	-	-	-	-	-
-	-	-	1	368,912	-	-	-	-	-	-
-	-	-	1	307,758	-	-	-	-	-	-
-	-	-	1	317,548	-	-	-	-	-	-
-	-	-	1	303,386	-	-	-	-	-	-
-	-	-	1	336,166	-	-	-	-	-	-
-	-	-	1	325,332	-	-	-	-	-	-
-	-	-	1	176,700	-	-	-	-	-	-
-	-	-	1	295,120	-	-	-	-	-	-
(i) Total	# 7	\$238,045	# 58	\$17,906,915	# 65	\$18,144,960	# 1	\$0	# 66	\$18,144,960
(ii) Average		\$34,006		\$308,740		\$279,153		\$0		\$274,924
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 7		# 58		# 65					
(ii) Percentage	10.7692%		89.2308%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		\$34,006		\$308,740						
(ii) Difference (Col. 2 minus Col. 1)						\$274,733				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	10.7692%		89.2308%							
(ii) Number	# 0.1077		# 0.8923				# 1			
e. Pending Average from Above: Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference		\$0		\$274,733						
(iii) (e-i) + (e-ii)		\$0		\$274,733						
(iv) Total		\$0		\$245,147						
(d-ii) x (e-iii)										
(v) Total of (e-iv)								\$245,147		
f. Calculation of Impact of Adjustment										
	Awarded			Pending			Total			
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average	
(i) Permanent	# 7	\$238,045	\$34,006	# 0.1077	\$0	\$0	# 7.1077	\$238,045	\$33,491	
(ii) Comm./Comp.	# 58	\$17,906,915	\$308,740	# 0.8923	\$245,147	\$274,733	# 58.8923	\$18,152,062	\$308,225	
(iii) Total	# 65	\$18,144,960	\$279,153	# 1.0000	\$245,147	\$245,147	# 66.0000	\$18,390,107	\$278,638	
(iv) Average Severity before Adjustment									\$274,924	
(v) Impact									\$3,714	

Source: Exhibit IX-A

Exhibit VII-E-f
Page 3
Surface Anthracite

Exhibit VII-E-f
Page 4
Surface Bituminous

Surface Bituminous

PAB
Effective Date - April 01, 2021
44,853,893.959954

[illegible]

PAB

COAL MINE COMPENSATION RATING BUREAU
Wage Level Adjustment to Current Level
State Occupational Disease Model

Exhibit VII-G
Page 1

a) Average Weekly Wage (Smoothed):

		U/G	U/G	Surface	Surface	Wage Level
	Year	Anthracite	Bituminous	Anthracite	Bituminous	Decrease
Pre Act 57:	1990	\$517.11	682.94	483.29	518.75	5.1817%
	1991	533.43	707.04	497.48	535.55	5.1817%
	1992	550.28	731.99	512.08	552.89	5.1817%
	1993	567.65	757.82	527.11	570.80	5.1817%
	1994	585.57	784.56	542.58	589.28	5.1817%
	1995	604.06	812.24	558.51	608.36	5.1817%
Mixed Pre & Post Act 57:	1996	623.14	840.90	574.91	628.07	3.3220% ***
Post Act 57:	1997	642.81 *	870.58 *	591.78 *	648.40	0.0%
	1998	663.11 *	901.29 *	609.15 *	669.40	0.0%
	1999	684.04 *	933.10 *	627.04 *	691.08	0.0%
	2000	705.64 *	966.02 *	645.44 *	713.46	0.0%
	2001	727.92 *	1,000.11 *	664.39 *	736.56	0.0%
	2002	750.91 *	1,035.40 *	683.89 *	760.41	0.0%
	2003	774.61 *	1,071.93 *	703.97 *	785.04	0.0%
	2004	799.07 *	1,109.76 *	724.63 *	810.46	0.0%
	2005	824.30 *	1,148.92 *	745.90 *	836.71	0.0%
	2006	850.33 *	1,189.46 *	767.80 *	863.80	0.0%
	2007	877.18 *	1,231.43 *	790.34 *	891.77	0.0%
	2008	904.87 *	1,274.88 *	813.54 *	920.65	0.0%
	2009	933.44 *	1,319.86 *	837.42 *	950.47	0.0%
	2010	962.92 *	1,366.44 *	862.00 *	981.24	0.0%
	2011	993.32 *	1,414.65 *	887.31 *	1,013.02	0.0%
	2012	1,024.68 *	1,464.57 *	913.35 *	1,045.82	0.0%
	2013	1,057.04 *	1,516.25 *	940.16 *	1,079.69	0.0%
	2014	1,090.41 *	1,569.75 *	967.76 *	1,114.66	0.0%
	2015	1,124.84 *	1,625.14 *	996.17 *	1,150.75	0.0%
	2016	1,160.36 *	1,682.48 *	1,025.41 *	1,188.02	0.0%
	2017	1,196.99 *	1,741.85 *	1,055.51 *	1,226.49	0.0%
	2018	1,234.79 *	1,803.31 *	1,086.50 *	1,266.21	0.0%
	2019	1,273.78 *	1,866.95 *	1,118.39 *	1,307.21	0.0%
Average:						1.1471%
Projected to:						
Pre Act 57:	4/1/2022	1,322.39	1,858.27	1,212.73	1,346.18	
Post Act 57:	4/1/2022	1,253.87 *	1,761.98 *	1,149.89 *	1,276.43	

b) Conversion Calculation:

Conversion Factor:		5.1817%	5.1817%	5.1817%	5.1817%	
Note:						
Post Act 57:	1996	\$590.85	\$797.33	\$545.12	\$595.52	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1997	609.50	825.46	561.12	614.81	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1998	628.75	854.59	577.59	634.71	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1999	648.60	884.75	594.54	655.27	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2000	669.08	915.97	612.00	676.49	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2001	690.20	948.29	629.96	698.40	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2002	712.00	981.75	648.45	721.01	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2003	734.48	1,016.39	667.49	744.36	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2004	757.67	1,052.25	687.08	768.46	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2005	781.59	1,089.38	707.25	793.35	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2006	806.27	1,127.82	728.01	819.04	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2007	831.73	1,167.62	749.39	845.56	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2008	857.99	1,208.82	771.38	872.95	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2009	885.08	1,251.47	794.03	901.22	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2010	913.02	1,295.63	817.34	930.40	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2011	941.85	1,341.35	841.33	960.53	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2012	971.59	1,388.68	866.03	991.63	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2013	1,002.27	1,437.68	891.45	1,023.75	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2014	1,033.91	1,488.41	917.62	1,056.90	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2015	1,066.56	1,540.93	944.55	1,091.12	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2016	1,100.23	1,595.30	972.28	1,126.46	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2017	1,134.97	1,651.59	1,000.82	1,162.94	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2018	1,170.81	1,709.87	1,030.20	1,200.59	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2019	1,207.77	1,770.21	1,060.44	1,239.47	Pre Act 57 times (1.0 - Factor)
Post Act 57:	4/1/2022	1,253.87	1,761.98	1,149.89	1,276.43	Pre Act 57 times (1.0 - Factor)

* Post Act 57 for 1997-2019 and Projected to 04/01/2022

** 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 04/01/2022 Weekly Wage - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (6)

Wage level decrease - Exhibit VII-G, Page 2.

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-07-G,H.xlsx]G-I

Run Date: August 29, 2020 - 08:29:33 PM

PAB
Effective Date - April 01, 2021
323,837.285362

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
		Before	After	Claim Count
(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 57 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.

\$0.00-289.94 - 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

	Estimates
(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	517.11
1991	436.00	0.00				510.68	510.68	533.43
1992	455.00	608.33	608.33	1.3370	608.33		608.33	550.28
1993	475.00	419.67	419.67	0.8835 Low		556.37	556.37	567.65
1994	493.00	0.00				577.45	577.45	585.57
1995	509.00	0.00				596.19	596.19	604.06
1996	527.00	0.00				617.27	617.27	623.14
1997	542.00	0.00				634.84	634.84	642.81
1998	561.00	0.00				657.10	657.10	663.11
1999	588.00	501.00	528.38	0.8986	528.38		528.38	684.04
2000	611.00	0.00				715.66	715.66	705.64
2001	644.00	0.00				754.31	754.31	727.92
2002	662.00	0.00				775.40	775.40	750.91
2003	675.00	0.00				790.62	790.62	774.61
2004	690.00	0.00				808.19	808.19	799.07
2005	716.00	0.00				838.65	838.65	824.30
2006	745.00	0.00				872.61	872.61	850.33
2007	779.00	0.00				912.44	912.44	877.18
2008	807.00	0.00				945.23	945.23	904.87
2009	836.00	0.00				979.20	979.20	933.44
2010	845.00	0.00				989.74	989.74	962.92
2011	858.00	1400.00	1476.51	1.7209 High		1004.97	1004.97	993.32
2012	888.00	0.00				1040.11	1040.11	1024.68
2013	917.00	1009.57	1064.74	1.1611	1064.74		1064.74	1057.04
2014	932.00	0.00				1091.65	1091.65	1090.41
2015	951.00	0.00				1113.90	1113.90	1124.84
2016	978.00	0.00				1145.53	1145.53	1160.36
2017	995.00	0.00				1165.44	1165.44	1196.99
2018	1025.00	0.00				1200.58	1200.58	1234.79
2019	1049.00	0.00				1228.69	1228.69	1273.78
2020	1081.00							

High 1.7209

Low 0.8835

Average Ratio Claimant/State - High & Low 1.1713

Projected

2021 1,108.00

2022 1,136.00

2023 1,164.00

Projected Avg. Wage at Claimants' Level

4/1/2022 1,129.00 1,129.00 * 1.1713 = \$1,322.39

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)

(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 data in Col.(7)

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 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	779.92	779.92	1.8614	779.92		779.92	682.94
1991	436.00	827.00	827.00	1.8968	827.00		827.00	707.04
1992	455.00	652.04	652.04	1.4331	652.04		652.04	731.99
1993	475.00	729.40	729.40	1.5356	729.40		729.40	757.82
1994	493.00	1043.85	1043.85	2.1173	1043.85		1043.85	784.56
1995	509.00	1525.00	1525.00	2.9961	High	837.78	837.78	812.24
1996	527.00	706.64	706.64	1.3409	706.64		706.64	840.90
1997	542.00	672.19	708.92	1.3080	708.92		708.92	870.58
1998	561.00	1058.08	1115.90	1.9891	1115.90		1115.90	901.29
1999	588.00	675.00	711.89	1.2107	711.89		711.89	933.10
2000	611.00	901.03	950.27	1.5553	950.27		950.27	966.02
2001	644.00	604.79	637.84	0.9904	Low	1059.99	1059.99	1000.11
2002	662.00	800.15	843.88	1.2747	843.88		843.88	1035.40
2003	675.00	1324.39	1396.77	2.0693	1396.77		1396.77	1071.93
2004	690.00	876.68	924.59	1.3400	924.59		924.59	1109.76
2005	716.00	912.44	962.30	1.3440	962.30		962.30	1148.92
2006	745.00	0.00				1226.23	1226.23	1189.46
2007	779.00	0.00				1282.19	1282.19	1231.43
2008	807.00	1164.02	1227.63	1.5212	1227.63		1227.63	1274.88
2009	836.00	0.00				1376.01	1376.01	1319.86
2010	845.00	0.00				1390.82	1390.82	1366.44
2011	858.00	1269.97	1339.37	1.5610	1339.37		1339.37	1414.65
2012	888.00	1326.96	1399.48	1.5760	1399.48		1399.48	1464.57
2013	917.00	1500.49	1582.49	1.7257	1582.49		1582.49	1516.25
2014	932.00	1443.60	1522.49	1.6336	1522.49		1522.49	1569.75
2015	951.00	1858.85	1960.43	2.0614	1960.43		1960.43	1625.14
2016	978.00	1566.91	1652.54	1.6897	1652.54		1652.54	1682.48
2017	995.00	0.00				1637.71	1637.71	1741.85
2018	1025.00	2104.99	2220.03	2.1659	2220.03		2220.03	1803.31
2019	1049.00	0.00				1726.59	1726.59	1866.95
2020	1081.00							
			High	2.9961				
			Low	0.9904				
Average Ratio Claimant/State - High & Low				1.6459				

Projected

2021	1,108.00
2022	1,136.00
2023	1,164.00

Projected Avg. Wage at Claimants' Level

4/1/2022 1,129.00 1,129.00 * 1.6459 = \$1,858.27

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)

(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 data in Col.(7)

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)
	Claimants'					(1) Adjusted	(5) & (6)	Exponentially
	Statewide	Actual	(2) Adjusted		(3) Ex. High To	Wage Level	Adjusted	Fitted
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low		Avg Wages	Wages
1990	419.00	549.31	549.31	1.3110	549.31		549.31	483.29
1991	436.00	492.75	492.75	1.1302	492.75		492.75	497.48
1992	455.00	565.40	565.40	1.2426	565.40		565.40	512.08
1993	475.00	548.61	548.61	1.1550	548.61		548.61	527.11
1994	493.00	543.95	543.95	1.1033	543.95		543.95	542.58
1995	509.00	651.62	651.62	1.2802	651.62		651.62	558.51
1996	527.00	453.71	453.71	0.8609	453.71		453.71	574.91
1997	542.00	530.26	559.24	1.0318	559.24		559.24	591.78
1998	561.00	744.92	785.63	1.4004	785.63		785.63	609.15
1999	588.00	571.47	602.70	1.0250	602.70		602.70	627.04
2000	611.00	133.68	140.99	0.2307 Low		656.31	656.31	645.44
2001	644.00	517.49	545.77	0.8475	545.77		545.77	664.39
2002	662.00	589.00	621.19	0.9384	621.19		621.19	683.89
2003	675.00	633.40	668.01	0.9897	668.01		668.01	703.97
2004	690.00	1568.35	1654.06	2.3972 High		741.17	741.17	724.63
2005	716.00	575.91	607.38	0.8483	607.38		607.38	745.90
2006	745.00	0.00				800.25	800.25	767.80
2007	779.00	733.08	773.14	0.9925	773.14		773.14	790.34
2008	807.00	0.00				866.85	866.85	813.54
2009	836.00	0.00				898.00	898.00	837.42
2010	845.00	0.00				907.67	907.67	862.00
2011	858.00	466.84	492.35	0.5738	492.35		492.35	887.31
2012	888.00	0.00				953.86	953.86	913.35
2013	917.00	0.00				985.01	985.01	940.16
2014	932.00	0.00				1001.12	1001.12	967.76
2015	951.00	0.00				1021.53	1021.53	996.17
2016	978.00	1419.00	1496.55	1.5302	1496.55		1496.55	1025.41
2017	995.00	0.00				1068.79	1068.79	1055.51
2018	1025.00	0.00				1101.02	1101.02	1086.50
2019	1049.00	0.00				1126.80	1126.80	1118.39
2020	1081.00							
			High	2.3972				
			Low	0.2307				
Average Ratio Claimant/State - High & Low				1.0742				

Projected

2021	1,108.00
2022	1,136.00
2023	1,164.00

Projected Avg. Wage at Claimants' Level

4/1/2022 1,129.00 $1,129.00 * 1.0742 =$ \$1,212.73

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)

(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 data in Col.(7)

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	(1) Adjusted	(5) & (6)	Exponentially
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	To Claimants' Wage Level	Adjusted Avg Wages	Fitted Wages
1990	419.00	481.50	481.50	1.1492	481.50		481.50	518.75
1991	436.00	595.45	595.45	1.3657	595.45		595.45	535.55
1992	455.00	652.89	652.89	1.4349	652.89		652.89	552.89
1993	475.00	705.41	705.41	1.4851	High	566.37	566.37	570.80
1994	493.00	621.91	621.91	1.2615	621.91		621.91	589.28
1995	509.00	477.90	477.90	0.9389	477.90		477.90	608.36
1996	527.00	628.07	644.84	1.2236	644.84		644.84	628.07
1997	542.00	698.16	736.31	1.3585	736.31		736.31	648.40
1998	561.00	500.00	527.32	0.9400	527.32		527.32	669.40
1999	588.00	569.19	600.30	1.0209	600.30		600.30	691.08
2000	611.00	0.00				728.54	728.54	713.46
2001	644.00	0.00				767.88	767.88	736.56
2002	662.00	0.00				789.35	789.35	760.41
2003	675.00	0.00				804.85	804.85	785.04
2004	690.00	0.00				822.73	822.73	810.46
2005	716.00	676.00	712.94	0.9957	712.94		712.94	836.71
2006	745.00	0.00				888.31	888.31	863.80
2007	779.00	0.00				928.85	928.85	891.77
2008	807.00	0.00				962.24	962.24	920.65
2009	836.00	0.00				996.82	996.82	950.47
2010	845.00	0.00				1007.55	1007.55	981.24
2011	858.00	1111.56	1172.31	1.3663	1172.31		1172.31	1013.02
2012	888.00	1157.60	1220.86	1.3748	1220.86		1220.86	1045.82
2013	917.00	0.00				1093.40	1093.40	1079.69
2014	932.00	946.16	997.87	1.0707	997.87		997.87	1114.66
2015	951.00	734.85	775.01	0.8149	Low	1133.94	1133.94	1150.75
2016	978.00	0.00				1166.13	1166.13	1188.02
2017	995.00	0.00				1186.40	1186.40	1226.49
2018	1025.00	0.00				1222.17	1222.17	1266.21
2019	1049.00	0.00				1250.79	1250.79	1307.21
2020	1081.00							
			High	1.4851				
			Low	0.8149				
Average Ratio Claimant/State - High & Low				1.1924				

Projected

2021 1,108.00
2022 1,136.00
2023 1,164.00

Projected Avg. Wage at Claimants' Level

4/1/2022 1,129.00 $1,129.00 * 1.1924 =$ \$1,346.18

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)
- (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 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>
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%
2018	2.8%
2019	1.6%
2020	1.3%
Average All years	2.3%
Average latest 10 years	1.7%
Average latest 5 years	1.6%
Average latest 3 years	1.9%
Selected Annual Change	2.3%
Last Year's Selection was 2.4%	

Source: Social Security Administration Web Site

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:								
	90%	Percent	Plus		Plus		Annual	
Year	of First:	Change	32%	Percent	15%	Percent	SS Wage	Percent
	of First:	Change	of next:	Change	of next:	Change	Base	Change
1991	370		1,860		2,220		53,400	
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	895	1.1%	4,502	1.1%	5,303	0.7%	128,400	0.9%
2019	926	3.5%	4,657	3.4%	5,492	3.6%	132,900	3.5%
2020	960	3.7%	4,825	3.6%	5,690	3.6%	137,700	3.6%
2021	996	3.8%	5,006	3.8%	5,898	3.7%	142,800	3.7%
Average All years		3.4%		3.4%		3.3%		3.4%
Average latest 10 years		2.9%		2.9%		3.1%		3.0%
Average latest 5 years		3.1%		3.1%		4.6%		3.8%
Average latest 3 years		3.6%		3.6%		3.6%		3.6%
Last Year's Selection		2.5%		2.5%		2.5%		2.5%
Selection		2.5%		2.5%		2.5%		2.5%
<u>Projections</u>		<u>Selected</u>		<u>Selected</u>		<u>Selected</u>		<u>Selected</u>
2021	996	Actual	5,006	Actual	5,898	Actual	142,800	Actual
2022	1,021	2.5%	5,131	2.5%	6,045	2.5%	146,400	2.5%
2023	1,047	2.5%	5,259	2.5%	6,196	2.5%	150,100	2.5%
Average Break Point		1,015	5,100		6,008		145,500	
For Policies effective between 4-1-2021 and 4-1-2022								

Note: Weighted average of the three calendar years: 2021, 2022, 2023.

Weights: 2021	28.125%
2022	68.750%
2023	3.125%
	100.00%

Notes:

The above weights assume 1-year policies effective between 4-1-2021 and 4-1-2022
E.G.: 28.125% of the losses will occur between 4-1-2021 and 12-31-2021.
68.750% of the losses will occur between 1-1-2022 and 12-31-2022.
3.125% of the losses will occur between 1-1-2023 and 3-31-2023.

Source: Social Security Administration Web Site

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 4-1-2022 with a 4-1-2021 filing effective date.)

	Yearly Maximum	Monthly Wages		
		First Break Point	Second Break Point	Third Break Point
Wage Amount:	145,500	1,015	5,100	6,008
Factor:		90%	32%	15%

II. Example Calculations

Example Number	Monthly Wage	Adjusted Monthly Wage (a)	PIA at each Breakpoint			Total PIA
			First (b)	Second (c)	Third (d)	
1	2,000	2,000	1,015 90% 914	985 32% 315	0 15% 0	1,229
2	4,000	4,000	1,015 90% 914	2,985 32% 955	0 15% 0	1,869
3	6,000	6,000	1,015 90% 914	4,985 32% 1,595	0 15% 0	2,509
4	8,000	8,000	1,015 90% 914	5,100 32% 1,632	1,885 15% 283	2,828
5	10,000	10,000	1,015 90% 914	5,100 32% 1,632	3,885 15% 583	3,128
6	12,000	12,000	1,015 90% 914	5,100 32% 1,632	5,885 15% 883	3,428

Notes:

- (a) Monthly Wage limited to Monthly Maximum (\$145,500/12 = \$12,000)
- (b) minimum of adjusted monthly wage and \$1015
- (c) minimum of (adjusted monthly wage less \$1015) and \$5,100
- (d) minimum of (adjusted monthly wage less \$1015 less \$5,100) and \$6,008

Source: Exhibit VII-J, Page 2

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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 # 0	Awarded # 0	Pending # 0	Denied # 0							
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	1	1	-	-	-	-	-	1.00	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	0.0145	0.0049
Total	1	1	-	-	-	-	-	1.00	-	0.0145	0.0049

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
2000	# 0.0000	\$ 1.3702	-	611	1.067	40.4	-
2001	-	1.6365	-	644	1.067	45.8	-
2002	-	1.3865	-	662	1.067	37.7	-
2003	-	1.3543	-	675	1.067	36.2	-
2004	-	1.3453	-	690	1.067	35.1	-
2005	-	1.4176	-	716	1.067	35.7	-
2006	-	1.4425	-	745	1.067	34.9	-
2007	-	1.6625	-	779	1.067	38.5	-
2008	-	2.1367	-	807	1.067	47.7	-
2009	-	1.3359	-	836	1.067	28.8	-
2010	-	1.2996	-	845	1.067	27.7	-
2011	-	1.2579	-	858	1.067	26.4	-
2012	-	1.0293	-	888	1.067	20.9	-
2013	1.0000	0.3819	2.6185	917	1.067	7.5	13.3333
2014	-	0.2588	-	932	1.067	5.0	-
2015	-	0.2543	-	951	1.067	4.8	-
2016	-	0.1638	-	978	1.067	3.0	-
2017	-	0.2524	-	995	1.067	4.6	-
2018	-	0.1833	-	1,025	1.067	3.2	-
2019	0.0049	0.1794	0.0276	1,049	1.067	3.1	0.1596
Total	1.0049	20.3487	0.0494			487.0	0.2064

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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)xAwd 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
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	-	-	-
2010	2	2	-	-	-	-	-	2.00	-	-	-
2011	4	1	-	3	-	0.15	0.15	1.15	2.85	-	-
2012	6	-	3	3	0.90	0.15	0.15	1.05	4.95	0.0305	0.0105
2013	3	-	-	3	-	0.15	0.15	0.15	2.85	0.1421	0.0487
2014	5	-	3	2	0.90	0.10	0.10	1.00	4.00	0.2511	0.0860
2015	3	-	-	3	-	0.15	0.15	0.15	2.85	0.3441	0.1178
2016	-	-	-	-	-	-	-	-	-	0.6204	0.2124
2017	3	-	2	1	0.60	0.05	0.05	0.65	2.35	0.9555	0.3272
2018	1	-	1	-	0.30	-	-	0.30	0.70	1.3272	0.4544
Total	38	8	9	21	2.70	1.25	1.01	11.71	26.29	3.6709	1.2569

Year	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Payroll		Statewide		Estimated	Frequency
	Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100
	(8)+(11)		(12)/(13)	Weekly Wage	Factor	Years	Miner Years
2000	# 1.0600	\$ 47.5206	0.0223	611	1.573	950.8	0.1115
2001	1.0500	48.5226	0.0216	644	1.573	921.1	0.1140
2002	0.0500	40.8380	0.0012	662	1.573	754.2	0.0066
2003	-	36.4984	-	675	1.573	661.1	-
2004	0.0500	46.0739	0.0011	690	1.573	816.3	0.0061
2005	1.0000	66.2758	0.0151	716	1.573	1,131.6	0.0884
2006	-	70.4659	-	745	1.573	1,156.4	-
2007	-	79.9043	-	779	1.573	1,254.0	-
2008	1.0500	101.3540	0.0104	807	1.573	1,535.4	0.0684
2009	-	101.3481	-	836	1.573	1,482.1	-
2010	1.0000	125.3936	0.0080	845	1.573	1,814.2	0.0551
2011	2.0000	148.4857	0.0135	858	1.573	2,115.8	0.0945
2012	1.1500	153.6189	0.0075	888	1.573	2,114.9	0.0544
2013	1.0605	145.1463	0.0073	917	1.573	1,935.1	0.0548
2014	0.1987	183.4320	0.0011	932	1.573	2,406.2	0.0083
2015	1.0860	140.5703	0.0077	951	1.573	1,807.1	0.0601
2016	0.2678	118.5455	0.0023	978	1.573	1,481.9	0.0181
2017	0.2124	172.7088	0.0012	995	1.573	2,122.1	0.0100
2018	0.9772	180.5998	0.0054	1,025	1.573	2,154.1	0.0454
2019	0.7544	185.9629	0.0041	1,049	1.573	2,167.3	0.0348
Total	12.9669	2,193.2654	0.0059			30,781.7	0.0421

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

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)xAwd Ratio
	(1)	(2)	(3)	(4)							
	Reported # 1	Awarded # 1	Pending # 0	Denied # 0							
2000	1	1	-	-	0.00	0.00	0.00	1.00	0.00	0.0000	0.0000
2001	-	-	-	-	-	-	-	-	-	-	-
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	-	1	1	0.30	0.05	0.05	0.35	1.65	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	1	1	-	-	-	-	-	1.00	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2016	1	-	1	-	0.30	-	-	0.30	0.70	-	-
2017	-	-	-	-	-	-	-	-	-	0.0290	0.0099
2018	-	-	-	-	-	-	-	-	-	0.0682	0.0234
2019	-	-	-	-	-	-	-	-	-	0.1679	0.0575
Total	11	5	2	4	0.60	0.20	0.20	5.80	5.20	0.2652	0.0908

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
2000	1.0000	\$ 16.8078	0.0595	611	1.067	495.8	0.2017
2001	1.0000	12.9237	0.0774	644	1.067	361.7	0.2765
2002	-	11.0466	-	662	1.067	300.7	-
2003	1.0500	11.9282	0.0880	675	1.067	318.5	0.3297
2004	1.0000	12.3597	0.0809	690	1.067	322.8	0.3098
2005	-	12.1409	-	716	1.067	305.6	-
2006	0.0500	12.0653	0.0041	745	1.067	291.9	0.0171
2007	0.3500	14.8666	0.0235	779	1.067	344.0	0.1017
2008	-	16.2202	-	807	1.067	362.3	-
2009	-	15.8935	-	836	1.067	342.6	-
2010	-	13.3192	-	845	1.067	284.1	-
2011	1.0000	19.5074	0.0513	858	1.067	409.8	0.2440
2012	-	24.7347	-	888	1.067	502.0	-
2013	-	20.7200	-	917	1.067	407.2	-
2014	0.0500	18.9113	0.0026	932	1.067	365.7	0.0137
2015	-	22.2344	-	951	1.067	421.4	-
2016	0.3000	19.2571	0.0156	978	1.067	354.9	0.0845
2017	0.0099	19.0946	0.0005	995	1.067	345.9	0.0029
2018	0.0234	18.3035	0.0013	1,025	1.067	321.8	0.0073
2019	0.0575	20.6330	0.0028	1,049	1.067	354.5	0.0162
Total	5.8908	332.9677	0.0177			7,213.2	0.0817

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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							
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2015	2	-	1	1	0.30	0.05	0.05	0.35	1.65	-	-
2016	-	-	-	-	-	-	-	-	-	0.0118	0.0040
2017	-	-	-	-	-	-	-	-	-	0.0383	0.0131
2018	-	-	-	-	-	-	-	-	-	0.0750	0.0257
2019	-	-	-	-	-	-	-	-	-	0.1148	0.0393
Total	6	1	1	4	0.30	0.20	0.20	1.50	4.50	0.2399	0.0821

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
2000	# 0.0000	\$ 49.9356	-	611	1.067	1,473.0	-
2001	-	58.1513	-	644	1.067	1,627.4	-
2002	-	53.5021	-	662	1.067	1,456.6	-
2003	-	47.8737	-	675	1.067	1,278.3	-
2004	-	56.2173	-	690	1.067	1,468.4	-
2005	-	64.8716	-	716	1.067	1,633.0	-
2006	-	63.7985	-	745	1.067	1,543.4	-
2007	-	64.8081	-	779	1.067	1,499.4	-
2008	-	74.6012	-	807	1.067	1,666.1	-
2009	-	63.3067	-	836	1.067	1,364.8	-
2010	-	74.2552	-	845	1.067	1,583.8	-
2011	-	87.7305	-	858	1.067	1,842.9	-
2012	0.1000	77.8905	0.0013	888	1.067	1,580.9	0.0063
2013	-	62.7181	-	917	1.067	1,232.7	-
2014	1.0500	55.3686	0.0190	932	1.067	1,070.7	0.0981
2015	0.3500	42.0001	0.0083	951	1.067	796.0	0.0440
2016	0.0040	30.1312	0.0001	978	1.067	555.3	0.0007
2017	0.0131	34.2490	0.0004	995	1.067	620.4	0.0021
2018	0.0257	36.3052	0.0007	1,025	1.067	638.4	0.0040
2019	0.0393	36.3956	0.0011	1,049	1.067	625.3	0.0063
Total	1.5821	1,134.1101	0.0014			25,556.8	0.0062

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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							
	# 4	# 2	# 0	# 2	# 0.00	# 0.30	# 0.06	# 2.06	# 1.94	# 0.0000	# 0.0000
2000	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2001	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2002	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
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	2	-	1	1	0.30	0.05	0.05	0.35	1.65	-	-
2007	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	1	1	-	-	-	-	-	1.00	-	-	-
2010	3	3	-	-	-	-	-	3.00	-	-	-
2011	6	1	-	5	-	0.25	0.25	1.25	4.75	-	-
2012	7	1	3	3	0.90	0.15	0.15	2.05	4.95	0.0305	0.0105
2013	6	1	-	5	-	0.25	0.25	1.25	4.75	0.1421	0.0487
2014	7	-	4	3	1.20	0.15	0.15	1.35	5.65	0.2511	0.0860
2015	4	-	1	3	0.30	0.15	0.15	0.45	3.55	0.3558	0.1218
2016	-	-	-	-	-	-	-	-	-	0.6877	0.2355
2017	3	-	2	1	0.60	0.05	0.05	0.65	2.35	1.0987	0.3762
2018	1	-	1	-	0.30	-	-	0.30	0.70	1.6244	0.5562
2019	56	15	12	29	3.60	1.65	1.41	20.01	35.99	4.1904	1.4348
Total											

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
2000	# 2.0600	\$ 115.6342	0.0178	611		2,960.0	0.0696
2001	2.0500	121.2341	0.0169	644		2,956.0	0.0694
2002	0.0500	106.7732	0.0005	662		2,549.2	0.0020
2003	1.0500	97.6546	0.0108	675		2,294.1	0.0458
2004	1.0500	115.9962	0.0091	690		2,642.6	0.0397
2005	1.0000	144.7059	0.0069	716		3,105.9	0.0322
2006	0.0500	147.7722	0.0003	745		3,026.6	0.0017
2007	0.3500	161.2415	0.0022	779		3,135.9	0.0112
2008	1.0500	194.3121	0.0054	807		3,611.5	0.0291
2009	-	181.8842	-	836		3,218.3	-
2010	1.0000	214.2676	0.0047	845		3,709.8	0.0270
2011	3.0000	256.9815	0.0117	858		4,394.9	0.0683
2012	1.2500	257.2734	0.0049	888		4,218.7	0.0296
2013	2.0605	228.9663	0.0090	917		3,582.5	0.0575
2014	1.2987	257.9707	0.0050	932		3,847.6	0.0338
2015	1.4360	205.0591	0.0070	951		3,029.3	0.0474
2016	0.5718	168.0976	0.0034	978		2,395.1	0.0239
2017	0.2355	226.3048	0.0010	995		3,093.0	0.0076
2018	1.0262	235.3918	0.0044	1,025		3,117.5	0.0329
2019	0.8562	243.1709	0.0035	1,049		3,150.2	0.0272
Total	21.4448	3,680.6919	0.0058			64,038.7	0.0335

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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							
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0002	0.0001
2014	-	-	-	-	-	-	-	-	-	0.0006	0.0002
2015	-	-	-	-	-	-	-	-	-	0.0016	0.0005
2016	-	-	-	-	-	-	-	-	-	0.0029	0.0010
2017	-	-	-	-	-	-	-	-	-	0.0044	0.0015
2018	-	-	-	-	-	-	-	-	-	0.0067	0.0023
2019	-	-	-	-	-	-	-	-	-	0.0096	0.0033
Total	-	-	-	-	-	-	-	-	-	0.0259	0.0089

Year	(12) Total Awarded (8)+(11) # 0.0000	(13) Payroll (\$M) 12.0926	(14) Frequency (12)/(13) -	(15) Statewide Average Weekly Wage 611	(16) Adjustment Factor 1.067	(17) Estimated Miner Years 356.7	(18) Frequency Per 100 Miner Years -
2000	-	10.3758	-	644	1.067	290.4	-
2001	-	10.4850	-	662	1.067	285.5	-
2002	-	11.5341	-	675	1.067	308.0	-
2003	-	12.0491	-	690	1.067	314.7	-
2004	-	12.8610	-	716	1.067	323.7	-
2005	-	12.7374	-	745	1.067	308.1	-
2006	-	13.6699	-	779	1.067	316.3	-
2007	-	9.7611	-	807	1.067	218.0	-
2008	-	5.1736	-	836	1.067	111.5	-
2009	-	5.4357	-	845	1.067	115.9	-
2010	-	3.5991	-	858	1.067	75.6	-
2011	-	5.7381	-	888	1.067	116.5	-
2012	0.0001	4.7919	0.0000	917	1.067	94.2	0.0001
2013	0.0002	4.4644	0.0000	932	1.067	86.3	0.0002
2014	0.0005	4.3404	0.0001	951	1.067	82.3	0.0006
2015	0.0010	4.4351	0.0002	978	1.067	81.7	0.0012
2016	0.0015	4.5661	0.0003	995	1.067	82.7	0.0018
2017	0.0023	4.4847	0.0005	1,025	1.067	78.9	0.0029
2018	0.0033	4.6265	0.0007	1,049	1.067	79.5	0.0041
Total	0.0089	157.2216	0.0001			3,726.5	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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

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%	(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 # 0	Awarded # 0	Pending # 0	Denied # 0							
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0000	0.0000
2014	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2015	-	-	-	-	-	-	-	-	-	0.0002	0.0001
2016	-	-	-	-	-	-	-	-	-	0.0002	0.0001
2017	-	-	-	-	-	-	-	-	-	0.0004	0.0002
2018	-	-	-	-	-	-	-	-	-	0.0009	0.0003
2019	-	-	-	-	-	-	-	-	-	0.0011	0.0004
Total	-	-	-	-	-	-	-	-	-	0.0030	0.0010

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
2000	# 0.0000	\$ 1.2059	-	611	1.067	35.6	-
2001	-	1.4291	-	644	1.067	40.0	-
2002	-	1.1508	-	662	1.067	31.3	-
2003	-	1.1022	-	675	1.067	29.4	-
2004	-	1.0588	-	690	1.067	27.7	-
2005	-	1.0265	-	716	1.067	25.8	-
2006	-	1.0668	-	745	1.067	25.8	-
2007	-	1.1212	-	779	1.067	25.9	-
2008	-	2.5068	-	807	1.067	56.0	-
2009	-	0.9470	-	836	1.067	20.4	-
2010	-	0.8275	-	845	1.067	17.6	-
2011	-	1.1763	-	858	1.067	24.7	-
2012	-	0.8082	-	888	1.067	16.4	-
2013	0.0000	1.0469	0.0000	917	1.067	20.6	0.0001
2014	0.0000	0.8616	0.0000	932	1.067	16.7	0.0002
2015	0.0001	0.6548	0.0001	951	1.067	12.4	0.0006
2016	0.0001	0.3928	0.0002	978	1.067	7.2	0.0011
2017	0.0002	0.5663	0.0003	995	1.067	10.3	0.0015
2018	0.0003	0.6001	0.0005	1,025	1.067	10.6	0.0028
2019	0.0004	0.5932	0.0006	1,049	1.067	10.2	0.0038
Total	0.0010	20.1428	0.0001			464.6	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): 0.4180
IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0004	0.0001
2014	-	-	-	-	-	-	-	-	-	0.0011	0.0004
2015	-	-	-	-	-	-	-	-	-	0.0038	0.0013
2016	-	-	-	-	-	-	-	-	-	0.0058	0.0020
2017	-	-	-	-	-	-	-	-	-	0.0085	0.0029
2018	-	-	-	-	-	-	-	-	-	0.0174	0.0059
2019	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0172	0.0059
Total	2	-	-	2	-	0.10	0.10	0.10	1.90	0.0542	0.0186

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
2000	# 0.0000	\$ 4.4735	-	611	1.067	132.0	-
2001	-	4.6618	-	644	1.067	130.5	-
2002	-	5.6588	-	662	1.067	154.1	-
2003	0.0500	7.0096	0.0071	675	1.067	187.2	0.0267
2004	-	7.3515	-	690	1.067	192.0	-
2005	-	7.8553	-	716	1.067	197.7	-
2006	-	8.4125	-	745	1.067	203.5	-
2007	-	9.1867	-	779	1.067	212.5	-
2008	-	7.5214	-	807	1.067	168.0	-
2009	-	7.5347	-	836	1.067	162.4	-
2010	-	7.9580	-	845	1.067	169.7	-
2011	-	10.9816	-	858	1.067	230.7	-
2012	-	9.3118	-	888	1.067	189.0	-
2013	0.0001	7.6308	0.0000	917	1.067	150.0	0.0001
2014	0.0004	8.3609	0.0000	932	1.067	161.7	0.0002
2015	0.0013	9.5548	0.0001	951	1.067	181.1	0.0007
2016	0.0020	7.9533	0.0003	978	1.067	146.6	0.0014
2017	0.0029	7.7936	0.0004	995	1.067	141.2	0.0021
2018	0.0059	10.0538	0.0006	1,025	1.067	176.8	0.0034
2019	0.0559	6.8216	0.0082	1,049	1.067	117.2	0.0477
Total	0.1186	156.0860	0.0008			3,403.9	0.0035

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

Page 9

BITUMINOUS CO-GEN(0182)

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 # 0	Awarded # 0	Pending # 0	Denied # 0							
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0004	0.0002
2014	-	-	-	-	-	-	-	-	-	0.0014	0.0005
2015	-	-	-	-	-	-	-	-	-	0.0043	0.0015
2016	-	-	-	-	-	-	-	-	-	0.0074	0.0025
2017	-	-	-	-	-	-	-	-	-	0.0110	0.0038
2018	-	-	-	-	-	-	-	-	-	0.0180	0.0062
2019	-	-	-	-	-	-	-	-	-	0.0248	0.0085
Total	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0674	0.0231

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
2000	# 0.0000	\$ 1.8707	-	611	1.067	55.2	-
2001	-	2.1213	-	644	1.067	59.4	-
2002	-	2.3861	-	662	1.067	65.0	-
2003	-	3.0525	-	675	1.067	81.5	-
2004	-	6.3745	-	690	1.067	166.5	-
2005	-	8.5248	-	716	1.067	214.6	-
2006	-	9.4236	-	745	1.067	228.0	-
2007	0.0500	10.8291	0.0046	779	1.067	250.5	0.0200
2008	-	8.4819	-	807	1.067	189.4	-
2009	-	7.8664	-	836	1.067	169.6	-
2010	-	8.7327	-	845	1.067	186.3	-
2011	-	9.1024	-	858	1.067	191.2	-
2012	-	9.0477	-	888	1.067	183.6	-
2013	0.0002	10.3559	0.0000	917	1.067	203.5	0.0001
2014	0.0005	11.7212	0.0000	932	1.067	226.7	0.0002
2015	0.0015	11.7482	0.0001	951	1.067	222.7	0.0007
2016	0.0025	11.3276	0.0002	978	1.067	208.8	0.0012
2017	0.0038	11.4351	0.0003	995	1.067	207.1	0.0018
2018	0.0062	12.0433	0.0005	1,025	1.067	211.8	0.0029
2019	0.0085	11.8072	0.0007	1,049	1.067	202.9	0.0042
Total	0.0731	168.2522	0.0004			3,524.3	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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

Page 10

ANTHRACITE PREP PLANT(0183)

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							
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0008	0.0003
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0025	0.0009
2015	1	1	-	-	-	-	-	1.00	-	0.0069	0.0024
2016	-	-	-	-	-	-	-	-	-	0.0114	0.0039
2017	-	-	-	-	-	-	-	-	-	0.0187	0.0064
2018	-	-	-	-	-	-	-	-	-	0.0361	0.0124
2019	-	-	-	-	-	-	-	-	-	0.0664	0.0227
Total	4	2	-	2	-	0.10	0.10	2.10	1.90	0.1429	0.0489

Year	(12) Total Awarded (8)+(11) # 0.0000	(13) Payroll (\$M) 2.13195	(14) Frequency (12)/(13) -	(15) Statewide Average Weekly Wage 611	(16) Adjustment Factor 1.067	(17) Estimated Miner Years 38.9	(18) Frequency Per 100 Miner Years -
2000	-	2.2163	-	644	1.067	62.0	-
2001	-	2.3228	-	662	1.067	63.2	-
2002	-	3.4080	-	675	1.067	91.0	-
2003	-	4.4067	-	690	1.067	115.1	-
2004	-	5.1701	-	716	1.067	130.1	-
2005	-	4.8859	-	745	1.067	118.2	-
2006	0.0500	5.8173	0.0086	779	1.067	134.6	0.0371
2007	-	5.7335	-	807	1.067	128.0	-
2008	-	6.2646	-	836	1.067	135.1	-
2009	-	4.8769	0.2050	845	1.067	104.0	0.9615
2010	-	6.1233	-	858	1.067	128.6	-
2011	-	7.5690	-	888	1.067	153.6	-
2012	0.0003	7.0749	0.0000	917	1.067	139.1	0.0002
2013	0.0509	6.5215	0.0078	932	1.067	126.1	0.0403
2014	1.0024	6.1966	0.1618	951	1.067	117.4	0.8538
2015	0.0039	5.5430	0.0007	978	1.067	102.1	0.0038
2016	0.0064	6.0568	0.0011	995	1.067	109.7	0.0058
2017	0.0124	6.9168	0.0018	1,025	1.067	121.6	0.0102
2018	0.0227	10.5848	0.0021	1,049	1.067	181.9	0.0125
Total	2.1489	109.0083	0.0197			2,300.3	0.0934

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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 # 1	Awarded # 0	Pending # 0	Denied # 1							
2000	-	-	-	-	# 0.00	# 0.15	# 0.03	# 0.03	# 0.97	# 0.0000	# 0.0000
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0014	0.0005
2014	-	-	-	-	-	-	-	-	-	0.0053	0.0018
2015	-	-	-	-	-	-	-	-	-	0.0122	0.0042
2016	-	-	-	-	-	-	-	-	-	0.0154	0.0053
2017	-	-	-	-	-	-	-	-	-	0.0278	0.0095
2018	-	-	-	-	-	-	-	-	-	0.0482	0.0165
2019	-	-	-	-	-	-	-	-	-	0.0790	0.0270
Total	1	-	-	1	-	0.15	0.03	0.03	0.97	0.1894	0.0649

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
2000	# 0.0300	\$ 8.5748	0.0035	611	1.573	171.6	0.0175
2001	-	10.1550	-	644	1.573	192.8	-
2002	-	10.0945	-	662	1.573	186.4	-
2003	-	10.1952	-	675	1.573	184.7	-
2004	-	13.4602	-	690	1.573	238.5	-
2005	-	16.5483	-	716	1.573	282.6	-
2006	-	17.0510	-	745	1.573	279.8	-
2007	-	18.8952	-	779	1.573	296.5	-
2008	-	21.2503	-	807	1.573	321.9	-
2009	-	19.8280	-	836	1.573	290.0	-
2010	-	26.3131	-	845	1.573	380.7	-
2011	-	35.1551	-	858	1.573	500.9	-
2012	-	34.2117	-	888	1.573	471.0	-
2013	0.0005	33.6400	0.0000	917	1.573	448.5	0.0001
2014	0.0018	31.8544	0.0001	932	1.573	417.9	0.0004
2015	0.0042	24.3206	0.0002	951	1.573	312.7	0.0013
2016	0.0053	20.0794	0.0003	978	1.573	251.0	0.0021
2017	0.0095	28.8035	0.0003	995	1.573	353.9	0.0027
2018	0.0165	32.1999	0.0005	1,025	1.573	384.1	0.0043
2019	0.0270	37.6233	0.0007	1,049	1.573	438.5	0.0062
Total	0.0949	450.2535	0.0002			6,404.0	0.0015

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

Page 12

TOTAL OTHER CLASSES

Year	Counts				(5) Pending Awarded (3) * 30% # 0.00	(6) Denied Reopened # 0.15	(7) Denied Awarded # 0.03	(8) Ultimate Awarded (2)+(5)+(7) # 0.03	(9) Ultimate Denied (1)-(8) # 0.97	(10) IBNR # 0.0000	(11) IBNR Awarded (10)xAwd Ratio # 0.0000
	(1)	(2)	(3)	(4)							
	Reported # 1	Awarded # 0	Pending # 0	Denied # 1							
2000	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	0.0033	0.0011
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0110	0.0038
2015	1	1	-	-	-	-	-	1.00	-	0.0290	0.0099
2016	-	-	-	-	-	-	-	-	-	0.0432	0.0148
2017	-	-	-	-	-	-	-	-	-	0.0710	0.0243
2018	-	-	-	-	-	-	-	-	-	0.1274	0.0436
2019	1	-	-	1	-	0.05	0.05	0.05	0.95	0.1981	0.0678
Total	8	2	-	6	-	0.40	0.28	2.28	5.72	0.4829	0.1653

Year	(12) Total Awarded (8)+(11) # 0.0300	(13) Payroll (\$M) \$ 29.5370	(14) Frequency (12)/(13) 0.0010	(15) Statewide Average Weekly Wage 611	(16) Adjustment Factor 790.0	(17) Estimated Miner Years 0.0038	(18) Frequency Per 100 Miner Years 0.0038
2000	-	30.9593	-	644	775.1	-	-
2001	-	32.0980	-	662	785.5	-	-
2002	0.0500	36.3016	0.0014	675	881.8	0.0057	-
2003	-	44.7008	-	690	1,054.5	-	-
2004	-	51.9860	-	716	1,174.5	-	-
2005	-	53.5772	-	745	1,163.4	-	-
2006	0.1000	59.5194	0.0017	779	1,236.3	0.0081	-
2007	-	55.2550	-	807	1,081.3	-	-
2008	-	47.6143	-	836	889.0	-	-
2009	1.0000	54.1439	0.0185	845	974.2	0.1026	-
2010	-	66.1378	-	858	1,151.7	-	-
2011	-	66.6865	-	888	1,130.1	-	-
2012	0.0011	64.5404	0.0000	917	1,055.9	0.0001	-
2013	0.0538	63.7840	0.0008	932	1,035.4	0.0052	-
2014	1.0099	56.8154	0.0178	951	928.6	0.1088	-
2015	0.0148	49.7312	0.0003	978	797.4	0.0019	-
2016	0.0243	59.2214	0.0004	995	904.9	0.0027	-
2017	0.0436	66.2986	0.0007	1,025	983.8	0.0044	-
2018	0.1178	72.0566	0.0016	1,049	1,030.2	0.0114	-
Total	2.4453	1,060.9644	0.0023		19,823.6	0.0123	

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

Coal Mine Compensation Rating Bureau
Federal Excess Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VII-L

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)xAwd Ratio
	(1) Reported	(2) Awarded	(3) Pending	(4) Denied							
2000	# 5	# 2	# 0	# 3	# 0.00	# 0.45	# 0.09	# 2.09	# 2.91	# 0.0000	# 0.0000
2001	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	3	1	-	2	-	0.10	0.10	1.10	1.90	-	-
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	4	-	1	3	0.30	0.15	0.15	0.45	3.55	-	-
2008	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	2	2	-	-	-	-	-	2.00	-	-	-
2011	3	3	-	-	-	-	-	3.00	-	-	-
2012	6	1	-	5	-	0.25	0.25	1.25	4.75	-	-
2013	7	1	3	3	0.90	0.15	0.15	2.05	4.95	0.0339	0.0116
2014	7	1	-	6	-	0.30	0.30	1.30	5.70	0.1531	0.0524
2015	8	1	4	3	1.20	0.15	0.15	2.35	5.65	0.2800	0.0959
2016	4	-	1	3	0.30	0.15	0.15	0.45	3.55	0.3990	0.1366
2017	-	-	-	-	-	-	-	-	-	0.7587	0.2598
2018	3	-	2	1	0.60	0.05	0.05	0.65	2.35	1.2260	0.4198
2019	2	-	1	1	0.30	0.05	0.05	0.35	1.65	1.8225	0.6240
Total	64	17	12	35	3.60	2.05	1.69	22.29	41.71	4.6732	1.6001

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
2000	# 2.0900	\$ 145.1712	0.0144	611		3,750.0	0.0557
2001	2.0500	152.1934	0.0135	644		3,731.1	0.0549
2002	0.0500	138.8712	0.0004	662		3,334.7	0.0015
2003	1.1000	133.9562	0.0082	675		3,175.9	0.0346
2004	1.0500	160.6970	0.0065	690		3,697.1	0.0284
2005	1.0000	196.6919	0.0051	716		4,280.4	0.0234
2006	0.0500	201.3494	0.0002	745		4,190.0	0.0012
2007	0.4500	220.7609	0.0020	779		4,372.2	0.0103
2008	1.0500	249.5671	0.0042	807		4,692.8	0.0224
2009	-	229.4985	-	836		4,107.3	-
2010	2.0000	268.4115	0.0075	845		4,684.0	0.0427
2011	3.0000	323.1193	0.0093	858		5,546.6	0.0541
2012	1.2500	323.9599	0.0039	888		5,348.8	0.0234
2013	2.0616	293.5067	0.0070	917		4,638.4	0.0444
2014	1.3524	321.7547	0.0042	932		4,883.0	0.0277
2015	2.4459	261.8745	0.0093	951		3,957.9	0.0618
2016	0.5866	217.8288	0.0027	978		3,192.5	0.0184
2017	0.2598	285.5262	0.0009	995		3,997.9	0.0065
2018	1.0698	301.6904	0.0035	1,025		4,101.3	0.0261
2019	0.9740	315.2275	0.0031	1,049		4,180.4	0.0233
Total	23.8901	4,741.6563	0.0050			83,862.3	0.0285

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): 0.4180

IBNR Award Ratio(2001 & Subseq.): 0.3424

**Coal Mine Compensation Rating Bureau
Summary of Individual Claim Detail for Federal Basic
Claims from Exposure Years 1990 to 2019**

Federal Basic Severities

	Indemnity	Medical	Total
Underground Anthracite Class 160			
Total	7,871,931	1,411,204	9,283,135
Number of Claims	21	21	21
Average	374,854	67,200	442,054
Underground Bituminous Class 158			
Total	28,766,774	5,775,862	34,542,635
Number of Claims	84	84	84
Average	342,462	68,760	411,222
Surface Anthracite Class 153			
Total	13,953,808	2,484,255	16,438,063
Number of Claims	45	45	45
Average	310,085	55,206	365,290
Surface Bituminous Class 156			
Total	19,521,697	3,582,578	23,104,274
Number of Claims	65	65	65
Average	300,334	55,117	355,450
Four Standard Classes Combined			
Total	70,114,209	13,253,898	83,368,107
Number of Claims	215	215	215
Average	326,113	61,646	387,759
Other Classes			
Total	4,364,093	887,856	5,251,949
Number of Claims	14	14	14
Average	311,721	63,418	375,139
All Classes Combined			
Total	74,478,301	14,141,755	88,620,056
Number of Claims	229	229	229
Average	325,233	61,754	386,987

Source: Exhibit IX-B

PAB

Effective Date - April 01, 2021

C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-08-A.xlsx]VIII-A

October 08, 2020 - 03:56:25 PM

Checksum:526,666,261.631334

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	Weighted Frequency
2010	0	0	0	0	0.1772	0.1772	0.035434	1,299,588	0.035434	845	1.067	27.7	0.127921	
2011	2	0	0	2	0.2413	0.2413	0.048258	1,257,944	0.048258	858	1.067	26.4	0.182795	
2012	0	0	0	0	0.2558	0.2558	0.051164	1,029,260	0.051164	888	1.067	20.9	0.244804	
2013	2	0	0	2	0.1166	0.1166	0.023322	381,876	0.023322	917	1.067	7.5	0.310960	
2014	0	0	0	0	0.0949	0.0949	0.018970	258,809	0.018970	932	1.067	5.0	0.379400	
2015	1	0	1	0	0.1164	1.1164	0.223284	254,336	0.223284	951	1.067	4.8	4.651750	
2016	0	0	0	0	0.0984	0.0984	0.019682	163,760	0.019682	978	1.067	3.0	0.656067	
2017	0	0	0	0	0.1894	0.1894	0.037874	252,383	0.037874	995	1.067	4.6	0.823348	
2018	0	0	0	0	0.1745	0.1745	0.034902	183,346	0.034902	1,025	1.067	3.2	1.090688	
2019	0	0	0	0	0.2360	0.2360	0.047190	179,379	0.047190	1,049	1.067	3.1	1.522258	
TOTAL	5	0	1	4	1.7004	2.7004	0.540080	5,260,681	0.540080			106.2	9.989991	
AVERAGE													0.998999	

BITUMINOUS UNDERGROUND (0158)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.045 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	5	0	1	4	7.5663	8.5663	0.385481	125,393,576	0.385481	845	1.573	1,814.2	0.021248	
2011	6	1	0	5	10.3227	10.3227	0.464523	148,485,709	1.464523	858	1.573	2,115.8	0.069218	
2012	6	0	0	6	12.1282	12.1282	0.545769	153,618,908	0.545769	888	1.573	2,114.9	0.025806	
2013	4	1	0	3	13.7700	13.7700	0.619651	145,146,253	1.619651	917	1.573	1,935.1	0.083699	
2014	15	0	0	15	20.5664	20.5664	0.925488	183,431,952	0.925488	932	1.573	2,406.2	0.038463	
2015	16	0	1	15	18.4133	19.4133	0.873599	140,570,275	0.873599	951	1.573	1,807.1	0.048343	
2016	10	0	5	5	17.7830	22.7830	1.025235	118,545,477	1.025235	978	1.573	1,481.9	0.069184	
2017	6	1	1	4	29.4797	30.4797	1.371585	172,708,778	2.371585	995	1.573	2,122.1	0.111757	
2018	7	0	2	5	35.5438	37.5438	1.689473	180,599,760	1.689473	1,025	1.573	2,154.1	0.078431	
2019	1	0	0	1	41.9495	41.9495	1.887728	185,962,937	1.887728	1,049	1.573	2,167.3	0.087100	
TOTAL	76	3	10	63	207.5229	217.5229	9.788532	1,554,463,625	12.788532			20,118.7	0.633249	
AVERAGE													0.063325	

ANTHRACITE SURFACE (0153)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.100 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	2	0	0	2	0.5221	0.5221	0.052211	13,319,185	0.052211	845	1.067	284.1	0.018378	
2011	1	0	0	1	0.9313	0.9313	0.093128	19,507,428	0.093128	858	1.067	409.8	0.022725	
2012	1	0	0	1	1.4267	1.4267	0.142670	24,734,711	0.142670	888	1.067	502.0	0.028420	
2013	3	1	2	0	1.4050	3.4050	0.340502	20,720,014	1.340502	917	1.067	407.2	0.329200	
2014	2	0	1	1	1.5008	2.5008	0.250080	18,911,339	0.250080	932	1.067	365.7	0.068384	
2015	1	0	0	1	2.0607	2.0607	0.206068	22,234,350	0.206068	951	1.067	421.4	0.048901	
2016	3	0	1	2	2.0613	3.0613	0.306128	19,257,107	0.306128	978	1.067	354.9	0.086258	
2017	1	0	0	1	2.3664	2.3664	0.236640	19,094,634	0.236640	995	1.067	345.9	0.068413	
2018	1	0	1	0	2.6267	3.6267	0.362674	18,303,511	0.362674	1,025	1.067	321.8	0.112702	
2019	0	0	0	0	3.4117	3.4117	0.341166	20,632,989	0.341166	1,049	1.067	354.5	0.096239	
TOTAL	15	1	5	9	18.3127	23.3127	2.331267	196,715,268	3.331267			3,767.3	0.879620	
AVERAGE													0.087962	

BITUMINOUS SURFACE (0156)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.167 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	2	1	0	1	2.4059	2.4059	0.401780	74,255,177	1.401780	845	1.067	1,583.8	0.088507	
2011	5	0	1	4	3.3399	4.3399	0.724763	87,730,506	0.724763	858	1.067	1,842.9	0.039327	
2012	9	2	1	6	3.4139	4.4139	0.737128	77,890,500	2.737128	888	1.067	1,580.9	0.173137	
2013	4	0	0	4	3.1459	3.1459	0.525372	62,718,061	0.525372	917	1.067	1,232.7	0.042620	
2014	4	1	1	2	3.1444	4.1444	0.692111	55,368,615	1.692111	932	1.067	1,070.7	0.158038	
2015	9	1	1	7	2.6658	3.6658	0.612180	42,000,092	1.612180	951	1.067	796.0	0.202535	
2016	0	0	0	0	2.1330	2.1330	0.356209	30,131,218	0.356209	978	1.067	555.3	0.064147	
2017	1	0	0	1	2.6961	2.6961	0.450245	34,248,962	0.450245	995	1.067	620.4	0.072573	
2018	0	0	0	0	3.2664	3.2664	0.545485	36,305,197	0.545485	1,025	1.067	638.4	0.085446	
2019	0	0	0	0	3.7513	3.7513	0.626467	36,395,622	0.626467	1,049	1.067	625.3	0.100187	
TOTAL	34	5	4	25	29.9625	33.9625	5.671743	537,043,950	10.671743			10,546.4	1.026517	
AVERAGE													0.102652	

FOUR STANDARD CLASSES

						0.082		Expected	Statewide		Estimated	Frequency		
YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR +	Award	Ultimate	Average	Adjustment	Miner	Claims per 100		
						Pending	Ratio	Payroll	Awarded	Weekly Wage	Factor	Years	Miner Years	
2010	9	1	1	7	10.6714	11.6714	0.957055	214,267,526	1.874907	845		3,709.8	0.050539	
2011	14	1	1	12	14.8352	15.8352	1.298486	256,981,587	2.330672	858		4,394.9	0.053031	
2012	16	2	1	13	17.2247	18.2247	1.494423	257,273,379	3.476731	888		4,218.7	0.082412	
2013	13	2	2	9	18.4376	20.4376	1.675882	228,966,204	3.508847	917		3,582.5	0.097944	
2014	21	1	2	18	25.3064	27.3064	2.239126	257,970,715	2.886649	932		3,847.6	0.075025	
2015	27	1	3	23	23.2562	26.2562	2.153004	205,059,053	2.915131	951		3,029.3	0.096231	
2016	13	0	6	7	22.0757	28.0757	2.302207	168,097,562	1.707255	978		2,395.1	0.071281	
2017	8	1	1	6	34.7315	35.7315	2.929984	226,304,757	3.096344	995		3,093.0	0.100108	
2018	8	0	3	5	41.6115	44.6115	3.658141	235,391,814	2.632534	1,025		3,117.5	0.084444	
2019	1	0	0	1	49.3484	49.3484	4.046571	243,170,927	2.902552	1,049		3,150.2	0.092139	
TOTAL	130	9	20	101	257.4985	277.4985	18.331621	2,293,483,524	27.331621			34,538.6	0.803154	
AVERAGE													0.080315	0.080898

Source: Claim counts - CMCRB OD Database as of 4/30/2020

IBNR: Exhibit VIII-C

Payroll- Exhibit X-A

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.078=09 / [09 + 107]

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

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:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-B-2.xlsx\VIII-B-1

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

9,174,223,608.877690

FEDERAL BASIC OCCUPATIONAL DISEASE

COKE (0154)

IBNR Factor adjusted by 0.2000

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.0559	0.0559	0.004360	5,435,658	0.004360	845	1.067	115.9	0.003762	
2011	0	0	0	0	0.0426	0.0426	0.003323	3,599,086	0.003323	858	1.067	75.6	0.004395	
2012	0	0	0	0	0.0770	0.0770	0.006006	5,738,105	0.006006	888	1.067	116.5	0.005155	
2013	0	0	0	0	0.0729	0.0729	0.005686	4,791,910	0.005686	917	1.067	94.2	0.006036	
2014	0	0	0	0	0.0759	0.0759	0.005920	4,464,398	0.005920	932	1.067	86.3	0.006860	
2015	0	0	0	0	0.0821	0.0821	0.006404	4,340,376	0.006404	951	1.067	82.3	0.007781	
2016	0	0	0	0	0.0926	0.0926	0.007223	4,435,066	0.007223	978	1.067	81.7	0.008841	
2017	0	0	0	0	0.1050	0.1050	0.008190	4,566,113	0.008190	995	1.067	82.7	0.009903	
2018	0	0	0	0	0.1132	0.1132	0.008830	4,484,744	0.008830	1,025	1.067	78.9	0.011191	
2019	0	0	0	0	0.1278	0.1278	0.009968	4,626,532	0.009968	1,049	1.067	79.5	0.012539	
TOTAL	0	0	0	0	0.8450	0.8450	0.065910	46,481,988	0.065910			893.6	0.076463	
AVERAGE													0.007646	

AUGER (0157)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.0213	0.0213	0.001661	827,496	0.001661	845	1.067	17.6	0.009440	
2011	0	0	0	0	0.0348	0.0348	0.002714	1,176,255	0.002714	858	1.067	24.7	0.010989	
2012	1	0	0	1	0.0271	0.0271	0.002114	808,208	0.002114	888	1.067	16.4	0.012889	
2013	0	0	0	0	0.0398	0.0398	0.003104	1,046,947	0.003104	917	1.067	20.6	0.015070	
2014	0	0	0	0	0.0366	0.0366	0.002855	861,590	0.002855	932	1.067	16.7	0.017095	
2015	0	0	0	0	0.0309	0.0309	0.002410	654,766	0.002410	951	1.067	12.4	0.019437	
2016	0	0	0	0	0.0205	0.0205	0.001599	392,776	0.001599	978	1.067	7.2	0.022208	
2017	0	0	0	0	0.0326	0.0326	0.002543	566,324	0.002543	995	1.067	10.3	0.024687	
2018	0	0	0	0	0.0379	0.0379	0.002956	600,138	0.002956	1,025	1.067	10.6	0.027889	
2019	0	0	0	0	0.0410	0.0410	0.003198	593,214	0.003198	1,049	1.067	10.2	0.031353	
TOTAL	1	0	0	1	0.3225	0.3225	0.025155	7,527,714	0.025155			146.7	0.191057	
AVERAGE													0.019106	

ANTHRACITE CO-GEN (0181)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.2045	0.2045	0.015951	7,958,048	0.015951	845	1.067	169.7	0.009400	
2011	0	0	0	0	0.3253	0.3253	0.025373	10,981,642	0.025373	858	1.067	230.7	0.010998	
2012	1	0	0	1	0.3125	0.3125	0.024375	9,311,812	0.024375	888	1.067	189.0	0.012897	
2013	1	0	0	1	0.2901	0.2901	0.022628	7,630,762	0.022628	917	1.067	150.0	0.015085	
2014	0	0	0	0	0.3554	0.3554	0.027721	8,360,898	0.027721	932	1.067	161.7	0.017144	
2015	0	0	0	0	0.4516	0.4516	0.035225	9,554,806	0.035225	951	1.067	181.1	0.019450	
2016	0	0	0	0	0.4152	0.4152	0.032386	7,953,309	0.032386	978	1.067	146.6	0.022091	
2017	0	0	0	0	0.4481	0.4481	0.034952	7,793,558	0.034952	995	1.067	141.2	0.024753	
2018	1	0	1	0	0.6346	1.6346	0.127499	10,053,839	0.127499	1,025	1.067	176.8	0.027115	
2019	0	0	0	0	0.4710	0.4710	0.036738	6,821,629	0.036738	1,049	1.067	117.2	0.031346	
TOTAL	3	0	1	2	3.9083	4.9083	0.382847	86,420,303	0.382847			1,664.0	0.235279	
AVERAGE													0.023528	

BITUMINOUS CO-GEN (0182)

IBNR Factor adjusted by 0.4000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.1795	0.1795	0.014001	8,732,701	0.014001	845	1.067	186.3	0.007515	
2011	0	0	0	0	0.2157	0.2157	0.016825	9,102,411	0.016825	858	1.067	191.2	0.008799	
2012	0	0	0	0	0.2429	0.2429	0.018946	9,047,745	0.018946	888	1.067	183.6	0.010319	
2013	0	0	0	0	0.3149	0.3149	0.024562	10,355,884	0.024562	917	1.067	203.5	0.012070	
2014	0	0	0	0	0.3986	0.3986	0.031091	11,721,184	0.031091	932	1.067	226.7	0.013715	
2015	0	0	0	0	0.4442	0.4442	0.034648	11,748,205	0.034648	951	1.067	222.7	0.015558	
2016	0	0	0	0	0.4731	0.4731	0.036902	11,327,552	0.036902	978	1.067	208.8	0.017673	
2017	0	0	0	0	0.5260	0.5260	0.041028	11,435,057	0.041028	995	1.067	207.1	0.019811	
2018	0	0	0	0	0.6082	0.6082	0.047440	12,043,297	0.047440	1,025	1.067	211.8	0.022398	
2019	0	0	0	0	0.6522	0.6522	0.050872	11,807,241	0.050872	1,049	1.067	202.9	0.025072	
TOTAL	0	0	0	0	4.0553	4.0553	0.316313	107,321,277	0.316313			2,044.6	0.152930	
AVERAGE													0.015293	

Source: Claim counts - CMCRB OD Database as of 4/30/2020

IBNR: Exhibit VIII-C

Payroll- Exhibit X-A

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.078=09 / [09 + 107]

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:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-B-2.xlsx\VIII-B-2

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

495,630,495.854334

FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE PREP PLANT (0183)

IBNR Factor adjusted by 0.9000

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.2256	0.2256	0.017597	4,876,927	0.017597	845	1.067	104.0	0.016920	
2011	0	0	0	0	0.3265	0.3265	0.025467	6,123,259	0.025467	858	1.067	128.6	0.019803	
2012	0	0	0	0	0.4572	0.4572	0.035662	7,569,023	0.035662	888	1.067	153.6	0.023217	
2013	1	0	1	0	0.4841	1.4841	0.115760	7,074,886	0.115760	917	1.067	139.1	0.083221	
2014	0	0	0	0	0.4990	0.4990	0.038922	6,521,541	0.038922	932	1.067	126.1	0.030866	
2015	0	0	0	0	0.5272	0.5272	0.041122	6,196,596	0.041122	951	1.067	117.4	0.035027	
2016	0	0	0	0	0.5209	0.5209	0.040630	5,542,968	0.040630	978	1.067	102.1	0.039795	
2017	0	0	0	0	0.6268	0.6268	0.048890	6,056,810	0.048890	995	1.067	109.7	0.044567	
2018	0	0	0	0	0.7859	0.7859	0.061300	6,916,759	0.061300	1,025	1.067	121.6	0.050411	
2019	0	0	0	0	1.3156	1.3156	0.102617	10,584,841	0.102617	1,049	1.067	181.9	0.056414	
TOTAL	1	0	1	0	5.7688	6.7688	0.527966	67,463,610	0.527966			1,284.1	0.400241	
Average													0.040024	

BITUMINOUS PREP PLANT (0184)

IBNR Factor adjusted by 0.4000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	0.5410	0.5410	0.042198	26,313,130	0.042198	845	1.573	380.7	0.011084	
2011	1	0	0	1	0.8330	0.8330	0.064974	35,155,068	0.064974	858	1.573	500.9	0.012971	
2012	0	0	0	0	0.9184	0.9184	0.071635	34,211,729	0.071635	888	1.573	471.0	0.015209	
2013	0	0	0	0	1.0231	1.0231	0.079802	33,639,969	0.079802	917	1.573	448.5	0.017793	
2014	2	0	0	2	1.0832	1.0832	0.084490	31,854,431	0.084490	932	1.573	417.9	0.020218	
2015	0	0	0	0	0.9196	0.9196	0.071729	24,320,608	0.071729	951	1.573	312.7	0.022939	
2016	0	0	0	0	0.8387	0.8387	0.065419	20,079,401	0.065419	978	1.573	251.0	0.026063	
2017	0	0	0	0	1.3248	1.3248	0.103334	28,803,457	0.103334	995	1.573	353.9	0.029199	
2018	0	0	0	0	1.6261	1.6261	0.126836	32,199,872	0.126836	1,025	1.573	384.1	0.033022	
2019	0	0	0	0	2.0783	2.0783	0.162107	37,623,330	0.162107	1,049	1.573	438.5	0.036969	
TOTAL	3	0	0	3	11.1862	11.1862	0.872524	304,200,995	0.872524			3,959.2	0.225467	
Average													0.022547	

TOTAL OTHER CLASSES

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	0	0	0	0	1.2278	1.2278	0.095768	54,143,960	0.095768	845		974.2	0.009830	
2011	1	0	0	1	1.7779	1.7779	0.138676	66,137,721	0.138676	858		1,151.7	0.012041	
2012	2	0	0	2	2.0351	2.0351	0.158738	66,686,622	0.158738	888		1,130.1	0.014046	
2013	2	0	1	1	2.2249	3.2249	0.251542	64,540,358	0.251542	917		1,055.9	0.023823	
2014	2	0	0	2	2.4487	2.4487	0.190999	63,784,042	0.190999	932		1,035.4	0.018447	
2015	0	0	0	0	2.4556	2.4556	0.191537	56,815,357	0.191537	951		928.6	0.020626	
2016	0	0	0	0	2.3610	2.3610	0.184158	49,731,072	0.184158	978		797.4	0.023095	
2017	0	0	0	0	3.0633	3.0633	0.238937	59,221,319	0.238937	995		904.9	0.026405	
2018	1	0	1	0	3.8059	4.8059	0.374860	66,298,649	0.374860	1,025		983.8	0.038103	
2019	0	0	0	0	4.6859	4.6859	0.365500	72,056,787	0.365500	1,049		1,030.2	0.035479	
TOTAL	8	0	2	6	26.0861	28.0861	2.190716	619,415,887	2.190716			9,992.2	0.221895	
Average													0.022190	0.022089

GRAND TOTAL

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.078 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2010	9	1	1	7	11.8992	12.8992	1.006138	268,411,486	1.970675	845		4,684.0	0.042072	
2011	15	1	1	13	16.6131	17.6131	1.373822	323,119,308	2.469348	858		5,546.6	0.044520	
2012	18	2	1	15	19.2598	20.2598	1.580262	323,960,001	3.635469	888		5,348.8	0.067968	
2013	15	2	3	10	20.6625	23.6625	1.845674	293,506,562	3.760389	917		4,638.4	0.081071	
2014	23	1	2	20	27.7551	29.7551	2.320899	321,754,757	3.077648	932		4,883.0	0.063028	
2015	27	1	3	23	25.7118	28.7118	2.239517	261,874,410	3.106668	951		3,957.9	0.078493	
2016	13	0	6	7	24.4367	30.4367	2.374062	217,828,634	1.891413	978		3,192.5	0.059246	
2017	8	1	1	6	37.7948	38.7948	3.025995	285,526,076	3.335281	995		3,997.9	0.083426	
2018	9	0	4	5	45.4174	49.4174	3.854555	301,690,463	3.007394	1,025		4,101.3	0.073328	
2019	1	0	0	1	54.0343	54.0343	4.214678	315,227,714	3.268052	1,049		4,180.4	0.078176	
TOTAL	138	9	22	107	283.5846	305.5846	23.835601	2,912,899,411	29.522337			44,530.8	0.671328	
Average													0.067133	0.067702

Source: Claim counts - CMCRB OD Database as of 4/30/2020

IBNR: Exhibit VIII-C

Payroll- Exhibit X-A

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.078=09 / [09 + 107]

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:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-B-2.xlsx\VIII-B-3

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

7,808,199,778.175170

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ANTHRACITE UNDERGROUND (0160)

Exhibit VIII-C-1

Claims with File Dates on or before 12-31-2019, Valued as of 4-30-2020

Reported Claims		Incremental Frequency and IBNR																											
		Year																											
Months	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0		
24	2	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0		
36	2	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0		
48	2	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0	2	0	1	0	1	0	0	0	0		
60	2	1	0	0	0	0	1	1	2	0	0	0	0	1	0	0	1	0	2	0	2	0	1	0	0	0	0		
72	2	1	1	0	0	0	1	1	3	0	0	0	0	1	0	1	1	0	2	0	2	0	0	0	0	0	0		
84	2	1	1	0	0	0	1	1	4	0	0	0	0	1	0	1	1	0	2	0	2	0	1	0	0	0	0		
96	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	2	0	0	0	0	0	0		
108	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0		
120	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0		
132	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	2	0	0	0	0	0	0		
144	2	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0		
156	2	1	2	0	0	0	2	1	4	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0		
168	2	1	2	0	0	0	2	1	4	2	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0		
180	2	1	2	0	0	1	3	1	4	2	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		
192	2	1	2	0	0	1	3	1	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
204	2	1	2	0	0	1	3	1	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
216	2	1	2	0	0	2	3	1	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
228	2	1	2	0	0	2	3	1	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
240	2	1	2	0	0	2	3	2	4	2	1	1	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
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)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
12-24	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	0.25238	0.18335	0.17938
24-36														0.69323	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
36-48													0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.79495	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
48-60												0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.79495	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60-72											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
72-84											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
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
96-108											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
108-120											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
120-132											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
132-144											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
144-156											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
156-168											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
168-180											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
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
192-204											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
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
216-228											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											0.00000	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

IBNR Claims	Cumulative Factor	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	0.00000	0.00000
times Payroll		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	0.00000	0.00000

Source:

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
BITUMINOUS UNDERGROUND (0158)

Exhibit VIII-C-2

Claims with File Dates on or before 12-31-2019, Valued as of 4-30-2020

Reported Claims	Incremental Frequency and IBNR																												
	Year																												
Months	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
12	1	4	3	0	0	1	2	2	1	1	0	0	0	1	0	0	0	0	2	1	2	3	6	4	3	3	1		
24	1	4	3	2	1	2	4	4	1	2	0	0	0	1	0	1	1	2	2	3	3	6	8	5	4	7			
36	2	7	5	2	4	5	6	4	2	4	0	1	0	1	2	1	1	2	2	4	3	10	12	7	6				
48	3	8	6	2	5	5	7	4	2	5	0	2	0	1	2	1	4	2	2	4	3	12	16	10					
60	4	9	7	3	6	5	7	4	3	6	0	2	0	1	3	1	4	2	4	4	3	14	16						
72	4	9	8	4	7	5	7	4	4	6	0	2	0	1	3	1	5	3	4	4	4	15							
84	4	9	8	4	7	5	7	5	4	6	0	2	1	1	3	1	5	4	6	5	4								
96	5	9	8	5	7	5	8	5	4	7	0	2	1	1	4	1	5	4	6	6	6								
108	5	11	8	5	7	5	9	5	6	7	1	2	1	1	4	1	5	5	6										
120	5	11	8	5	7	5	10	5	6	11	1	2	1	1	4	1	5	5											
132	5	11	8	5	8	5	11	7	7	11	1	2	1	1	4	1	5												
144	6	11	8	5	9	5	15	10	7	13	1	2	1	1	5	1													
156	6	11	8	5	9	5	16	10	7	15	1	3	1	2	5														
168	6	11	9	5	9	6	16	13	7	16	1	3	1	2															
180	7	12	9	5	9	6	17	20	7	17	1	3	1																
192	7	13	9	5	9	7	18	33	7	17	1	4																	
204	8	13	10	6	9	7	19	35	7	20	2																		
216	8	14	10	8	10	10	19	38	8	20																			
228	9	15	10	8	11	10	20	46	8																				
240	9	17	10	8	12	10	22	50																					

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
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)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
12-24	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	118.54548	172.70878	180.59976	185.96294	Average	Smoothed	
24-36													0.00000	0.00000	0.02503	0.00000	0.00000	0.00000	0.00000	0.00651	0.00000	0.02181	0.02846	0.01687	0.01158	0.02215	0.00848	0.02612		
36-48												0.02170	0.00000	0.00000	0.00000	0.00000	0.02960	0.00000	0.00000	0.00000	0.00000	0.01090	0.02846	0.02531			0.00892	0.02068		
48-60										0.00000	0.00000	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.01347	0.00000	0.00000	0.01090	0.00000				0.00284	0.01902		
60-72									0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00987	0.00797	0.00000	0.00000	0.00689	0.00545						0.00232	0.01887		
72-84								0.00000	0.00000	0.00000	0.00000	0.01509	0.00000	0.00000	0.00000	0.00000	0.00000	0.00797	0.01347	0.00651	0.00000						0.00331	0.01725		
84-96							0.01704	0.00000	0.00000	0.02449	0.00000	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.00000	0.00651							0.00335	0.01592		
96-108						0.00000	0.01704	0.00000	0.04122	0.00000	0.00000	0.02740	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00797	0.00000	0.00000						0.00720	0.00943		
108-120					0.01421	0.00000	0.01704	0.00000	0.00000	0.09795	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000						0.00885	0.00918		
120-132					0.00000	0.00000	0.01704	0.04209	0.02061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000						0.00723	0.00892		
132-144			0.00000	0.00000	0.01421	0.00000	0.06816	0.06313	0.00000	0.04897	0.00000	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.00000	0.00651							0.00592	0.00885		
144-156			0.00000	0.00000	0.00000	0.00000	0.01704	0.00000	0.00000	0.04897	0.00000	0.00000	0.02170	0.00000	0.01419	0.00000												0.00784	0.00848	
156-168		0.00000	0.01532	0.00000	0.00000	0.01637	0.00000	0.06313	0.00000	0.02449	0.00000	0.00000	0.00000	0.00000														0.00918	0.00784	
168-180	0.01895	0.01650	0.00000	0.00000	0.00000	0.00000	0.01704	0.14730	0.00000	0.02449	0.00000	0.00000	0.00000															0.01725	0.00723	
180-192	0.00000	0.01650	0.00000	0.00000	0.00000	0.01637	0.01704	0.27357	0.00000	0.00000	0.00000	0.02170																0.02877	0.00720	
192-204	0.01895	0.00000	0.01532	0.01329	0.00000	0.00000	0.01704	0.04209	0.00000	0.07346	0.02740																		0.01887	0.00335
204-216	0.00000	0.01650	0.00000	0.02659	0.01421	0.04911	0.00000	0.06313	0.02061	0.00000																			0.01902	0.00331
216-228	0.01895	0.01650	0.00000	0.00000	0.01421	0.00000	0.01704	0.16835	0.00000																				0.02612	0.00284
228-240	0.00000	0.03301	0.00000	0.00000	0.01421	0.00000	0.03408	0.08417																					0.02068	0.00232
Total=																													0.22558	0.22558

IBNR Claims																													
Cumulative Factor									0.00232	0.00516	0.00847	0.01182	0.01902	0.02625	0.03409	0.04257	0.05142	0.06034	0.06952	0.07895	0.09487	0.11212	0.13099	0.15001	0.17069	0.19681	0.22558		
times Payroll									0.11257	0.21072	0.30914	0.54459	1.26056	1.84973	2.72394	4.31464	5.21132	7.56625	10.32273	12.12821	13.77002	20.56639	18.41330	17.78301	29.47966	35.54384	41.94952		

Source: Coal Mine Compensation Rating Bureau Database as of 4-3

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ANTHRACITE SURFACE (0153)

Exhibit VIII-C-3

Claims with File Dates on or before 12-31-2019, Valued as of 4-30-2020

Reported Claims		Incremental Frequency and IBNR																											
		Year																											
Months	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
12	10	11	2	5	4	4	0	1	2	3	0	2	1	0	2	0	0	0	0	0	1	1	0	1	1	1	1	0	
24	14	14	6	6	7	6	0	4	2	3	1	3	2	0	2	2	0	0	1	0	1	1	1	1	1	1	1		
36	16	17	10	6	7	6	0	4	2	4	3	3	2	0	2	2	1	0	1	1	1	1	1	1	1	1			
48	21	19	12	6	8	7	0	5	4	5	3	3	2	1	2	2	1	0	1	1	1	1	1	1	3				
60	21	21	13	6	8	7	0	5	5	5	3	4	2	1	2	2	1	0	1	1	2	1	1						
72	22	21	13	8	8	8	0	5	5	6	3	4	2	1	2	2	2	0	1	1	3	2							
84	23	21	15	8	8	8	0	5	5	6	4	4	2	1	2	2	2	0	1	1	3								
96	24	21	16	9	8	8	0	5	5	6	4	4	2	1	2	2	2	2	1	1									
108	24	21	19	9	8	8	0	5	6	6	4	4	2	1	2	2	2	2	1	2									
120	24	22	21	9	8	8	1	7	6	6	4	4	2	1	2	2	2	2											
132	24	23	21	9	8	8	1	7	7	6	4	4	2	1	2	2	2	2											
144	24	23	21	9	8	9	1	7	7	6	4	4	2	1	2	2	2	2											
156	24	23	21	9	9	9	1	7	7	6	4	4	2	1	2														
168	25	24	23	9	9	9	1	7	7	6	4	4	2	1															
180	25	24	24	10	9	9	1	7	7	6	4	4	2																
192	25	24	24	10	9	9	1	7	7	6	4	4																	
204	25	24	24	11	9	9	1	10	7	6	4	4																	
216	25	24	24	11	9	9	1	10	7	6																			
228	25	24	24	11	9	9	1	10	7																				
240	25	25	24	11	9	9	1	10																					

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
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)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average	Smoothed
12-24	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	19.25711	19.09463	18.30351	20.63299	0.01689	0.02184
24-36																												0.00795	0.01958
36-48																												0.01436	0.01689
48-60																												0.00994	0.01436
60-72																												0.01958	0.01332
72-84																												0.00645	0.01155
84-96																												0.01155	0.01013
96-108																												0.00595	0.00994
108-120																												0.01332	0.00854
120-132																												0.00595	0.00795
132-144																												0.00443	0.00645
144-156																												0.00433	0.00595
156-168																												0.01013	0.00595
168-180																												0.00854	0.00443
180-192																												0.00000	0.00433
192-204																												0.02184	0.00414
204-216																												0.00000	0.00000
216-228																												0.00000	0.00000
228-240																												0.00414	0.00000
Total=																												0.16535	0.16535

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
BITUMINOUS SURFACE (0156)

Exhibit VIII-C-4

Claims with File Dates on or before 12-31-2019, Valued as of 4-30-2020

Reported Claims	Incremental Frequency and IBNR																												
	Year																												
Months	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
12	1	1	5	4	2	0	0	3	0	1	0	1	0	0	2	0	0	1	0	3	2	0	1	0	1	0	0		
24	3	5	7	5	3	2	1	3	1	2	0	1	0	1	2	1	0	1	1	8	2	1	3	0	1	0			
36	5	6	8	5	3	2	1	3	1	2	1	1	1	1	2	1	0	1	1	8	2	1	6	0	1	0			
48	6	7	10	6	5	2	1	5	1	2	1	1	1	2	3	1	0	1	2	8	3	1	7	0					
60	8	8	11	7	5	2	1	6	1	2	1	1	1	2	3	1	0	1	3	8	3	3	9						
72	9	9	13	8	5	3	1	7	1	2	1	1	1	2	4	1	0	2	3	8	4	4							
84	9	10	14	9	7	3	1	7	2	2	1	1	1	4	4	5	0	2	4	9									
96	9	11	15	10	7	4	1	7	2	2	1	1	1	4	4	5	0	2	4	9									
108	10	12	18	10	7	5	1	7	2	2	2	1	1	4	4	5	1	2	5										
120	10	13	21	10	8	5	1	7	2	3	3	2	1	4	5	5	1	2											
132	10	13	21	11	8	5	1	7	3	4	3	2	1	4	5	6	1												
144	10	13	21	11	8	6	1	7	3	4	4	2	1	4	5	7													
156	10	13	21	11	8	6	1	7	3	4	5	2	1	4	5														
168	10	14	22	12	8	6	1	7	4	4	5	2	2	4															
180	11	14	22	13	8	6	1	7	5	4	5	2	2																
192	11	14	22	13	9	6	1	8	7	4	5	2																	
204	13	15	22	13	10	7	1	8	7	4	5																		
216	13	15	24	14	10	8	2	10	7	4																			
228	13	15	24	14	10	9	3	10	7																				
240	13	15	24	15	10	9	3	10																					

Incremental Changes																												
12-24														0	1	0	1	0	0	1	5	0	1	2	0	0	0	
24-36														0	1	0	0	0	0	0	0	0	0	3	0	0	0	
36-48													0	0	0	1	0	0	0	1	0	1	0	1	0	0		
48-60												0	0	0	0	0	0	0	0	1	0	0	2	2	0	0		
60-72											0	0	0	0	0	1	3	0	1	0	0	1	1					
72-84											0	0	0	0	2	0	1	0	0	0	1	1	1					
84-96							0				0	0	0	0	0	0	0	0	0	0	0	0						
96-108						1	0				0	0	0	0	0	0	0	0	1	0	0	1						
108-120					1	0	0				0	0	1	1	0	0	1	0	0	0	0	1						
120-132					1	0	0				0	1	1	0	0	0	0	0	0	1	0							
132-144			0		0	0	1				0	0	0	1	0	0	0	0	0	1								
144-156		0	0		0	0	0				0	0	0	1	0	0	0	0	1	0	0	1						
156-168	0	1	1		1	0	0				0	1	0	0	0	1	0											
168-180	1	0	0		1	0	0				0	1	0	0	0	0												
180-192	0	0	0		0	1	0				0	1	2	0	0	0	0											
192-204	2	1	0		0	1	1				0	0	0	0	0	0												
204-216	0	0	2		1	0	1				1	2	0	0	0													
216-228	0	0	0		0	0	1				1	0	0															
228-240	0	0	0		1	0	0				0																	

Payroll	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
(\$Millions)	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	30.13122	34.24896	36.30520	36.39562		
12-24														0.01567	0.00000	0.01340	0.00000	0.00000	0.01140	0.06419	0.00000	0.01806	0.04762	0.00000	0.00000	0.00000		<u>Average</u>	<u>Smoothed</u>
24-36													0.01542	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.07143	0.00000	0.00000	0.00000		0.01310	0.01310
36-48												0.00000		0.01567	0.01543	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00648	0.01125
48-60											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01140	0.00000	0.01594	0.00000	0.00000	0.00000		0.00633	0.00793
60-72											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03612	0.04762		0.00000		0.00732	0.00732
72-84									0.01720	0.00000	0.00000	0.00000	0.00000	0.03135	0.00000	0.01340	0.00000	0.00000	0.00000	0.01140	0.01284	0.00000						0.00668	0.00668
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	0.01806						0.00663	0.00663
96-108							0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							0.00633	0.00633
108-120							0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01869	0.02089	0.01779	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000						0.00370	0.00576
120-132					0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01720	0.01869	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							0.00560	0.00567
132-144				0.00000	0.00000	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							0.00379	0.00560
144-156			0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							0.00385	0.00531
156-168		0.01081	0.01270	0.01285	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000	0.01542	0.00000											0.00161	0.00385
168-180	0.01058	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000	0.00000													0.00531	0.00380
180-192	0.00000	0.00000	0.00000	0.00000	0.00000	0.01473	0.00000	0.00000	0.02003	0.03439	0.00000	0.00000	0.00000															0.00313	0.00379
192-204	0.02115	0.01081	0.00000	0.00000	0.00000	0.01473	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000																0.00576	0.00370
204-216	0.00000	0.00000	0.02540	0.01285	0.00000	0.01571	0.01846	0.04005	0.00000	0.00000																		0.00567	0.00313
216-228	0.00000	0.00000	0.00000	0.00000	0.00000	0.01571	0.01846	0.00000	0.00000																			0.01125	0.00161
228-240	0.00000	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000																				0.00380	0.00161
																												<u>0.00161</u>	<u>0.00000</u>
																												Total=	0.10307

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
OTHER CLASSIFICATIONS - FEDERAL

Exhibit VIII-C-5

Claims with File Dates on or before 12-31-2019, Valued as of 4-30-2020

Reported Claims		Incremental Frequency and IBNR																																	
Months	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Year													2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
12	1	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
24	1	0	0	0	2	2	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0							
36	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0									
48	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	0	1	1	2	0	0		0									
60	1	0	0	0	5	2	4	1	0	1	0	1	1	0	0	0	0	0	0	1	1	2	2												
72	1	0	0	0	6	2	4	1	0	2	0	1	1	0	0	0	0	1	0	1	2	2	2												
84	1	0	0	0	6	3	4	1	0	2	1	1	1	0	0	0	0	1	0	1	2	2													
96	1	0	0	0	6	3	4	1	0	2	1	1	2	0	0	0	0	1	0	1	2														
108	1	0	0	0	6	3	4	1	0	2	1	1	2	0	1	1	1	1	0	1															
120	1	0	0	0	6	3	4	1	0	2	1	1	3	1	1	1	1	1	0																
132	1	0	0	0	6	3	4	1	0	2	1	1	3	1	1	1	1	1																	
144	1	0	0	0	6	3	5	1	0	2	1	1	3	2	1	1	1																		
156	1	0	0	0	6	3	5	1	0	2	1	1	3	2	1																				
168	1	0	0	0	6	3	5	1	0	2	1	1	3	2																					
180	1	0	0	0	7	3	5	1	0	2	1	1	3																						
192	1	0	0	0	7	3	5	1	0	2	1	2																							
204	1	0	0	0	7	3	5	2	0	2	1																								
216	1	0	0	0	7	3	5	3	0	2																									
228	1	0	0	0	7	3	5	3	0																										
240	1	0	0	0	8	3	5	3																											

Payroll	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(\$Millions)	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	49.73107	59.22132	66.29865	72.05679

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2020

Payrolls: Exhibit X-A-3

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-C.xlsx\VIII-C-5

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

112,714.607870

Exhibit VIII-C-6

Incremental Frequency and IBNR

[illegible]

PAB
Effective Date - April 01, 2021
124,712.455690

**COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VIII-C-7

IBNR By Class

		CLASSIFICATION					
A. IBNR Factor		Coke	Auger	Anthracite Co-Gen	Bituminous Co-Gen	Anthracite Prep Plant	Bituminous Prep Plant
	Year	0154	0157	0181	0182	0183	0184
	2010	0.0514	0.0514	0.0514	0.0514	0.0514	0.0514
	2011	0.0592	0.0592	0.0592	0.0592	0.0592	0.0592
	2012	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671
	2013	0.0760	0.0760	0.0760	0.0760	0.0760	0.0760
	2014	0.0850	0.0850	0.0850	0.0850	0.0850	0.0850
	2015	0.0945	0.0945	0.0945	0.0945	0.0945	0.0945
	2016	0.1044	0.1044	0.1044	0.1044	0.1044	0.1044
	2017	0.1150	0.1150	0.1150	0.1150	0.1150	0.1150
	2018	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263
	2019	0.1381	0.1381	0.1381	0.1381	0.1381	0.1381
B. Adjustment Factor		0.2000	0.5000	0.5000	0.4000	0.9000	0.4000
C. Payroll Per \$1M							
	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	4.43507	0.39278	7.95331	11.32755	5.54297	20.07940
	2017	4.56611	0.56632	7.79356	11.43506	6.05681	28.80346
	2018	4.48474	0.60014	10.05384	12.04330	6.91676	32.19987
	2019	4.62653	0.59321	6.82163	11.80724	10.58484	37.62333
D. IBNR							
	2010	0.0559	0.0213	0.2045	0.1795	0.2256	0.5410
	2011	0.0426	0.0348	0.3253	0.2157	0.3265	0.8330
	2012	0.0770	0.0271	0.3125	0.2429	0.4572	0.9184
	2013	0.0729	0.0398	0.2901	0.3149	0.4841	1.0231
	2014	0.0759	0.0366	0.3554	0.3986	0.4990	1.0832
	2015	0.0821	0.0309	0.4516	0.4442	0.5272	0.9196
	2016	0.0926	0.0205	0.4152	0.4731	0.5209	0.8387
	2017	0.1050	0.0326	0.4481	0.5260	0.6268	1.3248
	2018	0.1132	0.0379	0.6346	0.6082	0.7859	1.6261
	2019	0.1278	0.0410	0.4710	0.6522	1.3156	2.0783

Source: IBNR Factor - Exhibit VIII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A-3
IBNR = A times B times C

**COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS**

Exhibit VIII-C-8

IBNR By Class

		CLASSIFICATION					
		Coke	Auger	Anthracite Co-Gen	Bituminous Co-Gen	Anthracite Prep Plant	Bituminous Prep Plant
A. IBNR Factor	Year	0154	0157	0181	0182	0183	0184
	2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2001	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
	2002	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068
	2003	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
	2004	0.0157	0.0157	0.0157	0.0157	0.0157	0.0157
	2005	0.0204	0.0204	0.0204	0.0204	0.0204	0.0204
	2006	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255
	2007	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
	2008	0.0378	0.0378	0.0378	0.0378	0.0378	0.0378
	2009	0.0445	0.0445	0.0445	0.0445	0.0445	0.0445
B. Adjustment Factor		0.2000	0.5000	0.5000	0.4000	0.9000	0.4000
C. Payroll Per \$1M							
	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
	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
D. IBNR							
	2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2001	0.0056	0.0019	0.0062	0.0023	0.0053	0.0109
	2002	0.0142	0.0039	0.0192	0.0065	0.0142	0.0273
	2003	0.0254	0.0061	0.0386	0.0134	0.0338	0.0449
	2004	0.0377	0.0083	0.0576	0.0399	0.0621	0.0843
	2005	0.0524	0.0105	0.0800	0.0695	0.0948	0.1348
	2006	0.0649	0.0136	0.1071	0.0960	0.1120	0.1737
	2007	0.0861	0.0176	0.1446	0.1364	0.1648	0.2379
	2008	0.0739	0.0474	0.1423	0.1283	0.1952	0.3216
	2009	0.0460	0.0211	0.1675	0.1399	0.2507	0.3526

Source: IBNR Factor - Exhibit VIII-C-6
Adjustment Factor - Judgement
Payrolls: Exhibit X-A-3
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%
1/1/2018	to	12/31/2018	660.10	330.00	1.4%
1/1/2019	to	12/31/2019	669.30	334.70	1.4%
1/1/2020	to	12/31/2020	686.70	343.40	2.6%
All Years			Average		2.3%
Last 10 Yrs			Average		0.9%
Last 5 Yrs			Average		1.5%
Last 3 Yrs			Average		1.8%

Selected Benefit Change from	2020	to	2021	1.00%
Selected Benefit Change from	2021	to	2022	1.50%
Selected Benefit Change from	2022	to	2023	2.50%

Selected Average Annual Benefit Change (Last Year's Selection: 2.5%) 2.50%

			Projected Benefit- Claimant	Dependant	Weight
1/1/2021	to	12/31/2021	693.60 a	346.80	28.125%
1/1/2022	to	12/31/2022	704.00 a	352.00	68.750%
1/1/2023	to	12/31/2023	721.60 a	360.80	3.125%
Average Monthly Benefit During the Policy Period Beginning 04/01/2021			701.60 b	350.80	
Average Weekly Benefit During the Policy Period Beginning 04/01/2021			161.90 c	81.00	
Annual (Weekly X 52)			8,418.80	4,209.40	
Annual Miner and Spouse				12,628.20	

- a Previous year's benefit times selected benefit change
b Weighted average of projected benefit levels from 01-01-21 to 12-31-23
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			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	2	-	-	2	-	0.10	0.10
2011	-	-	-	-	-	-	-
2012	2	-	-	2	-	0.10	0.10
2013	-	-	-	-	-	-	-
2014	1	-	1	-	0.30	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
Total	5	-	1	4	0.30	0.20	0.20

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	(2)+(5)+(7)	(1)-(8)	IBNR	(10)xAward Ratio	(8)+(11)	(12)/(13) x 1000000	
	# 0.00	# 0.00	# 0.1772	# 0.0269	# 0.0269	\$ 1,299,588	0.0207
2010	0.10	1.90	0.2413	0.0366	0.1366	1,257,944	0.1086
2011	-	-	0.2558	0.0388	0.0388	1,029,260	0.0377
2012	0.10	1.90	0.1166	0.0177	0.1177	381,876	0.3082
2013	-	-	0.0949	0.0144	0.0144	258,809	0.0556
2014	0.30	0.70	0.1164	0.0177	0.3177	254,336	1.2490
2015	-	-	0.0984	0.0149	0.0149	163,760	0.0912
2016	-	-	0.1894	0.0287	0.0287	252,383	0.1139
2017	-	-	0.1745	0.0265	0.0265	183,346	0.1445
2018	-	-	0.2360	0.0358	0.0358	179,379	0.1997
2019	-	-	0.2360	0.0358	0.0358	179,379	0.1997
Total	0.50	4.50	1.7004	0.2581	0.7581	\$ 5,260,681	0.1441

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	Weekly Wage	Factor	Years	Miner Years
2010	845	1.0670	27.7	0.0971
2011	858	1.0670	26.4	0.5175
2012	888	1.0670	20.9	0.1858
2013	917	1.0670	7.5	1.5694
2014	932	1.0670	5.0	0.2880
2015	951	1.0670	4.8	6.6182
2016	978	1.0670	3.0	0.4980
2017	995	1.0670	4.6	0.6249
2018	1,025	1.0670	3.2	0.8278
2019	1,049	1.0670	3.1	1.1554
Total			106.2	0.7139

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: 0.1518

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-F.xlsx p 1

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

10,591,339.624273

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			
	# 5	# 0	# 1	# 4	# 0.30	# 0.20	# 0.20
2010	6	1	-	5	-	0.25	0.25
2011	6	-	-	6	-	0.30	0.30
2012	4	1	-	3	-	0.15	0.15
2013	15	-	-	15	-	0.75	0.75
2014	16	-	1	15	0.30	0.75	0.75
2015	10	-	5	5	1.50	0.25	0.25
2016	6	1	1	4	0.30	0.20	0.20
2017	7	-	2	5	0.60	0.25	0.25
2018	1	-	-	1	-	0.05	0.05
<u>2019</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>0.05</u>	<u>0.05</u>
Total	76	3	10	63	3.00	3.15	3.15

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 0.50	# 4.50	# 7.5663	# 1.1486	# 1.6486	\$ 125,393,576	0.0131
	1.25	4.75	10.3227	1.5670	2.8170	148,485,709	0.0190
2010	0.30	5.70	12.1282	1.8411	2.1411	153,618,908	0.0139
2011	1.15	2.85	13.7700	2.0903	3.2403	145,146,253	0.0223
2012	0.75	14.25	20.5664	3.1220	3.8720	183,431,952	0.0211
2013	1.05	14.95	18.4133	2.7951	3.8451	140,570,275	0.0274
2014	1.75	8.25	17.7830	2.6995	4.4495	118,545,477	0.0375
2015	1.50	4.50	29.4797	4.4750	5.9750	172,708,778	0.0346
2016	0.85	6.15	35.5438	5.3956	6.2456	180,599,760	0.0346
2017	0.05	0.95	41.9495	6.3679	6.4179	185,962,937	0.0345
<u>2019</u>	<u>0.05</u>	<u>0.95</u>	<u>41.9495</u>	<u>6.3679</u>	<u>6.4179</u>	<u>185,962,937</u>	<u>0.0345</u>
Total	9.15	66.85	207.5229	31.5020	40.6520	\$ 1,554,463,625	0.0262

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	845	1.5730	1,814.2	0.0909
	858	1.5730	2,115.8	0.1331
2010	888	1.5730	2,114.9	0.1012
2011	917	1.5730	1,935.1	0.1674
2012	932	1.5730	2,406.2	0.1609
2013	951	1.5730	1,807.1	0.2128
2014	978	1.5730	1,481.9	0.3003
2015	995	1.5730	2,122.1	0.2816
2016	1,025	1.5730	2,154.1	0.2899
2017	1,049	1.5730	2,167.3	0.2961
<u>2019</u>	<u>1,049</u>	<u>1.5730</u>	<u>2,167.3</u>	<u>0.2961</u>
Total			20,118.7	0.2021

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: 0.1518

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-F.xlsx] p 2

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

3,109,038,241.756130

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 3

Anthracite Surface (0153)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 2	# 0	# 0	# 2	# 0.00	# 0.10	# 0.10
2010	1	-	-	1	-	0.05	0.05
2011	1	-	-	1	-	0.05	0.05
2012	3	1	2	-	0.60	-	-
2013	2	-	1	1	0.30	0.05	0.05
2014	1	-	-	1	-	0.05	0.05
2015	3	-	1	2	0.30	0.10	0.10
2016	1	-	-	1	-	0.05	0.05
2017	1	-	1	-	0.30	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	15	1	5	9	1.50	0.45	0.45

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.10	# 1.90	# 0.5221	# 0.0793	# 0.1793	\$ 13,319,185	0.0135
2010	0.05	0.95	0.9313	0.1414	0.1914	19,507,428	0.0098
2011	0.05	0.95	1.4267	0.2166	0.2666	24,734,711	0.0108
2012	1.60	1.40	1.4050	0.2133	1.8133	20,720,014	0.0875
2013	0.35	1.65	1.5008	0.2278	0.5778	18,911,339	0.0306
2014	0.05	0.95	2.0607	0.3128	0.3628	22,234,350	0.0163
2015	0.40	2.60	2.0613	0.3129	0.7129	19,257,107	0.0370
2016	0.05	0.95	2.3664	0.3592	0.4092	19,094,634	0.0214
2017	0.30	0.70	2.6267	0.3987	0.6987	18,303,511	0.0382
2018	-	-	3.4117	0.5179	0.5179	20,632,989	0.0251
<u>2019</u>	-	-	3.4117	0.5179	0.5179	20,632,989	0.0251
Total	2.95	12.05	18.3127	2.7799	5.7299	\$ 196,715,268	0.0291

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	284.1	0.0631
2011	858	1.0670	409.8	0.0467
2012	888	1.0670	502.0	0.0531
2013	917	1.0670	407.2	0.4453
2014	932	1.0670	365.7	0.1580
2015	951	1.0670	421.4	0.0861
2016	978	1.0670	354.9	0.2009
2017	995	1.0670	345.9	0.1183
2018	1,025	1.0670	321.8	0.2171
2019	1,049	1.0670	354.5	0.1461
Total			3,767.3	0.1521

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: 0.1518

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			
	# 2	# 1	# 0	# 1	# 0.00	# 0.05	# 0.05
2010	5	-	1	4	0.30	0.20	0.20
2011	9	2	1	6	0.30	0.30	0.30
2012	4	-	-	4	-	0.20	0.20
2013	4	1	1	2	0.30	0.10	0.10
2014	9	1	1	7	0.30	0.35	0.35
2015	-	-	-	-	-	-	-
2016	1	-	-	1	-	0.05	0.05
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
Total	34	5	4	25	1.20	1.25	1.25

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 1.05	# 0.95	# 2.4059	# 0.3652	# 1.4152	\$ 74,255,177	0.0191
	0.50	4.50	3.3399	0.5070	1.0070	87,730,506	0.0115
2010	2.60	6.40	3.4139	0.5182	3.1182	77,890,500	0.0400
2011	0.20	3.80	3.1459	0.4776	0.6776	62,718,061	0.0108
2012	1.40	2.60	3.1444	0.4773	1.8773	55,368,615	0.0339
2013	1.65	7.35	2.6658	0.4047	2.0547	42,000,092	0.0489
2014	-	-	2.1330	0.3238	0.3238	30,131,218	0.0107
2015	0.05	0.95	2.6961	0.4093	0.4593	34,248,962	0.0134
2016	-	-	3.2664	0.4958	0.4958	36,305,197	0.0137
2017	-	-	3.7513	0.5694	0.5694	36,395,622	0.0156
2018	-	-	0.5694	0.5694	0.5694	36,395,622	0.0156
2019	-	-	3.7513	0.5694	0.5694	36,395,622	0.0156
Total	7.45	26.55	29.9625	4.5483	11.9983	\$ 537,043,950	0.0223

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	845	1.0670	1,583.8	0.0894
	858	1.0670	1,842.9	0.0546
2010	888	1.0670	1,580.9	0.1972
2011	917	1.0670	1,232.7	0.0550
2012	932	1.0670	1,070.7	0.1753
2013	951	1.0670	796.0	0.2581
2014	978	1.0670	555.3	0.0583
2015	995	1.0670	620.4	0.0740
2016	1,025	1.0670	638.4	0.0777
2017	1,049	1.0670	625.3	0.0911
2018	1,049	1.0670	625.3	0.0911
2019	1,049	1.0670	625.3	0.0911
Total			10,546.4	0.1138

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 5

Four Standard Classes

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
2010	# 9	# 1	# 1	# 7	# 0.30	# 0.35	# 0.35
2011	14	1	1	12	0.30	0.60	0.60
2012	16	2	1	13	0.30	0.65	0.65
2013	13	2	2	9	0.60	0.45	0.45
2014	21	1	2	18	0.60	0.90	0.90
2015	27	1	3	23	0.90	1.15	1.15
2016	13	-	6	7	1.80	0.35	0.35
2017	8	1	1	6	0.30	0.30	0.30
2018	8	-	3	5	0.90	0.25	0.25
<u>2019</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>0.05</u>	<u>0.05</u>
Total	130	9	20	101	6.00	5.05	5.05

Year	(8) Ultimate Awarded <u>(2)+(5)+(7)</u>	(9) Ultimate Denied <u>(1)-(8)</u>	(10) IBNR	(11) IBNR Awarded <u>(10)xAward Ratio</u>	(12) Total Awarded <u>(8)+(11)</u>	(13) Payroll	(14) Frequency <u>(12)/(13) x 1000000</u>
	# 1.65	# 7.35	# 10.6714	# 1.6199	# 3.2699	\$ 214,267,526	0.0153
	1.90	12.10	14.8352	2.2520	4.1520	256,981,587	0.0162
2011	1.90	12.10	14.8352	2.2520	4.1520	256,981,587	0.0162
2012	2.95	13.05	17.2247	2.6147	5.5647	257,273,379	0.0216
2013	3.05	9.95	18.4376	2.7988	5.8488	228,966,204	0.0255
2014	2.50	18.50	25.3064	3.8415	6.3415	257,970,715	0.0246
2015	3.05	23.95	23.2562	3.5303	6.5803	205,059,053	0.0321
2016	2.15	10.85	22.0757	3.3511	5.5011	168,097,562	0.0327
2017	1.60	6.40	34.7315	5.2722	6.8722	226,304,757	0.0304
2018	1.15	6.85	41.6115	6.3166	7.4666	235,391,814	0.0317
<u>2019</u>	<u>0.05</u>	<u>0.95</u>	<u>49.3484</u>	<u>7.4911</u>	<u>7.5411</u>	<u>243,170,927</u>	<u>0.0310</u>
Total	20.05	109.95	257.4985	39.0883	59.1383	\$ 2,293,483,524	0.0258

Year	(15) Statewide Average <u>Weekly Wage</u>	(16) Adjustment <u>Factor</u>	(17) Estimated Miner <u>Years</u>	(18) Frequency Claims per 100 <u>Miner Years</u>
	845		3,709.8	0.0881
	858		4,394.9	0.0945
2011	858		4,394.9	0.0945
2012	888		4,218.7	0.1319
2013	917		3,582.5	0.1633
2014	932		3,847.6	0.1648
2015	951		3,029.3	0.2172
2016	978		2,395.1	0.2297
2017	995		3,093.0	0.2222
2018	1,025		3,117.5	0.2395
<u>2019</u>	<u>1,049</u>		<u>3,150.2</u>	<u>0.2394</u>
Total			34,538.6	0.1712

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 6

Coke (0154)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.00	# 0.00	# 0.0559	# 0.0085	# 0.0085	\$ 5,435,658	0.0016
2010	-	-	0.0426	0.0065	0.0065	3,599,086	0.0018
2011	-	-	0.0770	0.0117	0.0117	5,738,105	0.0020
2012	-	-	0.0729	0.0111	0.0111	4,791,910	0.0023
2013	-	-	0.0759	0.0115	0.0115	4,464,398	0.0026
2014	-	-	0.0821	0.0125	0.0125	4,340,376	0.0029
2015	-	-	0.0926	0.0141	0.0141	4,435,066	0.0032
2016	-	-	0.1050	0.0159	0.0159	4,566,113	0.0035
2017	-	-	0.1132	0.0172	0.0172	4,484,744	0.0038
2018	-	-	0.1278	0.0194	0.0194	4,626,532	0.0042
<u>2019</u>	-	-	0.1278	0.0194	0.0194	4,626,532	0.0042
Total	-	-	0.8450	0.1283	0.1283	\$ 46,481,988	0.0028

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	115.9	0.0073
2011	858	1.0670	75.6	0.0086
2012	888	1.0670	116.5	0.0100
2013	917	1.0670	94.2	0.0117
2014	932	1.0670	86.3	0.0134
2015	951	1.0670	82.3	0.0151
2016	978	1.0670	81.7	0.0172
2017	995	1.0670	82.7	0.0193
2018	1,025	1.0670	78.9	0.0218
<u>2019</u>	1,049	1.0670	79.5	0.0244
Total			893.6	0.0144

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 7

Auger (0157)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	1	-	-	1	-	0.05	0.05
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	1	-	-	1	-	0.05	0.05

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate	IBNR	IBNR	Total		
	Awarded	Denied		Awarded	Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>		<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>		<u>(12)/(13) x 1000000</u>
	# 0.00	# 0.00	# 0.0213	# 0.0032	# 0.0032	\$ 827,496	0.0039
2010	-	-	0.0348	0.0053	0.0053	1,176,255	0.0045
2011	0.05	0.95	0.0271	0.0041	0.0541	808,208	0.0670
2012	-	-	0.0398	0.0060	0.0060	1,046,947	0.0058
2013	-	-	0.0366	0.0056	0.0056	861,590	0.0064
2014	-	-	0.0309	0.0047	0.0047	654,766	0.0072
2015	-	-	0.0205	0.0031	0.0031	392,776	0.0079
2016	-	-	0.0326	0.0049	0.0049	566,324	0.0087
2017	-	-	0.0379	0.0058	0.0058	600,138	0.0096
2018	-	-	0.0410	0.0062	0.0062	593,214	0.0105
<u>2019</u>	-	-	0.0410	0.0062	0.0062	593,214	0.0105
Total	0.05	0.95	0.3225	0.0490	0.0990	\$ 7,527,714	0.0131

Year	(15)	(16)	(17)	(18)
	Statewide	Adjustment	Estimated	Frequency
	Average	Factor	Miner	Claims per 100
	<u>Weekly Wage</u>		<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	17.6	0.0184
2011	858	1.0670	24.7	0.0214
2012	888	1.0670	16.4	0.3300
2013	917	1.0670	20.6	0.0293
2014	932	1.0670	16.7	0.0333
2015	951	1.0670	12.4	0.0378
2016	978	1.0670	7.2	0.0432
2017	995	1.0670	10.3	0.0480
2018	1,025	1.0670	10.6	0.0543
<u>2019</u>	1,049	1.0670	10.2	0.0610
Total			146.7	0.0675

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 8

Anthracite Co-Gen (0181)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	1	-	-	1	-	0.05	0.05
2013	1	-	-	1	-	0.05	0.05
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	1	-	1	-	0.30	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	3	-	1	2	0.30	0.10	0.10

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.00	# 0.00	# 0.2045	# 0.0310	# 0.0310	\$ 7,958,048	0.0039
2010	-	-	0.3253	0.0494	0.0494	10,981,642	0.0045
2011	0.05	0.95	0.3125	0.0474	0.0974	9,311,812	0.0105
2012	0.05	0.95	0.2901	0.0440	0.0940	7,630,762	0.0123
2013	-	-	0.3554	0.0539	0.0539	8,360,898	0.0065
2014	-	-	0.4516	0.0686	0.0686	9,554,806	0.0072
2015	-	-	0.4152	0.0630	0.0630	7,953,309	0.0079
2016	-	-	0.4481	0.0680	0.0680	7,793,558	0.0087
2017	0.30	0.70	0.6346	0.0963	0.3963	10,053,839	0.0394
2018	-	-	0.4710	0.0715	0.0715	6,821,629	0.0105
<u>2019</u>	-	-	0.4710	0.0715	0.0715	6,821,629	0.0105
Total	0.40	2.60	3.9083	0.5933	0.9933	\$ 86,420,303	0.0115

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	169.7	0.0183
2011	858	1.0670	230.7	0.0214
2012	888	1.0670	189.0	0.0516
2013	917	1.0670	150.0	0.0627
2014	932	1.0670	161.7	0.0334
2015	951	1.0670	181.1	0.0379
2016	978	1.0670	146.6	0.0430
2017	995	1.0670	141.2	0.0482
2018	1,025	1.0670	176.8	0.2242
<u>2019</u>	1,049	1.0670	117.2	0.0610
Total			1,664.0	0.0597

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 9

Bituminous Co-Gen (0182)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.00	# 0.00	# 0.1795	# 0.0272	# 0.0272	\$ 8,732,701	0.0031
2010	-	-	0.2157	0.0327	0.0327	9,102,411	0.0036
2011	-	-	0.2429	0.0369	0.0369	9,047,745	0.0041
2012	-	-	0.3149	0.0478	0.0478	10,355,884	0.0046
2013	-	-	0.3986	0.0605	0.0605	11,721,184	0.0052
2014	-	-	0.4442	0.0674	0.0674	11,748,205	0.0057
2015	-	-	0.4731	0.0718	0.0718	11,327,552	0.0063
2016	-	-	0.5260	0.0798	0.0798	11,435,057	0.0070
2017	-	-	0.6082	0.0923	0.0923	12,043,297	0.0077
2018	-	-	<u>0.6522</u>	<u>0.0990</u>	<u>0.0990</u>	<u>11,807,241</u>	<u>0.0084</u>
Total	-	-	4.0553	0.6156	0.6156	\$ 107,321,277	0.0057

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	186.3	0.0146
2011	858	1.0670	191.2	0.0171
2012	888	1.0670	183.6	0.0201
2013	917	1.0670	203.5	0.0235
2014	932	1.0670	226.7	0.0267
2015	951	1.0670	222.7	0.0303
2016	978	1.0670	208.8	0.0344
2017	995	1.0670	207.1	0.0386
2018	1,025	1.0670	211.8	0.0436
<u>2019</u>	<u>1,049</u>	<u>1.0670</u>	<u>202.9</u>	<u>0.0488</u>
Total			2,044.6	0.0301

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: 0.1518

Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Anthracite Prep-Plant (0183)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	1	-	1	-	0.30	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	1	-	1	-	0.30	-	-

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.00	# 0.00	# 0.2256	# 0.0342	# 0.0342	\$ 4,876,927	0.0070
2010	-	-	0.3265	0.0496	0.0496	6,123,259	0.0081
2011	-	-	0.4572	0.0694	0.0694	7,569,023	0.0092
2012	0.30	0.70	0.4841	0.0735	0.3735	7,074,886	0.0528
2013	-	-	0.4990	0.0757	0.0757	6,521,541	0.0116
2014	-	-	0.5272	0.0800	0.0800	6,196,596	0.0129
2015	-	-	0.5209	0.0791	0.0791	5,542,968	0.0143
2016	-	-	0.6268	0.0951	0.0951	6,056,810	0.0157
2017	-	-	0.7859	0.1193	0.1193	6,916,759	0.0172
<u>2019</u>	-	-	<u>1.3156</u>	<u>0.1997</u>	<u>0.1997</u>	<u>10,584,841</u>	<u>0.0189</u>
Total	0.30	0.70	5.7688	0.8757	1.1757	\$ 67,463,610	0.0174

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.0670	104.0	0.0329
2011	858	1.0670	128.6	0.0385
2012	888	1.0670	153.6	0.0452
2013	917	1.0670	139.1	0.2685
2014	932	1.0670	126.1	0.0601
2015	951	1.0670	117.4	0.0682
2016	978	1.0670	102.1	0.0774
2017	995	1.0670	109.7	0.0867
2018	1,025	1.0670	121.6	0.0981
<u>2019</u>	<u>1,049</u>	<u>1.0670</u>	<u>181.9</u>	<u>0.1098</u>
Total			1,284.1	0.0916

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: 0.1518

Coal Mine Compensation Rating Bureau
Federal Basic Occupational Disease After Administration / Law Change Frequencies by Classification

Exhibit VIII-F

Page 11

Bituminous Prep-Plant (0184)

Year	Counts				(5) Pending Awarded <u>(3) * 30%</u>	(6) Denied Reopened	(7) Denied Awarded
	(1)	(2)	(3)	(4)			
	Reported	Awarded	Pending	Denied			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	1	-	-	1	-	0.05	0.05
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	2	-	-	2	-	0.10	0.10
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
<u>2019</u>	-	-	-	-	-	-	-
Total	3	-	-	3	-	0.15	0.15

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<u>IBNR</u>	<u>(10)xAward Ratio</u>	<u>(8)+(11)</u>	<u>(12)/(13) x 1000000</u>	
	# 0.00	# 0.00	# 0.5410	# 0.0821	# 0.0821	\$ 26,313,130	0.0031
2010	0.05	0.95	0.8330	0.1264	0.1764	35,155,068	0.0050
2011	-	-	0.9184	0.1394	0.1394	34,211,729	0.0041
2012	-	-	1.0231	0.1553	0.1553	33,639,969	0.0046
2013	0.10	1.90	1.0832	0.1644	0.2644	31,854,431	0.0083
2014	-	-	0.9196	0.1396	0.1396	24,320,608	0.0057
2015	-	-	0.8387	0.1273	0.1273	20,079,401	0.0063
2016	-	-	1.3248	0.2011	0.2011	28,803,457	0.0070
2017	-	-	1.6261	0.2468	0.2468	32,199,872	0.0077
2018	-	-	<u>2.0783</u>	<u>0.3155</u>	<u>0.3155</u>	<u>37,623,330</u>	<u>0.0084</u>
<u>2019</u>	-	-	-	-	-	-	-
Total	0.15	2.85	11.1862	1.6981	1.8481	\$ 304,200,995	0.0061

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	<u>Weekly Wage</u>	<u>Factor</u>	<u>Years</u>	<u>Miner Years</u>
2010	845	1.5730	380.7	0.0216
2011	858	1.5730	500.9	0.0352
2012	888	1.5730	471.0	0.0296
2013	917	1.5730	448.5	0.0346
2014	932	1.5730	417.9	0.0633
2015	951	1.5730	312.7	0.0446
2016	978	1.5730	251.0	0.0507
2017	995	1.5730	353.9	0.0568
2018	1,025	1.5730	384.1	0.0643
<u>2019</u>	1,049	1.5730	<u>438.5</u>	<u>0.0719</u>
Total			3,959.2	0.0467

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: 0.1518

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			
	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	1	-	-	1	-	0.05	0.05
2011	2	-	-	2	-	0.10	0.10
2012	2	-	1	1	0.30	0.05	0.05
2013	2	-	-	2	-	0.10	0.10
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	1	-	1	-	0.30	-	-
2019	-	-	-	-	-	-	-
Total	8	-	2	6	0.60	0.30	0.30

Year	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded	Total Awarded	Payroll	Frequency
	(2)+(5)+(7)	(1)-(8)	IBNR	(10)xAward Ratio	(8)+(11)	(12)/(13) x 1000000	
	# 0.00	# 0.00	# 1.2278	# 0.1864	# 0.1864	\$ 54,143,960	0.0034
2010	0.05	0.95	1.7779	0.2699	0.3199	66,137,721	0.0048
2011	0.10	1.90	2.0351	0.3089	0.4089	66,686,622	0.0061
2012	0.35	1.65	2.2249	0.3377	0.6877	64,540,358	0.0107
2013	0.10	1.90	2.4487	0.3717	0.4717	63,784,042	0.0074
2014	-	-	2.4556	0.3728	0.3728	56,815,357	0.0066
2015	-	-	2.3610	0.3584	0.3584	49,731,072	0.0072
2016	-	-	3.0633	0.4650	0.4650	59,221,319	0.0079
2017	0.30	0.70	3.8059	0.5777	0.8777	66,298,649	0.0132
2018	-	-	4.6859	0.7113	0.7113	72,056,787	0.0099
2019	-	-	4.6859	0.7113	0.7113	72,056,787	0.0099
Total	0.90	7.10	26.0861	3.9599	4.8599	\$ 619,415,887	0.0078

Year	(15)	(16)	(17)	(18)
	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100
	Weekly Wage	Factor	Years	Miner Years
2010	845		974.2	0.0191
2011	858		1,151.7	0.0278
2012	888		1,130.1	0.0362
2013	917		1,055.9	0.0651
2014	932		1,035.4	0.0456
2015	951		928.6	0.0401
2016	978		797.4	0.0449
2017	995		904.9	0.0514
2018	1,025		983.8	0.0892
2019	1,049		1,030.2	0.0690
Total			9,992.2	0.0486

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: 0.1518

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			
2010	# 9	# 1	# 1	# 7	# 0.30	# 0.35	# 0.35
2011	15	1	1	13	0.30	0.65	0.65
2012	18	2	1	15	0.30	0.75	0.75
2013	15	2	3	10	0.90	0.50	0.50
2014	23	1	2	20	0.60	1.00	1.00
2015	27	1	3	23	0.90	1.15	1.15
2016	13	-	6	7	1.80	0.35	0.35
2017	8	1	1	6	0.30	0.30	0.30
2018	9	-	4	5	1.20	0.25	0.25
2019	1	-	-	1	-	0.05	0.05
Total	138	9	22	107	6.60	5.35	5.35

Year	(8) Ultimate Awarded (2)+(5)+(7)	(9) Ultimate Denied (1)-(8)	(10) IBNR	(11) IBNR Awarded (10)xAward Ratio	(12) Total Awarded (8)+(11)	(13) Payroll	(14) Frequency (12)/(13) x 1000000
	# 1.65	# 7.35	# 11.8992	# 1.8063	# 3.4563	\$ 268,411,486	0.0129
	1.95	13.05	16.6131	2.5219	4.4719	323,119,308	0.0138
2011	1.95	13.05	16.6131	2.5219	4.4719	323,119,308	0.0138
2012	3.05	14.95	19.2598	2.9236	5.9736	323,960,001	0.0184
2013	3.40	11.60	20.6625	3.1366	6.5366	293,506,562	0.0223
2014	2.60	20.40	27.7551	4.2132	6.8132	321,754,757	0.0212
2015	3.05	23.95	25.7118	3.9030	6.9530	261,874,410	0.0266
2016	2.15	10.85	24.4367	3.7095	5.8595	217,828,634	0.0269
2017	1.60	6.40	37.7948	5.7373	7.3373	285,526,076	0.0257
2018	1.45	7.55	45.4174	6.8944	8.3444	301,690,463	0.0277
2019	0.05	0.95	54.0343	8.2024	8.2524	315,227,714	0.0262
Total	20.95	117.05	283.5846	43.0481	63.9981	\$ 2,912,899,411	0.0220

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
	845		4,684.0	0.0738
	858		5,546.6	0.0806
2011	858		5,546.6	0.0806
2012	888		5,348.8	0.1117
2013	917		4,638.4	0.1409
2014	932		4,883.0	0.1395
2015	951		3,957.9	0.1757
2016	978		3,192.5	0.1835
2017	995		3,997.9	0.1835
2018	1,025		4,101.3	0.2035
2019	1,049		4,180.4	0.1974
Total			44,530.8	0.1437

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: 0.1518

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-08-F.xlsx p 13

Run Date: September 18, 2020 - 11:14:55 AM

PAB

Effective Date - April 01, 2021

5,825,959,231.491070

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

															"All Permanent Partial" Scenario (see note)					
				Age of		State Benefit	Medical Bef. Act 44	Act 44 Factor	Act 44 Med.	Offsets for:		Federal Excess:			State Benefit	Offsets for:		Federal Excess:		
ID No.	Class	Awd (2) Pend (1)	Type*	Exp. Yr.	Miner at Comp Date					Soc. Sec.	Pension	Base	SS	SS, PP		Soc. Sec.	Pension	Base	SS	SS, PP
1717	1011	2		1993	61.3	634,086	34,047	1.00	34,047	-	155,563	22	22	4,608	334,300	-	84,962	179,299	179,299	180,110
1721	1011	2		1990	66.8	859,561	25,638	1.00	25,638	-	190,699	-	-	0	518,075	-	152,532	117,974	117,974	118,762
2053	1011	2		1992	47.4	1,773,305	57,230	1.00	57,230	310,754	204,241	0	22,916	168,932	640,498	-	-	432,021	432,021	432,021
3070	1011	2		1993	61.2	481,986	34,047	1.00	34,047	-	154,237	-	-	214	295,322	-	84,238	84,547	84,547	85,351
5551	1011	2		1993	64.8	598,517	28,297	1.00	28,297	-	167,647	7	7	2,159	334,033	-	111,036	151,836	151,836	152,592
5717	1011	2		1992	50.0	1,451,271	52,089	1.00	52,089	279,921	177,168	11	39,752	186,393	528,159	-	-	434,064	434,064	434,064
6627	1011	2	LS	1999	62.2	151,105	32,554	1.00	32,554	-	74,966	219,531	219,531	283,812	151,105	-	74,966	219,531	219,531	283,812
10280	1011	2	LS	2011	49.9	568,142	52,089	1.00	52,089	-	-	461,664	461,664	461,664	568,142	-	-	461,664	461,664	461,664
10536	1011	2	LS	2013	53.7	431,595	45,294	1.00	45,294	-	-	405,016	405,016	405,016	431,595	-	-	405,016	405,016	405,016

Total Underground Anthracite	9	6,949,569	361,285	361,285	590,674	1,124,521	1,086,250	1,148,908	1,512,798	3,801,230	0	507,735	2,485,951	2,485,951	2,553,392
Average of 9 claims		772,174	40,143	40,143	65,630	124,947	120,694	127,656	168,089	422,359	0	56,415	276,217	276,217	283,710
		7,310,854													
Medical plus Indemnity		812,317			65,630	124,947	120,694	127,656	168,089	462,502	0	56,415	276,217	276,217	283,710
Adjusted										462,502	0	56,415	276,217	276,217	283,710

* Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise 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, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.
Source: 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		State Benefit	Medical Bef. Act 44	Act 44 Factor	Act 44 Med.	Offsets for:		Federal Excess:			State Benefit	Offsets for:		Federal Excess:						
ID No.	Class	Pend (1)	Type*	Exp. Yr.	Miner at Comp Date					Soc. Sec.	Pension	Base	SS	SS, PP		Soc. Sec.	Pension	Base	SS	SS, PP				
511	1002	2		1992	63.5	898,983	29,680	1.00	29,680	-	391,277	-	-	-	580,160	-	247,894	68,650	68,650	70,470				
517	1002	2	LS	1993	64.9	122,605	28,297	1.00	28,297	-	104,073	211,562	211,562	314,213	122,605	-	104,073	211,562	211,562	314,213				
518	1002	2	LS	1992	63.6	191,872	29,680	1.00	29,680	-	154,557	214,501	214,501	319,654	191,872	-	154,557	214,501	214,501	319,654				
1330	1002	2	500	1993	63.3	443,372	31,098	1.00	31,098	-	136,909	265,519	265,519	265,519	443,372	-	136,909	265,519	265,519	265,519				
1892	1002	2	LS	1990	67.4	68,025	25,638	1.00	25,638	-	52,654	228,484	228,484	281,139	68,025	-	52,654	228,484	228,484	281,139				
3222	1002	2	500	1992	62.8	164,515	31,098	1.00	31,098	-	50,800	229,086	229,086	242,595	164,515	-	50,800	229,086	229,086	242,595				
3532	1002	2	LS	1995	58.1	332,312	38,723	1.00	38,723	63,060	24,722	277,544	293,382	313,585	332,312	63,060	24,722	277,544	293,382	313,585				
3706	1002	2	LS	1992	65.1	128,509	28,297	1.00	28,297	-	102,695	207,893	207,893	309,383	128,509	-	102,695	207,893	207,893	309,383				
5479	1002	2		1992	63.7	930,572	29,680	1.00	29,680	-	252,829	-	-	3	504,093	-	160,180	164,004	164,004	165,179				
5918	1002	2		1990	66.7	1,184,962	25,638	1.00	25,638	-	386,415	-	-	47	662,655	-	303,271	130,845	130,845	132,474				
5966	1002	2		1994	58.8	1,665,372	37,134	1.00	37,134	337,160	347,041	-	2,425	143,289	680,350	113,145	139,783	302,994	304,865	331,690				
6415	1002	2	500	1992	62.4	491,464	32,554	1.00	32,554	-	160,345	241,825	241,825	241,825	491,464	-	160,345	241,825	241,825	241,825				
6771	1002	2	500	1992	62.5	110,512	32,554	1.00	32,554	-	29,476	103,383	103,383	112,556	110,512	-	29,476	103,383	103,383	112,556				
7004	1002	2		1992	60.7	1,253,474	34,047	1.00	34,047	-	317,109	-	-	0	645,103	-	187,435	189,851	189,851	191,416				
7051	1002	2	LS	1997	56.5	163,206	41,972	1.00	41,972	15,239	8	296,159	309,736	309,744	163,206	15,239	8	296,159	309,736	309,744				
7941	1002	2	LS	1994	66.3	19,955	26,950	1.00	26,950	-	15,162	244,717	244,717	259,879	19,955	-	15,162	244,717	244,717	259,879				
8028	1002	2		1992	55.5	1,583,460	41,972	1.00	41,972	313,919	275,893	-	2,301	94,706	672,857	58,550	63,187	301,440	303,269	307,168				
9826	1002	2	LS	1999	52.9	53,719	46,979	1.00	46,979	-	-	454,298	454,298	454,298	53,719	-	-	454,298	454,298	454,298				
9829	1002	2	LS	2001	61.4	146,691	34,047	1.00	34,047	-	86,634	270,874	270,874	351,832	146,691	-	86,634	270,874	270,874	351,832				
9835	1002	2	LS	1999	55.0	3,643	43,625	1.00	43,625	93	-	483,612	483,705	483,705	3,643	93	-	483,612	483,705	483,705				
9841	1002	2	LS	2001	59.3	139,358	37,134	1.00	37,134	48,733	197	286,242	333,864	334,061	139,358	48,733	197	286,242	333,864	334,061				
9886	1002	2	LS	2000	59.9	650,417	35,574	1.00	35,574	84,553	102,804	273,511	273,511	275,002	650,417	84,553	102,804	273,511	273,511	275,002				
9901	1002	2	LS	2002	45.3	202,801	60,629	1.00	60,629	-	-	544,857	544,857	544,857	202,801	-	-	544,857	544,857	544,857				
9996	1002	2	LS	2004	52.3	93,710	48,675	1.00	48,675	-	-	426,235	426,235	426,235	93,710	-	-	426,235	426,235	426,235				
10016	1002	2	LS	2002	58.7	168,350	37,134	1.00	37,134	59,030	79	264,694	313,511	313,591	168,350	59,030	79	264,694	313,511	313,591				
10021	1002	2	LS	2000	66.1	98,146	26,950	1.00	26,950	-	75,223	186,378	186,378	261,601	98,146	-	75,223	186,378	186,378	261,601				
10022	1002	2	LS	2000	59.0	97,642	37,134	1.00	37,134	34,283	-	287,784	322,000	322,000	97,642	34,283	-	287,784	322,000	322,000				
10025	1002	2	LS	2000	57.7	97,678	38,723	1.00	38,723	25,802	-	313,500	339,272	339,272	97,678	25,802	-	313,500	339,272	339,272				
10026	1002	2	LS	2000	61.4	97,980	34,047	1.00	34,047	-	59,211	246,284	246,284	305,324	97,980	-	59,211	246,284	246,284	305,324				
10038	1002	2	LS	2000	44.4	80,022	62,304	1.00	62,304	-	-	708,215	708,215	708,215	80,022	-	-	708,215	708,215	708,215				
10048	1002	2	LS	2005	54.6	95,647	43,625	1.00	43,625	2,453	-	367,982	370,435	370,435	95,647	2,453	-	367,982	370,435	370,435				
10088	1002	2	LS	2005	60.5	130,605	35,574	1.00	35,574	-	77,103	103,676	103,676	160,311	130,605	-	77,103	103,676	103,676	160,311				
10164	1002	2	LS	2001	53.4	92,905	46,979	1.00	46,979	-	-	550,179	550,179	550,179	92,905	-	-	550,179	550,179	550,179				
10208	1002	2	LS	2005	61.6	242,610	32,554	1.00	32,554	-	145,128	213,477	213,477	284,433	242,610	-	145,128	213,477	213,477	284,433				
10286	1002	2	LS	2008	58.0	119,478	38,723	1.00	38,723	31,561	-	369,762	401,081	401,081	119,478	31,561	-	369,762	401,081	401,081				
10330	1002	2	LS	2012	63.3	203,452	31,098	1.00	31,098	-	141,050	267,331	267,331	358,264	203,452	-	141,050	267,331	267,331	358,264				
10345	1002	2	LS	2008	49.6	541,344	52,089	1.00	52,089	-	-	488,285	488,285	488,285	541,344	-	-	488,285	488,285	488,285				
10347	1002	2	LS	2011	65.3	246,929	28,297	1.00	28,297	-	164,069	174,783	174,783	253,504	246,929	-	164,069	174,783	174,783	253,504				
10357	1002	2	LS	2012	62.4	100,508	32,554	1.00	32,554	-	62,23													

COAL MINE COMPENSATION RATING BUREAU
INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

															"All Permanent Partial" Scenario (see note)					
				Age of		State Benefit	Medical Bef. Act 44	Act 44 Factor	Act 44 Med.	Offsets for:		Federal Excess:			State Benefit	Offsets for:		Federal Excess:		
ID No.	Class	Awd (2) Pend (1)	Type*	Exp. Yr.	Miner at Comp Date					Soc. Sec.	Pension	Base	SS	SS, PP		Soc. Sec.	Pension	Base	SS	SS, PP
408	1016	2		1994	69.0	866,288	23,127	1.00	23,127	-	188,261	-	-	0	564,253	-	159,082	89,217	89,217	89,923
439	1016	2	LS	1999	73.6	23,426	17,592	1.00	17,592	-	-	81,380	81,380	81,380	23,426	-	-	81,380	81,380	81,380
566	1016	2		1990	63.6	928,958	29,680	1.00	29,680	-	170,532	12,401	12,401	18,610	342,666	-	108,041	438,084	438,084	438,877
636	1016	2		1994	62.3	606,408	32,554	1.00	32,554	-	152,935	19	19	4,923	323,867	-	83,527	169,873	169,873	170,670
778	1016	2	WO	1991	#N/A	312,086	-	1.00	-	-	-	-	-	-	312,086	-	-	-	-	-
924	1016	2	LS	1997	62.6	30,740	31,098	1.00	31,098	-	21,870	309,656	309,656	331,527	30,740	-	21,870	309,656	309,656	331,527
1719	1016	2		1996	63.1	729,287	31,098	1.00	31,098	-	248,246	-	-	-	458,584	-	146,732	76,264	76,264	77,489
2268	1016	2		1997	66.6	548,347	25,638	1.00	25,638	-	-	-	-	-	382,420	-	-	51,545	51,545	51,545
2287	1016	2	LS	1998	67.8	552,089	24,363	1.00	24,363	-	138,847	145,635	145,635	145,635	552,089	-	138,847	145,635	145,635	145,635
2479	1016	2		1990	63.9	817,782	29,680	1.00	29,680	-	233,498	-	-	8	463,765	-	147,933	141,769	141,769	142,855
2794	1016	2		1993	65.9	1,033,714	26,950	1.00	26,950	-	234,559	-	-	-	638,754	-	191,690	103,677	103,677	104,618
2827	1016	2		1992	66.1	813,333	26,950	1.00	26,950	-	179,614	-	-	0	497,471	-	145,033	110,609	110,609	111,343
3350	1016	2	WO	1993	#N/A	693,420	-	1.00	-	-	-	-	-	-	693,420	-	-	-	-	-
3814	1016	2		1993	71.8	64,943	19,680	1.00	19,680	-	-	45,510	45,510	45,510	51,225	-	-	59,229	59,229	59,229
3970	1016	2	LS	1991	43.1	339,015	63,958	1.00	63,958	-	-	274,280	274,280	274,280	339,015	-	-	274,280	274,280	274,280
5605	1016	2		1992	69.3	767,664	23,127	1.00	23,127	-	165,967	-	-	0	507,702	-	141,651	84,075	84,075	84,682
5805	1016	2		1992	67.2	615,745	25,638	1.00	25,638	-	-	-	-	-	429,423	-	-	51,242	51,242	51,242
6071	1016	2		1994	60.3	935,804	35,574	1.00	35,574	-	223,203	-	-	36	486,533	-	121,904	188,517	188,517	189,681
6322	1016	2	LS	1991	59.5	575,684	37,134	1.00	37,134	57,083	56,532	125,653	125,653	125,653	575,684	57,083	56,532	125,653	125,653	125,653
6481	1016	2		1990	65.7	689,368	26,950	1.00	26,950	-	153,623	0	0	328	383,308	-	116,679	154,048	154,048	154,714
6603	1016	2		1995	69.8	474,905	21,934	1.00	21,934	-	102,573	2	2	1,197	303,266	-	86,178	99,155	99,155	99,544
6765	1016	2	WO	1990	#N/A	542,488	-	1.00	-	-	-	-	-	-	542,488	-	-	-	-	-
7028	1016	2		1997	62.3	638,197	32,554	1.00	32,554	-	204,224	-	-	1	391,036	-	111,539	83,823	83,823	84,888
7473	1016	2		1995	67.0	1,394,235	25,638	1.00	25,638	-	352,465	-	-	1	669,557	-	263,236	191,969	191,969	193,509
7825	1016	2		1995	67.6	497,334	24,363	1.00	24,363	-	109,085	0	0	1,114	314,095	-	90,184	101,716	101,716	102,144
7857	1016	2		1993	59.7	763,288	35,574	1.00	35,574	262,925	215,985	-	2,675	65,699	444,185	100,848	97,581	98,456	99,883	104,321
9805	1016	2	LS	2000	74.6	20,217	16,601	1.00	16,601	-	13,784	237,357	237,357	251,140	20,217	-	13,784	237,357	237,357	251,140
9811	1016	2		2001	48.1	1,034,247	55,517	1.00	55,517	220,322	110,003	1,207	105,178	210,533	377,606	-	-	426,026	426,026	426,026
9939	1016	2	LS	2003	61.4	215,338	34,047	1.00	34,047	-	86,772	277,916	277,916	319,096	215,338	-	86,772	277,916	277,916	319,096
9981	1016	2		2004	79.6	598,632	12,191	1.00	12,191	-	165,539	-	-	0	517,873	-	162,318	15,589	15,589	15,742
10030	1016	2		2005	60.2	695,969	35,574	1.00	35,574	-	163,228	24	24	3,581	356,216	-	89,148	198,585	198,585	199,436
10074	1016	2	LS	2003	61.5	103,362	34,047	1.00	34,047	-	62,463	104,644	104,644	161,243	103,362	-	62,463	104,644	104,644	161,243
10140	1016	2	LS	2007	68.8	109,127	23,127	1.00	23,127	-	81,837	177,777	177,777	259,614	109,127	-	81,837	177,777	177,777	259,614
10190	1016	2	LS	2007	60.6	84,392	34,047	1.00	34,047	-	57,122	105,086	105,086	162,208	84,392	-	57,122	105,086	105,086	162,208
10259	1016	2	LS	2007	72.9	46,185	18,617	1.00	18,617	-	30,450	160,002	160,002	190,452	46,185	-	30,450	160,002	160,002	190,452
10278	1016	2	LS	2011	76.7	104,350	14,726	1.00	14,726	-	48,117	105,665	105,665	153,782	104,350	-	48,117	105,665	105,665	153,782
10602	1016	2	LS	2016	63.7	160,025	29,680	1.00	29,680	-	128,904	233,925	233,925	339,714	160,025	-	128,904	233,925	233,925	339,714
10810	1016	2	LS	2016	51.6	207,119	48,675	1.00	48,675	-	-	345,266	345,266	345,266	207,119	-	-	345,266	345,266	345,266

Total Surface Anthracite				38		19,633,509	1,027,703		1,027,703	540,330	4,100,236	2,743,405	2,850,052	3,492,532	13,022,866	157,931	2,989,154	5,617,711	5,619,138	6,093,470
Average of 38 claims						516,671	27,045		27,045	14,219	107,901	72,195	75,001	91,909	342,707	4,156	78,662	147,835	147,872	160,354
						20,661,212														
Medical plus Indemnity						543,716				14,219	107,901	72,195	75,001	91,909	369,752	4,156	78,662	147,835	147,872	160,354
Adjusted															369,752	4,156	78,662	147,835	147,872	160,354

* Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise 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, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.
Source: 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		State Benefit	Medical Bef. Act 44	Act 44 Factor	Act 44 Med.	Offsets for:		Federal Excess:			State Benefit	Offsets for:		Federal Excess:		
ID No.	Class	Pend (1)	Type*	Exp. Yr.	Miner at Comp Date					Soc. Sec.	Pension	Base	SS	SS, PP		Soc. Sec.	Pension	Base	SS	SS, PP
513	1013	2		1993	64.4	1,388,353	29,680	1.00	29,680	-	409,901	-	-	1	671,593	-	259,694	197,629	197,629	199,534
656	1013	2		1999	53.5	1,106,379	45,294	1.00	45,294	248,687	169,470	9	33,851	172,699	454,600	20,895	18,427	329,630	331,109	338,712
1135	1013	2	LS	1990	45.5	608,190	60,629	1.00	60,629	-	-	529,104	529,104	529,104	608,190	-	-	529,104	529,104	529,104
2486	1013	2	LS	1996	64.2	81,327	29,680	1.00	29,680	-	65,511	96,936	96,936	162,408	81,327	-	65,511	96,936	96,936	162,408
3386	1013	2	LS	1993	57.8	355,732	38,723	1.00	38,723	41,206	39,612	307,316	309,703	332,889	355,732	41,206	39,612	307,316	309,703	332,889
3867	1013	2		1994	45.8	1,709,208	58,935	1.00	58,935	300,609	175,274	3	46,562	195,666	584,233	-	-	493,011	493,011	493,011
3968	1013	2	500	1991	43.7	455,485	62,304	1.00	62,304	-	-	264,885	264,885	264,885	455,485	-	-	264,885	264,885	264,885
5814	1013	2	LS	1997	61.0	11,491	34,047	1.00	34,047	-	6,944	311,342	311,342	318,286	11,491	-	6,944	311,342	311,342	318,286
5816	1013	2	LS	1996	61.0	193,954	34,047	1.00	34,047	-	117,209	230,136	230,136	312,759	193,954	-	117,209	230,136	230,136	312,759
5963	1013	2	LS	1994	59.1	68,532	37,134	1.00	37,134	24,062	-	351,867	375,930	375,930	68,532	24,062	-	351,867	375,930	375,930
5968	1013	2	LS	1995	56.9	331,947	40,337	1.00	40,337	24,056	21,489	347,244	349,722	361,512	331,947	24,056	21,489	347,244	349,722	361,512
7788	1013	2	LS	1991	69.2	202,191	23,127	1.00	23,127	-	135,185	96,754	96,754	186,704	202,191	-	135,185	96,754	96,754	186,704
9770	1013	2	LS	1999	59.2	45,861	37,134	1.00	37,134	16,102	-	324,765	340,868	340,868	45,861	16,102	-	324,765	340,868	340,868
9771	1013	2	LS	1998	62.5	119,817	31,098	1.00	31,098	-	85,247	96,184	96,184	160,251	119,817	-	85,247	96,184	96,184	160,251
9999	1013	2	LS	2005	46.2	37,117	58,935	1.00	58,935	-	-	297,087	297,087	297,087	37,117	-	-	297,087	297,087	297,087
10439	1013	2		2011	61.5	793,461	32,554	1.00	32,554	-	270,088	-	-	-	498,937	-	159,642	75,912	75,912	77,245
10537	1013	2	LS	2012	64.5	115,848	29,680	1.00	29,680	-	93,318	191,264	191,264	283,175	115,848	-	93,318	191,264	191,264	283,175
10582	1013	2	LS	2015	72.1	99,433	19,680	1.00	19,680	-	-	41,786	41,786	41,786	99,433	-	-	41,786	41,786	41,786
10598	1013	2	LS	2012	61.7	25,744	32,554	1.00	32,554	-	17,855	317,895	317,895	335,750	25,744	-	17,855	317,895	317,895	335,750
10659	1013	2	LS	2015	56.9	87,735	40,337	1.00	40,337	15,640	-	149,363	165,003	165,003	87,735	15,640	-	149,363	165,003	165,003
10665	1013	2	LS	2014	55.8	290,452	41,972	1.00	41,972	14,388	12,745	343,146	348,544	355,622	290,452	14,388	12,745	343,146	348,544	355,622

Total Surface Bituminous				21		8,128,258	817,878		817,878	684,750	1,619,850	4,297,087	4,443,556	5,192,384	5,340,219	156,350	1,032,879	5,393,257	5,460,805	5,932,520
Average of 21 claims						387,060	38,947		38,947	32,607	77,136	204,623	211,598	247,256	254,296	7,445	49,185	256,822	260,038	282,501
						8,946,136														
Medical plus Indemnity						426,006				32,607	77,136	204,623	211,598	247,256	293,243	7,445	49,185	256,822	260,038	282,501
Adjusted															293,243	7,445	49,185	256,822	260,038	282,501

* Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise 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, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.
Source: 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		State Benefit	Medical Bef. Act 44	Act 44 Factor	Act 44 Med.	Offsets for:		Federal Excess:			State Benefit	Offsets for:		Federal Excess:		
ID No.	Class	Awd (2) Pend (1)	Type*	Exp. Yr.	Miner at Comp Date					Soc. Sec.	Pension	Base	SS	SS, PP		Soc. Sec.	Pension	Base	SS	SS, PP
3221	1017	2		1993	60.8	1,528,085	34,047	1.00	34,047	-	437,225	-	-	163	670,785	-	258,432	251,495	251,495	253,652
3224	1017	2	LS	1992	56.9	244,348	40,337	1.00	40,337	38,427	5,133	325,080	346,104	351,160	244,348	38,427	5,133	325,080	346,104	351,160
9944	1022	2	LS	2003	53.1	88,857	46,979	1.00	46,979	-	-	379,982	379,982	379,982	88,857	-	-	379,982	379,982	379,982
10817	1022	2	LS	2019	60.6	203,635	34,047	1.00	34,047	-	99,273	210,218	210,218	264,754	203,635	-	99,273	210,218	210,218	264,754
10124	1024	2	LS	2006	60.0	120,792	35,574	1.00	35,574	53,052	-	331,965	384,560	384,560	120,792	53,052	-	331,965	384,560	384,560
1126	1026	2		1997	55.4	514,422	43,625	1.00	43,625	181,168	102,470	26	50,311	145,233	264,256	24,558	18,896	141,794	142,862	155,215
9877	1026	2	LS	1997	54.7	40,986	43,625	1.00	43,625	1,051	-	207,921	208,972	208,972	40,986	1,051	-	207,921	208,972	208,972
9993	1026	2	LS	2004	78.1	77,359	-	1.00	-	-	-	127,158	127,158	173,057	77,359	-	-	127,158	127,158	173,057
10161	1026	2	LS	2007	43.2	30,688	63,958	1.00	63,958	-	-	745,100	745,100	745,100	30,688	-	-	745,100	745,100	745,100
10245	1026	2		2010	74.5	454,185	17,592	1.00	17,592	-	93,951	-	-	3	343,326	-	86,917	47,382	47,382	47,616
10600	1026	2	LS	2015	72.2	185,363	19,680	1.00	19,680	-	58,835	57,307	57,307	88,610	185,363	-	58,835	57,307	57,307	88,610
10650	1026	2	LS	2017	52.5	94,605	48,675	1.00	48,675	-	-	277,377	277,377	277,377	94,605	-	-	277,377	277,377	277,377
10718	1026	2	LS	2014	58.6	116,060	37,134	1.00	37,134	38,041	2,709	320,780	358,450	361,159	116,060	38,041	2,709	320,780	358,450	361,159
9784	1028	2	LS	2000	78.3	71,376	-	1.00	-	-	-	175,415	175,415	217,091	71,376	-	-	175,415	175,415	217,091
10741	1028	2	LS	2016	64.2	41,395	29,680	1.00	29,680	-	33,344	131,111	131,111	164,455	41,395	-	33,344	131,111	131,111	164,455

Total Surface Bituminous				15		3,812,155	494,951		494,951	311,738	832,939	3,289,438	3,452,064	3,761,675	2,593,829	155,129	563,538	3,730,083	3,843,491	4,072,759
Average of 15 claims						254,144	32,997		32,997	20,783	55,529	219,296	230,138	250,778	172,922	10,342	37,569	248,672	256,233	271,517
						4,307,106														
Medical plus Indemnity						287,140				20,783	55,529	219,296	230,138	250,778	205,919	10,342	37,569	248,672	256,233	271,517
Adjusted															205,919	10,342	37,569	248,672	256,233	271,517

* Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise 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, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.
Source: Individual claim data from CMCRB.

Coal Mine Compensation Rating Bureau								
Individual Claim Detail for Federal Basic								
ID No.	Class	Awd (2)		Exp. Date	Type*	Age of Miner at Comp. Date		Medical
		Pend (1)					Federal Benefit	
1335	160	2		4/4/1994	0	61.23	191,089	72,633
2051	160	2		12/6/1990	0	64.94	307,545	60,367
3089	160	2		12/6/1990	0	52.39	609,901	103,840
3156	160	2		6/22/1990	0	67.11	442,565	54,694
3720	160	2		10/1/1990	WO	N/A	248,570	-
4555	160	2		6/22/1990	0	67.34	304,750	54,694
4735	160	2		5/5/1992	WO	N/A	283,865	-
7258	160	2		12/2/1993	0	59.78	444,622	75,892
7489	160	2		6/22/1990	0	54.50	558,879	93,066
7863	160	2		12/6/1990	0	56.42	661,438	89,540
9876	160	2		6/13/2001	0	64.89	298,922	60,367
9929	160	2		5/7/2001	0	51.00	458,909	107,477
9960	160	2		4/1/1999	WO	N/A	140,509	-
10091	160	1		3/1/2001	0	48.03	625,565	118,437
10199	160	2		1/1/1990	0	60.50	420,869	75,892
10200	160	2		10/24/2006	0	53.47	587,769	100,221
10237	160	2		7/21/2003	0	65.28	290,639	60,367
10395	160	2		6/30/1999	0	59.24	208,415	79,219
10482	160	2		6/1/1991	0	61.87	431,813	69,449
10805	160	1		5/15/2000	0	72.35	110,454	41,984
10814	160	1		1/1/2015	0	54.84	244,844	93,066

Total Underground Anthracite		7,871,931	1,411,204
Average of 21 claims	59.73	374,854	67,200
Medical plus Indemnity		442,054	

*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							
ID No.	Class	Awd (2) Pend (1)	Exp. Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
275	158	2	9/25/1992	0	71.39	283,976	44,340
508	158	2	8/15/1991	0	75.55	87,810	33,377
917	158	2	4/1/1993	0	62.00	385,332	69,449
931	158	2	3/3/1995	0	68.32	299,205	51,974
3481	158	2	5/20/1990	0	57.28	453,495	86,052
5821	158	2	5/1/1992	0	69.52	253,578	46,792
6950	158	2	9/30/1990	0	57.91	412,920	82,608
7484	158	2	1/1/1990	WO	N/A	333,998	-
7689	158	2	9/19/1991	0	54.11	499,694	96,628
8381	158	2	12/31/1997	0	77.23	177,379	31,416
9758	158	1	6/28/2000	0	52.23	527,471	103,840
9839	158	1	11/1/2000	0	49.96	595,915	111,124
9857	158	2	7/14/1992	0	79.44	163,277	27,733
9863	158	2	5/1/1990	0	73.06	104,489	39,716
9870	158	2	6/1/1994	WO	N/A	308,570	-
10032	158	2	1/3/1999	0	74.23	252,122	37,529
10042	158	2	11/15/2001	0	55.61	484,809	89,540
10065	158	2	10/9/1992	WO	N/A	109,962	-
10086	158	2	2/9/2006	0	56.41	484,809	89,540
10090	158	2	5/1/2004	0	61.18	361,315	72,633
10123	158	2	3/1/1999	0	52.44	503,380	103,840
10129	158	2	7/1/1993	0	61.63	512,795	69,449
10182	158	2	9/1/2001	0	61.75	354,520	69,449
10189	158	2	7/11/2002	0	55.34	244,844	93,066
10194	158	2	10/10/2001	0	66.61	314,230	54,694
10215	158	1	6/6/2007	0	55.18	530,959	93,066
10218	158	2	1/1/1999	0	66.66	286,857	54,694
10254	158	2	5/1/1999	0	67.52	264,491	51,974
10255	158	2	12/1/1992	WO	N/A	175,820	-
10263	158	1	5/26/2000	0	70.16	245,594	46,792
10265	158	2	5/15/1999	0	63.36	451,337	66,343
10287	158	1	2/19/2007	0	55.23	492,169	93,066
10291	158	2	6/30/2002	0	67.37	143,893	54,694
10293	158	2	12/1/2003	0	65.01	356,161	60,367
10299	158	2	2/4/2001	0	65.28	275,084	60,367
10315	158	2	4/1/1993	0	66.37	292,773	57,493
10327	158	2	12/1/1991	0	68.11	264,491	51,974
10328	158	2	4/6/1994	0	72.51	208,403	39,716
10366	158	2	10/12/1991	0	71.12	232,739	44,340
10367	158	2	6/10/1997	0	64.04	395,633	63,317
10368	158	2	2/24/1996	0	70.14	340,704	46,792
10387	158	2	10/12/1991	0	61.09	342,889	72,633
10397	158	1	12/15/1996	0	75.22	173,426	35,416
10402	158	2	1/15/2013	0	65.42	307,545	60,367
10443	158	1	6/30/1998	0	51.31	679,991	107,477
10446	158	2	12/1/1992	0	69.46	129,802	49,338
10455	158	2	3/1/2002	0	67.39	278,421	54,694
10486	158	1	5/26/2000	0	61.38	191,089	72,633
10488	158	1	5/26/2000	0	60.52	391,891	72,633
10498	158	2	5/15/1992	0	75.59	87,810	33,377
10499	158	2	9/30/1996	0	43.02	358,969	136,445
10523	158	1	4/11/1995	0	66.87	314,230	54,694
10529	158	1	5/26/2000	0	66.26	284,412	57,493
10531	158	2	5/26/2000	0	72.88	188,837	39,716
10558	158	2	9/30/1994	0	66.17	276,387	57,493
10584	158	2	7/15/1996	0	79.41	157,027	27,733
10593	158	2	5/29/2000	0	62.50	347,968	66,343
10595	158	1	2/11/2010	0	73.01	215,573	39,716
10597	158	1	4/19/1991	0	37.90	890,280	153,153
10605	158	1	7/1/2016	0	59.77	317,913	75,892
10610	158	2	7/31/1999	0	66.67	416,071	54,694
10639	158	1	11/24/1996	0	41.32	770,016	143,339
10655	158	2	5/31/2017	0	61.49	342,889	72,633
10656	158	1	1/4/2016	0	58.09	402,582	82,608
10664	158	1	12/21/2015	0	57.15	477,612	86,052
10673	158	2	11/18/2011	0	65.02	282,694	60,367
10687	158	1	8/1/1997	0	35.99	418,937	159,239
10695	158	1	3/30/2000	0	42.38	731,303	139,920
10720	158	1	12/1/1992	0	52.39	566,782	103,840
10721	158	1	7/1/1992	0	52.99	263,669	100,221
10725	158	2	4/1/1993	0	76.03	147,653	33,377
10757	158	1	5/1/1992	0	55.38	244,844	93,066
10765	158	1	6/30/2002	0	49.75	292,353	111,124
10770	158	1	9/1/2004	0	65.97	350,430	57,493
10795	158	1	12/31/1996	0	59.11	366,383	79,219
10796	158	1	10/21/1996	0	43.64	349,684	132,915
10802	158	1	7/1/2000	0	64.72	345,676	60,367
10821	158	1	1/17/2017	0	66.19	319,933	57,493
10823	158	1	3/28/2016	0	62.00	419,621	69,449
10824	158	1	1/15/2016	0	58.98	208,415	79,219
10839	158	1	1/1/2003	0	51.00	574,397	107,477
10846	158	1	7/20/2016	0	56.95	490,284	86,052
10852	158	1	2/17/2018	0	59.35	208,415	79,219
10855	158	1	1/30/2018	0	62.34	374,669	69,449
Total Underground Bituminous						28,766,774	5,775,862
Average of 84 claims						62.02	342,462
Medical plus Indemnity							411,222

*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

ID No.	Class	Awd (2) Pend (1)	Exp. Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
926	153	2	2/29/1996	0	58.31	402,582	82,608
2157	153	1	10/10/1990	0	54.96	588,399	93,066
2299	153	2	1/15/1990	0	60.12	420,869	75,892
3725	153	2	9/30/1995	0	65.56	261,351	57,493
3947	153	1	10/28/1994	0	62.26	444,390	69,449
3955	153	2	10/29/1995	0	66.54	334,306	54,694
4749	153	2	1/3/1992	0	65.72	247,673	57,493
5044	153	2	2/4/1990	0	71.50	213,240	41,984
5131	153	2	5/22/1992	0	68.11	328,941	51,974
5372	153	2	3/10/1997	0	60.04	409,578	75,892
5952	153	2	1/31/1995	WO	N/A	124,658	-
6287	153	2	10/28/1990	0	73.92	190,304	37,529
6303	153	2	8/5/1990	WO	N/A	195,252	-
6581	153	2	6/5/1997	WO	N/A	205,373	-
7032	153	2	2/10/1993	0	62.41	374,669	69,449
7250	153	2	9/30/1993	WO	N/A	308,570	-
7263	153	2	3/1/1991	WO	N/A	205,373	-
7451	153	2	11/5/1990	0	72.80	195,041	39,716
9726	153	2	8/10/1995	0	68.28	281,175	51,974
9739	153	2	12/22/2000	0	73.86	218,589	37,529
9760	153	2	2/7/2000	0	75.44	192,426	35,416
9793	153	1	1/26/2001	0	53.76	487,678	96,628
9885	153	2	6/1/1998	0	66.88	270,319	54,694
9940	153	2	12/1/1990	0	63.20	492,457	66,343
10049	153	2	11/19/2005	0	72.28	213,240	41,984
10073	153	2	3/1/2005	0	60.49	398,679	75,892
10107	153	2	1/6/2004	0	56.26	438,530	89,540
10109	153	2	4/4/2003	0	65.00	158,818	60,367
10145	153	2	5/24/2007	0	59.55	432,550	75,892
10156	153	2	10/21/2002	0	75.14	214,304	35,416
10222	153	2	2/2/2006	0	74.97	199,392	35,416
10231	153	2	4/2/2003	0	65.03	298,922	60,367
10232	153	2	7/31/2004	0	56.70	431,000	86,052
10261	153	2	5/30/1996	0	67.25	304,750	54,694
10275	153	2	3/31/2003	0	68.92	303,494	49,338
10384	153	2	10/23/2007	0	76.31	87,810	33,377
10429	153	2	5/22/2013	0	54.36	512,129	96,628
10459	153	2	8/3/2009	0	57.34	420,352	86,052
10621	153	1	2/28/2013	0	63.34	368,271	66,343
10672	153	1	5/12/2013	0	65.49	307,545	60,367
10717	153	2	1/30/2008	0	70.84	232,739	44,340
10785	153	1	8/1/2016	0	65.02	316,520	60,367
10791	153	1	8/18/1996	0	57.47	226,393	86,052
10801	153	1	8/22/2014	0	64.28	313,851	63,317
10856	153	1	8/9/2018	0	61.42	381,304	72,633

Total Surface Anthracite		13,953,808	2,484,255
Average of 45 claims	65.03	310,085	55,206
Medical plus Indemnity		365,290	

*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							
ID No.	Class	Awd (2) Pend (1)	Exp. Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
178	156	2	9/23/1994	0	70.19	253,578	46,792
600	156	2	9/10/1992	0	62.67	338,400	66,343
601	156	2	6/19/1992	0	66.18	310,521	57,493
1356	156	2	5/1/1995	0	55.30	544,715	93,066
2494	156	2	4/19/1996	0	64.66	345,676	60,367
3047	156	2	12/31/1996	0	77.58	154,899	29,536
3058	156	2	1/17/1991	0	65.64	319,933	57,493
5221	156	2	6/4/1995	0	66.01	284,412	57,493
5374	156	2	10/21/1991	WO	N/A	508,976	-
5483	156	2	8/6/1990	0	61.43	191,089	72,633
6244	156	2	10/10/1990	0	81.72	103,262	22,829
6949	156	2	12/7/1994	0	54.92	558,879	93,066
7245	156	2	9/1/1991	0	77.57	154,899	29,536
7248	156	2	8/31/1995	0	64.94	307,545	60,367
7893	156	2	2/19/1992	0	61.43	361,315	72,633
8012	156	2	1/1/1990	0	70.45	237,948	46,792
8022	156	2	11/1/1995	0	61.86	354,520	69,449
9761	156	2	9/30/1991	0	74.06	190,304	37,529
9767	156	2	6/1/2000	0	62.11	364,397	69,449
9795	156	2	12/1/1992	0	69.69	253,578	46,792
9866	156	2	9/20/1994	0	78.84	72,963	27,733
9945	156	2	8/31/1995	0	73.69	203,793	37,529
9953	156	2	3/1/1994	0	55.28	558,879	93,066
9961	156	2	5/31/2000	0	52.09	595,116	103,840
9967	156	2	1/15/1990	0	71.04	225,363	44,340
10003	156	2	5/30/1995	0	72.79	223,078	39,716
10104	156	2	6/1/1990	0	71.51	110,454	41,984
10112	156	2	12/1/2007	0	63.94	238,180	63,317
10114	156	2	10/26/1991	WO	N/A	175,820	-
10128	156	2	8/1/1994	0	74.82	192,426	35,416
10204	156	2	2/28/1992	0	69.75	261,892	46,792
10206	156	2	2/8/2010	0	70.82	274,613	44,340
10217	156	2	11/25/2008	0	63.72	313,851	63,317
10221	156	2	1/1/1993	0	81.01	122,868	24,364
10256	156	1	6/1/1990	0	40.83	853,404	143,339
10281	156	1	5/1/2011	0	68.47	136,737	51,974
10305	156	2	3/1/1995	0	61.87	374,669	69,449
10333	156	2	6/15/1992	0	80.08	68,423	26,008
10335	156	2	6/1/1995	WO	N/A	226,417	-
10351	156	2	12/27/2012	0	58.61	416,510	79,219
10385	156	2	3/1/2012	WO	N/A	248,570	-
10400	156	1	2/28/1993	0	80.02	153,458	26,008
10414	156	2	4/27/2001	0	75.85	210,218	33,377
10418	156	2	1/1/2003	0	73.15	223,078	39,716
10447	156	2	12/1/2008	0	76.83	170,931	31,416
10458	156	2	11/1/2008	0	73.78	203,793	37,529
10517	156	2	4/1/2014	0	67.97	272,666	51,974
10521	156	2	5/1/1996	0	67.14	304,750	54,694
10554	156	2	4/13/2015	0	76.53	177,379	31,416
10566	156	2	8/31/2001	0	76.17	157,716	33,377
10604	156	1	5/1/2001	0	60.37	388,172	75,892
10609	156	2	7/1/1996	0	68.92	267,155	49,338
10679	156	1	10/1/2008	0	51.30	547,940	107,477
10690	156	2	8/1/1995	0	67.23	295,629	54,694
10692	156	1	11/1/1994	0	51.61	723,372	103,840
10694	156	2	8/1/1992	0	76.16	152,526	33,377
10756	156	2	10/1/1991	0	60.98	317,990	72,633
10774	156	1	6/1/2012	0	63.74	332,012	63,317
10779	156	1	11/1/2014	0	70.49	261,892	46,792
10788	156	1	1/15/1990	0	36.75	814,441	156,247
10832	156	1	2/15/2015	0	63.97	166,578	63,317
10836	156	1	3/1/2008	0	61.84	396,379	69,449
10840	156	1	1/1/1999	0	61.79	364,397	69,449
10844	156	1	10/10/1997	0	60.99	191,089	72,633
10857	156	1	11/17/1993	0	59.02	395,267	79,219

Total Surface Bituminous		19,521,697	3,582,578
Average of 65 claims	66.56	300,334	55,117
Medical plus Indemnity		355,450	

*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

ID No.	Class	Awd (2) Pend (1)	Exp. Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
10808	157	2	2/3/2008	0	73.71	218,589	37,529
3158	181	2	3/14/1997	0	62.00	374,669	69,449
10819	181	1	7/5/2018	0	63.17	357,923	66,343
10451	182	2	5/1/2005	0	65.93	151,256	57,493
4592	183	1	7/19/1997	0	53.33	462,171	100,221
9887	183	1	2/2/2000	0	51.88	273,191	103,840
9904	183	2	12/31/1997	WO	N/A	148,880	-
9992	183	2	7/22/2004	0	71.54	227,787	41,984
10620	183	1	10/1/2013	0	53.08	532,494	100,221
10135	184	2	2/1/2002	0	75.55	244,128	33,377
10244	184	2	1/1/1999	0	81.69	135,090	22,829
10338	184	2	10/15/2005	0	68.77	129,802	49,338
10838	184	1	7/1/2004	0	45.32	663,490	129,341
10843	184	1	2/27/1998	0	60.01	444,622	75,892

Total Other Classes		4,364,093	887,856
Average of 14 claims	63.54	311,721	63,418
Medical plus Indemnity		375,139	

*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
Traumatic

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
Traumatic	(1010)	(1001)	(1012)	(1014)	(1469)	(1015)	(1021)	(1023)	(1025)	(1027)	
1979	Payroll data for these years is not readily available										
1980											
1981											
1982											
1983											
1984											
1985											
1986											
1987											
1988											
1989											
1990											
1991											
1992											
1993											
1994											
1995											
1996											
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	148,556,407	20,873,611	29,127,089	4,435,066	372,496	8,994,602	11,327,552	7,018,927	23,689,882	254,559,392
2017	252,383	172,708,778	21,167,074	33,140,780	4,566,113	449,009	8,819,700	11,435,057	7,746,154	28,803,457	289,088,505
2018	183,346	180,553,142	19,576,675	35,242,187	4,484,744	600,138	11,600,891	12,043,297	9,651,288	32,199,872	306,135,580
2019	179,379	185,776,423	23,746,667	35,476,154	4,572,392	539,914	8,219,127	11,807,241	12,646,576	37,605,236	320,569,109

Source: Exhibits X-C and X-D
Prior filings for 2008 and prior.

COAL MINE COMPENSATION RATING BUREAU
Summary of Developed & Adjusted Payrolls
State Occupational Disease

Exhibit X-A

Page 2

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
<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>	
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	-	-	-	-	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	-	-	-	-	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	-	-	-	-	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	-	-	-	-	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	-	-	-	-	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	-	-	-	-	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	-	-	-	-	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	-	-	-	-	237,532,755
1987	4,061,875	55,036,577	25,008,155	134,305,891	26,573,681	1,695,582	-	-	-	-	246,681,761
1988	2,745,685	64,843,301	23,099,360	126,493,210	18,498,632	1,626,194	-	-	-	-	237,306,382
1989	2,066,292	74,335,286	27,044,506	125,361,713	12,583,451	1,888,442	-	-	-	-	243,279,690
1990	1,547,051	77,524,448	32,392,891	124,189,071	61,308,712	2,295,585	676,180	-	-	-	299,933,938
1991	718,147	59,439,370	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	-	-	-	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	-	-	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	-	-	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	-	-	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	-	-	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
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	148,556,407	20,873,611	29,127,089	4,435,066	372,496	8,994,602	11,327,552	7,018,927	23,689,882	254,559,392
2017	252,383	172,708,778	21,167,074	33,140,780	4,566,113	449,009	8,819,700	11,435,057	7,746,154	28,803,457	289,088,505
2018	183,346	180,553,142	19,576,675	35,242,187	4,484,744	600,138	11,600,891	12,043,297	9,651,288	32,199,872	306,135,580
2019	179,379	185,776,423	23,746,667	35,476,154	4,572,392	539,914	8,219,127	11,807,241	12,646,576	37,605,236	320,569,109

Source: Exhibits X-C and X-D
Prior filings for 2008 and prior.

COAL MINE COMPENSATION RATING BUREAU
Summary of Developed & Adjusted Payrolls
Federal Occupational Disease

Exhibit X-A
Page 3

	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
<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>	
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	-	-	-	-	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	-	-	-	-	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	-	-	-	-	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	-	-	-	-	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	-	-	-	-	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	-	-	-	-	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	-	-	-	-	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	-	-	-	-	237,532,755
1987	4,061,875	42,076,700	25,008,155	134,305,891	26,573,681	1,695,582	-	-	-	-	233,721,884
1988	2,745,685	51,133,431	23,099,360	126,493,210	18,498,632	1,626,194	-	-	-	-	223,596,512
1989	2,066,292	58,507,532	27,044,506	125,361,713	12,583,451	1,888,442	-	-	-	-	227,451,936
1990	1,547,051	63,271,520	32,392,891	124,189,071	61,308,712	2,295,585	676,180	-	-	-	285,681,010
1991	718,147	58,318,242	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	-	-	-	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	-	-	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	-	-	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	-	-	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	-	-	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
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	118,545,477	19,257,107	30,131,218	4,435,066	392,776	7,953,309	11,327,552	5,542,968	20,079,401	217,828,634
2017	252,383	172,708,778	19,094,634	34,248,962	4,566,113	566,324	7,793,558	11,435,057	6,056,810	28,803,457	285,526,076
2018	183,346	180,599,760	18,303,511	36,305,197	4,484,744	600,138	10,053,839	12,043,297	6,916,759	32,199,872	301,690,463
2019	179,379	185,962,937	20,632,989	36,395,622	4,626,532	593,214	6,821,629	11,807,241	10,584,841	37,623,330	315,227,714

Source: Exhibits X-C and X-D
Prior filings for 2008 and prior.

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
2009	20.67	0	0	6.96	102,684,006	7,146,807	8.01	16,445,462	1,317,282	1.85	61,784,394	1,143,011
2010	20.67	5,700	1,178	6.96	126,687,464	8,817,447	8.01	14,295,288	1,145,053	1.85	72,711,558	1,345,164
2011	20.67	110,125	22,763	6.96	149,633,528	10,414,494	8.01	21,034,600	1,684,871	1.85	86,074,064	1,592,370
2012	20.67	219,407	45,351	6.96	154,428,761	10,748,242	8.01	26,295,907	2,106,302	1.85	76,452,811	1,414,377
2013	20.67	175,900	36,359	6.96	149,953,068	10,436,734	8.01	22,449,824	1,798,231	1.85	61,349,745	1,134,970
2014	20.67	258,809	53,496	6.96	271,230,707	18,877,657	8.01	20,466,075	1,639,333	1.85	54,050,731	999,939
2015	20.67	254,336	52,571	6.96	216,454,460	15,065,230	8.01	24,218,779	1,939,924	1.85	40,934,048	757,280
2016	20.67	163,760	33,849	6.96	148,556,407	10,339,526	8.01	20,873,611	1,671,976	1.85	29,127,089	538,851
2017	20.67	252,383	52,168	6.96	172,708,778	12,020,531	8.01	21,167,074	1,695,483	1.85	33,140,780	613,104
2018	20.67	183,346	37,898	6.96	180,553,142	12,566,499	8.01	19,576,675	1,568,092	1.85	35,242,187	651,980
2019	20.67	179,379	37,078	6.96	185,776,423	12,930,039	8.01	23,746,667	1,902,108	1.85	35,476,154	656,309

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
2009	3.83	5,173,552	198,147	9.00	926,163	83,355	6.09	8,004,644	487,483	1.37	7,866,413	107,770
2010	3.83	5,435,658	208,186	9.00	806,696	72,603	6.09	8,481,228	516,507	1.37	8,732,701	119,638
2011	3.83	3,599,086	137,845	9.00	1,176,255	105,863	6.09	11,720,035	713,750	1.37	9,102,411	124,703
2012	3.83	5,738,105	219,769	9.00	808,208	72,739	6.09	10,273,004	625,626	1.37	9,047,745	123,954
2013	3.83	4,791,910	183,530	9.00	1,025,399	92,286	6.09	8,342,651	508,067	1.37	10,355,884	141,876
2014	3.83	4,464,398	170,986	9.00	806,976	72,628	6.09	9,060,883	551,808	1.37	11,721,184	160,580
2015	3.83	4,340,376	166,236	9.00	582,619	52,436	6.09	10,469,089	637,568	1.37	11,748,205	160,950
2016	3.83	4,435,066	169,863	9.00	372,496	33,525	6.09	8,994,602	547,771	1.37	11,327,552	155,187
2017	3.83	4,566,113	174,882	9.00	449,009	40,411	6.09	8,819,700	537,120	1.37	11,435,057	156,660
2018	3.83	4,484,744	171,766	9.00	600,138	54,012	6.09	11,600,891	706,494	1.37	12,043,297	164,993
2019	3.83	4,572,392	175,123	9.00	539,914	48,592	6.09	8,219,127	500,545	1.37	11,807,241	161,759

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
2009	4.24	6,749,748	286,189	2.74	19,828,012	543,288	229,462,394	11,313,332
2010	4.24	5,762,086	244,312	2.74	26,313,130	720,980	269,231,509	13,191,068
2011	4.24	7,236,583	306,831	2.74	35,155,068	963,249	324,841,755	16,066,739
2012	4.24	8,671,140	367,656	2.74	34,211,729	937,401	326,146,817	16,661,417
2013	4.24	8,265,665	350,464	2.74	34,253,697	938,551	300,963,743	15,621,068
2014	4.24	8,234,771	349,154	2.74	43,520,040	1,192,449	423,814,574	24,068,030
2015	4.24	7,606,274	322,506	2.74	33,564,176	919,658	350,172,362	20,074,359
2016	4.24	7,018,927	297,603	2.74	23,689,882	649,103	254,559,392	14,437,254
2017	4.24	7,746,154	328,437	2.74	28,803,457	789,215	289,088,505	16,408,011
2018	4.24	9,651,288	409,215	2.74	32,199,872	882,276	306,135,580	17,213,225
2019	4.24	12,646,576	536,215	2.74	37,605,236	1,030,383	320,569,109	17,978,151

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, 2020**

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	\$20.67	1011	\$12.88	0160	\$9.06
Bituminous	1001	\$6.96	1002	\$0.58	0158	\$0.59
SURFACE						
Anthracite	1012	\$8.01	1016	\$1.06	0153	\$1.72
Bituminous	1014	\$1.85	1013	\$0.25	0156	\$0.82
COKE	1469	\$3.83	1017	\$0.09	0154	\$0.10
AUGER	1015	\$9.00	1019	\$0.18	0157	\$0.44
CO-GEN						
Anthracite	1021	\$6.09	1022	\$0.24	0181	\$0.37
Bituminous	1023	\$1.37	1024	\$0.24	0182	\$0.29
PREP PLANT						
Anthracite	1025	\$4.24	1026	\$2.57	0183	\$0.88
Bituminous	1027	\$2.74	1028	\$0.16	0184	\$0.31

<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	\$20.12	1011	\$12.88	0160	\$9.06
Bituminous	1001	\$6.65	1002	\$0.58	0158	\$0.59
SURFACE						
Anthracite	1012	\$7.84	1016	\$1.06	0153	\$1.72
Bituminous	1014	\$1.79	1013	\$0.25	0156	\$0.82
COKE	1469	\$3.73	1017	\$0.09	0154	\$0.10
AUGER	1015	\$8.76	1019	\$0.18	0157	\$0.44
CO-GEN						
Anthracite	1021	\$5.95	1022	\$0.24	0181	\$0.37
Bituminous	1023	\$1.32	1024	\$0.24	0182	\$0.29
PREP PLANT						
Anthracite	1025	\$4.14	1026	\$2.57	0183	\$0.88
Bituminous	1027	\$2.66	1028	\$0.16	0184	\$0.31

Source: Current Manual Loss Costs from Exhibit I-A-M approved filing effective April 1, 2020
Unloaded Approved Loss Costs from Exhibit I-A-UL approved filing effective April 1, 2020

**Coal Mine Compensation Rating Bureau
Adjustments from 2020 Filing**

Exhibit X-B

Page 3

Section 1 Catastrophic Loss Cost (2020)

Underground	
Anthracite	0.19
Bituminous	0.19
Auger	0.08 (1/3 Underground, 2/3 Surface)
Other Classes	0.03

Section 2 Load Factors (2020)

Experience Rating	1.0000
Merit Rating (Exh XIV-A, page 1)	1.0002
Safety Committee (Exh. XIV-B)	1.0174
	<hr/>
	1.0176
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	
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>	
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	
2017	252,383	0	0	1.0000	252,383	0.252383	
2018	183,346	0	0	1.0000	183,346	0.183346	
2019	179,379	0	0	1.0000	179,379	0.179379	

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	
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>	
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	148,556,407	30,010,930	0	1.0000	118,545,477	118.545477	
2017	172,708,778	0	0	1.0000	172,708,778	172.708778	
2018	180,553,142	0	46,618	1.0000	180,599,760	180.599760	
2019	185,776,423	0	185,328	1.0064	185,962,937	185.962937	

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	
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>	
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	20,873,611	2,378,155	761,651	1.0000	19,257,107	19.257107	
2017	21,167,074	2,801,185	728,745	1.0000	19,094,634	19.094634	
2018	19,576,675	1,971,490	698,326	1.0000	18,303,511	18.303511	
2019	23,746,667	3,889,152	794,045	1.0060	20,632,989	20.632989	

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	
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>	
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	29,127,089	0	1,004,129	1.0000	30,131,218	30.131218	
2017	33,140,780	0	1,108,182	1.0000	34,248,962	34.248962	
2018	35,242,187	0	1,063,010	1.0000	36,305,197	36.305197	
2019	35,476,154	0	919,468	1.0000	36,395,622	36.395622	

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>
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	4,435,066	0	0	1.0000	4,435,066	4.435066
2017	4,566,113	0	0	1.0000	4,566,113	4.566113
2018	4,484,744	0	0	1.0000	4,484,744	4.484744
2019	4,572,392	0	52,892	1.0236	4,626,532	4.626532

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>
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
2017	449,009	0	117,315	1.0000	566,324	0.566324
2018	600,138	0	0	1.0000	600,138	0.600138
2019	539,914	0	53,300	1.0000	593,214	0.593214

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>
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	8,994,602	1,137,185	95,892	1.0000	7,953,309	7.953309
2017	8,819,700	1,121,002	94,860	1.0000	7,793,558	7.793558
2018	11,600,891	1,704,620	157,568	1.0000	10,053,839	10.053839
2019	8,219,127	1,508,278	110,780	1.0000	6,821,629	6.821629

BITUMINOUS CO-GEN (1023)

	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>
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	11,327,552	0	0	1.0000	11,327,552	11.327552
2017	11,435,057	0	0	1.0000	11,435,057	11.435057
2018	12,043,297	0	0	1.0000	12,043,297	12.043297
2019	11,807,241	0	0	1.0024	11,807,241	11.807241

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
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
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	7,018,927	1,728,560	252,601	1.0000	5,542,968	5.542968
2017	7,746,154	1,886,894	197,550	1.0000	6,056,810	6.056810
2018	9,651,288	2,865,985	131,456	1.0000	6,916,759	6.916759
2019	12,646,576	2,160,285	116,130	1.0086	10,584,841	10.584841

BITUMINOUS PREP PLANT (1027)

	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
<u>Year</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
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	23,689,882	3,610,481	0	1.0000	20,079,401	20.079401
2017	28,803,457	0	0	1.0000	28,803,457	28.803457
2018	32,199,872	0	0	1.0000	32,199,872	32.199872
2019	37,605,236	0	17,765	1.0185	37,623,330	37.623330

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
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
2017	252,383	0	252,383	0.252383
2018	183,346	0	183,346	0.183346
2019	179,379	0	179,379	0.179379

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
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	148,556,407	0	148,556,407	148.556407
2017	172,708,778	0	172,708,778	172.708778
2018	180,553,142	0	180,553,142	180.553142
2019	185,776,423	0	185,776,423	185.776423

* 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 files 258, 330, 4027 and 4049 Payrolls as of 4-30-2020

COAL MINE COMPENSATION RATING BUREAU
Payroll Adjustment - UAE Reclassification

Exhibit X-C
Page 5

ANTHRACITE UNDERGROUND (1010)

Year	REPORTED PAYROLL* (1)	DEVELOPMENT FACTORS** (2)	DEVELOPED PAYROLL (3) = (1) * (2)
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
2017	0	1.0000	0
2018	0	1.0000	0
2019	0	1.0032	0

Source: CMCRB database for files 258, 330, 4027 and 4049 Payrolls as of 4-30-2020

* 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
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
2017	252,383	1.0000	252,383	0.252383
2018	183,346	1.0000	183,346	0.183346
2019	179,379	1.0000	179,379	0.179379

BITUMINOUS UNDERGROUND (1001)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	148,556,407	1.0000	148,556,407	148.556407
2017	172,708,778	1.0000	172,708,778	172.708778
2018	180,553,142	1.0000	180,553,142	180.553142
2019	184,595,015	1.0064	185,776,423	185.776423

Source: (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) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	20,873,611	1.0000	20,873,611	20.873611
2017	21,167,074	1.0000	21,167,074	21.167074
2018	19,576,675	1.0000	19,576,675	19.576675
2019	23,605,037	1.0060	23,746,667	23.746667

BITUMINOUS SURFACE (1014)

YEAR	REPORTED PAYROLL (1)	DEVELOP FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	29,127,089	1.0000	29,127,089	29.127089
2017	33,140,780	1.0000	33,140,780	33.140780
2018	35,242,187	1.0000	35,242,187	35.242187
2019	35,476,154	1.0000	35,476,154	35.476154

Source: (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
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	4,435,066	1.0000	4,435,066	4.435066
2017	4,566,113	1.0000	4,566,113	4.566113
2018	4,484,744	1.0000	4,484,744	4.484744
2019	4,466,971	1.0236	4,572,392	4.572392

AUGER (1015)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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
2017	449,009	1.0000	449,009	0.449009
2018	600,138	1.0000	600,138	0.600138
2019	539,914	1.0000	539,914	0.539914

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) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	8,994,602	1.0000	8,994,602	8.994602
2017	8,819,700	1.0000	8,819,700	8.819700
2018	11,600,891	1.0000	11,600,891	11.600891
2019	8,219,127	1.0000	8,219,127	8.219127

BITUMINOUS CO-GEN (1023)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	11,327,552	1.0000	11,327,552	11.327552
2017	11,435,057	1.0000	11,435,057	11.435057
2018	12,043,297	1.0000	12,043,297	12.043297
2019	11,778,971	1.0024	11,807,241	11.807241

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
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	7,018,927	1.0000	7,018,927	7.018927
2017	7,746,154	1.0000	7,746,154	7.746154
2018	9,651,288	1.0000	9,651,288	9.651288
2019	12,538,743	1.0086	12,646,576	12.646576

BITUMINOUS PREP PLANT (1027)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	23,689,882	1.0000	23,689,882	23.689882
2017	28,803,457	1.0000	28,803,457	28.803457
2018	32,199,872	1.0000	32,199,872	32.199872
2019	36,922,176	1.0185	37,605,236	37.605236

Source: (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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346	179,379			
2ND	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346				
3RD	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383					
4TH	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760						
5TH	0	5,700	110,125	219,407	175,900	258,809	254,336							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<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	1.0000	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
3-4		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

PAYROLLS
BITUMINOUS UNDERGROUND (1001)

RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	100,337,635	126,269,667	150,087,771	156,022,224	148,858,839	269,946,018	216,498,553	148,894,215	169,570,264	178,663,437	184,595,015			
2ND	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407	172,800,836	180,553,142				
3RD	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407	172,708,778					
4TH	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407						
5TH	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	1.0234	1.0033	0.9970	0.9898	1.0074	1.0048	0.9998	0.9977	1.0191	1.0106		1.0064	1.0063	1.0064
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9995			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

Source: CMCRB Database as of 4-30-2020 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 2

PAYROLLS
ANTHRACITE SURFACE (1012)

RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	16,464,925	14,316,712	21,041,889	26,061,126	22,127,846	20,422,650	24,275,156	20,717,621	20,760,851	19,515,547	23,605,037			
2ND	16,445,462	14,302,955	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611	21,167,074	19,576,675				
3RD	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611	21,167,074					
4TH	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611						
5TH	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1ST	0.9988	0.9990	0.9997	1.0090	1.0146	1.0021	0.9977	1.0075	1.0196	1.0031		1.0060	1.0060	1.0060
2-3	1.0000	0.9995	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 SURFACE (1014)

RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	62,272,331	72,008,001	84,685,809	77,151,225	63,473,577	54,685,762	41,179,672	28,999,042	34,474,120	35,266,431	35,476,154			
2ND	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089	33,140,780	35,242,187				
3RD	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089	33,140,780					
4TH	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089						
5TH	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	0.9922	1.0098	1.0164	0.9909	0.9665	0.9884	0.9940	1.0044	0.9613	0.9993		0.9895	0.9895	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 4-30-2020 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 3

PAYROLLS COKE (1469)													
RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
1ST	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,057,561	4,435,066	4,462,231	4,375,412	4,466,971		
2ND	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066	4,566,113	4,484,744			
3RD	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066	4,566,113				
4TH	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066					
5TH	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376						
5 YEAR													
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0697	1.0000	1.0233	1.0250	1.0236	1.0236	1.0236
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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
1ST	935,743	793,313	1,151,902	789,136	1,082,639	876,196	592,775	372,496	452,051	560,126	539,914		
2ND	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009	600,138			
3RD	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009				
4TH	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496					
5TH	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619						
5 YEAR													
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	0.9898	1.0169	1.0211	1.0242	0.9471	0.9210	0.9829	1.0000	0.9933	1.0714	0.9937	0.9937	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 4-30-2020 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 4

PAYROLLS
ANTHRACITE CO-GEN (1021)

RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	8,083,804	8,455,858	11,710,908	10,377,312	8,678,376	9,279,611	10,646,550	10,847,424	9,038,435	11,591,488	8,219,127			
2ND	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602	8,819,700	11,600,891				
3RD	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602	8,819,700					
4TH	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602						
5TH	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	0.9902	1.0030	1.0008	0.9899	0.9613	0.9764	0.9833	0.8292	0.9758	1.0008		0.9531	0.9531	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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	7,861,068	9,236,721	9,015,644	9,057,266	13,079,796	11,451,621	11,723,112	11,386,837	11,576,297	11,996,610	11,778,971			
2ND	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552	11,435,057	12,043,297				
3RD	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552	11,435,057					
4TH	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552						
5TH	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	1.0007	0.9454	1.0096	0.9989	0.7917	1.0235	1.0021	0.9948	0.9878	1.0039		1.0024	1.0024	1.0024
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 4-30-2020 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

Exhibit X-E
Page 5

PAYROLLS
ANTHRACITE PREP PLANT (1025)

RPT	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	6,785,937	5,723,658	7,300,075	8,617,327	8,249,896	8,098,851	7,770,095	6,971,270	7,502,719	9,572,250	12,538,743			
2ND	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927	7,746,154	9,651,288				
3RD	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927	7,746,154					
4TH	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927						
5TH	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	0.9947	1.0067	0.9913	1.0062	1.0019	1.0168	0.9789	1.0068	1.0324	1.0083		1.0086	1.0086	1.0086
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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
1ST	19,852,091	25,843,606	34,632,323	34,353,700	33,730,152	43,397,620	34,011,862	22,065,227	28,602,522	31,517,751	36,922,176			
2ND	19,828,012	26,313,130	35,155,068	34,211,729	34,207,489	43,520,040	33,564,176	23,689,882	28,816,678	32,199,872				
3RD	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882	28,803,457					
4TH	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882						
5TH	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176							
												5 YEAR		
DEV.	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		<u>AVERAGE</u>	<u>ACCUM.</u>	<u>SELECTED</u>
1-2	0.9988	1.0182	1.0151	0.9959	1.0142	1.0028	0.9868	1.0736	1.0075	1.0216		1.0185	1.0187	1.0185
2-3	1.0000	1.0000	1.0000	1.0000	1.0014	1.0000	1.0000	1.0000	0.9995			1.0002	1.0002	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 4-30-2020 - 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. 4/1/2020) (1)	Federal OD Class Code	Federal OD Basic Indicated Frequency (Eff. 4/1/2020) (2)	Federal OD Excess Indicated Frequency (Eff. 4/1/2020) (3)
Underground:	Anthracite	1011	0.221003	160	0.180561	0.084073
	Bituminous	1002	0.021121	158	0.010163	0.007882
Surface:	Anthracite	1016	0.020980	153	0.044670	0.009622
	Bituminous	1013	0.008080	156	0.020709	0.002673
	Coke	1017	0.002394	154	0.002159	0.000951
	Auger	1019	0.004930	157	0.010951	0.002033
Co-Gen:	Anthracite	1022	0.004818	181	0.009657	0.001789
	Bituminous	1024	0.006505	182	0.006685	0.002237
Prep Plants:	Anthracite	1026	0.050856	183	0.019669	0.021225
	Bituminous	1028	0.004220	184	0.007594	0.001535

Source: (1): Exhibit III Column (3) of prior filing.
(2) & (3): Exhibit IV-A Column (3) of prior filing.

File: C:\2020 Rate Filing\XL\2020-10.xlsm]X-F
Run Date: August 18, 2020 - 03:17:03 PM

PAB
Effective Date - April 01, 2021
11,846.791745

COAL MINE COMPENSATION RATING BUREAU
Calculation of Coal Class Adjustment Factor to SAWW

Exhibit X-G

Average Coal Class Weekly Wages										
Year	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant
	<u>1010</u>	<u>1001</u>	<u>1012</u>	<u>1014</u>	<u>1469</u>	<u>1015</u>	<u>1021</u>	<u>1023</u>	<u>1025</u>	<u>1027</u>
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	1,033.50		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	972.11	100.00	520.00	843.52	908.00	943.94	1,307.50
2015	#	1,634.39	1,071.78	968.80	564.33	722.00	1,075.00	836.67	1,005.00	1,295.56
2016	#	1,662.13	1,076.11	1,001.43	2,109.00		1,133.39	714.00	1,148.41	1,816.23
2017	#	1,572.78	1,163.04	1,381.20	588.83		1,206.39	1,376.75	1,277.00	1,419.95
2018	#	1,629.05	1,434.53	1,260.86	546.00		950.16	1,388.60	1,021.75	1,103.76
2019	#	1,647.40	1,027.68	1,058.90	607.00		1,146.67	914.00	1,091.71	2,174.42

Number of Wage Records Used to Calculate Average Coal Class Weekly Wages										
Year	<u>1010</u>	<u>1001</u>	<u>1012</u>	<u>1014</u>	<u>1469</u>	<u>1015</u>	<u>1021</u>	<u>1023</u>	<u>1025</u>	<u>1027</u>
2010	#	113	24	21	1	2	4	2	5	6
2011	#	106	21	31	3	4	2	2	8	12
2012	#	124	20	30		1	6	3	7	10
2013	#	90	25	29	2	5	7	1	7	9
2014	#	216	21	18	1	2	3	5	6	16
2015	#	134	18	10	3	2	3	3	4	8
2016	#	98	22	7	1		7	1	4	9
2017	#	120	23	5	6		7	4	1	6
2018	#	121	11	7	1		11	5	4	5
<u>2019</u>	<u>#</u>	<u>109</u>	<u>16</u>	<u>10</u>	<u>1</u>		<u>3</u>	<u>1</u>	<u>7</u>	<u>6</u>
Total		1231	201	168	19	16	53	27	53	87

Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage											
Year	SAWW	<u>1010</u>	<u>1001</u>	<u>1012</u>	<u>1014</u>	<u>1469</u>	<u>1015</u>	<u>1021</u>	<u>1023</u>	<u>1025</u>	<u>1027</u>
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	1.164		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	1.043	0.107	0.558	0.905	0.974	1.013	1.403
2015	951	#	1.719	1.127	1.019	0.593	0.759	1.130	0.880	1.057	1.362
2016	978	#	1.700	1.100	1.024	2.156		1.159	0.730	1.174	1.857
2017	995	#	1.581	1.169	1.388	0.592		1.212	1.384	1.283	1.427
2018	1025	#	1.589	1.400	1.230	0.533		0.927	1.355	0.997	1.077
<u>2019</u>	<u>1049</u>	<u>#</u>	<u>1.570</u>	<u>0.980</u>	<u>1.009</u>	<u>0.579</u>		<u>1.093</u>	<u>0.871</u>	<u>1.041</u>	<u>2.073</u>
Average			1.582	1.118	1.118	0.700	0.620	1.014	1.111	1.048	1.440

Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage - Classes Combined											
Year	SAWW	Bit. Und. & Prep				All Other Classes					
2010	845	1.408				0.973					
2011	858	1.466				1.028					
2012	888	1.560				1.192					
2013	917	1.564				1.036					
2014	932	1.585				0.993					
2015	951	1.699				1.024					
2016	978	1.713				1.121					
2017	995	1.574				1.145					
2018	1025	1.569				1.167					
<u>2019</u>	<u>1049</u>	<u>1.596</u>				<u>0.994</u>					
Average		1.573				1.067					
Selected Coal Class Adj. Factor to SAWW		1.573				1.067					

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.

Section A. Office of Small Business Advocate Assessment Factor Calculation

1.	2020-2021 Small Business Advocate Assessment	\$	280,000
2.	2019 Insurance Carrier Paid Losses		
	CMCRB		20,956,700
	PCRB		<u>2,212,053,126</u>
	Total		2,233,009,826
3.	Insurer Assessment Ratio (item 1 divided by item 2)		0.0001

Section B. Employer Assessment Factor Calculation

1.	2020/2021 INSURANCE CARRIER ASSESSMENT AMOUNTS		
	A. Administrative Fund		53,599,112
	B. Subsequent Injury Fund		137,366
	C. Supersedeas Fund		28,842,757
	D. Uninsured Employers Guaranty Fund		<u>5,582,573</u>
	TOTAL		88,161,808
2.	2019 Employer Assessment Premium Base		3,553,479,446
3.	2019 Coal Mine Premium Base		21,583,313
4.	Coal Premium percent of Total (3)/(2)		0.607%
5.	Assessments to be paid by coal employers		535,482
6.	Coal Employer Assessment Factor		0.0248

Source: Pa. Dept. of Labor & Industry
PCRB

PAB

Effective Date - April 01, 2021

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-11.xlsx]XI

Run Date: November 18, 2020 - 12:00:34 PM

Checksum:8,218,221,535.922910

COAL MINE COMPENSATION RATING BUREAU

Exhibit XII-A

CATASTROPHE - Spread of Loss Cost to Classes

<u>Classification</u>		(1) 2019 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 4/1/2020	(8) Selected	(9) Change (8)/(7) - 1
Underground										
Anthracite Underground	1010	\$179,379								
Bituminous Underground	1001	185,776,423								
Total		185,955,802	7	1,301,691	90.6%	328,003	0.18	0.19	0.18	-5.3%
Other than Underground										
Anthracite Surface	1012	23,746,667								
Bituminous Surface	1014	35,476,154								
Coke	1469	4,572,392								
Auger	1015	539,914								
Anthracite Co-Gen	1021	8,219,127								
Bituminous Co-Gen	1023	11,807,241								
Anthracite Prep Plant	1025	12,646,576								
Bituminous Prep Plant	1027	37,605,236								
Total		134,613,307	1	134,613	9.4%	33,920	0.03	0.03	0.03	0.0%
Grand Total		320,569,109	8	1,436,304	100.0%	361,923	0.11	a-0.12	0.12	0.0%

a - Current Total Loss Cost is based on 2019 Payroll weights

b- Auger = one-third underground & two-thirds surface or \$0.08

Source: Column (1) - Exhibit X-A
 Column (2) - Judgement
 Column (5) - 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 Over \$ 1,250,000
2000	-	-
2001	-	-
2002	1	471,071
2003	2	831,742
2004	2	1,592,912
2005	2	1,272,283
2006	-	-
2007	1	2,606,296
2008	2	280,750
2009	-	-
2010	-	-
2011	2	142,846
2012	1	40,550
2013	-	-
2014	-	-
2015	-	-
2016	-	-
2017	-	-
2018	-	-
2019	-	-
	13	7,238,450
Average over 20 years		361,923
2019 Developed Payroll from Exhibit XII-A		320,569,109
Loss Cost		0.11

Source: 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
Que Creek	100100	2002	9	892,793	116,396	116,396	-	1.0000	1.7054	198,502	1,721,071	471,071
39840	100100	2003	2	419,207	485,877	277,464	208,413	1.0000	1.6726	812,678	1,513,843	263,843
39990	100100	2003	1	1,086,870	-	-	-	1.0000	1.6726	-	1,817,899	567,899
40926	100100	2004	9	747,946	603,807	485,539	118,268	1.0000	1.6362	987,949	2,211,738	961,738
41102	102700	2004	2	505,991	643,730	643,730	-	1.0000	1.6362	1,053,271	1,881,174	631,174
41534	101400	2005	1	942,482	25,566	25,566	-	1.0000	1.5768	40,312	1,526,418	276,418
41672	100100	2005	2	874,318	550,000	435,254	114,746	1.0000	1.5768	867,240	2,245,865	995,865
43059	101200	2007	2	660,799	2,000,000	1,715,490	284,510	1.0000	1.4493	2,898,600	3,856,296	2,606,296
43335	100100	2008	1	918,605	223	223	-	1.0000	1.3990	312	1,285,440	35,440
43835	100100	2008	1	1,057,410	11,432	11,432	-	1.0000	1.3990	15,993	1,495,310	245,310
45686	101400	2011	9	321,808	632,412	567,972	64,440	1.0000	1.3159	832,191	1,255,658	5,658
46013	100100	2011	9	255,666	798,508	433,315	365,193	1.0000	1.3159	1,050,757	1,387,188	137,188
46135	100100	2012	9	246,748	768,314	768,314	-	1.0000	1.2714	976,834	1,290,550	40,550

Totals	13										23,488,450	7,238,450
--------	----	--	--	--	--	--	--	--	--	--	------------	-----------

Sources: Columns (1) 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	361,923
2019 Developed Payroll	320,569,109
Loss Cost	0.11

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>
2000	\$611		1.8478				
2001	\$644	5.4%	1.7531	2011	\$858	1.5%	1.3159
2002	\$662	2.8%	1.7054	2012	\$888	3.5%	1.2714
2003	\$675	2.0%	1.6726	2013	\$917	3.3%	1.2312
2004	\$690	2.2%	1.6362	2014	\$932	1.6%	1.2114
2005	\$716	3.8%	1.5768	2015	\$951	2.0%	1.1872
2006	\$745	4.1%	1.5154	2016	\$978	2.8%	1.1544
2007	\$779	4.6%	1.4493	2017	\$995	1.7%	1.1347
2008	\$807	3.6%	1.3990	2018	\$1,025	3.0%	1.1015
2009	\$836	3.6%	1.3505	2019	\$1,049	2.3%	1.0763
2010	\$845	1.1%	1.3361	2020	\$1,081	3.1%	1.0444

Average of All Years= 2.90%
Average of last 10 years= 2.50%
Average of last 5 years= 2.60%
Average of last 3 years= 2.80%

Selected= 2.50% (Last Year's Selection was 2.50%)

<u>Projected</u>			
	<u>Wage</u>		<u>Weight</u>
01-01-2021	\$1,108	a	28.125%
01-01-2022	\$1,136	a	68.750%
01-01-2023	\$1,164	a	3.125%

Average Weekly Wage For Policies effective between 04-01-2021 and 04-01-2023

\$1,129 b

- a. Previous year's wage times annual increase of 2.50%
b. Weighted average of projected wage levels from 01-01-2021 to 01-01-2023

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	Anthracite Underground	-	-
1001	Bituminous Underground	9	3,718,904
1012	Anthracite Surface	1	2,606,296
1014	Bituminous Surface	2	282,076
1469	Coke	-	-
1015	Auger	-	-
1021	Anthracite Co-Gen	-	-
1023	Bituminous Co-Gen	-	-
1025	Anthracite Prep Plant	-	-
1027	Bituminous Prep Plant	1	631,174
	Total	13	\$7,238,450

Sources: Exhibit XII-C

PAB

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating Plan
Basic Data Lookup Tables

Exhibit XIII-A

50K-150K

Page 1

2021 plan factors at 50k and 150 k splits:

Table A: Ratemaking Factors

Year:	2019	2018	2017	Average split by Layer
Loss Develop.	1.7236	1.2054	1.1017	
Layers:	Split of total losses by Layer			
0- 50	0.50731	0.42729	0.40732	0.44731
50-150	0.27729	0.28213	0.26621	0.27521
Over 150	0.21540	0.29058	0.32647	0.27748
Trend	1.0228	1.0371	1.0502	1.0000

Table B: Payroll Development

Classification		Payroll De- velopment
1001	Bit deep	1.0064
1010	Anth deep	1.0000
1012	Anth surf	1.0060
1014	Bit surf	1.0000
1015	Auger	1.0000
1021	Anth Co-gen	1.0000
1023	Bit Co-gen	1.0024
1025	Anth Prep	1.0086
1027	Bit Prep	1.0185
1469	Coke	1.0236

Table C: Unloaded Loss Costs - Traumatic

Classification		Unloaded Loss Cost (1)
1001	Bit deep	6.56
1010	Anth deep	18.67
1012	Anth surf	6.83
1014	Bit surf	1.78
1015	Auger	7.12
1021	Anth Co-gen	6.24
1023	Bit Co-gen	1.23
1025	Anth Prep	3.95
1027	Bit Prep	2.97
1469	Coke	4.17

Table D: Manual Loss Costs - Traumatic

Classification		Unloaded Loss Cost (1)	Loadings			Manual Loss Cost (5)	Merit Rating Exh. XIV-A Safety Rating Exh XIV-B Combined	Off- * Balances
			Catastrophe Exh. XII-A (2)	Small Business Assessment (3)	Off- Balances# (4)			
1001	Bit deep	6.56	0.18	1.0001	1.0184	6.86		
1010	Anth deep	18.67	0.18	1.0001	1.0184	19.20		
1012	Anth surf	6.83	0.03	1.0001	1.0184	6.99		
1014	Bit surf	1.78	0.03	1.0001	1.0184	1.84		
1015	Auger	7.12	0.08	1.0001	1.0184	7.33		
1021	Anth Co-gen	6.24	0.03	1.0001	1.0184	6.39		
1023	Bit Co-gen	1.23	0.03	1.0001	1.0184	1.28		
1025	Anth Prep	3.95	0.03	1.0001	1.0184	4.05		
1027	Bit Prep	2.97	0.03	1.0001	1.0184	3.06		
1469	Coke	4.17	0.03	1.0001	1.0184	4.28		

Table E: Expected Traumatic
Loss Costs

Table E: Expected Traumatic Loss Costs			2019					2018					2017				
			All Layers		Layer 0-50	Layer 50-150	XS over 150	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		
					0.50731	0.27729	0.21540			0.42729	0.28213	0.29058			0.40732	0.26621	0.32647
					Undeveloped Expected Loss Cost***					Undeveloped Expected Loss Cost***					Undeveloped Expected Loss Cost***		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1001	Bit deep	6.56	6.41	3.72	1.89	1.03	0.80	6.33	5.25	2.24	1.48	1.53	6.25	5.67	2.31	1.51	1.85
1010	Anth deep	18.67	18.25	10.59	5.37	2.94	2.28	18.00	14.93	6.38	4.21	4.34	17.78	16.14	6.57	4.30	5.27
1012	Anth surf	6.83	6.68	3.88	1.97	1.08	0.84	6.59	5.47	2.34	1.54	1.59	6.50	5.90	2.40	1.57	1.93
1014	Bit surf	1.78	1.74	1.01	0.51	0.28	0.22	1.72	1.43	0.61	0.40	0.42	1.69	1.53	0.62	0.41	0.50
1015	Auger	7.12	6.96	4.04	2.05	1.12	0.87	6.87	5.70	2.44	1.61	1.66	6.78	6.15	2.51	1.64	2.01
1021	Anth Co-gen	6.24	6.10	3.54	1.80	0.98	0.76	6.02	4.99	2.13	1.41	1.45	5.94	5.39	2.20	1.43	1.76
1023	Bit Co-gen	1.23	1.20	0.70	0.36	0.19	0.15	1.19	0.99	0.42	0.28	0.29	1.17	1.06	0.43	0.28	0.35
1025	Anth Prep	3.95	3.86	2.24	1.14	0.62	0.48	3.81	3.16	1.35	0.89	0.92	3.76	3.41	1.39	0.91	1.11
1027	Bit Prep	2.97	2.90	1.68	0.85	0.47	0.36	2.86	2.37	1.01	0.67	0.69	2.83	2.57	1.05	0.68	0.84
1469	Coke	4.17	4.08	2.37	1.20	0.66	0.51	4.02	3.33	1.42	0.94	0.97	3.97	3.60	1.47	0.96	1.18
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>	Medical 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>	2017	\$9,841,483	1.0945	\$10,771,503	61.70%	1.1133	1.0945	1.1017
	2018	\$7,734,859	1.2705	\$9,827,138	62.28%	1.0979	1.2705	1.2054
	2019	\$4,894,467	1.9988	<u>\$2,783,061</u>	<u>67.63%</u>	1.1487	1.9988	1.7236
				\$30,381,702	63.69%			
<u>Medical</u>	2017	\$6,006,389	1.1133	\$6,686,913	38.30%			
	2018	\$5,421,768	1.0979	\$5,952,559	37.72%			
	2019	\$4,076,893	1.1487	<u>\$4,683,127</u>	<u>32.37%</u>			
				\$17,322,599	36.31%			
Total				\$47,704,301	1.0000			
					Years of <u>Trend</u>	Medical / HB 1846 Trend at <u>2.1%</u>	Indemnity / HB 1840 Trend at <u>0.2%</u>	Combined Trend <u>Weighted by % indemnity</u> <u>vs medical by year</u>
Average Exp date AY 2017			7/1/2017	4.75		1.1038	1.0170	1.0502
Average Exp date AY 2018			7/1/2018	3.75		1.0811	1.0105	1.0371
Average Exp date AY 2019			7/1/2019	2.75		1.0588	1.0055	1.0228
Average Date of Accident			4/1/2022					

Source: Loss Development - Exhibit V-C
Trend - Exhibit V-F
Reported Losses - Exhibit V-B page 1

2021 Credibility Tables				Credibility Zp or Ze		
PCRB shape				= (S*Payroll+I*G)/(J*S*Payroll+K*G)		
Expected	Equivalent	Primary	Excess	[where S adjusts Payroll to Expected Losses]		
Losses	Modified					
Greater than	Payroll at	Credibility	Credibility	Variable	Layer 1	Layer 2
<u>\$5.30 *</u>						
14,394	300,000	0.30	0.06	Av Claim G	N/A	11,512
17,632	332,684	0.31	0.06	S	N/A	0.054
21,218	400,340	0.32	0.06	I	N/A	43.50
23,729	447,722	0.33	0.06	J	N/A	2.4000
25,895	488,585	0.34	0.06	K	N/A	700.00
28,223	532,514	0.35	0.07			
31,724	598,566	0.36	0.07			
33,340	629,047	0.37	0.07			
36,148	682,038	0.38	0.07			
39,261	740,765	0.39	0.07			
42,723	806,099	0.40	0.07			
46,173	871,182	0.41	0.07			
50,260	948,297	0.42	0.07			
54,480	1,027,916	0.43	0.07			
58,930	1,111,882	0.44	0.07			
64,137	1,210,137	0.45	0.07			
69,460	1,310,564	0.46	0.07			
72,885	1,375,186	0.47	0.07			
75,602	1,426,445	0.48	0.07			
78,457	1,480,324	0.49	0.07			
81,395	1,535,749	0.50	0.07			
84,414	1,592,718	0.51	0.07			
87,590	1,652,649	0.52	0.07			
90,840	1,713,959	0.53	0.07			
94,219	1,777,721	0.54	0.07			
97,737	1,844,099	0.55	0.07			
101,336	1,911,998	0.56	0.07			
105,125	1,983,483	0.57	0.07			
109,027	2,057,104	0.58	0.07			
113,042	2,132,858	0.59	0.07			
117,273	2,212,689	0.60	0.07			
121,605	2,294,436	0.61	0.07			
126,119	2,379,601	0.62	0.08			
130,628	2,464,686	0.63	0.08			
135,136	2,549,736	0.64	0.08			
146,976	2,773,135	0.65	0.08			
159,790	3,014,914	0.66	0.08			
174,343	3,289,497	0.67	0.08			
190,774	3,599,515	0.68	0.08			
208,366	3,931,440	0.69	0.08			
228,292	4,307,394	0.70	0.09			
249,705	4,711,415	0.71	0.09			
274,047	5,170,704	0.72	0.09			
302,119	5,700,358	0.73	0.09			
333,210	6,286,981	0.74	0.09			
366,752	6,919,840	0.75	0.10			
407,662	7,691,736	0.76	0.10			
450,677	8,503,333	0.77	0.10			
498,112	9,398,340	0.78	0.11			
558,410	10,536,044	0.79	0.11			
624,012	11,773,809	0.80	0.12			
697,648	13,163,170	0.81	0.12			
788,985	14,886,509	0.82	0.13			
894,945	16,885,755	0.83	0.14			
1,018,370	19,214,528	0.84	0.15			
1,157,231	21,834,550	0.85	0.15			
1,321,831	24,940,204	0.86	0.16			
1,528,079	28,831,682	0.87	0.17			
1,528,079	30,964,397	0.87	0.18			
1,795,880	33,884,521	0.88	0.19			
2,120,319	40,006,019	0.89	0.20			
2,120,319	44,485,215	0.89	0.21			
2,505,663	47,276,660	0.90	0.22			
3,000,680	56,616,597	0.91	0.23			
3,000,680	62,598,008	0.91	0.24			
3,851,016	72,660,673	0.92	0.25			
3,851,016	78,526,990	0.92	0.26			
4,547,151	85,795,302	0.93	0.27			
4,547,151	99,118,112	0.93	0.28			
6,019,437	113,574,286	0.94	0.29			
6,019,437	126,769,048	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 \$5.30.
the table was updated to reflect this change.

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2021
Mod Comparisons

Exhibit XIII-B
Page 1

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2021 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2020 Mod</u>	<u>Change in Mod Factor</u>
37	194,613	1.194	232,368	1.292	-0.098
52	8,225	0.787	6,473	0.786	0.001
55	649,280	0.836	542,798	0.838	-0.002
66	4,727	1.400	6,618	0.869	0.531
99	11,471	0.843	9,670	0.827	0.016
119	84,288	1.076	90,694	0.930	0.146
121	166,394	0.802	133,448	0.667	0.135
124	19,007	0.695	13,210	0.688	0.007
214	25,499	0.891	22,720	0.891	0.000
283	16,725	0.676	11,306	0.652	0.024
288	4,329	0.843	3,649	0.836	0.007
306	190,818	1.240	236,614	1.246	-0.006
316	2,326	0.844	1,963	0.834	0.010
325	17,121	0.787	13,474	0.773	0.014
342	1,976	0.852	1,684	0.834	0.018
352	7,655	0.792	6,063	1.789	-0.997
354	17,550	1.377	24,166	4.281	-2.904
360	2,354	0.848	1,996	0.838	0.010
370	3,214	0.843	2,709	0.833	0.010
421	12,942	1.450	18,766	0.774	0.676
426	0	1.026	0	1.484	-0.458
652	421,876	1.068	450,564	0.859	0.209
690	31,566	0.888	28,031	1.054	-0.166
722	716	0.845	605	0.805	0.040
954	10,113	0.780	7,888	0.756	0.024
1016	5,838	1.217	7,105	1.177	0.040
1037	34,441	0.823	28,345	0.819	0.004
1158	2,248	0.852	1,915	0.842	0.010
1361	2,197	0.852	1,872	0.837	0.015
1444	458,106	1.105	506,207	1.075	0.030
1700	31,843	0.666	21,207	0.755	-0.089
2353	9,216	0.814	7,502	0.797	0.017
2458	9,503	0.830	7,887	0.828	0.002
2687	42,402	0.780	33,074	0.728	0.052
2839	23,218	1.306	30,323	1.163	0.143
3157	21,610	0.800	17,288	0.792	0.008
3190	5,132	0.801	4,111	0.776	0.025
3194	1,558	1.200	1,870	1.161	0.039
3527	2,098	0.876	1,838	0.858	0.018
3552	7,221	0.800	5,777	1.477	-0.677
3614	46,631	1.341	62,532	1.511	-0.170
3619	22,594	0.842	19,024	0.820	0.022
3629	17,513	0.809	14,168	0.792	0.017
3691	45,261	1.138	51,507	1.470	-0.332
	2,627	0.848	2,228	0.835	0.013

PAB

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2021
Mod Comparisons

Exhibit XIII-B
Page 2

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2021 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2020 Mod</u>	<u>Change in Mod Factor</u>
3804	10,158	0.761	7,730	0.737	0.024
3932	8,344	0.791	6,600	0.775	0.016
3944	2,126	0.794	1,688	0.786	0.008
3977	48,545	1.131	54,904	1.055	0.076
3978	0	0.868	0	0.830	0.038
3981	1,220	0.853	1,041	0.833	0.020
3982	12,419	1.400	17,387	1.300	0.100
3988	6,615	1.300	8,600	0.817	0.483
3997	3,379	0.843	2,848	0.834	0.009
4011	435,076	0.712	309,774	0.683	0.029
4024	10,497	0.825	8,660	0.827	-0.002
4030	4,169	0.834	3,477	1.507	-0.673
4031	25,460	0.785	19,986	1.069	-0.284
4042	40,564	1.709	69,324	1.020	0.689
4044	133,132	0.753	100,248	0.783	-0.030
4052	48,062	0.655	31,481	0.641	0.014
4058	21,053	0.699	14,716	0.691	0.008
4062	4,881	1.155	5,638	1.181	-0.026
4072	379,996	0.885	336,296	0.833	0.052
4077	985,507	1.162	1,145,159	1.224	-0.062
4078	62,120	1.320	81,998	1.129	0.191
4081	1,862	0.844	1,572	0.820	0.024
4089	11,949	0.838	10,013	0.815	0.023
4094	47,285	1.546	73,103	1.029	0.517
4100	4,321,902	1.010	4,365,121	1.024	-0.014
4102	50,693	0.798	40,453	n/a	n/a
4103	15,776	0.814	12,842	0.803	0.011
4104	2,370,222	1.073	2,543,248	1.025	0.048
4110	18,127	0.728	13,196	0.718	0.010
4114	46,453	0.707	32,842	0.735	-0.028
4118	5,504	0.786	4,326	0.797	-0.011
4120	37,821	0.781	29,538	0.755	0.026
4121	44,073	0.810	35,699	n/a	n/a
4122	6,044	0.832	5,029	n/a	n/a
4123	13,154	0.841	11,063	n/a	n/a
4125	71,486	0.878	62,765	n/a	n/a
4126	10,675	0.835	8,914	n/a	n/a
4127	16,123	0.814	13,124	n/a	n/a
999019	473,969	0.988	468,281	0.932	0.056
999020	12,760	0.785	10,017	1.173	-0.388
999024	10,469	0.834	8,731	0.824	0.010
999031	74,523	1.022	76,163	n/a	n/a
999038	62,809	1.607	100,934	0.970	0.637
999039	47,478	1.217	57,781	1.393	-0.176
999051	1,168,236	0.953	1,113,329	1.433	-0.480

PAB

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2021
Mod Comparisons

Exhibit XIII-B
Page 3

<u>File</u>	<u>Proposed Manual Premium</u>	<u>Proposed 2021 Mod</u>	<u>Proposed Experience Rated Premium</u>	<u>2020 Mod</u>	<u>Change in Mod Factor</u>
999052	43,901	0.884	38,808	1.400	-0.516
999061	0	0.805	0	1.141	-0.336
999063	3,715,539	0.949	3,526,047	0.812	0.137
999065	3,769	0.834	3,143	1.044	-0.210
999075	66,481	1.877	124,785	1.560	0.317

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2021
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	2020 Mod	Proposed 2021 Mod	Limited Mod
66	0.869	1.400	1.219
352	1.789	0.792	1.439
354	4.281	1.377	3.931
421	0.774	1.450	1.124
426	1.484	1.026	1.134
3552	1.477	0.800	1.127
3988	0.817	1.300	1.167
4030	1.507	0.834	1.157
4042	1.020	1.709	1.370
4094	1.029	1.546	1.379
999020	1.173	0.785	0.823
999038	0.970	1.607	1.320
999051	1.433	0.953	1.083
999052	1.400	0.884	1.050

PAB

Effective Date - April 01, 2021

File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\[2020-13-B.xlsx]13-C

Run Date = Oct 12, 2020 12:29:10

Checksum:4,021,582.809000

COAL MINE COMPENSATION RATING BUREAU
MERIT RATING PLAN

Exhibit XIV-A
Page 1

MERIT RATING PLAN OFF-BALANCE CALCULATION

<u>Class</u>	(1) 2019 Developed Payroll	(2) Traumatic Proposed Unloaded Loss Cost	(3) Credit/ Surcharge	(4) Loss Cost Premium	<u>Off-Balance</u>
Underground Anthracite (1010)					
Total	\$179,379	18.67		\$33,490	
Credit	0	18.67	-5.00%	0	
Surcharge	0	18.67	5.00%	0	
Underground Bituminous (1001)					
Total	\$185,776,423	6.56		\$12,186,933	
Credit	0	6.56	-5.00%	0	
Surcharge	0	6.56	5.00%	0	
Surface Anthracite (1012)					
Total	\$23,746,667	6.83		\$1,621,897	
Credit	106,994	6.83	-5.00%	-365	
Surcharge	0	6.83	5.00%	0	
Surface Bituminous (1014)					
Total	\$35,476,154	1.78		\$631,476	
Credit	2,230,255	1.78	-5.00%	-1,985	
Surcharge	0	1.78	5.00%	0	
Coke (1469)					
Total	\$4,572,392	4.17		\$190,669	
Credit	0	4.17	-5.00%	0	
Surcharge	0	4.17	5.00%	0	
Auger (1015)					
Total	\$539,914	7.12		\$38,442	
Credit	62,518	7.12	-5.00%	-223	
Surcharge	0	7.12	5.00%	0	
Anthracite Co-Gen (1021)					
Total	\$8,219,127	6.24		\$512,874	
Credit	1,820	6.24	-5.00%	-6	
Surcharge	0	6.24	5.00%	0	
Bituminous Co-Gen (1023)					
Total	\$11,807,241	1.23		\$145,229	
Credit	0	1.23	-5.00%	0	
Surcharge	0	1.23	5.00%	0	
Anthracite Prep Plant (1025)					
Total	\$12,646,576	3.95		\$499,540	
Credit	183,705	3.95	-5.00%	-363	
Surcharge	0	3.95	5.00%	0	
Bituminous Prep Plant (1027)					
Total	\$37,605,236	2.97		\$1,116,876	
Credit	0	2.97	-5.00%	0	
Surcharge	0	2.97	5.00%	0	
All Classes Combined					
Total	\$320,569,109			\$16,977,426	
Credit	2,585,292		-5.00%	-2,942	
Surcharge	0		5.00%	0	
				\$16,974,484	1.0002

Source: (1) Exhibit XIV-A Page2
(2) Exhibit II
(4) = [(1) / 100] * (2) * (3)

PAB

COAL MINE COMPENSATION RATING BUREAU
MERIT RATING PLAN

Exhibit XIV-A
Page 2

2019 PAYROLL BY CLASS

Class	2019 Total Developed Payroll	2019 Experience Rated Payroll	2019 Merit Rated Payroll	2019 Manual Payroll
Underground Anthracite (1010)	\$179,379	\$179,379	\$0	\$0
Underground Bituminous(1001)	185,776,423	183,994,822	0	1,781,601
Surface Anthracite (1012)	23,746,667	23,583,758	106,994	55,915
Surface Bituminous (1014)	35,476,154	32,922,065	2,230,255	323,834
Coke (1469)	4,572,392	4,572,392	0	0
Auger (1015)	539,914	308,234	62,518	169,162
Anthracite Co-Gen (1021)	8,219,127	7,518,673	1,820	698,634
Bituminous Co-Gen (1023)	11,807,241	11,377,263	0	429,978
Anthracite Prep Plant(1025)	12,646,576	11,891,304	183,705	571,567
Bituminous Prep Plant(1027)	37,605,236	36,648,460	0	956,776
TOTAL	\$320,569,109	\$312,996,350	\$2,585,292	\$4,987,467

MERIT PAYROLL - CREDIT/SURCHARGE

Class	2019 Merit Rated Payroll	2019 Merit Credit Payroll	2019 Merit No Adjustment Payroll	2019 Merit Surcharge Payroll
Underground Anthracite (1010)	\$0	\$0	\$0	\$0
Underground Bituminous(1001)	0	0	0	0
Surface Anthracite (1012)	106,994	106,994	0	0
Surface Bituminous (1014)	2,230,255	2,230,255	0	0
Coke (1469)	0	0	0	0
Auger (1015)	62,518	62,518	0	0
Anthracite Co-Gen (1021)	1,820	1,820	0	0
Bituminous Co-Gen (1023)	0	0	0	0
Anthracite Prep Plant(1025)	183,705	183,705	0	0
Bituminous Prep Plant(1027)	0	0	0	0
TOTAL	\$2,585,292	\$2,585,292	\$0	\$0

Source: Exhibit X-A and CMCRB database as of 4/30/2020

COAL MINE COMPENSATION RATING BUREAU
SAFETY COMMITTEE CREDIT OFFSET

Exhibit XIV-B

<u>CLASS</u>	(1) 2019 Developed <u>Payroll</u>	(2) Traumatic Proposed Unloaded <u>Loss Cost</u>	(3) <u>Credit</u>	(4) Loss Cost <u>Premium</u>	<u>Off-Balance</u>
Underground Anthracite(1010)					
Total	\$179,379	\$18.67		\$33,490	
Safety Committee	0	18.67	-5.00%	0	
Underground Bituminous(1001)					
Total	185,776,423	6.56		\$12,186,933	
Safety Committee	70,050,257	6.56	-5.00%	(229,765)	
Surface Anthracite(1012)					
Total	23,746,667	6.83		\$1,621,897	
Safety Committee	7,006,361	6.83	-5.00%	(23,927)	
Surface Bituminous(1014)					
Total	35,476,154	1.78		\$631,476	
Safety Committee	6,700,263	1.78	-5.00%	(5,963)	
Coke(1469)					
Total	4,572,392	4.17		\$190,669	
Safety Committee	0	4.17	-5.00%	0	
Auger(1015)					
Total	\$539,914	7.12		\$38,442	
Safety Committee	0	7.12	-5.00%	0	
Anthracite Co-gen(1021)					
Total	8,219,127	6.24		\$512,874	
Safety Committee	2,662,738	6.24	-5.00%	(8,308)	
Bituminous Co-gen(1023)					
Total	11,807,241	1.23		\$145,229	
Safety Committee	0	1.23	-5.00%	0	
Anthracite Prep Plant(1025)					
Total	12,646,576	3.95		\$499,540	
Safety Committee	2,848,450	3.95	-5.00%	(5,626)	
Bituminous Prep Plant(1027)					
Total	37,605,236	2.97		\$1,116,876	
Safety Committee	20,024,517	2.97	-5.00%	(29,736)	
<u>All Classes Combined</u>					
Total	320,569,109			16,977,426	
Safety Committee	109,292,586			(303,325)	
				16,674,101	1.0182

Source: (1) Exhibit X-A and CMCRB Database as of 4-30-2020

(2) Exhibit II

(4) = [(1) / 100] * (2) * (3)

PAB

File: 2-C:\C:\Users\Forum\OneDrive\Clients\Coal Mine\2020 Rate Filing\XL\2020-14-B.xlsx]1

Effective Date - April 01, 2021

Run Date: Friday October 02, 2020 - 03:44:46 PM

Checksum:909,747,831.558200