COAL MINE COMPENSATION RATING BUREAU
OF PENNSYLVANIA

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November 23, 2021

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-1-2021
Revised Loss Costs for Traumatic, State Occupational Disease
And Federal Occupational Disease
To Be Effective: April 1, 2022

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 0.3%. By coverage, the proposal requests a change of -1.7% for Traumatic, a change of 11.3% for State Occupational Disease ("SOD") and a change of 6.0% for Federal Occupational Disease ("FOD").

The Proposed Traumatic Loss Costs are decreasing overall by $0.09 from $5.45 to $5.36. 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 2020) changed by -4.6% and
  - The other factors changed between -1.8% and 0.9%.
- Indemnity Loss Trend Annual Factor remained unchanged at 0.2%.
- 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 -0.4% to 0.0% with the factor for first report unchanged (0.0%) from the prior filing.
- Medical Loss Development Factors decreased
  - The first to ultimate factor (i.e., for Accident Year 2020) changed by -7.0% and
  - The other factors changed by -4.1% to -3.1% from newer to older report levels.
- Medical Loss Trend Annual Factor changed from 2.1% to 1.9%. The HB 1846 Adjustment Factors are all now unity. On a combined basis, the changes to the Medical Loss Trend Factors changed only modestly from -1.1% to -0.5%.

- The replacement of Accident Year 2015 experience with Accident Year 2020 experience in the five (5) year Traumatic Loss Cost analysis.
    - For the April 1, 2021 filing, the Accident Year 2015 Loss Cost was estimated to be $5.00.
    - For the April 1, 2022 filing, the Accident Year 2020 Loss Cost is estimated to be $5.14 with Indemnity decreasing modestly and Medical increasing.

The Proposed SOD Loss Costs are increasing overall by $0.07 from $0.62 to $0.69. The overall experience is being driven by the following considerations:

- For all classes combined, claim frequency changed by 3.9%.
- For all classes combined, claim severity changed by 5.8%.

The Proposed FOD Loss Costs are increasing overall by $0.04 from $0.67 to $0.71. The overall experience is being driven by the following considerations:

- For all classes combined, Basic claim frequency changed by 10.6%.
- For all classes combined, Excess claim frequency changed by 3.5%.
- For all classes combined, Basic claim severity changed by -1.5%.
- For all classes combined, Excess claim severity changed by -0.5%.

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, 2022. 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, 2022 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, 2022 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, 2022.

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 presents 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, 2022, 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).

	Current Loss Cost	Proposed Loss Cost	Change in Loss Costs
Traumatic	$ 5.45	$ 5.36	-1.7%
SOD	0.62	0.69	11.3%
FOD (Basic & Excess)	0.67	0.71	6.0%
Total	$6.74	$6.76	0.3%

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 $5.45 based on 2020 payroll distribution. The Proposed level is $5.36 or a change of -1.7%.

The key drivers of the change to Traumatic Loss Costs can be identified by comparing Exhibit V-B Page 1 for the April 1, 2022 filing to the April 1, 2021 filing. These drivers include:

- Indemnity Loss Development Factors changed modestly
  - The first to ultimate factor (i.e., for Accident Year 2020) changed by -4.6% and
  - The other factors changed between -1.8% and 0.9%.
- Indemnity Loss Trend Annual Factor remained unchanged at 0.2%.
- 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 -0.4% to 0.0% with the factor for first report unchanged (0.0%) from the prior filing.
- Medical Loss Development Factors decreased
  - The first to ultimate factor (i.e., for Accident Year 2020) changed by -7.0% and
  - The other factors changed by -4.1% to -3.1% from newer to older report levels.
- Medical Loss Trend Annual Factor changed from 2.1% to 1.9%. The HB 1846 Adjustment Factors are all now unity. On a combined basis, the changes to the Medical Loss Trend Factors changed only modestly from -1.1% to -0.5%.
- The replacement of Accident Year 2015 experience with Accident Year 2020 experience in the five (5) year Traumatic Loss Cost analysis.

- For the April 1, 2021 filing, the Accident Year 2015 Loss Cost was estimated to be $5.00.
- For the April 1, 2022 filing, the Accident Year 2020 Loss Cost is estimated to be $5.14 with Indemnity decreasing modestly and Medical increasing.

These drivers generally decrease both the Indemnity and Medical indications. The Indemnity indication changed by -2.9%, from $3.46 to $3.36; while the Medical indication changed by -1.6%, from $1.88 to $1.85. Prior to the application of credibility and capping changes at +/- 25% by class, the Total Traumatic indication changed by -2.4%, from $5.34 to $5.21. 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 -2.3%. 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 at +25% was utilized for the Anthracite Co-Gen class given the indicated change.

State Occupational Disease (SOD) Loss Costs

The Current State Occupational Disease Loss Cost for all classes combined is $0.62 based on 2020 payroll distribution. The Proposed level is $0.69 or a change of 11.3%.

The key drivers of this change can be identified by comparing Exhibit III for the April 1, 2022 filing to the April 1, 2021 filing. These drivers include:

- For all classes combined, claim frequency changed by 3.9%. By class, frequency changes varied from -9.8% to 33.4%.
- For all classes combined, claim severity changed by 5.8%. By class, severity changes varied from -3.4% to 13.1%.
- The Proposed Loss Costs for Bituminous Surface is capped at +25%. Also, the net change in Proposed Loss Costs does not equal the product of the claim frequency change and claim severity change because of the capping at +/- 25% in current or prior filings.

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

The Current Federal Occupational Disease Basic/Excess Loss Cost for all classes combined is $0.67 based on 2020 payroll distribution. The Proposed level is $0.71 or a change of 6.0%.

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

	Current Loss Cost	Proposed Loss Cost	Change in Loss Costs
Basic	$ 0.53	$ 0.57	7.5%
Excess	0.14	0.14	+0.0%
Total	$0.67	$0.71	+6.0%

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, 2022 filing to the April 1, 2021 filing. These drivers include:

- For all classes combined, Basic claim frequency changed by 10.6%.
- For all classes combined, Excess claim frequency changed by 3.5%.
- For all classes combined, Basic claim severity changed by -1.5%.
- For all classes combined, Excess claim severity changed by -0.5%.
- 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 and because of the capping at +/- 25% in current or prior filings.

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 2.48% (or 0.0248) to 2.68% (or 0.0268). (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 changed from $0.11 (based on 2020 Payroll weights) to $0.14. (See Exhibit XII-A.) By class, the following amounts are loaded into the CMCRB's Manual Loss Costs:
    - The provision for Surface Classes changed from $0.03 to $0.04,
    - The provision for Auger changed from $0.08 to $0.10 and
    - The provision for Underground Classes changed from 0.18 to 0.22.
- The Experience Rating Plan parameters require a change to the Off-Balance Factor from 0.9973 to 0.9844707. 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 changed from 1.0002 to 1.0001. (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 1.0182 to 1.0209. (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, 2021 Filing, one claim for Accident Year 2019 exceeded the catastrophe limit and was listed on Exhibit V-J. For the April 1, 2022 Filing, this claim now does not exceed the catastrophe limit, so a page for this claim is not included with the filing. Furthermore, for the April 1, 2022 Filing, there aren't any claims that exceed the catastrophe limit.

Concerning various pages in the Exhibit VI series, the CMCRB notes that between the April 1, 2021 Filing and April 1, 2022 Filing (current filing), one of the CMCRB's member companies submitted revised statistical reports for losses that were (or should have been) included in prior filings. This company is a moderately-sized member of the CMCRB. The revised reported loss amounts cause a general restatement of data across various years and report levels for Accident Years 2010 through 2019 for both Indemnity and Medical Incurred and Paid Losses. The CMCRB notes that modest changes to previously reported losses can and do occur from time to time, but that the changes related to this event are unusual in the number of claims involved and in the spread of revisions across years and report levels as noted above. However, the CMCRB notes that the revised reporting did not occur exclusively or even mostly along the most recent diagonal but instead resulted in a general restatement of data across various years and report levels. Consequently, the CMCRB believes that this restatement does not require special treatment or adjustment per se because this restatement has simply reported statistical data the way that it should have been reported over several report cycles. These changes can be easily identified by a comparison of the Exhibit VI series in the current filing with the same exhibits from the April 1, 2021 Filing.

In the Exhibit X series, the CMCRB notes that the payroll for the Coke Class decreased significantly from 2019 to 2020 from $4,466,971 to $320,988. The CMCRB understands that this is related to the closing of the last Coke operation in Pennsylvania and that the payroll for this Class for 2021 is expected to be $0.

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 ½ 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 ½ power. For the April 1, 2022 Filing, Anthracite Co-Gen and Bituminous Prep Plant also received full credibility given the level of Five Year Expected Losses for these classes meeting or 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 minimal 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.

Usually, the inclusion of claims in excess of $1,250,000 is limited on these pages. For this filing, there weren't any claims that exceeded this threshold.

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) -4.6%,
- 2:3 (2nd report to ultimate) -1.8%,
- 3:4 (3rd report to ultimate) 0.4%,
- 4:5 (4th report to ultimate) 0.8%,
- 5:6 (5th report to ultimate) 0.9% and
- 6th report to ultimate and beyond in the range of 0.2% to 0.8%.

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

- 1:2 (1st report to ultimate) -7.0%,
- 2:3 (2nd report to ultimate) -4.1%,
- 3:4 (3rd report to ultimate) -3.6%,
- 4:5 (4th report to ultimate) -3.4%,
- 5:6 (5th report to ultimate) -3.1% and
- 6th report to ultimate and beyond in the range of -2.9% to 0.0%.

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 15.02840, producing an average of 1.00189.
- 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 1.00189, so
  y (12) = 1.00189.
- 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) = 1.00189 = x - (a) (12) and
  y (29) = 1.0001 = x - (a) (29).
- The solution for this system of equations was found to be:
  a = 0.0001070 and
  x = 1.0026320.
- Given these values, y (5) is determined to be 1.0026 = 1.003159 – (0.0001070)(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 0.0001070.
- 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 1.0020242. (There are 17 factors from t=3 to t=19 so the geometric mean is (0.9808 x 1.0142 x …. x 1.0016) ^ (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 1.0350.
- 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) = 1.0020242.
- These conditions result in the following system of equations:

  $$y(11) = 1.0020242 = (x)(a^{8}) \text{ and}$$
  $$y(38) = 1.0001 = (x)(a^{35}).$$
- The solution for this system of equations was found to be:

  a = 0.9999288 and
  x = 1.002595.
- At this point, the value 1.002595 (displayed as 1.0026) is entered on Line 3 (for Period 3) of Column 6. The Factor for Period 4 is obtained as (1.002595) times (0.9999288). 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 1.0350 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, 2021 Filings, the CMCRB proposed adjustment factors that varied by Accident Year and maintains that approach for the April 1, 2022 Filing. However, since each of the five Accident Years (i.e., 2016 – 2020) used in the Traumatic indication are expected to be fully reported on a post-HB 1846 basis, each of these Adjustment Factors is unity (1.0000.) 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 and April 1, 2021 Filings, the CMCRB proposed adjustment factors that vary by Accident Year and maintains that approach for the April 1, 2022 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 only when noted on each page.

J. Customarily, 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.

However, for the April 1, 2022 Filing, there weren't any claims that exceeded the noted threshold, so the application of these pages is reserved for future use. Note that the claim previously reported for Accident Year 2019 does not exceed the threshold ($1,250,000) at this evaluation. The Reported Incurred amount for this claim decreased significantly from first to second report level as the claim was settled by Compromise & Release.

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 through April 1, 2021 Filings, the CMCRB departed from this approach, noting that the prior approach did not provide reasonable results. For the April 1, 2022 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 reasoning of the assumptions listed above is sound and generally well accepted, the CMCRB also believes that actual data should 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 support 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 -2.00%. This selection results in 5-year and 9-year average trended Claim Frequencies of 9.4 which are just

lower than the 3-year average trended Claim Frequency of 9.5. This selection produces a good fit of the Claim Frequency data over the last ten years.

- The CMCRB selected an Indemnity Claim Severity Trend of 2.25%. This selection results in 5-year and 9-year averages that are consistent and that are also very comparable with the actual Indemnity Claim Severities for 2015 and 2016 of $66,052 and $64,255 respectively. This selection produces a reasonably good fit of the Indemnity Claim Severity data over the last ten years.

- The CMCRB selected a Medical Claim Severity Trend of 4.0%. This selection results in 9-year averages that are consistent though modestly lower than the 3-year averages and that are also modestly lower than the actual Medical Claim Severities for 2017 and 2018 of $12,461 and $12,282 respectively. This selection produces a reasonably good fit of the Medical Claim Severity data over the last ten years.

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 0.9800 (i.e., the selected -2.00% Claim Frequency Trend) and 1.0225 (i.e., the selected 2.25% Indemnity Severity Trend) which equals 1.002 (or 0.2%).
- Similarly, the CMCRB's implied Medical Loss Ratio Trend is the product of 0.9800 (i.e., the selected -2.00% Claim Frequency Trend) and 1.040 (i.e., the selected 4.0% Medical Severity Trend) which equals 1.019 (or 1.9%).

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) is 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.

Beginning with 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) is 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.

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 ½ 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 as Awarded, Denied or 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. Previously, the CMCRB asserted that different assumptions should be applied to the pre-2001 years and the post-2000 years. For the April 1, 2022 Filing, all of the years in this exhibit are post-2000, so the following assumptions apply to all of the years on this exhibit:

- Pending Awarded Ratios – an Award Ratio of 30% applies.
- Denied Reopened Ratios – a Reopened Ratio of 5% applies.
- Denied Awarded – an Award Ratio of 100% applies.
- 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.
- 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 as Awarded, Denied or 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. (For the April 1, 2018 Filing through the April 1, 2021 Filing, Anthracite Underground was given an Award Ratio of 0.200, because its data was incomplete for this purpose, 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 remain the same as those used in the April 1, 2021 Filing.

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 re-opened 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 2020. 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 <u>floor</u> 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 1.1471% to 1.1101%.

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 PCRB 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 0.9844707. 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 on the amount of future claims payments and 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 2020 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 as follows:

- 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 2-6% with Traumatic and SOD payrolls almost the same as FOD payrolls.

The CMCRB wants to acknowledge that the data for this filing spans into a period of time generally understood to include the presence of the coronavirus (SARS Cov-2 and/or COVID-19) in Pennsylvania. At this time, the CMCRB believes that some of the payroll change from 2019 to 2020 may be associated with work stoppages and/or slowdowns related to the coronavirus, but that also may be attributed to lower demand for coal during 2020. However, the CMCRB is not aware of any impacts to the losses used in this filing related to ongoing issues with the coronavirus. 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:

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Actuarial Report – Appendix A
Consideration of House Bill 1846 of 2014 (HB 1846)
Regarding the CMCRB's April 1, 2022 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, 2021 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, 2022 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.

The CMCRB notes that each of the five Accident Years (i.e., 2016 – 2020) to be used in the Traumatic indication in the April 1, 2022 Loss Cost Filing is expected to be fully reported on a post-HB 1846 basis. Consequently, the indicated HB 1846 Adjustment Factors for each of these years is unity (1.0000) which indicates the absence of an adjustment.

Attachments

1) Appendix A-1 through Appendix A-5

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

Report Level	Accident Year 2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	2020
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	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	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	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	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	1.0000				
6th	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	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	1.0000						
8th	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000	1.0000							
9th	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	1.0000	1.0000								
10th	0.9889	0.9945	1.0000	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 (Base) Adjt.	Annual Change in Adjt.					
0.9908	0.9981	CY	2005-8	1.0000	-5	1.0000 = 0.9908 times (0.9981 ^ -5). Capped at unity.
		CY	2009	0.9984	-4	0.9984 = 0.9908 times (0.9981 ^ -4)
		CY	2010	0.9965	-3	0.9965 = 0.9908 times (0.9981 ^ -3)
		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	**	
		CY	2020	1.0000	**	
		Outstanding at:	2020	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 - 2020 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 04-30-2021 from Exhibit VI-E:

Report	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	3,211,934	3,620,004	2,405,299	3,932,999	2,543,986	2,330,259	3,485,388	3,814,701	2,499,607	2,349,706
2	4,440,785	4,582,813	3,578,603	5,151,408	3,296,965	3,384,463	4,552,372	4,776,590	3,253,108	
3	4,817,723	4,960,347	3,742,975	5,735,672	3,580,853	3,604,969	4,902,723	4,970,328		
4	5,007,341	5,092,937	3,809,188	5,817,859	3,713,959	3,669,953	5,047,418			
5	5,259,529	5,128,604	3,896,925	5,835,421	3,864,888	3,678,978				
6	5,362,138	5,199,172	3,971,294	5,882,026	3,861,601					
7	5,507,337	5,222,506	4,070,119	5,884,600						
8	5,574,652	5,246,341	4,082,391							
9	5,725,914	5,306,826								
10	5,779,145									

Traumatic Medical Reported Incurred Losses as of 04-30-2021 from Exhibit VI-B-4:

	6,260,088	5,542,753	4,267,766	5,884,600	3,898,999	3,857,323	5,788,454	5,289,853	3,688,426	3,750,095

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

	1.0550	1.0573	1.0597	1.0621	1.0646	1.0672	1.0699	1.0727	1.0527	1.0681

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

	6,604,393	5,860,353	4,522,552	6,250,034	4,150,874	4,116,535	6,193,067	5,674,425	3,882,806	4,005,476

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

Report	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average	Average Ex Hi/Lo	Selected Incremental	Selected Cumulative
1	48.63%	61.77%	53.18%	62.93%	61.29%	56.61%	56.28%	67.23%	64.38%	58.66%	59.10%	59.39%	59.00%	59.00%
2	67.24%	78.20%	79.13%	82.42%	79.43%	82.22%	73.51%	84.18%	83.78%		78.90%	79.81%	20.00%	79.00%
3	72.95%	84.64%	82.76%	91.77%	86.27%	87.57%	79.16%	87.59%			84.09%	84.67%	5.50%	84.50%
4	75.82%	86.90%	84.23%	93.09%	89.47%	89.15%	81.50%				85.74%	86.25%	2.00%	86.50%
5	79.64%	87.51%	86.17%	93.37%	93.11%	89.37%					88.20%	89.04%	2.00%	88.50%
6	81.19%	88.72%	87.81%	94.11%	93.03%						88.97%	89.85%	0.50%	89.00%
7	83.39%	89.12%	90.00%	94.15%							89.17%	89.56%	0.50%	89.50%
8	84.41%	89.52%	90.27%								88.07%	89.52%	0.50%	90.00%
9	86.70%	90.55%									88.63%	88.63%	0.50%	90.50%
10	87.50%										87.50%	87.50%	9.50%	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

Report Level	Accident Year 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
1st	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	0.5900	59.00%	59.00%	41.00%
2nd	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000		20.00%	79.00%	21.00%
3rd	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550	0.0550			5.50%	84.50%	15.50%
4th	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200				2.00%	86.50%	13.50%
5th	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200					2.00%	88.50%	11.50%
6th	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050						0.50%	89.00%	11.00%
7th	0.0050	0.0050	0.0050	0.0050	0.0050							0.50%	89.50%	10.50%
8th	0.0050	0.0050	0.0050	0.0050								0.50%	90.00%	10.00%
9th	0.0050	0.0050	0.0050									0.50%	90.50%	9.50%
10th	0.0950	0.0950										9.50%	100.00%	0.00%
1)	1.0000	1.0000	0.9050	0.9000	0.8950	0.8900	0.8850	0.8650	0.8450	0.7900	0.5900			
2)	0.0000	0.0000	0.0950	0.1000	0.1050	0.1100	0.1150	0.1350	0.1550	0.2100	0.4100			
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 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
1st	0.5879	0.5868	0.5857	0.5846	0.5835	0.5868	0.5900	0.5900	0.5900	0.5900	0.5900	59.00%	59.00%	41.00%
2nd	0.1989	0.1985	0.1982	0.1978	0.1989	0.2000	0.2000	0.2000	0.2000	0.2000		20.00%	79.00%	21.00%
3rd	0.0546	0.0545	0.0544	0.0547	0.0550	0.0550	0.0550	0.0550	0.0550			5.50%	84.50%	15.50%
4th	0.0198	0.0198	0.0199	0.0200	0.0200	0.0200	0.0200	0.0200				2.00%	86.50%	13.50%
5th	0.0198	0.0199	0.0200	0.0200	0.0200	0.0200	0.0200					2.00%	88.50%	11.50%
6th	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050						0.50%	89.00%	11.00%
7th	0.0050	0.0050	0.0050	0.0050	0.0050							0.50%	89.50%	10.50%
8th	0.0050	0.0050	0.0050	0.0050								0.50%	90.00%	10.00%
9th	0.0050	0.0050	0.0050									0.50%	90.50%	9.50%
10th	0.0950	0.0950										9.50%	100.00%	0.00%
1)	0.9960	0.9945	0.8981	0.8920	0.8874	0.8868	0.8850	0.8650	0.8450	0.7900	0.5900			
2)	0.0000	0.0000	0.0950	0.1000	0.1050	0.1100	0.1150	0.1350	0.1550	0.2100	0.4100			
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			
4)	0.0000	0.0000	0.0950	0.1000	0.1050	0.1100	0.1150	0.1350	0.1550	0.2100	0.4100			
5)	0.9960	0.9945	0.9931	0.9920	0.9924	0.9968	1.0000	1.0000	1.0000	1.0000	1.0000			

Accident Year	HB 1846 Adjt. Factor
2010	0.9960
2011	0.9945
2012	0.9931
2013	0.9920
2014	0.9924
2015	0.9968
2016	1.0000
2017	1.0000
2018	1.0000
2019	1.0000
2020	1.0000

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 2020 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, 2022 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 and April 1, 2021 Loss Cost Filings, 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, 2022 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 Years after 2018, 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 2020. The CMCRB assumed that 100% of Outstanding Losses for Calendar Year 2020 reflected the new law level since Calendar Year 2020 reports were to be valued as of April 30, 2021.

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-378, April 1, 2021 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

Report Level	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1st	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000	1.0000
2nd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000	1.0000	
3rd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000	1.0000		
4th	1.0159	1.0159	1.0159	1.0159	1.0129	1.0000	1.0000			
5th	1.0159	1.0159	1.0159	1.0129	1.0000	1.0000				
6th	1.0159	1.0159	1.0129	1.0000	1.0000					
7th	1.0159	1.0129	1.0000	1.0000						
8th	1.0129	1.0000	1.0000							
9th	1.0000	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

Report Level	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1st										1.0000
2nd									1.0000	
3rd								1.0000		
4th							1.0000			
5th						1.0000				
6th					1.0000					
7th				1.0000						
8th			1.0000							
9th		1.0000								
10th	1.0000									

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:	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	1.0080	1.0159	50.0%	1.0000	50.0%
HB 1840 Adjustment Factor for Calendar Years after 2018	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 04-30-2021 from Exhibit VI-E:

Report	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	1,786,240	2,060,360	1,899,710	4,015,185	2,666,351	2,516,576	2,635,035	2,186,695	2,493,545	2,578,953
2	3,977,654	5,486,851	4,482,404	7,425,208	6,101,619	5,231,352	5,200,669	5,082,244	5,968,838	
3	6,103,091	7,473,314	6,081,014	10,827,506	7,603,680	6,950,711	7,167,142	6,789,023		
4	7,583,308	8,392,146	6,502,458	11,747,478	9,276,789	8,203,041	7,996,688			
5	7,955,378	9,139,912	6,652,885	12,208,353	10,518,903	8,356,903				
6	8,294,033	9,395,170	7,003,338	12,232,461	10,430,072					
7	8,345,450	9,588,035	7,421,020	12,388,158						
8	8,382,687	9,898,479	7,504,122							
9	8,415,832	10,137,263								
10	8,450,282									

Traumatic Indemnity Reported Incurred Losses as of 04-30-2021 from Exhibit VI-A-4:

	8,553,183	10,249,907	7,841,081	12,388,158	11,975,666	9,320,369	9,565,189	8,370,682	7,260,582	4,610,453

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

	1.0216	1.0239	1.0263	1.0288	1.0314	1.0341	1.0596	1.0987	1.2471	1.9076

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

	8,737,932	10,494,880	8,047,301	12,744,937	12,351,702	9,638,194	10,135,274	9,196,868	9,054,672	8,794,900

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

Report	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average	Average Ex Hi/Lo	Selected Incremental	Selected Cumulative
1	20.44%	19.63%	23.61%	31.50%	21.59%	26.11%	26.00%	23.78%	27.54%	29.32%	24.95%	24.80%	25.00%	25.00%
2	45.52%	52.28%	55.70%	58.26%	49.40%	54.28%	51.31%	55.26%	65.92%		54.21%	53.78%	29.00%	54.00%
3	69.85%	71.21%	75.57%	84.96%	61.56%	72.12%	70.71%	73.82%			72.48%	72.21%	18.50%	72.50%
4	86.79%	79.96%	80.80%	92.17%	75.11%	85.11%	78.90%				82.69%	82.31%	10.00%	82.50%
5	91.04%	87.09%	82.67%	95.79%	85.16%	86.71%					88.08%	87.50%	5.00%	87.50%
6	94.92%	89.52%	87.03%	95.98%	84.44%						90.38%	90.49%	3.00%	90.50%
7	95.51%	91.36%	92.22%	97.20%							94.07%	93.87%	3.00%	93.50%
8	95.93%	94.32%	93.25%								94.50%	94.32%	1.00%	94.50%
9	96.31%	96.59%									96.45%	96.45%	2.00%	96.50%
10	96.71%										96.71%	96.71%	3.50%	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

Report Level	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
1st	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	25.00%	25.00%	75.00%
2nd	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900		29.00%	54.00%	46.00%
3rd	0.1850	0.1850	0.1850	0.1850	0.1850	0.1850	0.1850	0.1850			18.50%	72.50%	27.50%
4th	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000				10.00%	82.50%	17.50%
5th	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500					5.00%	87.50%	12.50%
6th	0.0300	0.0300	0.0300	0.0300	0.0300						3.00%	90.50%	9.50%
7th	0.0300	0.0300	0.0300	0.0300							3.00%	93.50%	6.50%
8th	0.0100	0.0100	0.0100								1.00%	94.50%	5.50%
9th	0.0200	0.0200									2.00%	96.50%	3.50%
10th	0.0350										3.50%	100.00%	0.00%
1)	1.0000	0.9650	0.9450	0.9350	0.9050	0.8750	0.8250	0.7250	0.5400	0.2500			
2)	0.0000	0.0350	0.0550	0.0650	0.0950	0.1250	0.1750	0.2750	0.4600	0.7500			
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

Report Level	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
1st	0.2540	0.2540	0.2540	0.2540	0.2540	0.2540	0.2540	0.2532	0.2500	0.2500	25.00%	25.00%	75.00%
2nd	0.2946	0.2946	0.2946	0.2946	0.2946	0.2946	0.2938	0.2900	0.2900		29.00%	54.00%	46.00%
3rd	0.1879	0.1879	0.1879	0.1879	0.1879	0.1874	0.1850	0.1850			18.50%	72.50%	27.50%
4th	0.1016	0.1016	0.1016	0.1016	0.1013	0.1000	0.1000				10.00%	82.50%	17.50%
5th	0.0508	0.0508	0.0508	0.0506	0.0500	0.0500					5.00%	87.50%	12.50%
6th	0.0305	0.0305	0.0304	0.0300	0.0300						3.00%	90.50%	9.50%
7th	0.0305	0.0304	0.0300	0.0300							3.00%	93.50%	6.50%
8th	0.0101	0.0100	0.0100								1.00%	94.50%	5.50%
9th	0.0200	0.0200									2.00%	96.50%	3.50%
10th	0.0350										3.50%	100.00%	0.00%

1)	1.0150	0.9798	0.9593	0.9488	0.9178	0.8860	0.8327	0.7282	0.5400	0.2500
2)	0.0000	0.0350	0.0550	0.0650	0.0950	0.1250	0.1750	0.2750	0.4600	0.7500
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4)	0.0000	0.0350	0.0550	0.0650	0.0950	0.1250	0.1750	0.2750	0.4600	0.7500
5)	1.0150	1.0148	1.0143	1.0138	1.0128	1.0110	1.0077	1.0032	1.0000	1.0000

Accident Year	Adjustment Factor
2011	1.0150
2012	1.0148
2013	1.0143
2014	1.0138
2015	1.0128
2016	1.0110
2017	1.0077
2018	1.0032
2019	1.0000
2020	1.0000

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 2020 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

	2020 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Underground Anthracite:				
Traumatic (1010)	$299,700	$19.20	$18.18	-5.3%
State O.D. (1011)	299,700	16.10	19.18	19.1%
*Federal Basic/Ex (0160)	299,700	9.08	11.35	25.0%
Total	xx	44.38	48.71	9.8%
Underground Bituminous:				
Traumatic (1001)	$138,142,265	$6.86	$6.88	0.3%
State O.D. (1002)	138,142,265	0.56	0.66	17.9%
*Federal Basic/Ex (0158)	138,331,311	0.68	0.75	10.3%
Total	xx	8.10	8.29	2.3%
Surface Anthracite:				
Traumatic (1012)	$22,884,705	$6.99	$6.63	-5.2%
State O.D. (1016)	22,884,705	1.01	1.01	0.0%
*Federal Basic/Ex (0153)	19,725,668	1.29	1.40	8.5%
Total	xx	9.29	9.04	-2.7%
Surface Bituminous:				
Traumatic (1014)	$27,341,658	$1.84	$1.60	-13.0%
State O.D. (1013)	27,341,658	0.31	0.39	25.0%
*Federal Basic/Ex (0156)	27,996,529	0.80	0.81	1.3%
Total	xx	2.95	2.80	-5.1%
Four Standard Classifications:				
Traumatic	$188,668,328	$6.17	$6.10	-1.1%
State O.D.	188,668,328	0.60	0.69	15.0%
*Federal Basic/Ex	186,353,208	0.78	0.84	7.7%
Total	xx	7.55	7.63	1.1%

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

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2021) - 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

		2020 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Coke:					
	Traumatic (1469)	$320,988	$4.28	$4.22	-1.4%
	State O.D. (1017)	320,988	0.09	0.08	-11.1%
	*Federal Basic/Ex (0154)	320,988	0.09	0.09	0.0%
	Total	xx	4.46	4.39	-1.6%
Auger:					
	Traumatic (1015)	$388,307	$7.33	$6.17	-15.8%
	State O.D. (1019)	388,307	0.18	0.17	-5.6%
	*Federal Basic/Ex (0157)	398,967	0.41	0.41	0.0%
	Total	xx	7.92	6.75	-14.8%
Co-Gen Anthracite:					
	Traumatic (1021)	$7,659,713	$6.39	$8.00	25.2%
	State O.D. (1022)	7,659,713	0.29	0.35	20.7%
	*Federal Basic/Ex (0181)	6,880,189	0.35	0.34	-2.9%
	Total	xx	7.03	8.69	23.6%
Co-Gen Bituminous:					
	Traumatic (1023)	$10,877,350	$1.28	$1.11	-13.3%
	State O.D. (1024)	10,877,350	0.22	0.19	-13.6%
	*Federal Basic/Ex (0182)	10,877,350	0.26	0.25	-3.8%
	Total	xx	1.76	1.55	-11.9%
Prep Plant Anthracite:					
	Traumatic (1025)	$12,187,657	$4.05	$3.68	-9.1%
	State O.D. (1026)	12,187,657	2.67	2.75	3.0%
	*Federal Basic/Ex (0183)	10,268,091	0.80	0.76	-5.0%
	Total	xx	7.52	7.19	-4.4%
Prep Plant Bituminous:					
	Traumatic (1027)	$33,777,559	$3.06	$2.62	-14.4%
	State O.D. (1028)	33,777,559	0.17	0.17	0.0%
	*Federal Basic/Ex (0184)	33,777,559	0.26	0.25	-3.8%
	Total	xx	3.49	3.04	-12.9%
Other Classifications:					
	Traumatic	$65,211,574	$3.37	$3.23	-4.2%
	State O.D.	65,211,574	0.66	0.68	3.0%
	*Federal Basic/Ex	62,523,144	0.36	0.34	-5.6%
	Total	xx	4.39	4.25	-3.2%
Grand Total:					
	Traumatic	$253,879,902	$5.45	$5.36	-1.7%
	State O.D.	253,879,902	0.62	0.69	11.3%
	*Federal Basic/Ex	248,876,352	0.67	0.71	6.0%
	Total	xx	6.74	6.76	0.3%

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

Sources: Payroll from Exhibit X-A
Column (1) Loss Costs (Approved 4/1/2021) - 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

	2020 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
Underground Anthracite:					
Traumatic (1010)	$299,700	$18.67	$17.59	$17.59	-5.8%
State O.D. (1011)	299,700	16.10	19.18	19.18	19.1%
*Federal Basic/Ex (0160)	299,700	9.08	11.67	11.35	25.0%
Total	xx	43.85	48.44	48.12	9.7%
Underground Bituminous:					
Traumatic (1001)	$138,142,265	$6.56	$6.52	$6.52	-0.6%
State O.D. (1002)	138,142,265	0.56	0.66	0.66	17.9%
*Federal Basic/Ex (0158)	138,331,311	0.68	0.75	0.75	10.3%
Total	xx	7.80	7.93	7.93	1.7%
Surface Anthracite:					
Traumatic (1012)	$22,884,705	$6.83	$6.45	$6.45	-5.6%
State O.D. (1016)	22,884,705	1.01	1.01	1.01	0.0%
*Federal Basic/Ex (0153)	19,725,668	1.29	1.40	1.40	8.5%
Total	xx	9.13	8.86	8.86	-3.0%
Surface Bituminous:					
Traumatic (1014)	$27,341,658	$1.78	$1.53	$1.53	-14.0%
State O.D. (1013)	27,341,658	0.31	0.45	0.39	25.0%
*Federal Basic/Ex (0156)	27,996,529	0.80	0.81	0.81	1.3%
Total	xx	2.89	2.79	2.73	-5.5%
Four Standard Classifications:					
Traumatic	$188,668,328	$5.92	$5.81	$5.81	-1.9%
State O.D.	188,668,328	0.60	0.70	0.69	15.0%
*Federal Basic/Ex	186,353,208	0.78	0.85	0.84	7.7%
Total	xx	7.30	7.36	7.34	0.5%

*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

	2020 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
Coke:					
Traumatic (1469)	$320,988	$4.17	$4.09	$4.09	-1.9%
State O.D. (1017)	320,988	0.09	0.08	0.08	-11.1%
*Federal Basic/Ex (0154)	320,988	0.09	0.09	0.09	0.0%
Total	xx	4.35	4.26	4.26	-2.1%
Auger:					
Traumatic (1015)	$388,307	$7.12	$5.94	$5.94	-16.6%
State O.D. (1019)	388,307	0.18	0.17	0.17	-5.6%
*Federal Basic/Ex (0157)	398,967	0.41	0.41	0.41	0.0%
Total	xx	7.71	6.52	6.52	-15.4%
Co-Gen Anthracite:					
Traumatic (1021)	$7,659,713	$6.24	$8.81	$7.80	25.0%
State O.D. (1022)	7,659,713	0.29	0.35	0.35	20.7%
*Federal Basic/Ex (0181)	6,880,189	0.35	0.34	0.34	-2.9%
Total	xx	6.88	9.50	8.49	23.4%
Co-Gen Bituminous:					
Traumatic (1023)	$10,877,350	$1.23	$1.05	$1.05	-14.6%
State O.D. (1024)	10,877,350	0.22	0.19	0.19	-13.6%
*Federal Basic/Ex (0182)	10,877,350	0.26	0.25	0.25	-3.8%
Total	xx	1.71	1.49	1.49	-12.9%
Prep Plant Anthracite:					
Traumatic (1025)	$12,187,657	$3.95	$3.56	$3.56	-9.9%
State O.D. (1026)	12,187,657	2.67	2.75	2.75	3.0%
*Federal Basic/Ex (0183)	10,268,091	0.80	0.76	0.76	-5.0%
Total	xx	7.42	7.07	7.07	-4.7%
Prep Plant Bituminous:					
Traumatic (1027)	$33,777,559	$2.97	$2.53	$2.53	-14.8%
State O.D. (1028)	33,777,559	0.17	0.17	0.17	0.0%
*Federal Basic/Ex (0184)	33,777,559	0.26	0.25	0.25	-3.8%
Total	xx	3.40	2.95	2.95	-13.2%
Other Classifications:					
Traumatic	$65,211,574	$3.28	$3.24	$3.12	-4.9%
State O.D.	65,211,574	0.66	0.68	0.68	3.0%
*Federal Basic/Ex	62,523,144	0.36	0.34	0.34	-5.6%
Total	xx	4.30	4.26	4.14	-3.7%
Grand Total:					
Traumatic	$253,879,902	$5.24	$5.15	$5.12	-2.3%
State O.D.	253,879,902	0.62	0.69	0.69	11.3%
*Federal Basic/Ex	248,876,352	0.67	0.72	0.71	6.0%
Total	xx	6.53	6.56	6.52	-0.2%

*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 Loss Cost.
*Federal O.D. (0160)	Basic/Ex	Indicated unloaded loss cost limited to 25.0%(Exhibit IV-A).

Underground Bituminous

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

Surface Anthracite

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

Surface Bituminous

Traumatic (1014)		Indicated Loss Cost.
State O.D. (1013)		Indicated 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 unloaded loss cost limited to 25.0%(Exhibit II).
State O.D. (1022)		Indicated Loss Cost.
*Federal O.D. (0181)	Basic/Ex	Indicated Loss Cost.

Co-Gen Bituminous

Traumatic (1023)		Indicated Loss Cost.
State O.D. (1024)		Indicated 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 4-1-2022

	2020 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)	$299,700	$17.59	$0.22	$17.81	$18.18	$18.18
State O.D. (1011)	299,700	19.18				19.18
*Federal Basic/Ex (0160)	299,700	11.35				11.35
Total	xx	48.12				48.71
Underground Bituminous:						
Traumatic (1001)	$138,142,265	$6.52	$0.22	$6.74	$6.88	$6.88
State O.D. (1002)	138,142,265	0.66				0.66
*Federal Basic/Ex (0158)	138,331,311	0.75				0.75
Total	xx	7.93				8.29
Surface Anthracite:						
Traumatic (1012)	$22,884,705	$6.45	$0.04	$6.49	$6.63	$6.63
State O.D. (1016)	22,884,705	1.01				1.01
*Federal Basic/Ex (0153)	19,725,668	1.40				1.40
Total	xx	8.86				9.04
Surface Bituminous:						
Traumatic (1014)	$27,341,658	$1.53	$0.04	$1.57	$1.60	$1.60
State O.D. (1013)	27,341,658	0.39				0.39
*Federal Basic/Ex (0156)	27,996,529	0.81				0.81
Total	xx	2.73				2.80
Four Standard Classifications:						
Traumatic	$188,668,328	$5.81	$0.17	$5.98	$6.10	$6.10
State O.D.	188,668,328	0.69				0.69
*Federal Basic/Ex	186,353,208	0.84				0.84
Total	xx	7.34				7.63

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

Sources: Payroll from Exhibit X-A
Column (1) Proposed Loss Cost Before Loading - Exhibit II for Traumatic, Exhibit III for State OD, and Exhibit IV for Federal OD.
Column (2) Catastrophe - Exhibit XII-A
Column (3) (1)+(2)
Columns (4)(a) & (5)(a) Off-balances applied to Traumatic only

	Experience Rating	1.0000
Exhibit XIV-A	Merit Rating	1.0001
Exhibit XIV-B	Safety Rating	1.0209
	Combined	1.0210

(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 4-1-2022

	2020 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]
Coke:						
Traumatic (1469)	$320,988	$4.09	$0.04	$4.13	$4.22	$4.22
State O.D. (1017)	320,988	0.08				0.08
*Federal Basic/Ex (0154)	320,988	0.09				0.09
Total	xx	4.26				4.39
Auger:						
Traumatic (1015)	$388,307	$5.94	$0.10	$6.04	$6.17	$6.17
State O.D. (1019)	388,307	0.17				0.17
*Federal Basic/Ex (0157)	398,967	0.41				0.41
Total	xx	6.52				6.75
Co-Gen Anthracite:						
Traumatic (1021)	$7,659,713	$7.80	$0.04	$7.84	$8.00	$8.00
State O.D. (1022)	7,659,713	0.35				0.35
*Federal Basic/Ex (0181)	6,880,189	0.34				0.34
Total	xx	8.49				8.69
Co-Gen Bituminous:						
Traumatic (1023)	$10,877,350	$1.05	$0.04	$1.09	$1.11	$1.11
State O.D. (1024)	10,877,350	0.19				0.19
*Federal Basic/Ex (0182)	10,877,350	0.25				0.25
Total	xx	1.49				1.55
Prep Plant Anthracite:						
Traumatic (1025)	$12,187,657	$3.56	$0.04	$3.60	$3.68	$3.68
State O.D. (1026)	12,187,657	2.75				2.75
*Federal Basic/Ex (0183)	10,268,091	0.76				0.76
Total	xx	7.07				7.19
Prep Plant Bituminous:						
Traumatic (1027)	$33,777,559	$2.53	$0.04	$2.57	$2.62	$2.62
State O.D. (1028)	33,777,559	0.17				0.17
*Federal Basic/Ex (0184)	33,777,559	0.25				0.25
Total	xx	2.95				3.04
Other Classifications:						
Traumatic	$65,211,574	$3.12	$0.04	$3.16	$3.23	$3.23
State O.D.	$65,211,574	0.68				0.68
*Federal Basic/Ex	62,523,144	0.34				0.34
Total	xx	4.14				4.25
Grand Total:						
Traumatic	$253,879,902	$5.12	$0.14	$5.26	$5.37	$5.36
State O.D.	253,879,902	0.69				0.69
*Federal Basic/Ex	248,876,352	0.71				0.71
Total	xx	6.52				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

	Experience Rating	1.0000
Exhibit XIV-A	Merit Rating	1.0001
Exhibit XIV-B	Safety Rating	1.0209
	Combined	1.0210

(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

Classification		Code	(1) 2020 Developed Payroll	(2) Approved Unloaded Loss Cost (Eff 4/01/2021)	(3) Indicated Unloaded Loss Cost	(4) Proposed Unloaded Loss Cost	(5) Percent Change
Underground:	Anthracite	1010	299,700	18.67	17.59	17.59	-5.8%
	Bituminous	1001	138,142,265	6.56	6.52	6.52	-0.6%
Surface:	Anthracite	1012	22,884,705	6.83	6.45	6.45	-5.6%
	Bituminous	1014	27,341,658	1.78	1.53	1.53	-14.0%
Four Standard Classes			188,668,328	5.92	5.81	5.81	-1.9%
Other Classes	Coke	1469	320,988	4.17	4.09	4.09	-1.9%
	Auger	1015	388,307	7.12	5.94	5.94	-16.6%
Co-Gen:	Anthracite	1021	7,659,713	6.24	8.81	7.80	25.0%
	Bituminous	1023	10,877,350	1.23	1.05	1.05	-14.6%
Prep Plants:	Anthracite	1025	12,187,657	3.95	3.56	3.56	-9.9%
	Bituminous	1027	33,777,559	2.97	2.53	2.53	-14.8%
Other Classes			65,211,574	3.28	3.24	3.12	-4.9%
All Classes Combined			253,879,902	5.24	5.15	5.12	-2.3%

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

Classification	(1) 2020 Developed Payroll	(2) Approved Unloaded Loss Cost	(3) Average Freq. per $1 mill.	(4) Indicated Average Severity	(5) Indicated Loss Cost (Rate)	(6) Indicated Change	(7) Proposed Change	(8) Proposed Loss Cost
Underground								
1011 Anthracite	$299,700	$16.10	0.248961	$770,420	$19.18	19.1%	19.1%	$19.18
1002 Bituminous	$138,142,265	$0.56	0.021968	$302,395	0.66	17.9%	17.9%	0.66
Surface								
1016 Anthracite	$22,884,705	$1.01	0.018567	$543,732	1.01	0.0%	0.0%	1.01
1013 Bituminous	$27,341,658	0.31	0.012229	$370,564	0.45	45.2%	25.0%	0.39
Four Standard Classes	$188,668,328	$0.60			$0.70	16.7%	15.0%	$0.69
1017 Coke	$320,988	0.09	0.002236	370,564	0.08	-11.1%	-11.1%	0.08
1019 Auger	$388,307	0.18	0.004576	370,564	0.17	-5.6%	-5.6%	0.17
Co-Gen								
1022 Anthracite	$7,659,713	0.29	0.006510	543,732	0.35	20.7%	20.7%	0.35
1024 Bituminous	$10,877,350	0.22	0.005236	370,564	0.19	-13.6%	-13.6%	0.19
Prep Plant								
1026 Anthracite	$12,187,657	2.67	0.050565	543,732	2.75	3.0%	3.0%	2.75
1028 Bituminous	$33,777,559	0.17	0.004572	370,564	0.17	0.0%	0.0%	0.17
Other Classes	$65,211,574	$0.66			$0.68	3.0%	3.0%	$0.68
All Classes Combined	$253,879,902	$0.62			$0.69	11.3%	11.3%	$0.69

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

Classification		(1) 2020 Developed Payroll	(2) Approved Unloaded Loss Cost	(3) Average Freq. per $1 mill.	(4) Indicated Average Severity	(5) Loss Cost (Rate)	(6) Indicated Change	(7) Loss Cost w/ Limitation 25%	(8) % Change w/Limitation 25%
Underground									
Anthracite:	Basic			0.221177	473,472	10.47			
	Excess			0.090421	133,144	1.20			
	Total	$299,700	$9.08			11.67	28.5%	$ 11.35	25.0%
Bituminous:	Basic			0.013874	397,788	0.55			
	Excess			0.008047	254,684	0.20			
	Total	$138,331,311	$0.68			0.75	10.3%	$ 0.75	10.3%
Surface									
Anthracite:	Basic			0.036690	362,683	1.33			
	Excess			0.008831	77,222	0.07			
	Total	$19,725,668	$1.29			1.40	8.5%	$ 1.40	8.5%
Bituminous:	Basic			0.020263	361,574	0.73			
	Excess			0.003966	211,947	0.08			
	Total	$27,996,529	$0.80			0.81	1.3%	$ 0.81	1.3%
Four Standard Classes	Basic					0.68			
	Excess					0.17			
	Total	$186,353,208	$0.78			0.85	9.0%	$ 0.84	7.7%
Coke	Basic			0.002066	361,574	0.07			
	Excess			0.000873	211,947	0.02			
	Total	$320,988	$0.09			0.09	0.0%	$ 0.09	0.0%
Auger	Basic			0.010173	361,574	0.37			
	Excess			0.001867	211,947	0.04			
	Total	$398,967	$0.41			0.41	0.0%	$ 0.41	0.0%
Co-Gen									
Anthracite:	Basic			0.008721	362,683	0.32			
	Excess			0.002244	77,222	0.02			
	Total	$6,880,189	$0.35			0.34	-2.9%	$ 0.34	-2.9%
Bituminous:	Basic			0.005833	361,574	0.21			
	Excess			0.001805	211,947	0.04			
	Total	$10,877,350	$0.26			0.25	-3.8%	$ 0.25	-3.8%
Prep Plants									
Anthracite:	Basic			0.016482	362,683	0.60			
	Excess			0.020271	77,222	0.16			
	Total	$10,268,091	$0.80			0.76	-5.0%	$ 0.76	-5.0%
Bituminous:	Basic			0.006199	361,574	0.22			
	Excess			0.001559	211,947	0.03			
	Total	$33,777,559	$0.26			0.25	-3.8%	$ 0.25	-3.8%
Other Classes	Basic					0.29			
	Excess					0.05			
	Total	$62,523,144	$0.36			0.34	-5.6%	$ 0.34	-5.6%
All Classes Combined	Basic					0.58			
	Excess					0.14			
	Total	$248,876,352	$0.67			0.72	7.5%	$ 0.71	6.0%

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

Classification		Class Code	(1) Estimated Miner Years 2011-2020	(2) Claim Frequency Per 100 Miner Years: Approved (Eff 4/1/2021)	(3) Trended to 4/1/2022	(4) Indicated (Eff 4/1/2022)	(5) Credibility: Expected Awarded Claims	(6) Credibility: Factor	(7) Claim Frequency Indicated w/ Credibility	(8) Change in Indication After Cred.	(9) Payroll 2011-2020	(10) Frequency Per $1M Payroll
Underground:	Anthracite	0160	82.2	0.899450	0.899450	2.715692	0.739	0.136	1.146459	27.5%	4,260,793	0.221177
	Bituminous	0158	19,614.1	0.090525	0.090525	0.120096	17.756	0.669	0.110308	21.9%	1,559,457,423	0.013874
Surface:	Anthracite	0153	3,750.3	0.174234	0.174234	0.234233	6.534	0.406	0.198594	14.0%	202,992,893	0.036690
	Bituminous	0156	9,283.3	0.106155	0.106155	0.108155	9.855	0.498	0.107151	0.9%	490,893,274	0.020263
Four Standard Classifications			32,729.9	0.106581	0.106581	0.136306	34.884		0.122131		2,257,604,383	0.017706
	Coke	0154	768.9	0.011059	0.011059	0.011635	0.085	0.046	0.011085	0.2%	41,260,649	0.002066
	Auger	0157	133.4	0.054859	0.054859	0.038101	0.073	0.043	0.054138	-1.3%	7,099,185	0.010173
Co-Gen:	Anthracite	0181	1,583.3	0.047633	0.047633	0.043029	0.754	0.138	0.046998	-1.3%	85,328,311	0.008721
	Bituminous	0182	2,007.8	0.032868	0.032868	0.024645	0.660	0.129	0.031807	-3.2%	109,477,568	0.005833
Prep Plants:	Anthracite	0183	1,328.5	0.093422	0.093422	0.075602	1.241	0.177	0.090268	-3.4%	72,760,151	0.016482
	Bituminous	0184	3,910.4	0.050804	0.050804	0.043490	1.987	0.224	0.049166	-3.2%	310,159,438	0.006199
Other Classes			9,732.3	0.049321	0.049321	0.041320	4.800		0.047902		626,085,302	0.007446
Total			42,462.2	0.093457	0.093457	0.114535	39.684		0.105118		2,883,689,685	0.015479

Source: (1) Exhibit VIII-B-2
(2) Exhibit IV-B-4
(3) = (2) trended to 4/1/2022 @ 0.0%
(4) Exhibit IV-B-3
(5) = (1) x (3) / 100
(6) = [(5) / 39.684]^(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

Classification		Class Code	(1) Estimated Miner Years 2011-2020	(2) Claim Frequency Per 100 Miner Years Approved (Eff 4/1/2021)	(3) Trended to 4/1/2022	(4) Indicated (Eff 4/1/2022)	(5) Credibility Expected Awarded Claims	(6) Credibility Factor	(7) Claim Frequency Indicated w/ Credibility	(8) Change in Indication After Cred.	(9) Payroll 2011-2020	(10) Frequency Per $1M Payroll
Underground:	Anthracite	0160	82.2	0.444930	0.444930	0.611111	0.366	0.143	0.468694	5.3%	4,260,793	0.090421
	Bituminous	0158	19,614.1	0.060002	0.060002	0.064891	11.769	0.813	0.063977	6.6%	1,559,457,423	0.008047
Surface:	Anthracite	0153	3,750.3	0.049425	0.049425	0.044397	1.854	0.323	0.047801	-3.3%	202,992,893	0.008831
	Bituminous	0156	9,283.3	0.015572	0.015572	0.034515	1.446	0.285	0.020971	34.7%	490,893,274	0.003966
Four Standard Classifications			32,729.9	0.047155	0.047155	0.055299	15.435		0.050942		2,257,604,383	0.007385
	Coke	0154	768.9	0.004782	0.004782	0.002675	0.037	0.046	0.004685	-2.0%	41,260,649	0.000873
	Auger	0157	133.4	0.010146	0.010146	0.002673	0.014	0.028	0.009937	-2.1%	7,099,185	0.001867
Co-Gen:	Anthracite	0181	1,583.3	0.010691	0.010691	0.025170	0.169	0.097	0.012095	13.1%	85,328,311	0.002244
	Bituminous	0182	2,007.8	0.010671	0.010671	0.003139	0.214	0.110	0.009842	-7.8%	109,477,568	0.001805
Prep Plants:	Anthracite	0183	1,328.5	0.111737	0.111737	0.109256	1.484	0.289	0.111020	-0.6%	72,760,151	0.020271
	Bituminous	0184	3,910.4	0.011987	0.011987	0.014320	0.469	0.162	0.012365	3.2%	310,159,438	0.001559
Other Classes			9,732.3	0.024526	0.024526	0.025658	2.387		0.024627		626,085,302	0.003828
Total			42,462.2	0.041968	0.041968	0.048505	17.822		0.044911		2,883,689,685	0.006613

Source: (1) Exhibit VIII-B-2
(2) Exhibit IV-B-6
(3) = (2) trended to 4/1/2022 @ 0.0%
(4) Exhibit IV-B-5
(5) = (1) x (3) / 100
(6) = [(5) / 17.822]^(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.

PAB

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Effective Date - April 01, 2022

Run Date: 09/16/21 15:11

8,651,241,153.601370

Coal Mine Compensation Rating Bureau

Federal Basic Occupational Disease Classification Frequency

Classification		Class Code	(1) Estimated Miner Years 2020	(2) Approved Frequency Equivalent Per 100 Miner Years 4/1/2021	(3) Modeled Indication	(4) Experience Indication	(5) Weighted Average of Cols. (3) & (4)	(6) Percent Change
Underground:	Anthracite	0160	4.9	0.899450	2.530282	2.777496	2.715692	201.93%
	Bituminous	0158	1,551.6	0.090525	0.231054	0.083110	0.120096	32.67%
Surface:	Anthracite	0153	323.7	0.174234	0.206861	0.243357	0.234233	34.44%
	Bituminous	0156	459.5	0.106155	0.124357	0.102754	0.108155	1.88%
Four Standard Classifications			2,339.7	0.106870	0.211568	0.114781	0.138978	30.04%
	Coke	0154	5.3	0.011059	0.016215	0.010109	0.011635	5.21%
	Auger	0157	6.5	0.054859	0.076375	0.025343	0.038101	-30.55%
Co-Gen:	Anthracite	0181	112.9	0.047633	0.070208	0.033970	0.043029	-9.67%
	Bituminous	0182	178.5	0.032868	0.037887	0.020231	0.024645	-25.02%
Prep Plants:	Anthracite	0183	168.5	0.093422	0.126915	0.058498	0.075602	-19.07%
	Bituminous	0184	378.9	0.050804	0.069684	0.034759	0.043490	-14.40%
	Other Classes		850.6	0.054845	0.074136	0.036083	0.045596	-16.86%
		Total	3,190.3	0.092999	0.174926	0.093798	0.114080	22.67%

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.

COAL MINE COMPENSATION RATING BUREAU

Federal Basic Occupational Disease Classification Frequency

Classification		Class Code	(1) Approved Claim Freq. 4/1/2021	(2) Payroll 2010-2019	(3) Estimated Awarded Claims 2010-2019 (1) x (2)	(4) Estimated Miner Years 2011-2020	(5) Estimated Miner Years 2020	(6) Adjustment Factor	(7) Average Weekly Wage 2010	(8) Payroll 2010	(9) Estimated Miner Years 2010-2019	(10) Approved Frequency Equivalent Per 100 Miner Years
Underground:	Anthracite	0160	0.178841	5,260,681	0.940825	82.2	4.9	1.084	845	1,299,588	104.6	0.899450
	Bituminous	0158	0.011626	1,546,519,688	17.979838	19,614.1	1,551.6	1.586	845	125,393,576	19,861.8	0.090525
Surface:	Anthracite	0153	0.032848	196,586,410	6.457470	3,750.3	323.7	1.084	845	13,319,185	3,706.2	0.174234
	Bituminous	0156	0.020519	537,151,922	11.021820	9,283.3	459.5	1.084	845	74,255,177	10,382.8	0.106155
Four Standard Classifications				2,285,518,701		32,729.9	2,339.7			214,267,526	34,055	
	Coke	0154	0.002093	46,375,319	0.097064	768.9	5.3	1.084	845	5,435,658	877.7	0.011059
	Auger	0157	0.010516	7,527,714	0.079161	133.4	6.5	1.084	845	827,496	144.3	0.054859
Co-Gen:	Anthracite	0181	0.009027	86,406,170	0.779988	1,583.3	112.9	1.084	845	7,958,048	1,637.5	0.047633
	Bituminous	0182	0.006163	107,332,919	0.661493	2,007.8	178.5	1.084	845	8,732,701	2,012.6	0.032868
Prep Plants:	Anthracite	0183	0.017506	67,368,987	1.179361	1,328.5	168.5	1.084	845	4,876,927	1,262.4	0.093422
	Bituminous	0184	0.006561	302,695,009	1.985982	3,910.4	378.9	1.586	845	26,313,130	3,909.1	0.050804
Other Classes				617,706,118		9,732.3	850.6			54,143,960	9,843.6	
Total				2,903,224,819		42,462.2	3,190.3			268,411,486	43,899.0	

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

Classification		Class Code	(1) Estimated Miner Years 2020	(2) Approved Frequency Equivalent Per 100 Miner Years 4/1/2021	(3) Modeled Indication	(4) Experience Indication	(5) Weighted Average of Cols. (3) & (4)	(6) Percent Change
Underground:	Anthracite	0160	4.9	0.444930	0.226892	0.739184	0.611111	37.35%
	Bituminous	0158	1,551.6	0.060002	0.047869	0.070565	0.064891	8.15%
Surface:	Anthracite	0153	323.7	0.049425	0.067074	0.036838	0.044397	-10.17%
	Bituminous	0156	459.5	0.015572	0.008389	0.043224	0.034515	121.65%
Four Standard Classifications			2,339.7	0.050619	0.043147	0.061930	0.057234	13.07%
	Coke	0154	5.3	0.004782	0.000225	0.003491	0.002675	-44.06%
	Auger	0157	6.5	0.010146	0.000274	0.003472	0.002673	-73.65%
Co-Gen:	Anthracite	0181	112.9	0.010691	0.003642	0.032346	0.025170	135.43%
	Bituminous	0182	178.5	0.010671	0.002163	0.003464	0.003139	-70.58%
Prep Plants:	Anthracite	0183	168.5	0.111737	0.103011	0.111338	0.109256	-2.22%
	Bituminous	0184	378.9	0.011987	0.001216	0.018688	0.014320	19.46%
	Other Classes		850.6	0.031240	0.021889	0.035449	0.032059	2.62%
		Total	3,190.3	0.045452	0.037479	0.054870	0.050522	11.15%

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

Classification		Class Code	(1) Approved Claim Freq. 4/1/2021	(2) Payroll 2010-2019	(3) Estimated Awarded Claims 2010-2019 (1) x (2)	(4) Estimated Miner Years 2011-2020	(5) Estimated Miner Years 2020	(6) Adjustment Factor	(7) Average Weekly Wage 2010	(8) Payroll 2010	(9) Estimated Miner Years 2010-2019	(10) Approved Frequency Equivalent Per 100 Miner Years
Underground:	Anthracite	0160	0.088467	5,260,681	0.465397	82.2	4.9	1.084	845	1,299,588	104.6	0.444930
	Bituminous	0158	0.007706	1,546,519,688	11.917481	19,614.1	1,551.6	1.586	845	125,393,576	19,861.8	0.060002
Surface:	Anthracite	0153	0.009318	196,586,410	1.831792	3,750.3	323.7	1.084	845	13,319,185	3,706.2	0.049425
	Bituminous	0156	0.003010	537,151,922	1.616827	9,283.3	459.5	1.084	845	74,255,177	10,382.8	0.015572
Four Standard Classifications				2,285,518,701		32,729.9	2,339.7			214,267,526	34,055	
	Coke	0154	0.000905	46,375,319	0.041970	768.9	5.3	1.084	845	5,435,658	877.7	0.004782
	Auger	0157	0.001945	7,527,714	0.014641	133.4	6.5	1.084	845	827,496	144.3	0.010146
Co-Gen:	Anthracite	0181	0.002026	86,406,170	0.175059	1,583.3	112.9	1.084	845	7,958,048	1,637.5	0.010691
	Bituminous	0182	0.002001	107,332,919	0.214773	2,007.8	178.5	1.084	845	8,732,701	2,012.6	0.010671
Prep Plants:	Anthracite	0183	0.020938	67,368,987	1.410572	1,328.5	168.5	1.084	845	4,876,927	1,262.4	0.111737
	Bituminous	0184	0.001548	302,695,009	0.468572	3,910.4	378.9	1.586	845	26,313,130	3,909.1	0.011987
Other Classes				617,706,118		9,732.3	850.6			54,143,960	9,843.6	
Total				2,903,224,819		42,462.2	3,190.3			268,411,486	43,899.0	

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

Classification	Code	(1) 5 Year Payroll	2020 Payroll	(2) Loss Cost/Unloaded Approved (Eff 4/01/2021)	(3) Approved on Level	(4) Indicated (Eff 04/01/2022)	(5) Credibility Five Year Expected Losses	(6) Credibility Factor	(7) Indicated w/ Credibility Indicated Loss Cost	(8) Indicated Change	(9) Proposed Change after Limitation	(10) Proposed Loss Cost	(11) Proposed Change Excluding Trend
Underground: Bituminous	1001	$817,794,264	$138,142,265	6.56	6.61	6.52	53,647,304	1.00	6.52	-0.6%	-0.6%	6.52	-1.4%
Surface: Anthracite	1012	$108,065,154	$22,884,705	6.83	6.88	6.45	7,380,850	1.00	6.45	-5.6%	-5.6%	6.45	-6.3%
Bituminous	1014	$160,214,428	$27,341,658	1.78	1.79	1.53	2,851,817	1.00	1.53	-14.0%	-14.0%	1.53	-14.7%
Three Major Classifications		$1,086,073,846	$188,368,628	5.88	5.93	5.78	63,879,971						
Coke	1469	$18,273,882	$320,988	4.17	4.20	3.99	762,021	0.52	4.09	-1.9%	-1.9%	4.09	-2.7%
Co-Gen: Anthracite	1021	$45,266,575	$7,659,713	6.24	6.29	8.81	2,824,634	1.00	8.81	41.2%	25.0%	7.80	24.0%
Bituminous	1023	$57,502,139	$10,877,350	1.23	1.24	0.85	707,276	0.50	1.05	-14.6%	-14.6%	1.05	-15.3%
Prep Plants: Anthracite	1025	$49,138,399	$12,187,657	3.95	3.98	3.47	1,940,967	0.82	3.56	-9.9%	-9.9%	3.56	-10.6%
Bituminous	1027	$154,570,349	$33,777,559	2.97	2.99	2.53	4,590,739	1.00	2.53	-14.8%	-14.8%	2.53	-15.5%
Auger	1015	$2,349,864	$388,307	7.12	7.18	2.03	167,310	0.24	5.94	-16.6%	-16.6%	5.94	-17.2%
Subtotal (6)		$327,101,208	$65,211,574	3.36	3.39	3.32	10,992,947						
Underground: Anthracite	1010	$1,078,568	$299,700	18.67	18.82	16.35	201,369	0.27	17.59	-5.8%	-5.8%	17.59	-6.5%
Subtotal (7)		$328,179,776	$65,511,274	3.41	3.44	3.37	11,194,316						
Total (Based on 5-year Payroll)		$1,414,253,622	$253,879,902	5.31	5.35	5.22	$75,074,287		5.24				
Total (Based on 2020 Payroll, see Exhibit II)			$253,879,902	5.24					5.15	-1.7%	-2.3%	5.12	

Source: (1) Exhibit V-B
(2) Unloaded Loss Cost Current (Eff 4/01/2021) Exhibit X-B page 2
(3) = (2) X Trend =(2) X(1.008)
1.008=Weighted average of 1.019 and 1.002
Weights derived from 5 year Medical (26,165,048) and Indemnity (47,487,677)
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 2,851,817]^(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)/1.008/Column(2)-1.000

Calculation of Anthracite Underground Loss Cost

Multiplicative Method (Anthracite: Underground vs. Surface)	Indicated	Proposed
Differential Factor from Study	2.66	2.66
Indicated Anthracite Surface Loss Cost	6.45 *	6.45 *
Indicated Anthracite Underground Loss Cost	17.16	17.16
Comparative Hazard Method #1 (Anthracite vs. Bituminous)		
Differential Factor from Study	2.41	2.41
Indicated Bituminous Underground Loss Cost:	6.52 *	6.52 *
Indicated Anthracite Underground Loss Cost	15.71	15.71
Comparative Hazard Method #2 (Surface vs. Underground)		
Differential Factor from Study	2.51	2.51
Indicated Anthracite Surface Loss Cost:	6.45 *	6.45 *
Indicated Anthracite Underground Loss Cost	16.19	16.19
Average	16.35	16.35

* Souce: Exhibit V-A-1

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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	9,320,369	1.0341	1.0247	9,876,256	3.88
2017	9,565,189	1.0596	1.0194	10,331,898	3.57
2018	8,370,682	1.0987	1.0127	9,313,669	3.04
2019	7,260,582	1.2471	1.0075	9,122,583	2.94
2020	4,610,453	1.9076	1.0055	8,843,271	3.48
5 Years	$39,127,275			$47,487,677	3.36
Medical					
2016	3,857,323	1.0672	1.1355	4,674,326	1.84
2017	5,788,454	1.0699	1.1143	6,900,932	2.39
2018	5,289,853	1.0727	1.0935	6,204,984	2.03
2019	3,688,426	1.0527	1.0731	4,166,638	1.34
2020	3,750,095	1.0681	1.0531	4,218,168	1.66
5 Years	$22,374,151			$26,165,048	1.85

Indemnity & Medical	(6) Developed Payroll				
2016	254,559,392			14,550,582	5.72
2017	289,088,505			17,232,830	5.96
2018	306,135,580			15,518,653	5.07
2019	310,590,243			13,289,221	4.28
2020	253,879,902			13,061,439	5.14
5 Years	$1,414,253,622			$73,652,725	5.21

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

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Three 100% Credibility Classifications (3 Classes)

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	8,092,896	1.0341	1.0247	8,575,574	4.32
2017	8,936,715	1.0596	1.0194	9,653,048	4.25
2018	7,819,629	1.0987	1.0127	8,700,537	3.70
2019	6,154,013	1.2471	1.0075	7,732,230	3.27
2020	3,711,413	1.9076	1.0055	7,118,831	3.78
5 Years	$34,714,666			$41,780,220	3.85
Medical					
2016	3,224,753	1.0672	1.1355	3,907,774	1.97
2017	4,653,812	1.0699	1.1143	5,548,225	2.44
2018	3,954,821	1.0727	1.0935	4,638,995	1.97
2019	3,269,910	1.0527	1.0731	3,693,861	1.56
2020	2,850,013	1.0681	1.0531	3,205,741	1.70
5 Years	$17,953,309			$20,994,596	1.93

Indemnity & Medical	(6) Developed Payroll				
2016	198,557,107			12,483,348	6.29
2017	227,016,632			15,201,273	6.70
2018	235,372,004			13,339,532	5.67
2019	236,759,475			11,426,091	4.83
2020	188,368,628			10,324,572	5.48
5 Years	$1,086,073,846			$62,774,816	5.78

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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	6,662,729	1.0341	1.0247	7,060,109	4.75
2017	7,247,047	1.0596	1.0194	7,827,943	4.53
2018	7,233,386	1.0987	1.0127	8,048,252	4.46
2019	5,295,537	1.2471	1.0075	6,653,595	3.74
2020	3,216,771	1.9076	1.0055	6,170,062	4.47
5 Years	$29,655,470			$35,759,961	4.37
Medical					
2016	2,378,561	1.0672	1.1355	2,882,354	1.94
2017	3,916,224	1.0699	1.1143	4,668,881	2.70
2018	3,554,780	1.0727	1.0935	4,169,748	2.31
2019	2,731,453	1.0527	1.0731	3,085,592	1.74
2020	2,476,184	1.0681	1.0531	2,785,252	2.02
5 Years	$15,057,202			$17,591,827	2.15

Indemnity & Medical	(6) Developed Payroll				
2016	148,556,407			9,942,463	6.69
2017	172,708,778			12,496,824	7.24
2018	180,553,142			12,218,000	6.77
2019	177,833,672			9,739,187	5.48
2020	138,142,265			8,955,314	6.48
5 Years	$817,794,264			$53,351,788	6.52

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	1,150,835	1.0341	1.0247	1,219,473	5.84
2017	1,495,642	1.0596	1.0194	1,615,527	7.63
2018	522,388	1.0987	1.0127	581,237	2.97
2019	540,967	1.2471	1.0075	679,700	2.88
2020	246,407	1.9076	1.0055	472,631	2.07
5 Years	$3,956,239			$4,568,568	4.23
Medical					
2016	555,625	1.0672	1.1355	673,309	3.23
2017	551,712	1.0699	1.1143	657,745	3.11
2018	268,441	1.0727	1.0935	314,881	1.61
2019	359,556	1.0527	1.0731	406,173	1.72
2020	306,781	1.0681	1.0531	345,072	1.51
5 Years	$2,042,115			$2,397,180	2.22

Indemnity & Medical	(6) Developed Payroll				
2016	20,873,611			1,892,782	9.07
2017	21,167,074			2,273,272	10.74
2018	19,576,675			896,118	4.58
2019	23,563,089			1,085,873	4.61
2020	22,884,705			817,703	3.57
5 Years	$108,065,154			$6,965,748	6.45

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	279,332	1.0341	1.0247	295,992	1.02
2017	194,026	1.0596	1.0194	209,578	0.63
2018	63,855	1.0987	1.0127	71,048	0.20
2019	317,509	1.2471	1.0075	398,935	1.13
2020	248,235	1.9076	1.0055	476,138	1.74
5 Years	$1,102,957			$1,451,691	0.91
Medical					
2016	290,567	1.0672	1.1355	352,111	1.21
2017	185,876	1.0699	1.1143	221,599	0.67
2018	131,600	1.0727	1.0935	154,366	0.44
2019	178,901	1.0527	1.0731	202,096	0.57
2020	67,048	1.0681	1.0531	75,417	0.28
5 Years	$853,992			$1,005,589	0.63

Indemnity & Medical	(6) Developed Payroll				
2016	29,127,089			648,103	2.23
2017	33,140,780			431,177	1.30
2018	35,242,187			225,414	0.64
2019	35,362,714			601,031	1.70
2020	27,341,658			551,555	2.02
5 Years	$160,214,428			$2,457,280	1.53

Source: (1) CMCRB Database as of 04-30-2021
(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
Seven Less Than 100% Credibility Classifications (7 Classes)

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	1,227,473	1.0341	1.0247	1,300,682	2.32
2017	628,474	1.0596	1.0194	678,850	1.09
2018	551,053	1.0987	1.0127	613,132	0.87
2019	1,106,569	1.2471	1.0075	1,390,353	1.88
2020	899,040	1.9076	1.0055	1,724,440	2.63
5 Years	$4,412,609			$5,707,457	1.74
Medical					
2016	632,570	1.0672	1.1355	766,552	1.37
2017	1,134,642	1.0699	1.1143	1,352,707	2.18
2018	1,335,032	1.0727	1.0935	1,565,989	2.21
2019	418,516	1.0527	1.0731	472,777	0.64
2020	900,082	1.0681	1.0531	1,012,427	1.55
5 Years	$4,420,842			$5,170,452	1.58

Indemnity & Medical	(6) Developed Payroll				
2016	56,002,285			2,067,234	3.69
2017	62,071,873			2,031,557	3.27
2018	70,763,576			2,179,121	3.08
2019	73,830,768			1,863,130	2.52
2020	65,511,274			2,736,867	4.18
5 Years	$328,179,776			$10,877,909	3.31

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

Coal Mine Compensation Rating Bureau
Traumatic Loss Cost Indication
Coke 1469

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	22,494	1.0341	1.0247	23,836	0.54
2017	42,083	1.0596	1.0194	45,456	1.00
2018	99,871	1.0987	1.0127	111,122	2.48
2019	129,350	1.2471	1.0075	162,522	3.64
2020	0	1.9076	1.0055	0	0.00
5 Years	$293,798			$342,936	1.88
Medical					
2016	22,002	1.0672	1.1355	26,662	0.60
2017	185,062	1.0699	1.1143	220,629	4.83
2018	110,693	1.0727	1.0935	129,843	2.90
2019	8,215	1.0527	1.0731	9,280	0.21
2020	0	1.0681	1.0531	0	0.00
5 Years	$325,972			$386,414	2.11

Indemnity & Medical	(6) Developed Payroll				
2016	4,435,066			50,498	1.14
2017	4,566,113			266,085	5.83
2018	4,484,744			240,965	5.37
2019	4,466,971			171,802	3.85
2020	320,988			0	0.00
5 Years	$18,273,882			$729,350	3.99

Source: (1) CMCRB Database as of 04-30-2021
(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
Auger 1015

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	0	1.0341	1.0247	0	0.00
2017	0	1.0596	1.0194	0	0.00
2018	0	1.0987	1.0127	0	0.00
2019	0	1.2471	1.0075	0	0.00
2020	20,000	1.9076	1.0055	38,362	9.88
5 Years	$20,000			$38,362	1.63
Medical					
2016	132	1.0672	1.1355	160	0.04
2017	0	1.0699	1.1143	0	0.00
2018	0	1.0727	1.0935	0	0.00
2019	2,299	1.0527	1.0731	2,597	0.48
2020	5,817	1.0681	1.0531	6,543	1.69
5 Years	$8,248			$9,300	0.40

Indemnity & Medical	(6) Developed Payroll				
2016	372,496			160	0.04
2017	449,009			0	0.00
2018	600,138			0	0.00
2019	539,914			2,597	0.48
2020	388,307			44,905	11.56
5 Years	$2,349,864			$47,662	2.03

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	447,592	1.0341	1.0247	474,287	5.27
2017	237,097	1.0596	1.0194	256,102	2.90
2018	90,755	1.0987	1.0127	100,979	0.87
2019	24,221	1.2471	1.0075	30,433	0.37
2020	446,302	1.9076	1.0055	856,048	11.18
5 Years	$1,245,967			$1,717,849	3.79
Medical					
2016	225,242	1.0672	1.1355	272,950	3.03
2017	256,260	1.0699	1.1143	305,510	3.46
2018	847,740	1.0727	1.0935	994,397	8.57
2019	53,068	1.0527	1.0731	59,948	0.73
2020	566,632	1.0681	1.0531	637,357	8.32
5 Years	$1,948,942			$2,270,162	5.02

Indemnity & Medical	(6) Developed Payroll				
2016	8,994,602			747,237	8.31
2017	8,819,700			561,612	6.37
2018	11,600,891			1,095,376	9.44
2019	8,191,669			90,381	1.10
2020	7,659,713			1,493,405	19.50
5 Years	$45,266,575			$3,988,011	8.81

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	6,706	1.0341	1.0247	7,106	0.06
2017	50,986	1.0596	1.0194	55,073	0.48
2018	106,387	1.0987	1.0127	118,372	0.98
2019	4,267	1.2471	1.0075	5,361	0.05
2020	7,540	1.9076	1.0055	14,462	0.13
5 Years	$175,886			$200,374	0.35
Medical					
2016	23,310	1.0672	1.1355	28,247	0.25
2017	135,112	1.0699	1.1143	161,079	1.41
2018	57,361	1.0727	1.0935	67,284	0.56
2019	11,225	1.0527	1.0731	12,680	0.11
2020	19,449	1.0681	1.0531	21,877	0.20
5 Years	$246,457			$291,167	0.51

Indemnity & Medical	(6) Developed Payroll				
2016	11,327,552			35,353	0.31
2017	11,435,057			216,152	1.89
2018	12,043,297			185,656	1.54
2019	11,818,883			18,041	0.15
2020	10,877,350			36,339	0.33
5 Years	$57,502,139			$491,541	0.85

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	167,017	1.0341	1.0247	176,978	2.52
2017	6,566	1.0596	1.0194	7,092	0.09
2018	48,147	1.0987	1.0127	53,571	0.56
2019	278,388	1.2471	1.0075	349,782	2.79
2020	176,009	1.9076	1.0055	337,601	2.77
5 Years	$676,127			$925,024	1.88
Medical					
2016	68,519	1.0672	1.1355	83,032	1.18
2017	34,515	1.0699	1.1143	41,148	0.53
2018	199,115	1.0727	1.0935	233,561	2.42
2019	162,973	1.0527	1.0731	184,103	1.47
2020	211,675	1.0681	1.0531	238,095	1.95
5 Years	$676,797			$779,939	1.59

Indemnity & Medical	(6) Developed Payroll				
2016	7,018,927			260,010	3.70
2017	7,746,154			48,240	0.62
2018	9,651,288			287,132	2.98
2019	12,534,373			533,885	4.26
2020	12,187,657			575,696	4.72
5 Years	$49,138,399			$1,704,963	3.47

Source: (1) CMCRB Database as of 04-30-2021
(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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	583,664	1.0341	1.0247	618,475	2.61
2017	291,742	1.0596	1.0194	315,127	1.09
2018	205,893	1.0987	1.0127	229,088	0.71
2019	670,343	1.2471	1.0075	842,255	2.33
2020	249,189	1.9076	1.0055	477,967	1.42
5 Years	$2,000,831			$2,482,912	1.61
Medical					
2016	293,365	1.0672	1.1355	355,501	1.50
2017	523,693	1.0699	1.1143	624,341	2.17
2018	120,123	1.0727	1.0935	140,904	0.44
2019	180,736	1.0527	1.0731	204,169	0.57
2020	96,509	1.0681	1.0531	108,555	0.32
5 Years	$1,214,426			$1,433,470	0.93

Indemnity & Medical	(6) Developed Payroll				
2016	23,689,882			973,976	4.11
2017	28,803,457			939,468	3.26
2018	32,199,872			369,992	1.15
2019	36,099,579			1,046,424	2.90
2020	33,777,559			586,522	1.74
5 Years	$154,570,349			$3,916,382	2.53

Source: (1) CMCRB Database as of 04-30-2021
(2) Exhibit V-C
(3) Exhibit V-F
(4) (1) times (2) times (3)
(5) (4) divided by (6) times 100
(6) Exhibit X-D

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

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	0	1.0341	1.0247	0	0.00
2017	0	1.0596	1.0194	0	0.00
2018	0	1.0987	1.0127	0	0.00
2019	0	1.2471	1.0075	0	0.00
2020	0	1.9076	1.0055	0	0.00
5 Years	$0			$0	0.00
Medical					
2016	0	1.0672	1.1355	0	0.00
2017	0	1.0699	1.1143	0	0.00
2018	0	1.0727	1.0935	0	0.00
2019	0	1.0527	1.0731	0	0.00
2020	0	1.0681	1.0531	0	0.00
5 Years	$0			$0	0.00

Indemnity & Medical	(6) Developed Payroll			
2016	163,760		0	0.00
2017	252,383		0	0.00
2018	183,346		0	0.00
2019	179,379		0	0.00
2020	299,700		0	0.00
5 Years	$1,078,568		-	0.00

Source: (1) CMCRB Database as of 04-30-2021
(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
Five Other Classifications [Page 6 less Pages 8 & 13] - (5 Classes)

Accident Year	(1) Reported Losses	(2) Loss Development	(3) Trend Factor	(4) Ultimate Losses	(5) Loss Cost
Indemnity					
2016	1,227,473	1.0341	1.0247	1,300,682	2.35
2017	628,474	1.0596	1.0194	678,850	1.11
2018	551,053	1.0987	1.0127	613,132	0.88
2019	1,106,569	1.2471	1.0075	1,390,353	1.90
2020	879,040	1.9076	1.0055	1,686,078	2.60
5 Years	$4,392,609			$5,669,095	1.75
Medical					
2016	632,438	1.0672	1.1355	766,392	1.38
2017	1,134,642	1.0699	1.1143	1,352,707	2.20
2018	1,335,032	1.0727	1.0935	1,565,989	2.24
2019	416,217	1.0527	1.0731	470,180	0.64
2020	894,265	1.0681	1.0531	1,005,884	1.55
5 Years	$4,412,594			$5,161,152	1.59

Indemnity & Medical	(6) Developed Payroll				
2016	55,466,029			2,067,074	3.73
2017	61,370,481			2,031,557	3.31
2018	69,980,092			2,179,121	3.11
2019	73,111,475			1,860,533	2.54
2020	64,823,267			2,691,962	4.15
5 Years	$324,751,344			$10,830,247	3.33

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

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

(1) Development Period	(2) Average of Middle Four	(3) PCRB Factor	(4) CMCRB vs. PCRB Comparison	(5) Derived Development Factor	(6) Selected Factor	(7) Differences Average vs Selected	(8) Accumulated Selected Factor
1:2	1.5296	1.3370	0.1926	1.5296	1.5296	0.0000	1.9076
2:3	1.1351	1.0813	0.0538	1.1351	1.1351	0.0000	1.2471
3:4	1.0369	1.0187	0.0182	1.0369	1.0369	0.0000	1.0987
4:5	1.0247	1.0006	0.0241	1.0247	1.0247	0.0000	1.0596
5:6	0.9967	0.9999	-0.0032	1.0026	1.0026	-0.0059	1.0341
6:7	1.0139	1.0018	0.0121	1.0025	1.0025	0.0114	1.0314
7:8	1.0019	1.0023	-0.0004	1.0024	1.0024	-0.0005	1.0288
8:9	1.0046	1.0016	0.0030	1.0023	1.0023	0.0023	1.0263
9:10	1.0020	1.0006	0.0014	1.0022	1.0022	-0.0002	1.0239
10:11	1.0061	1.0004	0.0057	1.0021	1.0021	0.0040	1.0216
11:12	0.9994	1.0011	-0.0017	1.0020	1.0020	-0.0026	1.0195
12:13	1.0033	1.0013	0.0020	1.0019	1.0019	0.0014	1.0175
13:14	0.9948	0.9997	-0.0049	1.0018	1.0018	-0.0070	1.0156
14:15	0.9986	0.9995	-0.0009	1.0017	1.0017	-0.0031	1.0138
15:16	1.0007	0.9994	0.0013	1.0016	1.0016	-0.0009	1.0121
16:17	1.0018	1.0004	0.0014	1.0015	1.0015	0.0003	1.0105
17:18	1.0012	1.0000	0.0012	1.0013	1.0013	-0.0001	1.0090
18:19	1.0028	1.0007	0.0021	1.0012	1.0012	0.0016	1.0076
19:20	1.0006	1.0001	0.0005	1.0011	1.0011	-0.0005	1.0064
20:Ult	xx	1.0052	xx	1.0053	1.0053		1.0053

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

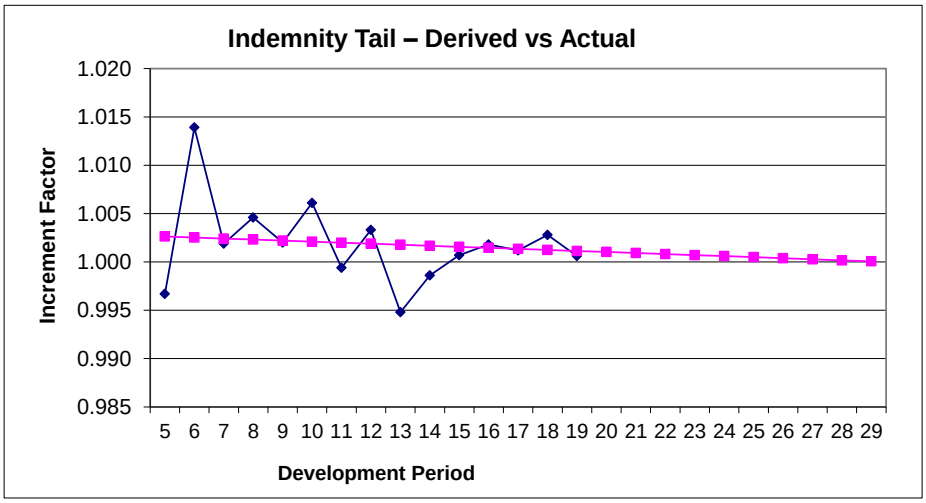
(1) Development Period	(2) Average of Middle Four	(3) PCRB Factor	(4) CMCRB vs. PCRB Comparison	(5) Derived Development Factor	(6) Selected Factor	(7) Differences Average vs Selected	(8) Accumulated Selected Factor
1:2	1.0146	1.0460	-0.0314	1.0146	1.0146	0.0000	1.0681
2:3	0.9814	1.0068	-0.0254	0.9814	0.9814	0.0000	1.0527
3:4	0.9808	1.0018	-0.0210	1.0026	1.0026	-0.0218	1.0727
4:5	1.0142	0.9904	0.0238	1.0025	1.0025	0.0117	1.0699
5:6	0.9948	0.9971	-0.0023	1.0025	1.0025	-0.0077	1.0672
6:7	1.0139	1.0077	0.0062	1.0024	1.0024	0.0115	1.0646
7:8	0.9932	1.0065	-0.0133	1.0023	1.0023	-0.0091	1.0621
8:9	1.0063	1.0004	0.0059	1.0022	1.0022	0.0041	1.0597
9:10	1.0064	1.0015	0.0049	1.0022	1.0022	0.0042	1.0573
10:11	1.0086	1.0023	0.0063	1.0021	1.0021	0.0065	1.0550
11:12	1.0061	1.0041	0.0020	1.0020	1.0020	0.0041	1.0528
12:13	1.0074	1.0027	0.0047	1.0020	1.0020	0.0054	1.0507
13:14	1.0022	1.0084	-0.0062	1.0019	1.0019	0.0003	1.0487
14:15	1.0066	1.0036	0.0030	1.0018	1.0018	0.0048	1.0467
15:16	0.9939	1.0097	-0.0158	1.0017	1.0017	-0.0078	1.0448
16:17	0.9833	0.9995	-0.0162	1.0017	1.0017	-0.0184	1.0430
17:18	1.0024	1.0046	-0.0022	1.0016	1.0016	0.0008	1.0413
18:19	1.0002	1.0019	-0.0017	1.0015	1.0015	-0.0013	1.0396
19:20	0.9998	1.0034	-0.0036	1.0015	1.0015	-0.0017	1.0380
20:Ult	xx	1.0588	xx	1.0365	1.0365		1.0365

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

(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	1.5296	1.5296	1.8976	1.5296	xx	xx	xx			
2	1.1351	1.1351	1.2406	1.1351	xx	xx	xx			
3	1.0369	1.0369	1.0929	1.0369	xx	xx	xx			
4	1.0247	1.0247	1.0540	1.0247	xx	xx	xx			
5	0.9967	1.0026	1.0286	1.0026	1.0286	1.0026	1.0286			
6	1.0139	1.0025	1.0320	1.0025	1.0259	1.0025	1.0259			
7	1.0019	1.0024	1.0179	1.0024	1.0233	1.0024	1.0233			
8	1.0046	1.0023	1.0160	1.0023	1.0209	1.0023	1.0209			
9	1.0020	1.0022	1.0113	1.0022	1.0185	1.0022	1.0185			
10	1.0061	1.0021	1.0093	1.0021	1.0163	1.0021	1.0163			
11	0.9994	1.0020	1.0032	1.0020	1.0141	1.0020	1.0141			
12	1.0033	1.0019	1.0038	1.0019	1.0121	1.0019	1.0121			
13	0.9948	1.0018	1.0005	1.0018	1.0102	1.0018	1.0102			
14	0.9986	1.0017	1.0057	1.0017	1.0084	1.0017	1.0084			
15	1.0007	1.0016	1.0071	1.0016	1.0068	1.0016	1.0068			
16	1.0018	1.0015	1.0064	1.0015	1.0052	1.0015	1.0052			
17	1.0012	1.0013	1.0046	1.0013	1.0037	1.0013	1.0037			
18	1.0028	1.0012	1.0034	1.0012	1.0024	1.0012	1.0024			
19	1.0006	1.0011	1.0006	1.0011	1.0011	1.0011	1.0011			
20		1.0010						20	1.0010	1.0055
21		1.0009						21	1.0009	1.0044
22		1.0008						22	1.0008	1.0035
23		1.0007						23	1.0007	1.0027
24		1.0006						24	1.0006	1.0020
25		1.0005						25	1.0005	1.0014
26		1.0004						26	1.0004	1.0009
27		1.0003						27	1.0003	1.0005
28		1.0002						28	1.0002	1.0002
29		1.0001						29	1.0001	1.0001



CMCRB tail factor	1.0055
PCRB tail factor	1.0052
Selected Tail Factor	1.0053

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)

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

(1) Span of Maturities	(2) Age-to-Age Incurred Loss Factors	(3) Span of Maturities	(4) Cumulative Incurred Loss Factors
1 to 2	1.3370	1 to Ult	1.4944
2 to 3	1.0813	2 to Ult	1.1177
3 to 4	1.0187	3 to Ult	1.0337
4 to 5	1.0006	4 to Ult	1.0147
5 to 6	0.9999	5 to Ult	1.0141
6 to 7	1.0018	6 to Ult	1.0142
7 to 8	1.0023	7 to Ult	1.0124
8 to 9	1.0016	8 to Ult	1.0100
9 to 10	1.0006	9 to Ult	1.0084
10 to 11	1.0004	10 to Ult	1.0078
11 to 12	1.0011	11 to Ult	1.0074
12 to 13	1.0013	12 to Ult	1.0063
13 to 14	0.9997	13 to Ult	1.0050
14 to 15	0.9995	14 to Ult	1.0053
15 to 16	0.9994	15 to Ult	1.0058
16 to 17	1.0004	16 to Ult	1.0064
17 to 18	1.0000	17 to Ult	1.0060
18 to 19	1.0007	18 to Ult	1.0060
19 to 20	1.0001	19 to Ult	1.0053
20 to Ult	1.0052	20 to Ult	1.0052

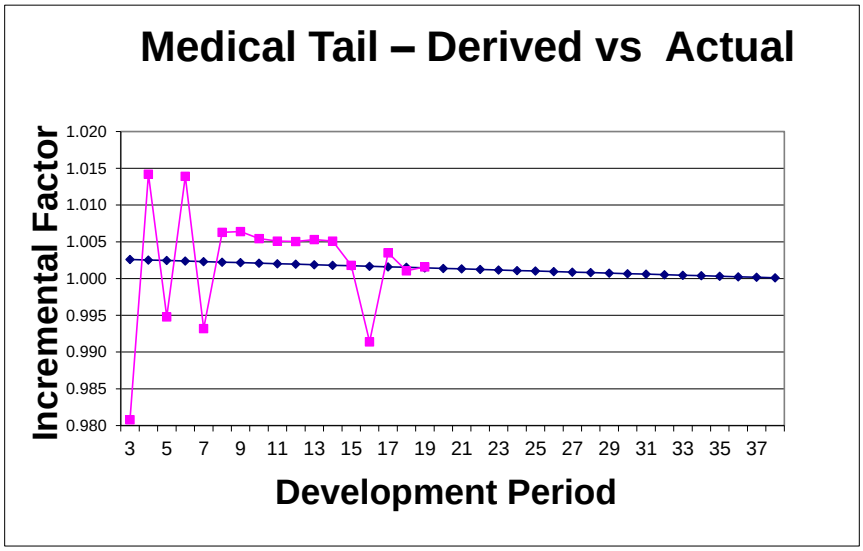
Source:PCRB Loss Cost Filing effective April 1, 2021 - Exhibit 5, page 5, Selected Incurred LDF

The 20:Ult Factor is the PCRB's "Beyond 19-20" factor

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-toAge 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	1.0146		1.0146	1.0306	1.0146	1.0306	20	1.0014	1.0142
2	0.9814		0.9814	1.0157	0.9814	1.0157	21	1.0013	1.0128
3	0.9808		0.9808	1.0350	1.0026	1.0350	22	1.0012	1.0114
4	1.0142		1.0142	1.0552	1.0025	1.0323	23	1.0012	1.0102
5	0.9948		0.9948	1.0405	1.0025	1.0297	24	1.0011	1.0090
6	1.0139		1.0139	1.0459	1.0024	1.0272	25	1.0010	1.0079
7	0.9932		0.9932	1.0316	1.0023	1.0247	26	1.0010	1.0069
8	1.0063		1.0063	1.0386	1.0022	1.0224	27	1.0009	1.0059
9	1.0064		1.0064	1.0321	1.0022	1.0201	28	1.0008	1.0050
10	1.0086	1.0023	1.0055	1.0256	1.0021	1.0179	29	1.0007	1.0042
11	1.0061	1.0041	1.0051	1.0200	1.0020	1.0158	30	1.0007	1.0035
12	1.0074	1.0027	1.0051	1.0148	1.0020	1.0137	31	1.0006	1.0028
13	1.0022	1.0084	1.0053	1.0097	1.0019	1.0117	32	1.0005	1.0022
14	1.0066	1.0036	1.0051	1.0044	1.0018	1.0098	33	1.0005	1.0017
15	0.9939	1.0097	1.0018	0.9993	1.0017	1.0080	34	1.0004	1.0012
16	0.9833	0.9995	0.9914	0.9975	1.0017	1.0063	35	1.0003	1.0008
17	1.0024	1.0046	1.0035	1.0062	1.0016	1.0046	36	1.0002	1.0005
18	1.0002	1.0019	1.0011	1.0027	1.0015	1.0030	37	1.0002	1.0003
19	0.9998	1.0034	1.0016	1.0016	1.0015	1.0015	38	1.0001	1.0001



CMCRB derived tail factor	1.0142
PCRB tail factor	1.0588
Selected	1.0365

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 Maturities	(2) Age-to-Age Incurred Loss Factors	(3) Span of Maturities	(4) Cumulative Incurred Loss Factors
1 to 2	1.0460	1 to Ult.	1.1668
2 to 3	1.0068	2 to Ult.	1.1155
3 to 4	1.0018	3 to Ult.	1.1079
4 to 5	0.9904	4 to Ult.	1.1060
5 to 6	0.9971	5 to Ult.	1.1167
6 to 7	1.0077	6 to Ult.	1.1199
7 to 8	1.0065	7 to Ult.	1.1114
8 to 9	1.0004	8 to Ult.	1.1042
9 to 10	1.0015	9 to Ult.	1.1038
10 to 11	1.0023	10 to Ult.	1.1021
11 to 12	1.0041	11 to Ult.	1.0996
12 to 13	1.0027	12 to Ult.	1.0951
13 to 14	1.0084	13 to Ult.	1.0921
14 to 15	1.0036	14 to Ult.	1.0830
15 to 16	1.0097	15 to Ult.	1.0791
16 to 17	0.9995	16 to Ult.	1.0688
17 to 18	1.0046	17 to Ult.	1.0693
18 to 19	1.0019	18 to Ult.	1.0644
19 to 20	1.0034	19 to Ult.	1.0624
20 to Ult.	1.0588	20 to Ult.	1.0588

Source:PCRB Loss Cost Filing effective April 1, 2021 - Exhibit 5, page 20, Selected Incurred LDF

The 20:Ult Factor is the PCRB's "Beyond 19-20" factor.

Coal Mine Compensation Rating Bureau

Traumatic Loss Trend

Indemnity, Funeral and Medical for All Classes Combined

Trend Factors

Indemnity and Funeral

Annual Percentage Change: 0.2%

Accident Year	Trend Period - Years		Annual Percentage Change	Formula	Trend Factor	HB 1846 Adjustment Factor	HB 1840 Adjustment Factor	Adjusted Trend Factor
2016	7-1-16 to 4-1-2023	6.75	0.2%	(1 + 0.002) ^ 6.75	1.0136	1.0000	1.0110	1.0247
2017	7-1-17 to 4-1-2023	5.75	0.2%	(1 + 0.002) ^ 5.75	1.0116	1.0000	1.0077	1.0194
2018	7-1-18 to 4-1-2023	4.75	0.2%	(1 + 0.002) ^ 4.75	1.0095	1.0000	1.0032	1.0127
2019	7-1-19 to 4-1-2023	3.75	0.2%	(1 + 0.002) ^ 3.75	1.0075	1.0000	1.0000	1.0075
2020	7-1-20 to 4-1-2023	2.75	0.2%	(1 + 0.002) ^ 2.75	1.0055	1.0000	1.0000	1.0055

Medical and Medical Only

Annual Percentage Change: 1.9%

Accident Year	Trend Period - Years		Annual Percentage Change	Formula	Trend Factor	HB 1846 Adjustment Factor	HB 1840 Adjustment Factor	Adjusted Trend Factor
2016	7-1-16 to 4-1-2023	6.75	1.9%	(1 + 0.019) ^ 6.75	1.1355	1.0000	1.0000	1.1355
2017	7-1-17 to 4-1-2023	5.75	1.9%	(1 + 0.019) ^ 5.75	1.1143	1.0000	1.0000	1.1143
2018	7-1-18 to 4-1-2023	4.75	1.9%	(1 + 0.019) ^ 4.75	1.0935	1.0000	1.0000	1.0935
2019	7-1-19 to 4-1-2023	3.75	1.9%	(1 + 0.019) ^ 3.75	1.0731	1.0000	1.0000	1.0731
2020	7-1-20 to 4-1-2023	2.75	1.9%	(1 + 0.019) ^ 2.75	1.0531	1.0000	1.0000	1.0531

Source: Annual Percentage Change - Exhibit V-K

Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

Year	(1) Indemnity Case Incurred Losses	(2) Loss Development Factors	(3) Ultimate Losses	(4) Loss Cost Premium
2011	8,553,183	1.0216	8,737,932	15,814,594
2012	10,249,907	1.0239	10,494,880	16,355,904
2013	7,841,081	1.0263	8,047,301	15,347,459
2014	12,388,158	1.0288	12,744,937	23,725,699
2015	11,975,666	1.0314	12,351,702	19,726,632
2016	9,320,369	1.0341	9,638,194	14,163,465
2017	9,565,189	1.0596	10,135,274	16,119,043
2018	8,370,682	1.0987	9,196,868	16,945,595
2019	7,260,582	1.2471	9,054,672	17,049,346
2020	4,610,453	1.9076	8,794,900	13,834,909

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

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

Year	(1) Medical Case Incurred Losses	(2) Loss Development Factors	(3) Ultimate Losses	(4) Loss Cost Premium
2011	6,260,088	1.0550	6,604,393	15,814,594
2012	5,542,753	1.0573	5,860,353	16,355,904
2013	4,267,766	1.0597	4,522,552	15,347,459
2014	5,884,600	1.0621	6,250,034	23,725,699
2015	3,898,999	1.0646	4,150,874	19,726,632
2016	3,857,323	1.0672	4,116,535	14,163,465
2017	5,788,454	1.0699	6,193,067	16,119,043
2018	5,289,853	1.0727	5,674,425	16,945,595
2019	3,688,426	1.0527	3,882,806	17,049,346
2020	3,750,095	1.0681	4,005,476	13,834,909

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

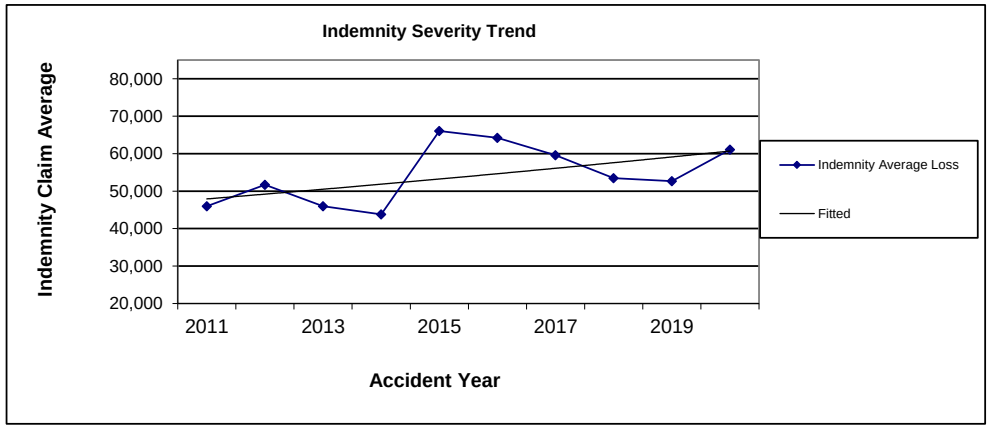
Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

Severity Trend

Year	(1) Ultimate Losses	(2) Claim Counts	(3) Average Loss	(4) Annual Average Loss Change
2011	8,737,932	190	45,989	
2012	10,494,880	203	51,699	12.4%
2013	8,047,301	175	45,985	-11.1%
2014	12,744,937	291	43,797	-4.8%
2015	12,351,702	187	66,052	50.8%
2016	9,638,194	150	64,255	-2.7%
2017	10,135,274	170	59,619	-7.2%
2018	9,196,868	172	53,470	-10.3%
2019	9,054,672	172	52,643	-1.5%
2020	8,794,900	144	61,076	16.0%

Indemnity Severity Trend Factor: 1.024
Source: Summary Exhibit (V-K)

Fitted=46683.1911 x e^(0.0263*(YEAR-2010))



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

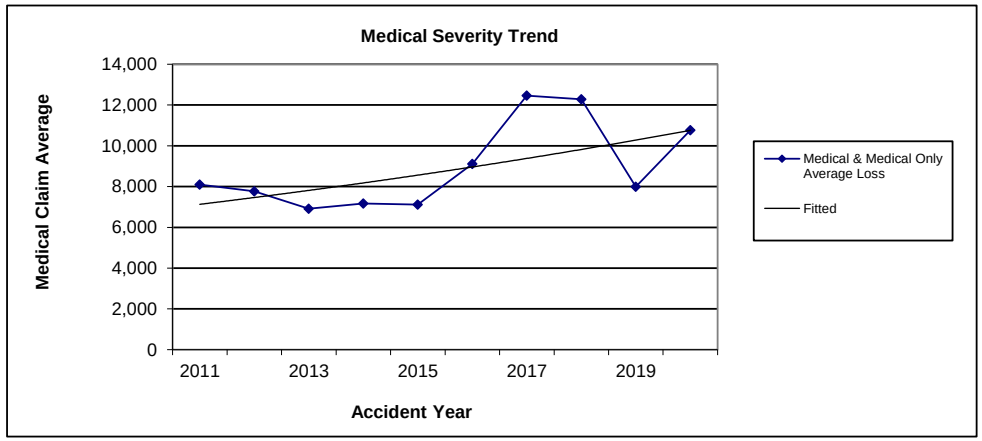
Traumatic Loss Trend
Medical and Medical Only Losses for All Classes Combined

Severity Trend

Year	(1) Ultimate Losses	(2) Claim Counts	(3) Average Loss	(4) Annual Average Loss Change
2011	6,604,393	816	8,094	
2012	5,860,353	755	7,762	-4.1%
2013	4,522,552	654	6,915	-10.9%
2014	6,250,034	872	7,167	3.6%
2015	4,150,874	583	7,120	-0.7%
2016	4,116,535	452	9,107	27.9%
2017	6,193,067	497	12,461	36.8%
2018	5,674,425	462	12,282	-1.4%
2019	3,882,806	486	7,989	-35.0%
2020	4,005,476	372	10,767	34.8%

Medical Severity Trend Factor: 1.059
Source: Summary Exhibit (V-K)

Fitted=6810.6470 x e^(0.0457*(YEAR-2010))



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

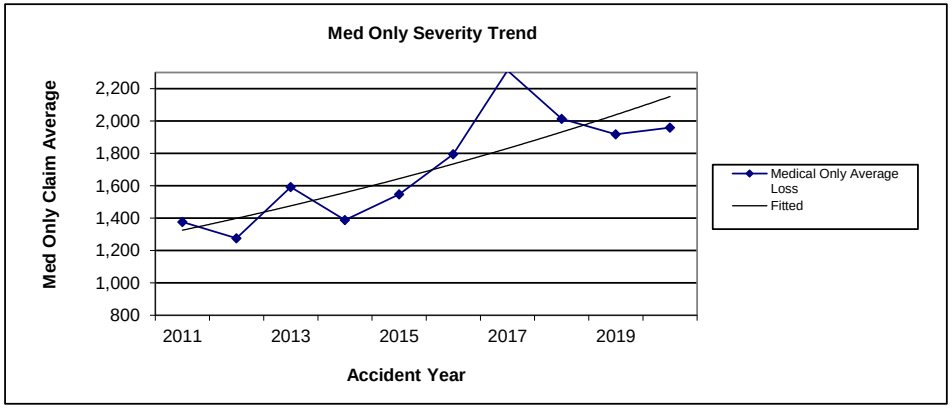
Traumatic Loss Trend
Medical Only Losses for All Classes Combined

Severity Trend

Year	(1) Ultimate Claim Counts	(2) Ultimate Incurred Losses	(3) Average Loss	(4) Annual Average Loss Change
2011	626	862,257	1,377	
2012	552	704,535	1,276	-7.3%
2013	479	763,168	1,593	24.8%
2014	581	806,301	1,388	-12.9%
2015	396	612,724	1,547	11.5%
2016	302	542,126	1,795	16.0%
2017	327	755,926	2,312	28.8%
2018	290	584,188	2,014	-12.9%
2019	314	602,160	1,918	-4.8%
2020	228	446,760	1,959	2.1%

Med. Only Severity Trend Factor: 1.058
Source: Summary Exhibit (V-K)

Fitted=1256.2370 x e^(0.0538*(YEAR-2010))



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

Traumatic Loss Trend

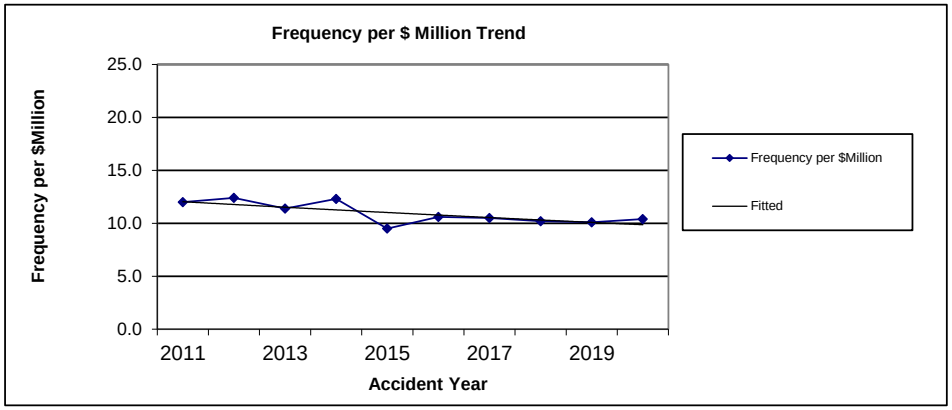
Indemnity and Funeral Losses for All Classes Combined

Frequency Trend

Year	(1) Ultimate Claim Counts	(2) Loss Cost Premium	(3) Frequency per($M)	(4) Annual Average Loss Change
2011	190	15,814,594	12.0	
2012	203	16,355,904	12.4	3.3%
2013	175	15,347,459	11.4	-8.1%
2014	291	23,725,699	12.3	7.9%
2015	187	19,726,632	9.5	-22.8%
2016	150	14,163,465	10.6	11.6%
2017	170	16,119,043	10.5	-0.9%
2018	172	16,945,595	10.2	-2.9%
2019	172	17,049,346	10.1	-1.0%
2020	144	13,834,909	10.4	3.0%

Frequency per $Million Trend Factor: 0.978
Source: Summary Exhibit (V-K)

Fitted=12.3064 x e^(-0.0221*(YEAR-2010))



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'

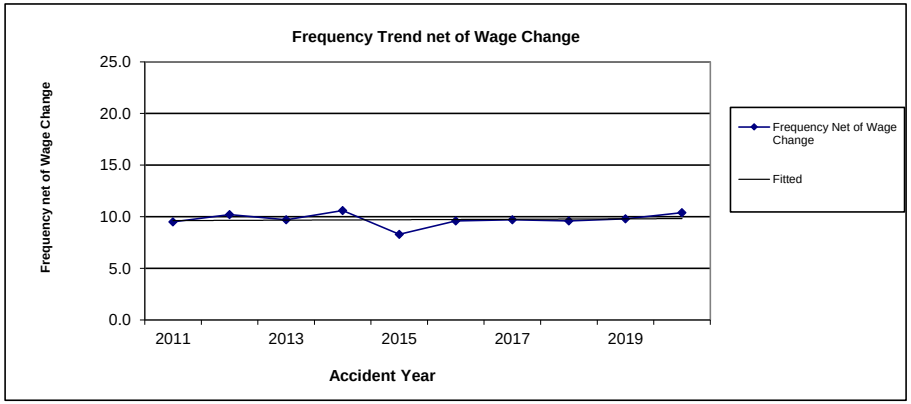
Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

Frequency Trend Net of Wage Trend

Year	(1) Loss Cost Premium	(2) Statewide Average Weekly Wage	(3) On 2020 Level	(4) Loss Cost Premium on 2020 Level	(5) Claim Counts	(6) Adjusted Frequency per($M)	(7) Annual Frequency Change
2011	15,814,594	858	1.260	19,926,388	190	9.5	
2012	16,355,904	888	1.217	19,905,135	203	10.2	7.4%
2013	15,347,459	917	1.179	18,094,654	175	9.7	-4.9%
2014	23,725,699	932	1.160	27,521,811	291	10.6	9.3%
2015	19,726,632	951	1.137	22,429,181	187	8.3	-21.7%
2016	14,163,465	978	1.105	15,650,629	150	9.6	15.7%
2017	16,119,043	995	1.086	17,505,281	170	9.7	1.0%
2018	16,945,595	1025	1.055	17,877,603	172	9.6	-1.0%
2019	17,049,346	1049	1.031	17,577,876	172	9.8	2.1%
2020	13,834,909	1081	1.000	13,834,909	144	10.4	6.1%

Frequency net of Wage Change Trend Factor: 1.001
Source: Summary Exhibit (V-K)

Fitted=9.6042 x e^(0.0022*(YEAR-2010))



Soures:
(1) Exhibit X-B
(2) Exhibit XII-D
(3) 2020 is 1.000. Values for other years divided into 2020 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

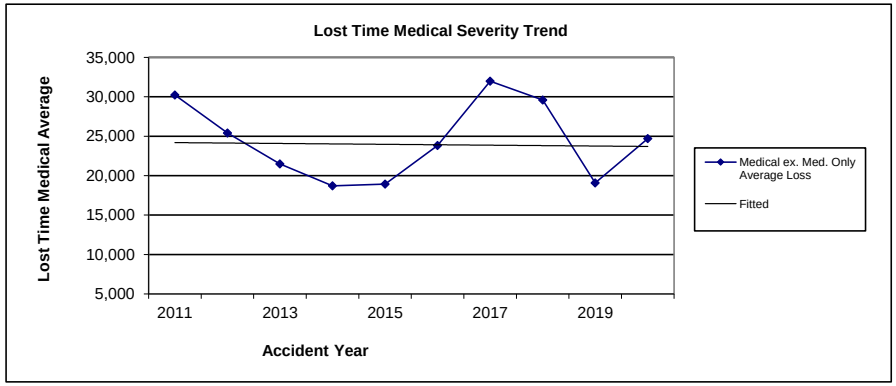
Traumatic Loss Trend
Medical (excl. Medical Only Losses) for All Classes Combined

Severity Trend

Year	(1) Ultimate Medical Losses Incurred	(2) Med. Only Ultimate Incurred Losses	(3) Ult. Med. On Lost Time Claims	(4) Claim Counts	(5) Average Loss	(6) Annual Average Loss Change
2011	6,604,393	862,257	5,742,136	190	30,222	
2012	5,860,353	704,535	5,155,818	203	25,398	-16.0%
2013	4,522,552	763,168	3,759,384	175	21,482	-15.4%
2014	6,250,034	806,301	5,443,733	291	18,707	-12.9%
2015	4,150,874	612,724	3,538,150	187	18,921	1.1%
2016	4,116,535	542,126	3,574,409	150	23,829	25.9%
2017	6,193,067	755,926	5,437,141	170	31,983	34.2%
2018	5,674,425	584,188	5,090,237	172	29,594	-7.5%
2019	3,882,806	602,160	3,280,646	172	19,074	-35.5%
2020	4,005,476	446,760	3,558,716	144	24,713	29.6%

Lost Time Medical Severity Trend Factor: 1.015
Source: Summary Exhibit (V-K)

Fitted=24248.8918 x e^(-0.0023*(YEAR-2010))



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

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Traumatic Loss Trend
Summary of Estimates

			Ests. 1&2	Ests. 3&4	Ests. 5&6	Ests. 7&8	Ests.9&10	Ests.11&12	Average	
V-I-1	Traditional	Indemnity	103.0%	102.2%	103.4%	102.2%	101.2%	102.4%	102.4%	Severity
	Moving Average	Indemnity	102.2%	102.8%	101.4%	102.4%	103.2%	101.6%	102.3%	Severity
									102.4%	Average
V-I-2	Traditional	Total Medical	104.0%	105.0%	106.7%	102.3%	103.3%	105.1%	104.4%	Severity
	Moving Average	Total Medical	104.5%	106.0%	107.9%	106.2%	108.4%	111.5%	107.4%	Severity
									105.9%	Average
V-I-3	Traditional	Medical Only	104.8%	105.7%	104.0%	105.3%	106.5%	104.7%	105.2%	Severity
	Moving Average	Medical Only	104.8%	105.6%	105.4%	106.6%	107.9%	108.3%	106.4%	Severity
									105.8%	Average
V-I-4	Traditional	Frequency	98.1%	97.8%	98.5%	97.6%	97.1%	97.8%	97.8%	Frequency
	Moving Average	Frequency	97.8%	97.3%	98.3%	97.6%	97.0%	98.1%	97.7%	Frequency
									97.8%	Average
V-I-5	Traditional	Frequency	100.6%	100.2%	100.8%	100.1%	99.4%	100.1%	100.2%	Frequency
	Moving Average	Frequency	100.1%	99.5%	100.8%	99.8%	99.0%	100.5%	100.0%	Frequency
									100.1%	Average
V-I-6	Traditional	Medical Ex. M.O.	98.8%	100.7%	102.7%	96.9%	98.8%	101.0%	99.8%	Severity
	Moving Average	Medical Ex. M.O.	99.3%	101.9%	104.4%	100.8%	104.2%	108.1%	103.1%	Severity
									101.5%	Average
			Average Frequency Indication							
	Traditional	Trad Freq	98.0%	97.6%	98.3%	97.5%	96.9%	97.6%	97.7%	
	Moving Average	MA Freq	97.6%	97.0%	98.2%	97.3%	96.7%	97.9%	97.5%	
									97.6%	

	Indemnity		Medical	
Selected Frequency Factor	98.00%	*	98.00%	*
Selected Severity Factor	102.25%	**	104.00%	***
Composite Trend Factor	100.20%		101.90%	
Approved 4-1-2021	100.2%		102.1%	
Selected 4-1-2022	100.2%	****	101.9%	****

* Selected Frequency Trend - see Actuarial Report

** Selected Indemity Severity Trend - see Actuarial Report

*** Selected Medical Severity Trend - see Actuarial Report

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

Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

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
2011	8,737,932	190	45,989			
2012	10,494,880	203	51,699	12.4%		
2013	8,047,301	175	45,985	-11.1%	47,891	
2014	12,744,937	291	43,797	-4.8%	47,160	-1.5%
2015	12,351,702	187	66,052	50.8%	51,945	10.1%
2016	9,638,194	150	64,255	-2.7%	58,035	11.7%
2017	10,135,274	170	59,619	-7.2%	63,309	9.1%
2018	9,196,868	172	53,470	-10.3%	59,115	-6.6%
2019	9,054,672	172	52,643	-1.5%	55,244	-6.5%
2020	8,794,900	144	61,076	16.0%	55,730	0.9%

Analysis performed on data for 2011 through 2020.	Geometric Average:	3.2%	2.2%	Ests.
	Regression Indication:	2.7%		1 & 2
	Selected:	3.0%	2.2%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	2.1%	2.8%	Ests.
	Regression Indication:	2.3%		3 & 4
	Selected:	2.2%	2.8%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	4.1%	1.4%	Ests.
	Regression Indication:	2.7%		5 & 6
	Selected:	3.4%	1.4%	

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

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

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
2011	6,604,393	816	8,094			
2012	5,860,353	755	7,762	-4.1%		
2013	4,522,552	654	6,915	-10.9%	7,590	
2014	6,250,034	872	7,167	3.6%	7,281	-4.1%
2015	4,150,874	583	7,120	-0.7%	7,067	-2.9%
2016	4,116,535	452	9,107	27.9%	7,798	10.3%
2017	6,193,067	497	12,461	36.8%	9,563	22.6%
2018	5,674,425	462	12,282	-1.4%	11,283	18.0%
2019	3,882,806	486	7,989	-35.0%	10,911	-3.3%
2020	4,005,476	372	10,767	34.8%	10,346	-5.2%

Analysis performed on data for 2011 through 2020.	Geometric Average:	3.2%	4.5%	Ests.
	Regression Indication:	4.7%		1 & 2
	Selected:	4.0%	4.5%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	4.2%	6.0%	Ests.
	Regression Indication:	5.8%		3 & 4
	Selected:	5.0%	6.0%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	6.5%	7.9%	Ests.
	Regression Indication:	6.9%		5 & 6
	Selected:	6.7%	7.9%	

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

Traumatic Loss Trend
Medical Only Losses for All Classes Combined

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
2011	626	862,257	1,377			
2012	552	704,535	1,276	-7.3%		
2013	479	763,168	1,593	24.8%	1,415	
2014	581	806,301	1,388	-12.9%	1,419	0.3%
2015	396	612,724	1,547	11.5%	1,509	6.3%
2016	302	542,126	1,795	16.0%	1,577	4.5%
2017	327	755,926	2,312	28.8%	1,885	19.5%
2018	290	584,188	2,014	-12.9%	2,040	8.2%
2019	314	602,160	1,918	-4.8%	2,081	2.0%
2020	228	446,760	1,959	2.1%	1,964	-5.6%

Analysis performed on data for 2011 through 2020.	Geometric Average:	4.0%	4.8%	Ests.
	Regression Indication:	5.5%		1 & 2
	Selected:	4.8%	4.8%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	5.5%	5.6%	Ests.
	Regression Indication:	5.9%		3 & 4
	Selected:	5.7%	5.6%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	3.0%	5.4%	Ests.
	Regression Indication:	5.0%		5 & 6
	Selected:	4.0%	5.4%	

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

Frequency Trend

Year	(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
2011	190	15,814,594	12.0			
2012	203	16,355,904	12.4	3.3%		
2013	175	15,347,459	11.4	-8.1%	11.9	
2014	291	23,725,699	12.3	7.9%	12.0	0.8%
2015	187	19,726,632	9.5	-22.8%	11.1	-7.5%
2016	150	14,163,465	10.6	11.6%	10.8	-2.7%
2017	170	16,119,043	10.5	-0.9%	10.2	-5.6%
2018	172	16,945,595	10.2	-2.9%	10.4	2.0%
2019	172	17,049,346	10.1	-1.0%	10.3	-1.0%
2020	144	13,834,909	10.4	3.0%	10.2	-1.0%

Analysis performed on data for 2011 through 2020.	Geometric Average:	-1.6%	-2.2%	Ests.
	Regression Indication:	-2.2%		1 & 2
	Selected:	-1.9%	-2.2%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	-2.2%	-2.7%	Ests.
	Regression Indication:	-2.2%		3 & 4
	Selected:	-2.2%	-2.7%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	-1.3%	-1.7%	Ests.
	Regression Indication:	-1.7%		5 & 6
	Selected:	-1.5%	-1.7%	

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

Frequency Trend Net of Wage Trend

Year	(1) Loss Cost Premium	(2) Statewide Average Weekly Wage	(3) On 2020 Level	(4) Loss Cost Premium on 2020 Level	(5) Claim Counts	(6) Adjusted Frequency per($M)	(7) Annual Frequency Change	(8) 3-Year Moving Average	(9) Annual Mov. Avg. Change
2011	15,814,594	858	1.260	19,926,388	190	9.5			
2012	16,355,904	888	1.217	19,905,135	203	10.2	7.4%		
2013	15,347,459	917	1.179	18,094,654	175	9.7	-4.9%	9.8	
2014	23,725,699	932	1.160	27,521,811	291	10.6	9.3%	10.2	4.1%
2015	19,726,632	951	1.137	22,429,181	187	8.3	-21.7%	9.5	-6.9%
2016	14,163,465	978	1.105	15,650,629	150	9.6	15.7%	9.5	0.0%
2017	16,119,043	995	1.086	17,505,281	170	9.7	1.0%	9.2	-3.2%
2018	16,945,595	1025	1.055	17,877,603	172	9.6	-1.0%	9.6	4.3%
2019	17,049,346	1049	1.031	17,577,876	172	9.8	2.1%	9.7	1.0%
2020	13,834,909	1081	1.000	13,834,909	144	10.4	6.1%	9.9	2.1%

Analysis performed on data for 2011 through 2020.	Geometric Average:	1.0%	0.1%	Ests.
	Regression Indication:	0.2%		1 & 2
	Selected:	0.6%	0.1%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	0.2%	-0.5%	Ests.
	Regression Indication:	0.1%		3 & 4
	Selected:	0.2%	-0.5%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	1.0%	0.8%	Ests.
	Regression Indication:	0.6%		5 & 6
	Selected:	0.8%	0.8%	

Sources:
(1) Exhibit X-B
(2) Exhibit XII-D
(3) 2020 is 1.000. Values for other years divided into 2020 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

Year	(1) Ultimate Medical Losses Incurred	(2) Med. Only Ultimate Incurred Losses	(3) Ult. Med. On Lost Time Claims	(4) Claim Counts	(5) Average Loss	(6) Annual Average Loss Change	(7) 3-Year Moving Average	(8) Annual Mov. Avg. Change
2011	6,604,393	862,257	5,742,136	190	30,222			
2012	5,860,353	704,535	5,155,818	203	25,398	-16.0%		
2013	4,522,552	763,168	3,759,384	175	21,482	-15.4%	25,701	
2014	6,250,034	806,301	5,443,733	291	18,707	-12.9%	21,862	-14.9%
2015	4,150,874	612,724	3,538,150	187	18,921	1.1%	19,703	-9.9%
2016	4,116,535	542,126	3,574,409	150	23,829	25.9%	20,486	4.0%
2017	6,193,067	755,926	5,437,141	170	31,983	34.2%	24,911	21.6%
2018	5,674,425	584,188	5,090,237	172	29,594	-7.5%	28,469	14.3%
2019	3,882,806	602,160	3,280,646	172	19,074	-35.5%	26,884	-5.6%
2020	4,005,476	446,760	3,558,716	144	24,713	29.6%	24,460	-9.0%

Analysis performed on data for 2011 through 2020.	Geometric Average:	-2.2%	-0.7%	Ests.
	Regression Indication:	-0.2%		1 & 2
	Selected:	-1.2%	-0.7%	
Analysis performed on data for 2012 through 2020.	Geometric Average:	-0.3%	1.9%	Ests.
	Regression Indication:	1.6%		3 & 4
	Selected:	0.7%	1.9%	
Analysis performed on data for 2013 through 2020.	Geometric Average:	2.0%	4.4%	Ests.
	Regression Indication:	3.3%		5 & 6
	Selected:	2.7%	4.4%	

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)x100

Traumatic Loss Trend
Indemnity and Funeral Losses for All Classes Combined

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
2011	8,737,932	190	45,989			
2012	10,494,880	203	51,699	12.4%		
2013	8,047,301	175	45,985	-11.1%	47,891	
2014	12,744,937	291	43,797	-4.8%	47,160	-1.5%
2015	12,351,702	187	66,052	50.8%	51,945	10.1%
2016	9,638,194	150	64,255	-2.7%	58,035	11.7%
2017	10,135,274	170	59,619	-7.2%	63,309	9.1%
2018	9,196,868	172	53,470	-10.3%	59,115	-6.6%
2019	9,054,672	172	52,643	-1.5%	55,244	-6.5%

Analysis performed on data for 2011 through 2019.	Geometric Average:	1.7%	2.4%	Ests.
	Regression Indication:	2.6%		7 & 8
	Selected:	2.2%	2.4%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	0.3%	3.2%	Ests.
	Regression Indication:	2.1%		9 & 10
	Selected:	1.2%	3.2%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	2.3%	1.6%	Ests.
	Regression Indication:	2.5%		11 & 12
	Selected:	2.4%	1.6%	

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

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
2011	6,604,393	816	8,094			
2012	5,860,353	755	7,762	-4.1%		
2013	4,522,552	654	6,915	-10.9%	7,590	
2014	6,250,034	872	7,167	3.6%	7,281	-4.1%
2015	4,150,874	583	7,120	-0.7%	7,067	-2.9%
2016	4,116,535	452	9,107	27.9%	7,798	10.3%
2017	6,193,067	497	12,461	36.8%	9,563	22.6%
2018	5,674,425	462	12,282	-1.4%	11,283	18.0%
2019	3,882,806	486	7,989	-35.0%	10,911	-3.3%

Analysis performed on data for 2011 through 2019.	Geometric Average:	-0.2%	6.2%	Ests.
	Regression Indication:	4.7%		7 & 8
	Selected:	2.3%	6.2%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	0.4%	8.4%	Ests.
	Regression Indication:	6.1%		9 & 10
	Selected:	3.3%	8.4%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	2.4%	11.5%	Ests.
	Regression Indication:	7.7%		11 & 12
	Selected:	5.1%	11.5%	

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

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
2011	626	862,257	1,377			
2012	552	704,535	1,276	-7.3%		
2013	479	763,168	1,593	24.8%	1,415	
2014	581	806,301	1,388	-12.9%	1,419	0.3%
2015	396	612,724	1,547	11.5%	1,509	6.3%
2016	302	542,126	1,795	16.0%	1,577	4.5%
2017	327	755,926	2,312	28.8%	1,885	19.5%
2018	290	584,188	2,014	-12.9%	2,040	8.2%
2019	314	602,160	1,918	-4.8%	2,081	2.0%

Analysis performed on data for 2011 through 2019.	Geometric Average:	4.2%	6.6%	Ests.
	Regression Indication:	6.4%		7 & 8
	Selected:	5.3%	6.6%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	6.0%	7.9%	Ests.
	Regression Indication:	7.0%		9 & 10
	Selected:	6.5%	7.9%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	3.1%	8.3%	Ests.
	Regression Indication:	6.3%		11 & 12
	Selected:	4.7%	8.3%	

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

Frequency Trend

Year	(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
2011	190	15,814,594	12.0			
2012	203	16,355,904	12.4	3.3%		
2013	175	15,347,459	11.4	-8.1%	11.9	
2014	291	23,725,699	12.3	7.9%	12.0	0.8%
2015	187	19,726,632	9.5	-22.8%	11.1	-7.5%
2016	150	14,163,465	10.6	11.6%	10.8	-2.7%
2017	170	16,119,043	10.5	-0.9%	10.2	-5.6%
2018	172	16,945,595	10.2	-2.9%	10.4	2.0%
2019	172	17,049,346	10.1	-1.0%	10.3	-1.0%

Analysis performed on data for 2011 through 2019.	Geometric Average:	-2.1%	-2.4%	Ests.
	Regression Indication:	-2.6%		7 & 8
	Selected:	-2.4%	-2.4%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-2.9%	-3.0%	Ests.
	Regression Indication:	-2.8%		9 & 10
	Selected:	-2.9%	-3.0%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	-2.0%	-1.9%	Ests.
	Regression Indication:	-2.3%		11 & 12
	Selected:	-2.2%	-1.9%	

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

Frequency Trend net of Wage Trend

Year	(1) Loss Cost Premium	(2) Statewide Average Weekly Wage	(3) On 2020 Level	(4) Loss Cost Premium on 2020 Level	(5) Claim Counts	(6) Adjusted Frequency per($M)	(7) Annual Frequency Change	(8) 3-Year Moving Average	(9) Annual Mov. Avg. Change
2011	15,814,594	858	1.260	19,926,388	190	9.5			
2012	16,355,904	888	1.217	19,905,135	203	10.2	7.4%		
2013	15,347,459	917	1.179	18,094,654	175	9.7	-4.9%	9.8	
2014	23,725,699	932	1.160	27,521,811	291	10.6	9.3%	10.2	4.1%
2015	19,726,632	951	1.137	22,429,181	187	8.3	-21.7%	9.5	-6.9%
2016	14,163,465	978	1.105	15,650,629	150	9.6	15.7%	9.5	0.0%
2017	16,119,043	995	1.086	17,505,281	170	9.7	1.0%	9.2	-3.2%
2018	16,945,595	1,025	1.055	17,877,603	172	9.6	-1.0%	9.6	4.3%
2019	17,049,346	1,049	1.031	17,577,876	172	9.8	2.1%	9.7	1.0%

Analysis performed on data for 2011 through 2019.	Geometric Average:	0.4%	-0.2%	Ests.
	Regression Indication:	-0.3%		7 & 8
	Selected:	0.1%	-0.2%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-0.6%	-1.0%	Ests.
	Regression Indication:	-0.5%		9 & 10
	Selected:	-0.6%	-1.0%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	0.2%	0.5%	Ests.
	Regression Indication:	0.0%		11 & 12
	Selected:	0.1%	0.5%	

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

Severity Trend

Year	(1) Ultimate Medical Losses Incurred	(2) Med. Only Ultimate Incurred Losses	(3) Ult. Med. On Lost Time Claims	(4) Claim Counts	(5) Average Loss	(6) Annual Average Loss Change	(7) 3-Year Moving Average	(8) Annual Mov. Avg. Change
2011	6,604,393	862,257	5,742,136	190	30,222			
2012	5,860,353	704,535	5,155,818	203	25,398	-16.0%		
2013	4,522,552	763,168	3,759,384	175	21,482	-15.4%	25,701	
2014	6,250,034	806,301	5,443,733	291	18,707	-12.9%	21,862	-14.9%
2015	4,150,874	612,724	3,538,150	187	18,921	1.1%	19,703	-9.9%
2016	4,116,535	542,126	3,574,409	150	23,829	25.9%	20,486	4.0%
2017	6,193,067	755,926	5,437,141	170	31,983	34.2%	24,911	21.6%
2018	5,674,425	584,188	5,090,237	172	29,594	-7.5%	28,469	14.3%
2019	3,882,806	602,160	3,280,646	172	19,074	-35.5%	26,884	-5.6%

Analysis performed on data for 2011 through 2019.	Geometric Average:	-5.6%	0.8%	Ests.
	Regression Indication:	-0.6%		7 & 8
	Selected:	-3.1%	0.8%	
Analysis performed on data for 2012 through 2019.	Geometric Average:	-4.0%	4.2%	Ests.
	Regression Indication:	1.7%		9 & 10
	Selected:	-1.2%	4.2%	
Analysis performed on data for 2013 through 2019.	Geometric Average:	-2.0%	8.1%	Ests.
	Regression Indication:	4.0%		11 & 12
	Selected:	1.0%	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

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Incurred Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Reported Incurred Losses as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	10,935,657	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	11,985,455	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

B. Act 57 Indemnity Law Adjusment Factors

1	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	1.0000	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	0.8871	1.0000	1.0000	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	0.8871	1.0000	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	0.8871	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	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000													
15	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000														
16	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000															
17	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																
18	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																	
19	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																		
20	0.8871	1.0000	1.0000	1.0000	1.0000	1.0000																			

Act 57 Effective Date			Prior to
(b) Accident Year 1996 (8-23-96)			1996
Act 57	Effect	Weight	Effect
Pre	17.53%	0.644	17.53%
Post	0.00%	0.356	
1996 Avg	11.29%	1.000	
Complement:	0.8871		0.8247

C. Indemnity Incurred Losses Adjusted to Act 57 Law Level as of 04/30/21

1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	9,592,000	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	12,368,018	5,948,585	6,652,402	9,452,432	5,295,724	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	11,084,000	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	11,119,000	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	11,158,000	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	11,193,000	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

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

Source: A. CMCRB Database as of 04/30/21 - Validated 08/02/21
B. Act 57 Indemnity Law Factor of 0.8247, 0.8871 (1996) and 1.000
C. A times B equals C

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Incurred Losses Adjusted to Act 57 Law Level as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	9,592,000	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	12,368,018	5,948,585	6,652,402	9,452,432	5,295,724	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	11,084,000	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	11,119,000	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	11,158,000	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	11,193,000	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

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))

1	1.0227	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0450	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0677	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0902	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.1071	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.1183	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.1241	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.1273	1.0000	1.0000	1.0000	1.0000	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	1.1272	1.0000	1.0000	1.0000	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	1.1273	1.0000	1.0000	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	1.1273	1.0000	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	1.1272	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	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000													
15	1.1272	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000														
16	1.1272	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000															
17	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																
18	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																	
19	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																		
20	1.1273	1.0000	1.0000	1.0000	1.0000	1.0000																			

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

Selected Years 0 to 10	
Claim Settlement Level Addititves	
9th Last	+2.0% per year
8th Last	+2.0% per year
7th Last	+2.0% per year
6th Last	+2.0% per year
5th Last	+1.5% per year
4th Last	+1.0% per year
3rd Last	+0.5% per year
2nd Last	+0.5% per year
1st Last	+0.5% per year

Selected Years 11 to 20	
Claim Settlement Level Addititves	
14th Last	+1.2% per year
13th Last	+1.2% per year
12th Last	+1.2% per year
11th Last	+1.2% per year
10th Last	+0.9% per year
9th Last	+0.6% per year
8th Last	+0.3% per year
7th Last	+0.2% 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

C. Indemnity Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/21

1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

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

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Incurred Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Reported Incurred Losses as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	10,935,657	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	11,985,455	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

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

B. Act 57 Indemnity Law Adjusment Factors and Claim Settlement Levels

1	0.9071	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9271	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9471	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9671	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9821	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9921	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.9971	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

Act 57 Effective Date			Prior to
(b) Accident Year 1996 (8-23-96)			1996
Act 57	Effect	Weight	Effect
Pre	17.53%	0.644	17.53%
Post	0.00%	0.356	
1996 Avg	11.29%	1.000	
Complement:			
1.0-0.1129=	0.8871		0.8247

Selected Years 0 to 10		
Claim Settlement Level Addititves		
9th Last	+2.0%	per year
8th Last	+2.0%	per year
7th Last	+2.0%	per year
6th Last	+2.0%	per year
5th Last	+1.5%	per year
4th Last	+1.0%	per year
3rd Last	+0.5%	per year
2nd Last	+0.5%	per year
1st Last	+0.5%	per year

Selected Years 11 to 20		
Claim Settlement Level Addititves		
14th Last	+1.2%	per year
13th Last	+1.2%	per year
12th Last	+1.2%	per year
11th Last	+1.2%	per year
10th Last	+0.9%	per year
9th Last	+0.6%	per year
8th Last	+0.3%	per year
7th Last	+0.2%	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

C. Indemnity Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/21

1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

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

Coal Mine Compensation Rating Bureau
Traumatic Loss Development
Incurred Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Reported Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	3,774,273	3,455,344	7,192,624	6,961,079	4,870,955	5,741,961	5,566,332	4,923,231	4,610,453
2	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	6,976,588	6,561,596	11,743,499	9,306,469	7,982,656	8,233,729	7,695,541	7,260,582	
3	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	8,518,626	7,346,985	11,807,863	11,361,821	8,660,045	9,849,418	8,370,682		
4	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	8,401,672	9,410,856	7,461,258	12,140,158	11,655,290	9,150,489	9,565,189			
5	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	8,647,774	9,583,245	7,695,409	12,305,882	12,000,034	9,320,369				
6	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	8,666,873	9,748,964	7,652,267	12,243,778	11,975,666					
7	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	8,549,657	10,086,465	7,895,047	12,388,158						
8	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	8,553,154	10,142,992	7,841,081							
9	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	8,553,117	10,249,907								
10	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	7,433,605	8,553,183									
11	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	7,433,720										
12	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	5,425,367											
13	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	9,582,515												
14	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	7,197,251													
15	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	5,921,413														
16	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	11,762,018															
17	12,494,644	8,640,604	8,764,731	8,050,069	7,481,735	8,471,584	11,543,628	7,545,808	7,734,392																
18	12,534,389	8,660,130	8,767,395	8,050,069	7,481,735	8,485,139	11,555,724	7,569,013																	
19	12,577,856	8,797,616	8,808,505	8,050,069	7,481,735	8,498,632	11,517,844																		
20	12,617,517	8,812,465	8,772,260	8,050,069	7,481,735	8,511,961																			

B. Annual Loss Development Factors

1:2															1.4753	1.8299	1.8485	1.8990	1.6327	1.3369	1.6388	1.4340	1.3825	1.4748	
2:3														1.1487	1.2410	1.2251	1.2210	1.1197	1.0055	1.2209	1.0849	1.1962	1.0877		
3:4													1.0319	1.0377	1.1851	1.0214	1.1047	1.0156	1.0281	1.0258	1.0566	0.9711			
4:5												1.0271	1.0188	1.0298	1.0554	1.0293	1.0183	1.0314	1.0137	1.0296	1.0186				
5:6											0.9487	1.0212	1.0027	0.9746	0.9805	1.0022	1.0173	0.9944	0.9950	0.9980					
6:7										1.0162	1.0043	1.0192	1.0117	1.0000	1.0162	0.9865	1.0346	1.0317	1.0118						
7:8									1.0039	1.0252	1.0027	1.0714	0.9907	1.0000	0.9962	1.0004	1.0056	0.9932							
8:9								0.9484	1.0055	1.0093	1.0231	0.9692	1.0231	1.0000	1.0258	1.0000	1.0105								
9:10							0.9818	1.0047	1.0062	0.9815	1.1072	0.9899	0.9772	1.0000	1.0000	1.0000									
10:11						1.0040	0.9832	0.9874	1.0062	1.0083	1.0088	1.0062	1.0092	1.0245	1.0000										
11:12					1.0001	1.0039	1.0064	1.0034	0.9962	0.9730	0.9791	1.0536	1.0024	1.0000											
12:13				0.9949	1.0000	1.0035	0.9961	1.0033	1.0036	1.0036	1.0025	1.0173	1.0021												
13:14			1.0113	0.9995	1.0000	0.9775	0.9570	1.0033	1.0038	0.9924	1.0026	1.0031													
14:15		1.0031	1.0004	1.0000	1.0000	1.0017	1.0006	1.0032	1.0036	0.9709	1.0026														
15:16	1.0033	0.9779	1.0000	1.0000	1.0000	0.9997	0.9991	1.0032	1.0036	1.0025															
16:17	1.0032	1.0013	1.0001	1.0000	1.0000	1.0048	1.0010	1.0031	1.0025																
17:18	1.0032	1.0023	1.0003	1.0000	1.0000	1.0016	1.0010	1.0031																	
18:19	1.0035	1.0159	1.0047	1.0000	1.0000	1.0016	0.9967																		
19:20	1.0032	1.0017	0.9959	1.0000	1.0000	1.0016																			

C. Summary

	10 Year Straight Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average Ex. Hi/Lo	6 Year Average Ex. Hi/Lo	6 Year Weighted Average	Average of Middle Four
1:2	1.5952	1.4833	1.5641	1.5896	1.4810	1.4812	1.5296
2:3	1.1551	1.1192	1.1442	1.1630	1.1221	1.1140	1.1351
3:4	1.0478	1.0337	1.0417	1.0402	1.0315	1.0319	1.0369
4:5	1.0272	1.0235	1.0258	1.0254	1.0240	1.0229	1.0247
5:6	0.9935	0.9979	0.9958	0.9956	0.9974	0.9985	0.9967
6:7	1.0132	1.0135	1.0140	1.0139	1.0149	1.0142	1.0139
7:8	1.0089	0.9977	1.0088	1.0034	0.9975	0.9977	1.0019
8:9	1.0015	1.0048	1.0021	1.0051	1.0084	1.0063	1.0046
9:10	1.0049	1.0124	0.9989	0.9955	0.9975	1.0067	1.0020
10:11	1.0038	1.0095	1.0023	1.0038	1.0081	1.0088	1.0061
11:12	1.0018	1.0007	1.0003	0.9989	0.9944	0.9977	0.9994
12:13	1.0027	1.0054	1.0023	1.0018	1.0033	1.0051	1.0033
13:14	0.9951	0.9937	0.9927	0.9978	1.0004	0.9901	0.9948
14:15	0.9986	0.9971	0.9973	1.0015	1.0020	0.9950	0.9986
15:16	0.9989	1.0014	0.9991	1.0010	1.0014	1.0013	1.0007
16:17	1.0018	1.0019	1.0018	1.0016	1.0017	1.0019	1.0018
17:18	1.0014	1.0010	1.0015	1.0014	1.0007	1.0010	1.0012
18:19	1.0032	1.0032	1.0030	1.0020	1.0016	1.0029	1.0028
19:20	1.0004	1.0004	1.0006	1.0008	1.0008	1.0006	1.0006

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

Data as of	(3) 10 to 20 Development	(4) 10 to 20 Selection
4/30/2010	0.0%	0.0%
4/30/2009	0.1%	0.0%
4/30/2008	0.0%	0.0%
4/30/2007	0.1%	0.1%
4/30/2006	0.2%	0.2%
4/30/2005	0.4%	0.2%
4/30/2004	0.2%	0.2%
4/30/2003	0.9%	0.3%
4/30/2002	0.5%	0.6%
4/30/2001	1.4%	0.9%
4/30/2000	4.4%	1.2%
4/30/1999	0.1%	1.2%
4/30/1998	0.0%	1.2%
4/30/1997	0.0%	1.2%
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 Year	(1) 4/30/1997 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/1998 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/1999 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2000 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2001 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2002 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2003 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2004 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
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 Year	(1) 4/30/2005 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
1995	11,956	70	0.6%	xx
1996	12,182	0	0.0%	xx
1997	xx	0	xx	xx
1998	xx	0	xx	xx
1999	xx	xx	xx	xx
2000	xx	xx	xx	xx
2001	xx	xx	xx	xx
2002	xx	xx	xx	xx
2003	xx	xx	xx	xx
Total	24,138	70	0.3%	0.5%

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

(a) All amounts are in thousands of dollars

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

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

Accident Year	(1) 4/30/2001 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,728	283	1.4%	xx
1984	25,745	185	0.7%	xx
1985	16,662	219	1.3%	xx
1986	18,002	194	1.1%	xx
1987	17,785	0	0.0%	xx
1988	15,926	194	1.2%	xx
1989	18,586	0	0.0%	xx
1990	28,447	1222	4.3%	xx
1991	xx	xx	xx	xx
1992	xx	xx	xx	xx
Total	160,881	2,297	1.4%	0.9%

Accident Year	(1) 4/30/2002 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,581	0	0.0%	xx
1984	25,801	0	0.0%	xx
1985	16,776	0	0.0%	xx
1986	17,729	221	1.2%	xx
1987	17,924	0	0.0%	xx
1988	15,795	217	1.4%	xx
1989	18,938	0	0.0%	xx
1990	28,697	0	0.0%	xx
1991	18,465	442	2.4%	xx
1992	xx	xx	xx	xx
Total	179,706	880	0.5%	0.6%

Accident Year	(1) 4/30/2003 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,537	132	0.7%	xx
1984	25,724	0	0.0%	xx
1985	16,860	0	0.0%	xx
1986	17,764	0	0.0%	xx
1987	17,933	122	0.7%	xx
1988	15,878	0	0.0%	xx
1989	18,878	0	0.0%	xx
1990	28,678	294	1.0%	xx
1991	18,005	458	2.5%	xx
1992	21,860	835	3.8%	xx
Total	201,117	1,841	0.9%	0.3%

Accident Year	(1) 4/30/2004 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,617	0	0.0%	xx
1984	25,837	0	0.0%	xx
1985	16,954	0	0.0%	xx
1986	17,812	0	0.0%	xx
1987	18,072	0	0.0%	xx
1988	15,845	0	0.0%	xx
1989	18,876	0	0.0%	xx
1990	28,968	0	0.0%	xx
1991	18,078	16	0.1%	xx
1992	21,375	32	0.1%	xx
1993	19,300	358	1.9%	xx
Total	220,734	406	0.2%	0.2%

Accident Year	(1) 4/30/2005 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,558	0	0.0%	xx
1984	26,025	0	0.0%	xx
1985	17,068	0	0.0%	xx
1986	17,907	0	0.0%	xx
1987	18,208	0	0.0%	xx
1988	15,700	0	0.0%	xx
1989	18,503	380	2.1%	xx
1990	29,336	0	0.0%	xx
1991	18,154	0	0.0%	xx
1992	20,831	631	3.0%	xx
1993	19,597	0	0.0%	xx
1994	20,328	0	0.0%	xx
Total	241,215	1,011	0.4%	0.2%

Accident Year	(1) 4/30/2006 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,629	0	0.0%	xx
1984	25,971	0	0.0%	xx
1985	17,182	0	0.0%	xx
1986	17,896	94	0.5%	xx
1987	18,028	295	1.6%	xx
1988	15,763	0	0.0%	xx
1989	18,538	0	0.0%	xx
1990	29,409	176	0.6%	xx
1991	18,201	0	0.0%	xx
1992	20,921	0	0.0%	xx
1993	19,782	0	0.0%	xx
1994	20,479	8	0.0%	xx
1995	11,961	0	0.0%	xx
Total	253,760	573	0.2%	0.2%

Accident Year	(1) 4/30/07 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,485	0	0.0%	xx
1984	26,136	0	0.0%	xx
1985	17,144	0	0.0%	xx
1986	17,999	0	0.0%	xx
1987	18,007	0	0.0%	xx
1988	15,827	0	0.0%	xx
1989	18,579	0	0.0%	xx
1990	29,661	0	0.0%	xx
1991	18,272	0	0.0%	xx
1992	20,665	0	0.0%	xx
1993	19,781	167	0.8%	xx
1994	20,635	0	0.0%	xx
1995	11,960	9	0.1%	xx
1996	12,122	0	0.0%	xx
Total	266,273	176	0.1%	0.1%

Accident Year	(1) 4/30/2008 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,478	0	0.0%	xx
1984	26,205	0	0.0%	xx
1985	16,838	0	0.0%	xx
1986	18,146	0	0.0%	xx
1987	18,110	0	0.0%	xx
1988	15,892	0	0.0%	xx
1989	18,621	0	0.0%	xx
1990	29,843	0	0.0%	xx
1991	18,318	0	0.0%	xx
1992	20,738	0	0.0%	xx
1993	19,744	0	0.0%	xx
1994	20,796	0	0.0%	xx
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 Year	(1) 4/30/2009 Rpt.Loss[a]	(2) 12 Month Fav_Dev[a]	(3) (2) / (1)	(4) Selection
1983	19,527	0	0.0%	xx
1984	26,360	0	0.0%	xx
1985	16,906	0	0.0%	xx
1986	18,235	0	0.0%	xx
1987	18,212	0	0.0%	xx
1988	15,850	0	0.0%	xx
1989	18,662	0	0.0%	xx
1990	29,708	140	0.5%	xx
1991	18,252	104	0.6%	xx
1992	20,811	0	0.0%	xx
1993	19,892	0	0.0%	xx
1994	20,956	0	0.0%	xx
1995	11,976	0	0.0%	xx
1996	12,324	0	0.0%	xx
1997	8,675	0	0.0%	xx
1998	8,648	0	0.0%	xx
Total	284,994	244	0.1%	0.0%

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

(a) All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a
CMCRB Database as of 04/30/21 - Validated 08/02/21 and prior

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

A. Medical Reported Incurred Losses as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	4,853,901	3,639,834	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,140,753	3,750,095
2	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	3,916,265	5,529,182	5,354,918	4,296,981	6,366,646	3,956,526	4,469,090	5,883,025	5,411,951	3,688,426	
3	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	4,168,949	5,659,785	5,483,461	4,087,766	6,053,377	3,954,588	4,193,737	6,008,296	5,289,853		
4	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	4,414,665	5,635,548	5,463,414	3,996,284	5,884,821	3,843,797	3,910,923	5,788,454			
5	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	4,624,757	5,699,968	5,576,575	4,133,430	5,893,339	3,928,489	3,857,323				
6	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	4,497,291	5,681,190	5,522,489	4,158,205	5,892,232	3,898,999					
7	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	4,479,315	6,259,248	5,515,927	4,286,015	5,884,600						
8	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	4,359,000	6,259,576	5,504,253	4,267,766							
9	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	4,335,083	6,259,776	5,542,753								
10	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	4,336,078	6,260,088									
11	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	4,337,075										
12	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	3,137,660											
13	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	3,570,134												
14	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	5,975,102													
15	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	3,748,523														
16	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	4,868,910															
17	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961	4,359,779																
18	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842	3,151,961																	
19	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743	3,961,842																		
20	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279	3,019,006																			

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	
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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

C. Medical Incurred Losses Adjusted to Act 44 Law Level as of 04/30/21

1	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	4,853,901	3,639,834	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,140,753	3,750,095
2	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	3,916,265	5,529,182	5,354,918	4,296,981	6,366,646	3,956,526	4,469,090	5,883,025	5,411,951	3,688,426	
3	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	4,168,949	5,659,785	5,483,461	4,087,766	6,053,377	3,954,588	4,193,737	6,008,296	5,289,853		
4	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	4,414,665	5,635,548	5,463,414	3,996,284	5,884,821	3,843,797	3,910,923	5,788,454			
5	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	4,624,757	5,699,968	5,576,575	4,133,430	5,893,339	3,928,489	3,857,323				
6	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	4,497,291	5,681,190	5,522,489	4,158,205	5,892,232	3,898,999					
7	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	4,479,315	6,259,248	5,515,927	4,286,015	5,884,600						
8	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	4,359,000	6,259,576	5,504,253	4,267,766							
9	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	4,335,083	6,259,776	5,542,753								
10	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	4,336,078	6,260,088									
11	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	4,337,075										
12	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	3,137,660											
13	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	3,570,134												
14	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	5,975,102													
15	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	3,748,523														
16	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	4,868,910															
17	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961	4,359,779																
18	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842	3,151,961																	
19	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743	3,961,842																		
20	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279	3,019,006																			

Source: A. Loss Development Data: CMCRB Database as of 04/30/21 - Validated 08/02/21
B. Act 44 Law Level Adjustment Factors from Exhibit VI-D Page 1
C. Medical Incurred Losses Adjusted to Act 44 Law Level = A x B

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

A. Adjustment to Act 44 Law Level

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	
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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

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

B. Claim Settlement Adjustments Additions

1	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
3	0.0550	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
4	0.0690	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
5	0.0820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
6	0.0940	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000					
7	0.1050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
8	0.1150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							
9	0.1230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000								
10	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000									
11	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000										
12	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000											
13	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000												
14	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000													
15	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000														
16	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000															
17	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																
18	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																	
19	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																		
20	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000																			

Selected Claim Settlement Level Additions		
17th Last	2.0%	per year
16th Last	2.0%	per year
15th Last	2.0%	per year
14th Last	2.0%	per year
13th Last	2.0%	per year
12th Last	1.5%	per year
11th Last	1.4%	per year
10th Last	1.3%	per year
9th Last	1.2%	per year
8th Last	1.1%	per year
7th Last	1.0%	per year
6th Last	0.8%	per year
5th Last	0.5%	per year
4th Last	0.0%	per year
3rd Last	0.0%	per year
2nd Last	0.0%	per year
1st Last	0.0%	per year

C. Sum of Adjustment to Act 44 Law Level and Claim Settlement Adjustments Additions

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	
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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

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

A. Medical Reported Incurred Losses as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	4,853,901	3,639,834	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,140,753	3,750,095
2	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	3,916,265	5,529,182	5,354,918	4,296,981	6,366,646	3,956,526	4,469,090	5,883,025	5,411,951	3,688,426	
3	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	4,168,949	5,659,785	5,483,461	4,087,766	6,053,377	3,954,588	4,193,737	6,008,296	5,289,853		
4	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	4,414,665	5,635,548	5,463,414	3,996,284	5,884,821	3,843,797	3,910,923	5,788,454			
5	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	4,624,757	5,699,968	5,576,575	4,133,430	5,893,339	3,928,489	3,857,323				
6	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	4,497,291	5,681,190	5,522,489	4,158,205	5,892,232	3,898,999					
7	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	4,479,315	6,259,248	5,515,927	4,286,015	5,884,600						
8	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	4,359,000	6,259,576	5,504,253	4,267,766							
9	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	4,335,083	6,259,776	5,542,753								
10	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	4,336,078	6,260,088									
11	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	4,337,075										
12	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	3,137,660											
13	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	3,570,134												
14	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	5,975,102													
15	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	3,748,523														
16	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	4,868,910															
17	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961	4,359,779																
18	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842	3,151,961																	
19	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743	3,961,842																		
20	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279	3,019,006																			

B. Act 44 Medical Law Adjusment 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	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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

C. Medical Incurred Losses Adjusted to Act 44 Law Level and Claim Settlement Levels as of 04/30/21

1	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	4,853,901	3,639,834	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,140,753	3,750,095
2	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	3,916,265	5,529,182	5,354,918	4,296,981	6,366,646	3,956,526	4,469,090	5,883,025	5,411,951	3,688,426	
3	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	4,168,949	5,659,785	5,483,461	4,087,766	6,053,377	3,954,588	4,193,737	6,008,296	5,289,853		
4	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	4,414,665	5,635,548	5,463,414	3,996,284	5,884,821	3,843,797	3,910,923	5,788,454			
5	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	4,624,757	5,699,968	5,576,575	4,133,430	5,893,339	3,928,489	3,857,323				
6	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	4,497,291	5,681,190	5,522,489	4,158,205	5,892,232	3,898,999					
7	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	4,479,315	6,259,248	5,515,927	4,286,015	5,884,600						
8	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	4,359,000	6,259,576	5,504,253	4,267,766							
9	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	4,335,083	6,259,776	5,542,753								
10	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	4,336,078	6,260,088									
11	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	4,337,075										
12	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	3,137,660											
13	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	3,570,134												
14	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	5,975,102													
15	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	3,748,523														
16	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	4,868,910															
17	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961	4,359,779																
18	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842	3,151,961																	
19	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743	3,961,842																		
20	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279	3,019,006																			

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

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

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

A. Medical Reported Incurred Losses Adjusted to Act 44 Law Level and Claim Settlement Levels as of 04/30/21

Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	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	4,853,901	3,639,834	6,225,769	4,054,856	3,963,291	6,387,089	5,562,604	4,140,753	3,750,095
2	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	3,916,265	5,529,182	5,354,918	4,296,981	6,366,646	3,956,526	4,469,090	5,883,025	5,411,951	3,688,426	
3	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	4,168,949	5,659,785	5,483,461	4,087,766	6,053,377	3,954,588	4,193,737	6,008,296	5,289,853		
4	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	4,414,665	5,635,548	5,463,414	3,996,284	5,884,821	3,843,797	3,910,923	5,788,454			
5	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	4,624,757	5,699,968	5,576,575	4,133,430	5,893,339	3,928,489	3,857,323				
6	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	4,497,291	5,681,190	5,522,489	4,158,205	5,892,232	3,898,999					
7	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	4,479,315	6,259,248	5,515,927	4,286,015	5,884,600						
8	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	4,359,000	6,259,576	5,504,253	4,267,766							
9	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	4,335,083	6,259,776	5,542,753								
10	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	4,336,078	6,260,088									
11	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	4,337,075										
12	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	3,137,660											
13	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	3,570,134												
14	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	5,975,102													
15	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	3,748,523														
16	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	4,868,910															
17	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842	3,151,961	4,359,779																
18	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086	3,961,842	3,151,961																	
19	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	3,018,743	3,961,842																		
20	4,528,080	5,023,209	3,834,646	3,536,162	2,872,279	3,019,006																			

B. Annual Loss Development Ratios

1:2															1.0787	1.2676	1.1032	1.1805	1.0226	0.9758	1.1276	0.9211	0.9729	0.8908	
2:3														0.9570	1.0645	1.0236	1.0240	0.9513	0.9508	0.9995	0.9384	1.0213	0.9774		
3:4													1.0255	1.0345	1.0589	0.9957	0.9963	0.9776	0.9722	0.9720	0.9326	0.9634			
4:5												1.0222	1.0087	0.9973	1.0476	1.0114	1.0207	1.0343	1.0014	1.0220	0.9863				
5:6											0.9910	1.0185	1.0011	0.9877	0.9724	0.9967	0.9903	1.0060	0.9998	0.9925					
6:7										1.0117	1.0032	0.9961	0.9920	1.0000	0.9960	1.1017	0.9988	1.0307	0.9987						
7:8									1.0015	1.0143	1.0003	1.0186	0.9444	1.0136	0.9731	1.0001	0.9979	0.9957							
8:9								1.0658	1.0008	0.9982	1.0370	0.9760	1.0026	1.0502	0.9945	1.0000	1.0070								
9:10							1.0036	1.0097	1.0037	0.9894	1.0633	1.0020	1.0029	1.0002	1.0002	1.0000									
10:11						1.0290	1.0010	0.9978	1.0390	1.0161	1.0197	1.0139	1.0022	0.9782	1.0002										
11:12					1.0245	1.0145	1.0071	1.0344	0.9954	0.9969	0.9858	1.0156	1.0019	1.0224											
12:13				1.0359	1.0000	1.0021	0.9979	1.0000	1.0003	1.0684	1.0000	0.9972	0.9825												
13:14			0.9956	1.0003	0.9999	1.0436	1.0047	0.9999	1.0059	1.0000	1.0000	1.0000													
14:15		1.0162	1.0000	1.0001	1.0199	1.0299	0.9994	1.0000	1.0006	1.0114	1.0000														
15:16	1.0066	0.9983	1.0001	1.0019	1.0000	0.9947	0.9428	0.9820	1.0011	1.0210															
16:17	0.9985	1.0062	0.9963	1.0000	0.9323	0.9338	1.0000	1.0000	0.9944																
17:18	1.0021	1.0635	0.9992	0.9986	1.0000	1.0034	1.0000	1.0000																	
18:19	1.0028	1.0000	0.9999	1.0003	1.0000	1.0005	1.0000																		
19:20	0.9982	1.0000	1.0000	1.0001	1.0000	1.0001																			

C. Summary

	10 Year Straight Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average Ex. Hi/Lo	6 Year Average Ex. Hi/Lo	6 Year Weighted Average	Average of Middle Four
1:2	1.0541	0.9851	1.0438	1.0478	0.9731	0.9816	1.0146
2:3	0.9908	0.9731	0.9914	0.9881	0.9698	0.9738	0.9814
3:4	0.9929	0.9690	0.9897	0.9922	0.9713	0.9700	0.9808
4:5	1.0152	1.0127	1.0157	1.0148	1.0139	1.0123	1.0142
5:6	0.9956	0.9930	0.9965	0.9956	0.9948	0.9931	0.9948
6:7	1.0129	1.0210	1.0148	1.0044	1.0071	1.0235	1.0139
7:8	0.9960	0.9875	0.9968	0.9996	0.9917	0.9882	0.9932
8:9	1.0132	1.0051	1.0079	1.0113	1.0010	1.0011	1.0063
9:10	1.0075	1.0114	1.0061	1.0028	1.0013	1.0092	1.0064
10:11	1.0097	1.0051	1.0104	1.0100	1.0081	1.0066	1.0086
11:12	1.0099	1.0030	1.0086	1.0098	1.0025	1.0032	1.0061
12:13	1.0084	1.0081	1.0088	1.0042	0.9994	1.0088	1.0074
13:14	1.0050	1.0018	1.0040	1.0013	1.0012	1.0017	1.0022
14:15	1.0078	1.0069	1.0074	1.0060	1.0030	1.0063	1.0066
15:16	0.9949	0.9903	0.9954	0.9981	0.9945	0.9908	0.9939
16:17	0.9846	0.9768	0.9873	0.9890	0.9821	0.9791	0.9833
17:18	1.0084	1.0002	1.0105	1.0008	0.9998	1.0001	1.0024
18:19	1.0005	1.0001	1.0006	1.0002	1.0001	1.0001	1.0002
19:20	0.9997	0.9997	0.9997	1.0000	1.0000	0.9997	0.9998

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	(1) 4/30/1994 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1984	7,380	243	3.3%	xx
1985	4,469	105	2.3%	xx
1986	5,192	222	4.3%	xx
1987	4,941	262	5.3%	xx
1988	5,722	396	6.9%	xx
1989	8,405	532	6.3%	xx
1990	7,754	298	3.8%	xx
1991	6,824	328	4.8%	xx
1992	5,389	437	8.1%	xx
Total	56,076	2,823	5.0%	2.0%

Accident Year	(1) 4/30/1995 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1985	4,303	199	4.6%	xx
1986	5,166	122	2.4%	xx
1987	4,805	122	2.5%	xx
1988	5,860	161	2.7%	xx
1989	8,842	299	3.4%	xx
1990	7,595	471	6.2%	xx
1991	7,208	83	1.2%	xx
1992	4,462	198	4.4%	xx
1993	5,786	164	2.8%	xx
Total	54,027	1,819	3.4%	2.0%

Accident Year	(1) 4/30/1996 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1986	5,126	84	1.6%	xx
1987	4,959	72	1.5%	xx
1988	5,470	451	8.2%	xx
1989	8,720	575	6.6%	xx
1990	7,730	220	2.8%	xx
1991	7,240	281	3.9%	xx
1992	4,458	269	6.0%	xx
1993	6,163	189	3.1%	xx
1994	4,930	231	4.7%	xx
Total	54,796	2,372	4.3%	2.0%

Accident Year	(1) 4/30/1997 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1987	4,895	93	1.9%	xx
1988	5,318	202	3.8%	xx
1989	8,177	793	9.7%	xx
1990	7,929	274	3.5%	xx
1991	7,315	141	1.9%	xx
1992	4,284	319	7.4%	xx
1993	6,061	216	3.6%	xx
1994	5,062	155	3.1%	xx
1995	4,444	211	4.7%	xx
Total	53,485	2,404	4.5%	2.0%

Accident Year	(1) 4/30/1998 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1988	5,228	70	1.3%	xx
1989	7,991	321	4.0%	xx
1990	7,725	436	5.6%	xx
1991	7,216	173	2.4%	xx
1992	4,439	85	1.9%	xx
1993	6,077	194	3.2%	xx
1994	5,217	77	1.5%	xx
1995	4,354	272	6.2%	xx
1996	4,316	87	2.0%	xx
Total	52,563	1,715	3.3%	2.0%

Accident Year	(1) 4/30/1999 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1989	8,525	96	1.1%	xx
1990	7,726	83	1.1%	xx
1991	7,140	208	2.9%	xx
1992	2,428	74	3.0%	xx
1993	5,804	322	5.5%	xx
1994	5,111	198	3.9%	xx
1995	4,294	164	3.8%	xx
1996	4,690	106	2.3%	xx
1997	xx	xx	xx	xx
Total	45,718	1,251	2.7%	1.5%

Accident Year	(1) 4/30/2000 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1990	7,808	52	0.7%	xx
1991	7,176	15	0.2%	xx
1992	2,327	125	5.4%	xx
1993	5,767	161	2.8%	xx
1994	5,029	130	2.6%	xx
1995	4,416	97	2.2%	xx
1996	4,808	119	2.5%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
Total	37,331	699	1.9%	1.4%

Accident Year	(1) 4/30/2001 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1991	7,348	85	1.2%	xx
1992	2,286	86	3.8%	xx
1993	5,730	77	1.3%	xx
1994	5,060	29	0.6%	xx
1995	4,484	150	3.3%	xx
1996	4,806	187	3.9%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
1999	xx	xx	xx	xx
Total	29,714	614	2.1%	1.3%

Accident Year	(1) 4/30/2002 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1992	2,939	16	0.5%	xx
1993	5,812	57	1.0%	xx
1994	5,113	40	0.8%	xx
1995	4,667	101	2.2%	xx
1996	4,704	242	5.1%	xx
1997	xx	xx	xx	xx
1998	xx	xx	xx	xx
1999	xx	xx	xx	xx
2000	xx	xx	xx	xx
Total	23,235	456	2.0%	1.2%

Accident Year	(1) 4/30/2003 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1993	5,971	0	0.0%	xx
1994	5,125	0	0.0%	xx
1995	4,706	0	0.0%	xx
1996	4,578	145	3.2%	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	20,380	145	0.7%	1.1%

Accident Year	(1) 4/30/2004 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1994	5,179	59	1.1%	xx
1995	4,740	83	1.8%	xx
1996	4,702	32	0.7%	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
2002	xx	xx	xx	xx
Total	14,621	174	1.2%	1.0%

Accident Year	(1) 4/30/2005 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1995	4,669	0	0.0%	xx
1996	4,626	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
2002	xx	xx	xx	xx
2003	xx	xx	xx	xx
Total	9,295	0	0.0%	0.8%

Accident Year	(1) 4/30/2006 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
1996	4,708	25	0.5%	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
2003	xx	xx	xx	xx
2004	xx	xx	xx	xx
Total	4,708	25	0.5%	0.5%

Accident Year	(1) 4/30/2007 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
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
2002	xx	xx	xx	xx
2003	xx	xx	xx	xx
2004	xx	xx	xx	xx
2005	xx	xx	xx	xx
Total	0	0	0.0%	0.0%

Accident Year	(1) 4/30/2008 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
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
2003	xx	xx	xx	xx
2004	xx	xx	xx	xx
2005	xx	xx	xx	xx
2006	xx	xx	xx	xx
Total	0	0	0.0%	0.0%

Accident Year	(1) 4/30/2009 Rpt.Loss[a]	(2) 12 Month Fav Dev[a]	(3) (2) / (1)	(4) Selection
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
2004	xx	xx	xx	xx
2005	xx	xx	xx	xx
2006	xx	xx	xx	xx
2007	xx	xx	xx	xx
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
Incurred Indemnity and Funeral Claim Counts for All Classes Combined (excl. USLH)

A. Indemnity Reported Incurred Claims as of 04/30/21

Report	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	227	241	196	219	203	156	163	193	170	168	175	172	149	258	161	140	159	150	154	129
2	238	244	196	227	228	163	164	206	193	177	182	198	171	287	181	147	168	167	168	
3	237	246	197	230	229	165	164	203	195	177	188	201	174	290	185	149	171	171		
4	237	246	198	231	230	166	164	205	195	177	190	202	175	291	187	149	170			
5	237	246	199	231	230	166	164	204	195	177	190	202	175	292	187	150				
6	237	246	199	231	230	166	164	204	195	177	190	202	175	291	187					
7	237	246	199	231	230	166	164	204	195	177	190	203	175	291						
8	237	246	199	231	230	166	164	204	195	177	190	203	175							
9	237	246	199	231	230	166	164	204	195	177	190	203								
10	237	246	199	231	230	166	164	204	195	178	190									
11	237	246	199	231	230	166	164	204	195	178										
12	237	246	199	231	230	166	164	204	195											
13	237	246	199	231	230	166	164	204												
14	237	246	199	231	230	166	164													
15	237	246	199	231	230	166														
16	237	246	199	231	230															
17	237	246	199	231																
18	237	246	199																	
19	237	246																		
20	237																			

B. Annual Claim Count Development

1:2										1.0536	1.0400	1.1512	1.1477	1.1124	1.1242	1.0500	1.0566	1.1133	1.0909
2:3									1.0104	1.0000	1.0330	1.0152	1.0175	1.0105	1.0221	1.0136	1.0179	1.0240	
3:4								1.0099	1.0000	1.0000	1.0106	1.0050	1.0057	1.0034	1.0108	1.0000	0.9942		
4:5							1.0000	0.9951	1.0000	1.0000	1.0000	1.0000	1.0000	1.0034	1.0000	1.0067			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9966	1.0000				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0050	1.0000	1.0000					
7:8				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
8:9			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
9:10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0056	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 Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average ex. Hi&Lo	6 Year Average ex. Hi&Lo	6 Year Weighted Average	Average of Middle Four	Selected	Cumulative	Acc. Year	Ultimate
1:2	1.0940	1.0912	1.0949	1.0936	1.0933	1.0939	1.0937	1.0937	1.1180	2020	144
2:3	1.0164	1.0176	1.0160	1.0164	1.0178	1.0169	1.0168	1.0168	1.0222	2019	172
3:4	1.0040	1.0032	1.0041	1.0043	1.0035	1.0034	1.0038	1.0038	1.0053	2018	172
4:5	1.0005	1.0017	1.0005	1.0004	1.0009	1.0017	1.0009	1.0009	1.0015	2017	170
5:6	0.9997	0.9994	0.9995	1.0000	1.0000	0.9992	0.9996	1.0005	1.0006	2016	150
6:7	1.0005	1.0008	1.0005	1.0000	1.0000	1.0008	1.0005	1.0001	1.0001	2015	187
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2014	291
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2013	175
9:10	1.0006	1.0009	1.0005	1.0000	1.0000	1.0009	1.0005	1.0000	1.0000	2012	203
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2011	190
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2010	178
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2009	195
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2008	204
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2007	164
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2006	166
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2005	230
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2004	231
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2003	199
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2002	246
										2001	237

Source: A. Loss Development Data: CMCRB Database as of 04/30/21 - Validated 08/02/21
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 Only Claim Counts for All Classes Combined (excl. USLH)

A. Medical Only Reported Incurred Claims Valued as of 04/30/21

Report	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	519	487	453	516	476	456	488	523	479	559	628	562	472	592	402	295	321	297	318	228
2	536	499	462	524	479	453	494	527	469	560	632	553	477	582	399	304	327	293	314	
3	539	500	461	523	480	451	495	528	469	559	627	553	478	580	397	303	326	290		
4	535	500	461	522	479	450	495	527	469	559	626	553	478	579	396	304	327			
5	535	500	461	522	479	450	495	528	469	559	626	553	478	580	396	302				
6	535	500	461	522	479	450	495	528	469	559	626	553	479	581	396					
7	535	500	461	522	479	450	495	528	469	559	626	552	479	581						
8	535	500	461	522	479	450	495	528	469	559	626	552	479							
9	535	500	461	522	479	450	495	528	469	559	626	552								
10	535	500	461	522	479	450	495	528	469	558	626									
11	535	500	461	522	479	450	495	528	469	558										
12	535	500	461	522	479	450	495	528	469											
13	535	500	461	522	479	450	495	528												
14	535	500	461	522	479	450	495													
15	535	500	461	522	479	450														
16	535	500	461	522	479															
17	535	500	461	522																
18	535	500	461																	
19	535	500																		
20	535																			

B. Annual Claim Count Development

1:2										1.0018	1.0064	0.9840	1.0106	0.9831	0.9925	1.0305	1.0187	0.9865	0.9874
2:3									1.0000	0.9982	0.9921	1.0000	1.0021	0.9966	0.9950	0.9967	0.9969	0.9898	
3:4								0.9981	1.0000	1.0000	0.9984	1.0000	1.0000	0.9983	0.9975	1.0033	1.0031		
4:5							1.0000	1.0019	1.0000	1.0000	1.0000	1.0000	1.0000	1.0017	1.0000	0.9934			
5:6						1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0021	1.0017	1.0000				
6:7					1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9982	1.0000	1.0000					
7:8				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
8:9			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
9:10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9982	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 Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average ex. Hi&Lo	6 Year Average ex. Hi&Lo	6 Year Weighted Average	Average of Middle Four	Selected	Cumulative	Acc. Year	Ultimate
1:2	1.0002	0.9998	0.9989	0.9985	0.9963	0.9973	0.9986	1.0000	1.0000	2020	228
2:3	0.9967	0.9962	0.9970	0.9969	0.9963	0.9966	0.9966	1.0000	1.0000	2019	314
3:4	0.9999	1.0004	0.9996	0.9997	1.0004	1.0000	1.0000	1.0000	1.0000	2018	290
4:5	0.9997	0.9992	1.0000	1.0002	1.0000	0.9997	0.9998	1.0000	1.0000	2017	327
5:6	1.0004	1.0006	1.0004	1.0002	1.0004	1.0006	1.0004	1.0000	1.0000	2016	302
6:7	0.9998	0.9997	0.9998	1.0000	1.0000	0.9997	0.9998	1.0000	1.0000	2015	396
7:8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2014	581
8:9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2013	479
9:10	0.9998	0.9997	0.9998	1.0000	1.0000	0.9997	0.9998	1.0000	1.0000	2012	552
10:11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2011	626
11:12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2010	558
12:13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2009	469
13:14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2008	528
14:15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2007	495
15:16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2006	450
16:17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2005	479
17:18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2004	522
18:19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2003	461
19:20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2002	500
										2001	535

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 04/30/21 - Validated 08/02/21
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 Only Incurred for All Classes Combined (excl. USLH)

A. Medical Only Reported Incurred Losses Valued as of 04/30/21

Report	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	291,102	326,965	344,009	440,355	393,342	475,073	645,531	538,996	499,273	689,845	830,417	739,070	657,505	844,733	693,513	566,845	708,070	617,296	579,598	443,787
2	341,613	354,474	343,651	489,659	395,971	492,413	667,028	564,408	475,294	714,306	875,488	730,189	725,991	815,806	646,094	561,393	749,059	615,524	602,160	
3	340,771	351,193	342,029	499,930	570,553	464,396	651,680	574,474	487,309	733,721	857,971	733,490	761,471	817,528	618,570	543,998	748,595	584,188		
4	341,085	343,963	346,252	499,000	577,565	464,210	654,006	561,921	487,349	733,721	860,990	734,013	762,094	804,432	612,724	545,870	755,926			
5	341,085	345,393	346,252	499,175	577,565	464,210	657,948	569,251	487,454	733,721	862,257	734,091	762,711	805,516	612,724	542,126				
6	341,085	345,393	346,252	499,175	577,565	464,210	663,201	578,077	487,454	733,721	862,257	734,170	763,168	806,301	612,724					
7	341,085	345,393	346,252	499,175	577,565	464,210	663,201	584,120	487,454	733,721	862,257	704,535	763,168	806,301						
8	347,675	345,393	346,252	499,182	439,393	464,210	663,201	586,976	487,454	733,721	862,257	704,535	763,168							
9	347,675	345,393	346,318	499,182	439,393	464,210	663,201	593,200	487,454	733,728	862,257	704,535								
10	347,675	345,393	346,318	499,182	439,463	464,210	663,201	600,587	488,067	733,514	862,257									

B. Annual Loss Development

1:2										1.0355	1.0543	0.9880	1.1042	0.9658	0.9316	0.9904	1.0579	0.9971	1.0389
2:3									1.0253	1.0272	0.9800	1.0045	1.0489	1.0021	0.9574	0.9690	0.9994	0.9491	
3:4								0.9781	1.0001	1.0000	1.0035	1.0007	1.0008	0.9840	0.9905	1.0034	1.0098		
4:5							1.0060	1.0130	1.0002	1.0000	1.0015	1.0001	1.0008	1.0013	1.0000	0.9931			
5:6						1.0000	1.0080	1.0155	1.0000	1.0000	1.0000	1.0001	1.0006	1.0010	1.0000				
6:7					1.0000	1.0000	1.0000	1.0105	1.0000	1.0000	1.0000	0.9596	1.0000	1.0000					
7:8				1.0000	0.7608	1.0000	1.0000	1.0049	1.0000	1.0000	1.0000	1.0000	1.0000						
8:9			1.0002	1.0000	1.0000	1.0000	1.0000	1.0106	1.0000	1.0000	1.0000	1.0000							
9:10		1.0000	1.0000	1.0000	1.0002	1.0000	1.0000	1.0125	1.0013	0.9997	1.0000								

C. Summary

	10 Year Straight Average	6 Year Straight Average	10 Year Weighted Average	10 Year Average ex. Hi&Lo	6 Year Average ex. Hi&Lo	6 Year Weighted Average	Average of Middle Four	Selected	Cumulative	Acc. Year	Ultimate
1:2	1.0164	0.9970	1.0158	1.0160	0.9981	0.9950	1.0067	1.0067	1.0067	2020	446,760
2:3	0.9963	0.9877	0.9968	0.9956	0.9820	0.9904	0.9925	1.0000	1.0000	2019	602,160
3:4	0.9971	0.9982	0.9974	0.9979	0.9989	0.9980	0.9979	1.0000	1.0000	2018	584,188
4:5	1.0016	0.9995	1.0016	1.0012	1.0006	0.9998	1.0008	1.0000	1.0000	2017	755,926
5:6	1.0025	1.0003	1.0023	1.0012	1.0002	1.0003	1.0010	1.0000	1.0000	2016	542,126
6:7	0.9970	0.9933	0.9965	1.0000	1.0000	0.9932	0.9967	1.0000	1.0000	2015	612,724
7:8	0.9766	1.0008	0.9787	1.0000	1.0000	1.0007	0.9948	1.0000	1.0000	2014	806,301
8:9	1.0011	1.0018	1.0011	1.0000	1.0000	1.0015	1.0009	1.0000	1.0000	2013	763,168
9:10	1.0014	1.0023	1.0014	1.0002	1.0003	1.0020	1.0013	1.0000	1.0000	2012	704,535

Source: A. Loss Development Data: CMCRB Database as of 04/30/21 - Validated 08/02/21
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 - Medical Losses
Summary of Adjustments to Development Factors for Act 44#

	Accident Year																								
Report	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	
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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
15	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															
17	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																	
19	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																			

Adjustments to development factors applicable to medical loss evaluated as of 04/30/2021
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

Indemnity and Funeral Reported Paid Losses as of 04/30/21

Report	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	2,060,360	1,899,710	4,015,185	2,666,351	2,516,576	2,635,035	2,186,695	2,493,545	2,578,953
2	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	5,486,851	4,482,404	7,425,208	6,101,619	5,231,352	5,200,669	5,082,244	5,968,838	
3	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	7,473,314	6,081,014	10,827,506	7,603,680	6,950,711	7,167,142	6,789,023		
4	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	7,583,308	8,392,146	6,502,458	11,747,478	9,276,789	8,203,041	7,996,688			
5	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	7,955,378	9,139,912	6,652,885	12,208,353	10,518,903	8,356,903				
6	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	8,294,033	9,395,170	7,003,338	12,232,461	10,430,072					
7	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	8,345,450	9,588,035	7,421,020	12,388,158						
8	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	8,382,687	9,898,479	7,504,122							
9	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	8,415,832	10,137,263								
10	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	7,433,605	8,450,282									
11	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	7,433,490										
12	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	5,425,367											
13	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	8,979,706												
14	8,050,069	7,481,735	8,081,870	11,269,601	6,946,798	7,319,605	10,679,371	5,717,956	6,975,971													
15	8,050,069	7,481,735	8,115,379	11,305,361	6,981,697	7,362,281	10,920,744	5,741,638														
16	8,050,069	7,481,735	8,142,053	11,400,129	7,016,692	7,346,334	10,975,651															
17	8,050,069	7,481,735	8,205,378	11,418,631	7,051,687	7,380,427																
18	8,050,069	7,481,735	8,226,812	11,437,132	7,086,586																	
19	8,050,069	7,481,735	8,248,304	11,517,844																		
20	8,050,069	7,481,735	8,270,080																			

Medical Reported Paid Losses as of 04/30/21

Report	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	3,620,004	2,405,299	3,932,999	2,543,986	2,330,259	3,485,388	3,814,701	2,499,607	2,349,706
2	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	3,390,240	4,440,785	4,582,813	3,578,603	5,151,408	3,296,965	3,384,463	4,552,372	4,776,590	3,253,108	
3	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	3,683,337	4,817,723	4,960,347	3,742,975	5,735,672	3,580,853	3,604,969	4,902,723	4,970,328		
4	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	4,051,859	5,007,341	5,092,937	3,809,188	5,817,859	3,713,959	3,669,953	5,047,418			
5	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	4,202,511	5,259,529	5,128,604	3,896,925	5,835,421	3,864,888	3,678,978				
6	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	4,278,113	5,362,138	5,199,172	3,971,294	5,882,026	3,861,601					
7	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	4,315,213	5,507,337	5,222,506	4,070,119	5,884,600						
8	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	4,328,399	5,574,652	5,246,341	4,082,391							
9	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	4,334,343	5,725,914	5,306,826								
10	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	4,335,338	5,779,145									
11	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	4,336,335										
12	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	3,108,409											
13	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	3,570,134												
14	3,531,885	2,799,305	2,899,480	3,795,599	2,889,252	4,212,622	4,408,224	3,600,198	5,743,859													
15	3,532,238	2,823,807	2,925,169	3,944,740	2,926,491	4,228,643	4,496,066	3,605,231														
16	3,532,944	2,831,581	2,939,820	3,961,842	2,943,126	4,241,385	4,568,034															
17	3,533,634	2,872,279	3,006,814	3,961,842	2,943,548	4,247,885																
18	3,533,807	2,872,279	3,017,086	3,961,842	2,944,038																	
19	3,534,720	2,872,279	3,018,743	3,961,842																		
20	3,535,038	2,872,279	3,019,006																			

Source: CMCRB Database as of 04/30/21 - Validated 08/02/21

	State O.D.			Federal Excess O.D.		
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA Guidelines		
(1) Number of Claims	# 9			# 9		
(2) Average Amounts	$855,068	$488,222	$855,068	$121,853	$278,819	$121,853
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Security Onset		
(1) Total (including above)	-	-	-	$128,080	$278,819	$128,080
(2) Difference- Social Security (Federal= b-1 minus a-2)	$68,249	$0	$68,249	6,227	0	6,227
(3) Index (to a(2))	7.9817%	0.0000%	7.9817%	5.1103%	0.0000%	5.1103%
(4) Complement	92.0183%	100.0000%	92.0183%	94.8897%	100.0000%	94.8897%
(c) Pension Offset (after Social Security Offset)				(c) Pension Onset		
(1) Total (including above)	-	-	-	$168,593	$286,317	$168,593
(2) Difference (Federal= c-1 minus b-1)	$131,194	$59,174	$131,194	40,513	7,498	40,513
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	16,399	7,397	16,399	5,064	937	5,064
(5) Index (to a-2)	1.9179%	1.5150%	1.9179%	4.1559%	0.3361%	4.1559%
(6) Complement	98.0821%	98.4850%	98.0821%			
(d) Combined Social Security and Pension Offsets				(d) Combined Social Sec, Pension Onsets		
(1) Average Amounts (b-2 plus c-4)	$84,648	$7,397	$84,648	$11,291	$937	$11,291
(2) Index (to a-2)	9.8996%	1.5150%	9.8996%			9.2662%
(3) Complement	90.1004%	98.4850%	90.1004%	Factor		109.2662%
(4) Total Average	770,420	480,825	770,420			133,144
(e) Wage Level Decrease				(e) Wage Level Increase		
(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%
(f) Combined Social Security, Pension and Wage Level				(f) Combined Percentage		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			90.1004%	(d-3) times (e-4)		109.2662%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			90.1004%			109.2662%
(4) Percentage Decrease			9.8996%	Increase		9.2662%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3) Decrease			$84,648	Increase		$11,291
(2) Average after Act 57 (a-2 plus or minus g-1)			$770,420			$133,144

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.

	State O.D.			Federal Excess O.D.		
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA Guidelines		
(1) Number of Claims	# 68			# 68		
(2) Average Amounts	$336,671	$246,080	$336,671	$243,002	$274,441	$243,002
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Security Onset		
(1) Total (including above)	-	-	-	$250,859	$281,081	$250,859
(2) Difference- Social Security (Federal= b-1 minus a-2)	$24,668	$12,934	$24,668	7,857	6,640	7,857
(3) Index (to a(2))	7.3270%	5.2560%	7.3270%	3.2333%	2.4195%	3.2333%
(4) Complement	92.6730%	94.7440%	92.6730%	96.7667%	97.5805%	96.7667%
(c) Pension Offset (after Social Security Offset)				(c) Pension Onset		
(1) Total (including above)	-	-	-	$281,462	$306,800	$281,462
(2) Difference (Federal= c-1 minus b-1)	$76,862	$60,227	$76,862	30,603	25,719	30,603
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,608	7,528	9,608	3,825	3,215	3,825
(5) Index (to a-2)	2.8538%	3.0593%	2.8538%	1.5742%	1.1714%	1.5742%
(6) Complement	97.1462%	96.9407%	97.1462%			
(d) Combined Social Security and Pension Offsets				(d) Combined Social Sec, Pension Onsets		
(1) Average Amounts (b-2 plus c-4)	$34,276	$20,462	$34,276	$11,682	$9,855	$11,682
(2) Index (to a-2)	10.1808%	8.3153%	10.1808%			4.8075%
(3) Complement	89.8192%	91.6847%	89.8192%	Factor		104.8075%
(4) Total Average	302,395	225,618	302,395			254,684
(e) Wage Level Decrease				(e) Wage Level Increase		
(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%
(f) Combined Social Security, Pension and Wage Level				(f) Combined Percentage		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			89.8192%			104.8075%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			89.8192%			104.8075%
(4) Percentage Decrease			10.1808%	Increase		4.8075%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			$34,276	Increase		$11,682
(2) Average after Act 57 (a-2 plus or minus g-1)			$302,395			$254,684

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.

	State O.D.			Federal Excess O.D.		
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA Guidelines		
(1) Number of Claims	# 38			# 38		
(2) Average Amounts	$572,760	$389,972	$572,760	$72,399	$148,817	$72,399
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Security Onset		
(1) Total (including above)	-	-	-	$75,072	$148,856	$75,072
(2) Difference- Social Security (Federal= b-1 minus a-2)	$14,854	$4,344	$14,854	2,673	39	2,673
(3) Index (to a(2))	2.5934%	1.1139%	2.5934%	3.6920%	0.0262%	3.6920%
(4) Complement	97.4066%	98.8861%	97.4066%	96.3080%	99.9738%	96.3080%
(c) Pension Offset (after Social Security Offset)				(c) Pension Onset		
(1) Total (including above)	-	-	-	$92,270	$161,679	$92,270
(2) Difference (Federal= c-1 minus b-1)	$113,390	$82,644	$113,390	17,198	12,823	17,198
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	14,174	10,331	14,174	2,150	1,603	2,150
(5) Index (to a-2)	2.4746%	2.6490%	2.4746%	2.9693%	1.0771%	2.9693%
(6) Complement	97.5254%	97.3510%	97.5254%			
(d) Combined Social Security and Pension Offsets				(d) Combined Social Sec, Pension Onsets		
(1) Average Amounts (b-2 plus c-4)	$29,028	$14,675	$29,028	$4,823	$1,642	$4,823
(2) Index (to a-2)	5.0680%	3.7630%	5.0680%			6.6613%
(3) Complement	94.9320%	96.2370%	94.9320%	Factor		106.6613%
(4) Total Average	543,732	375,298	543,732			77,222
(e) Wage Level Decrease				(e) Wage Level Increase		
(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%
(f) Combined Social Security, Pension and Wage Level				(f) Combined Percentage		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			94.9320%			106.6613%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			94.9320%			106.6613%
(4) Percentage Decrease			5.0680%	Increase		6.6613%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			$29,028	Increase		$4,823
(2) Average after Act 57 (a-2 plus or minus g-1)			$543,732			$77,222

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.

	State O.D.			Federal Excess O.D.		
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA Guidelines		
(1) Number of Claims	# 24			# 24		
(2) Average Amounts	$411,185	$314,914	$411,185	$200,969	$241,992	$200,969
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Security Onset		
(1) Total (including above)	-	-	-	$207,487	$244,926	$207,487
(2) Difference- Social Security (Federal= b-1 minus a-2)	$30,969	$9,567	$30,969	6,518	2,934	6,518
(3) Index (to a(2))	7.5316%	3.0380%	7.5316%	3.2433%	1.2124%	3.2433%
(4) Complement	92.4684%	96.9620%	92.4684%	96.7567%	98.7876%	96.7567%
(c) Pension Offset (after Social Security Offset)				(c) Pension Onset		
(1) Total (including above)	-	-	-	$243,167	$269,469	$243,167
(2) Difference (Federal= c-1 minus b-1)	$77,215	$57,764	$77,215	35,680	24,543	35,680
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,652	7,221	9,652	4,460	3,068	4,460
(5) Index (to a-2)	2.3473%	2.2928%	2.3473%	2.2192%	1.2678%	2.2192%
(6) Complement	97.6527%	97.7072%	97.6527%			
(d) Combined Social Security and Pension Offsets				(d) Combined Social Sec, Pension Onsets		
(1) Average Amounts (b-2 plus c-4)	$40,621	$16,788	$40,621	$10,978	$6,002	$10,978
(2) Index (to a-2)	9.8790%	5.3308%	9.8790%			5.4625%
(3) Complement	90.1210%	94.6692%	90.1210%	Factor		105.4625%
(4) Total Average	370,564	298,127	370,564			211,947
(e) Wage Level Decrease				(e) Wage Level Increase		
(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%
(f) Combined Social Security, Pension and Wage Level				(f) Combined Percentage		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			90.1210%			105.4625%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			90.1210%			105.4625%
(4) Percentage Decrease			9.8790%	Increase		5.4625%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			$40,621	Increase		$10,978
(2) Average after Act 57 (a-2 plus or minus g-1)			$370,564			$211,947

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.

	State O.D.			Federal Excess O.D.		
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA Guidelines		
(1) Number of Claims	# 16			# 16		
(2) Average Amounts	$307,980	$227,992	$307,980	$234,941	$262,728	$234,941
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Security Onset		
(1) Total (including above)	-	-	-	$245,106	$270,038	$245,106
(2) Difference- Social Security (Federal= b-1 minus a-2)	$20,538	$10,334	$20,538	10,165	7,310	10,165
(3) Index (to a(2))	6.6686%	4.5326%	6.6686%	4.3266%	2.7823%	4.3266%
(4) Complement	93.3314%	95.4674%	93.3314%	95.6734%	97.2177%	95.6734%
(c) Pension Offset (after Social Security Offset)				(c) Pension Onset		
(1) Total (including above)	-	-	-	$259,396	$279,090	$259,396
(2) Difference (Federal= c-1 minus b-1)	$54,944	$37,216	$54,944	14,290	9,052	14,290
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	6,868	4,652	6,868	1,786	1,132	1,786
(5) Index (to a-2)	2.2300%	2.0404%	2.2300%	0.7603%	0.4307%	0.7603%
(6) Complement	97.7700%	97.9596%	97.7700%			
(d) Combined Social Security and Pension Offsets				(d) Combined Social Sec, Pension Onsets		
(1) Average Amounts (b-2 plus c-4)	$27,406	$14,986	$27,406	$11,951	$8,442	$11,951
(2) Index (to a-2)	8.8986%	6.5730%	8.8986%			5.0869%
(3) Complement	91.1014%	93.4270%	91.1014%	Factor		105.0869%
(4) Total Average	280,574	213,006	280,574			246,892
(e) Wage Level Decrease				(e) Wage Level Increase		
(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%
(f) Combined Social Security, Pension and Wage Level				(f) Combined Percentage		
(1) Percentage level Excl. AMA Guidelines (d-3 times e-2)			91.1014%			105.0869%
(2) AMA Guidelines (a-3)			100.0000%			100.0000%
(3) Full Effect of Act 57 (1 X 2)			91.1014%			105.0869%
(4) Percentage Decrease			8.8986%	Increase		5.0869%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			$27,406	Increase		$11,951
(2) Average after Act 57 (a-2 plus or minus g-1)			$280,574			$246,892

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

Classification		Code	(1) Estimated Miner Years 2011-2020	(2) Claim Frequency per 100 Miner Years: Indicated (Eff 4/1/2021)	(3) Trended to 4/1/2022	(4) Indicated (Eff 4/1/2022)	(5) Credibility: Expected Awarded Claims	(6) Factor	(7) Claim Frequency Indicated w/ Credibility	(8) Change in Indication After Cred.	(9) 10 Year 2011-2020 Payroll	(10) Claim Frequency Per $100 of Payroll
Underground:	Anthracite	1011	82.2	1.202725	1.202725	1.847959	0.989	0.136	1.290477	7.3%	4,260,793	0.248961
	Bituminous	1002	22,152.1	0.164047	0.164047	0.176413	36.340	0.827	0.174274	6.2%	1,757,331,140	0.021968
Surface:	Anthracite	1016	4,104.8	0.104053	0.104053	0.092095	4.271	0.284	0.100657	-3.3%	222,530,339	0.018567
	Bituminous	1013	9,062.5	0.047426	0.047426	0.108060	4.298	0.284	0.064646	36.3%	479,075,827	0.012229
Four Standard Classifications			35,401.6	0.129649	0.129649	0.153020	45.898		0.140266	12.8%	2,463,198,099	0.020159
	Coke	1017	768.0	0.012141	0.012141	0.008727	0.093	0.042	0.011998	-1.2%	41,207,757	0.002236
	Auger	1019	127.2	0.024663	0.024663	0.008679	0.031	0.024	0.024279	-1.6%	6,749,321	0.004576
Co-Gen:	Anthracite	1022	1,762.2	0.030062	0.030062	0.080866	0.530	0.100	0.035142	16.9%	95,132,237	0.006510
	Bituminous	1024	2,007.8	0.030958	0.030958	0.008661	0.622	0.108	0.028550	-7.8%	109,477,568	0.005236
Prep Plants:	Anthracite	1026	1,625.7	0.276866	0.276866	0.278345	4.501	0.291	0.277296	0.2%	89,152,832	0.050565
	Bituminous	1028	4,232.7	0.034141	0.034141	0.046720	1.445	0.165	0.036217	6.1%	335,275,059	0.004572
Other Classes			10,523.6	0.068627		0.077726	7.222		0.069905	3.7%	676,994,774	0.010866
Total			45,925.2	0.115666		0.135767	53.120		0.124143	10.7%	3,140,192,873	0.018156

Source: (1) Estimated Miner Years from Exhibit VII-B-2
(2) Exhibit VII-B-1-B Col. 10
(3) Approved claim frequency trended to 4/1/2022 @ 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) / 53.12)^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

Classification		Code	(1) Approved Claim Freq. 4/1/2021	(2) Payroll 2010-2019	(3) Expected Awarded Claims 2010-2019 (1) x (2)	(4) Estimated Miner Years 2011-2020	(5) Estimated Miner Years 2020	(6) Adjustment Factor	(7) Average Weekly Wage 2010	(8) Payroll 2010	(9) Estimated Miner Years 2010-2019	(10) Frequency Per 100 Miner Years
Underground:	Anthracite	1011	0.239142	5,260,681	1.258050	82.2	4.9	1.084	845	1,299,588	104.6	1.202725
	Bituminous	1002	0.021065	1,744,582,451	36.749629	22,152.1	1,549.5	1.586	845	125,393,576	22,401.9	0.164047
Surface:	Anthracite	1016	0.019597	213,940,922	4.192600	4,104.8	375.6	1.084	845	14,295,288	4,029.3	0.104053
	Bituminous	1013	0.009170	524,445,727	4.809167	9,062.5	448.7	1.084	845	72,711,558	10,140.4	0.047426
Four Standard Classifications				2,488,229,781	47.009446	35,401.6	2,378.7			213,700,010	36,676.2	
	Coke	1017	0.002298	46,322,427	0.106449	768.0	5.3	1.084	845	5,435,658	876.8	0.012141
	Auger	1019	0.004738	7,167,710	0.033961	127.2	6.4	1.084	845	806,696	137.7	0.024663
Co-Gen:	Anthracite	1022	0.005685	95,953,752	0.545497	1,762.2	125.7	1.084	845	8,481,228	1,814.6	0.030062
	Bituminous	1024	0.005805	107,332,919	0.623068	2,007.8	178.5	1.084	845	8,732,701	2,012.6	0.030958
Prep Plants:	Anthracite	1026	0.051764	82,727,261	4.282294	1,625.7	200.0	1.084	845	5,762,086	1,546.7	0.276866
	Bituminous	1028	0.004407	327,810,630	1.444661	4,232.7	378.9	1.586	845	26,313,130	4,231.4	0.034141
Other Classes				667,314,699		10,523.6	894.8			55,531,499	10,619.8	
Total				3,155,544,480		45,925.2	3,273.5			269,231,509	47,296.0	

Source: (1) Approved Claim Frequency (4/1/21): See Exhibit III from filing effective 4/1/2021 (See Exhibit X-F)
(2) 10 years Payroll(2010-2019): See Exhibit X-A-1
(3) Expected Awarded Claims = (1)x(2) / 1,000,000
(4) Estimated Miner Years 2011-2020: See Exhibit VII-B-2
(5) Estimated Miner Years 2020: See Exhibit VII-B-2
(6) Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G
(7) Average Weekly Wage 2010: See Exhibit XII-D
(8) Payroll 2010: See Exhibit X-A-1
(9) Estimated Miner Years 2010-2019 =(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	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	1	1	0	0	0.0000	0.0000	0.000000	1,257,944	1.000000	858	1.084	26.0	3.846154	
2012	0	0	0	0	0.0000	0.0000	0.000000	1,029,260	0.000000	888	1.084	20.6	0.000000	
2013	1	1	0	0	0.0000	0.0000	0.000000	381,876	1.000000	917	1.084	7.4	13.513514	
2014	0	0	0	0	0.0000	0.0000	0.000000	258,809	0.000000	932	1.084	4.9	0.000000	
2015	0	0	0	0	0.0000	0.0000	0.000000	254,336	0.000000	951	1.084	4.7	0.000000	
2016	0	0	0	0	0.0000	0.0000	0.000000	163,760	0.000000	978	1.084	3.0	0.000000	
2017	0	0	0	0	0.0000	0.0000	0.000000	252,383	0.000000	995	1.084	4.5	0.000000	
2018	0	0	0	0	0.0000	0.0000	0.000000	183,346	0.000000	1,025	1.084	3.2	0.000000	
2019	0	0	0	0	0.0000	0.0000	0.000000	179,379	0.000000	1,049	1.084	3.0	0.000000	
2020	0	0	0	0	0.0604	0.0604	0.054876	299,700	0.054876	1,081	1.084	4.9	1.119925	
TOTAL	2	2	0	0	0.0604	0.0604	0.054876	4,260,793	2.054876			82.2	18.479593	
Average: State Frequency													1.847959	
Federal Excess Frequency (times 40.0%)													0.739184	

BITUMINOUS UNDERGROUND (1002)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	2	2	0	0	0.0000	0.0000	0.000000	148,485,709	2.000000	858	1.586	2,098.4	0.095311
2012	4	3	0	1	0.0000	0.0000	0.000000	153,618,908	3.000000	888	1.586	2,097.6	0.143021
2013	7	6	0	1	0.0000	0.0000	0.000000	149,747,092	6.000000	917	1.586	1,980.1	0.303015
2014	9	9	0	0	0.2170	0.2170	0.197235	271,230,707	9.197235	932	1.586	3,528.7	0.260641
2015	6	5	0	1	0.5173	0.5173	0.470253	216,454,460	5.470253	951	1.586	2,759.8	0.198212
2016	4	4	0	0	0.6002	0.6002	0.545555	148,556,407	4.545555	978	1.586	1,841.8	0.246800
2017	0	0	0	0	1.1969	1.1969	1.087955	172,708,778	1.087955	995	1.586	2,104.7	0.051692
2018	4	3	0	1	1.8055	1.8055	1.641227	180,553,142	4.641227	1,025	1.586	2,135.9	0.217296
2019	0	0	0	0	2.3456	2.3456	2.132178	177,833,672	2.132178	1,049	1.586	2,055.6	0.103725
2020	0	0	0	0	2.4617	2.4617	2.237685	138,142,265	2.237685	1,081	1.586	1,549.5	0.144413
TOTAL	36	32	0	4	9.1442	9.1442	8.312087	1,757,331,140	40.312087			22,152.1	1.764126
Average: State Frequency													0.176413
Federal Excess Frequency (times 40.0%)													0.070565

ANTHRACITE SURFACE (1016)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	1	1	0	0	0.0000	0.0000	0.000000	21,034,600	1.000000	858	1.084	434.9	0.229938
2012	0	0	0	0	0.0000	0.0000	0.000000	26,295,907	0.000000	888	1.084	525.3	0.000000
2013	1	0	0	1	0.0000	0.0000	0.000000	22,449,824	0.000000	917	1.084	434.3	0.000000
2014	0	0	0	0	0.0000	0.0000	0.000000	20,466,075	0.000000	932	1.084	389.6	0.000000
2015	0	0	0	0	0.0000	0.0000	0.000000	24,218,779	0.000000	951	1.084	451.8	0.000000
2016	2	2	0	0	0.0000	0.0000	0.000000	20,873,611	2.000000	978	1.084	378.6	0.528262
2017	0	0	0	0	0.0000	0.0000	0.000000	21,167,074	0.000000	995	1.084	377.4	0.000000
2018	0	0	0	0	0.0672	0.0672	0.061039	19,576,675	0.061039	1,025	1.084	338.8	0.018016
2019	0	0	0	0	0.2052	0.2052	0.186554	23,563,089	0.186554	1,049	1.084	398.5	0.046814
2020	0	0	0	0	0.4046	0.4046	0.367781	22,884,705	0.367781	1,081	1.084	375.6	0.097918
TOTAL	4	3	0	1	0.6770	0.6770	0.615375	222,530,339	3.615375			4,104.8	0.920948
Average: State Frequency													0.092095
Federal Excess Frequency (times 40.0%)													0.036838

BITUMINOUS SURFACE (1013)

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	1	1	0	0	0.0000	0.0000	0.000000	86,074,064	1.000000	858	1.084	1,779.7	0.056189
2012	2	2	0	0	0.0000	0.0000	0.000000	76,452,811	2.000000	888	1.084	1,527.4	0.130941
2013	0	0	0	0	0.0000	0.0000	0.000000	61,349,745	0.000000	917	1.084	1,186.9	0.000000
2014	2	2	0	0	0.0000	0.0000	0.000000	54,050,731	2.000000	932	1.084	1,028.9	0.194382
2015	4	2	2	0	0.0413	2.0413	1.855578	40,934,048	3.855578	951	1.084	763.6	0.504921
2016	0	0	0	0	0.0708	0.0708	0.064339	29,127,089	0.064339	978	1.084	528.4	0.012176
2017	0	0	0	0	0.1428	0.1428	0.129842	33,140,780	0.129842	995	1.084	590.9	0.021974
2018	0	0	0	0	0.2375	0.2375	0.215915	35,242,187	0.215915	1,025	1.084	610.0	0.035396
2019	0	0	0	0	0.3363	0.3363	0.305697	35,362,714	0.305697	1,049	1.084	598.0	0.051120
2020	0	0	0	0	0.3628	0.3628	0.329803	27,341,658	0.329803	1,081	1.084	448.7	0.073502
TOTAL	9	7	2	0	1.1916	3.1916	2.901173	479,075,827	9.901173			9,062.5	1.080601
Average: State Frequency													0.108060
Federal Excess Frequency (times 40.0%)													0.043224

FOUR STANDARD CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	5	5	0	0	0.0000	0.0000	0.000000	256,852,317	5.000000	858		4,339.0	0.115234	
2012	6	5	0	1	0.0000	0.0000	0.000000	257,396,886	5.000000	888		4,170.9	0.119878	
2013	9	7	0	2	0.0000	0.0000	0.000000	233,928,537	7.000000	917		3,608.7	0.193976	
2014	11	11	0	0	0.2170	0.2170	0.197235	346,006,322	11.197235	932		4,952.1	0.226111	
2015	10	7	2	1	0.5587	2.5587	2.325831	281,861,623	9.325831	951		3,979.9	0.234323	
2016	6	6	0	0	0.6710	0.6710	0.609894	198,720,867	6.609894	978		2,751.8	0.240203	
2017	0	0	0	0	1.3397	1.3397	1.217796	227,269,015	1.217796	995		3,077.5	0.039571	
2018	4	3	0	1	2.1102	2.1102	1.918181	235,555,350	4.918181	1,025		3,087.9	0.159273	
2019	0	0	0	0	2.8872	2.8872	2.624428	236,938,854	2.624428	1,049		3,055.1	0.085903	
2020	0	0	0	0	3.2895	3.2895	2.990146	188,668,328	2.990146	1,081		2,378.7	0.125705	
TOTAL	51	44	2	5	11.0732	13.0732	11.883512	2,463,198,099	55.883512			35,401.6	1.540177	
Average: State Frequency													0.154018	0.153020
Federal Excess Frequency (times 40.0%)													0.061607	0.061208

Source: Claim counts - CMCRB OD Database as of 08/02/2021
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) = 50 / [50 + 05] = 0.909
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

STATE OCCUPATIONAL DISEASE FREQUENCY
WITH FEDERAL EXCESS FREQUENCY

COKE (1017)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	0	0	0	0	0.0000	0.0000	0.000000	3,599,086	0.000000	858	1.084	74.4	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	5,738,105	0.000000	888	1.084	114.6	0.000000	
2013	0	0	0	0	0.0000	0.0000	0.000000	4,791,910	0.000000	917	1.084	92.7	0.000000	
2014	0	0	0	0	0.0009	0.0009	0.000818	4,464,398	0.000818	932	1.084	85.0	0.000962	
2015	0	0	0	0	0.0019	0.0019	0.001727	4,340,376	0.001727	951	1.084	81.0	0.002132	
2016	0	0	0	0	0.0052	0.0052	0.004727	4,435,066	0.004727	978	1.084	80.5	0.005872	
2017	0	0	0	0	0.0089	0.0089	0.008090	4,566,113	0.008090	995	1.084	81.4	0.009939	
2018	0	0	0	0	0.0132	0.0132	0.011999	4,484,744	0.011999	1,025	1.084	77.6	0.015462	
2019	0	0	0	0	0.0183	0.0183	0.016635	4,466,971	0.016635	1,049	1.084	75.5	0.022033	
2020	0	0	0	0	0.0018	0.0018	0.001636	320,988	0.001636	1,081	1.084	5.3	0.030872	
TOTAL	0	0	0	0	0.0502	0.0502	0.045632	41,207,757	0.045632			768.0	0.087272	
Average: State Frequency													0.008727	
Federal Excess Frequency (times 40.0%)													0.003491	

AUGER (1019)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.0000	0.0000	0.000000	1,176,255	0.000000	858	1.084	24.3	0.000000
2012	0	0	0	0	0.0000	0.0000	0.000000	808,208	0.000000	888	1.084	16.1	0.000000
2013	0	0	0	0	0.0000	0.0000	0.000000	1,025,399	0.000000	917	1.084	19.8	0.000000
2014	0	0	0	0	0.0002	0.0002	0.000182	806,976	0.000182	932	1.084	15.4	0.001181
2015	0	0	0	0	0.0003	0.0003	0.000273	582,619	0.000273	951	1.084	10.9	0.002502
2016	0	0	0	0	0.0004	0.0004	0.000364	372,496	0.000364	978	1.084	6.8	0.005347
2017	0	0	0	0	0.0009	0.0009	0.000818	449,009	0.000818	995	1.084	8.0	0.010226
2018	0	0	0	0	0.0018	0.0018	0.001636	600,138	0.001636	1,025	1.084	10.4	0.015733
2019	0	0	0	0	0.0022	0.0022	0.002000	539,914	0.002000	1,049	1.084	9.1	0.021976
2020	0	0	0	0	0.0021	0.0021	0.001909	388,307	0.001909	1,081	1.084	6.4	0.029827
TOTAL	0	0	0	0	0.0079	0.0079	0.007181	6,749,321	0.007181			127.2	0.086792
Average: State Frequency													0.008679
Federal Excess Frequency (times 40.0%)													0.003472

ANTHRACITE CO-GEN (1022)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.0000	0.0000	0.000000	11,720,035	0.000000	858	1.084	242.3	0.000000
2012	0	0	0	0	0.0000	0.0000	0.000000	10,273,004	0.000000	888	1.084	205.2	0.000000
2013	0	0	0	0	0.0000	0.0000	0.000000	8,342,651	0.000000	917	1.084	161.4	0.000000
2014	0	0	0	0	0.0018	0.0018	0.001636	9,060,883	0.001636	932	1.084	172.5	0.000949
2015	0	0	0	0	0.0047	0.0047	0.004272	10,469,089	0.004272	951	1.084	195.3	0.002188
2016	0	0	0	0	0.0105	0.0105	0.009545	8,994,602	0.009545	978	1.084	163.2	0.005848
2017	0	0	0	0	0.0172	0.0172	0.015635	8,819,700	0.015635	995	1.084	157.3	0.009939
2018	0	0	0	0	0.0341	0.0341	0.030997	11,600,891	0.030997	1,025	1.084	200.8	0.015437
2019	1	1	0	0	0.0336	0.0336	0.030542	8,191,669	1.030542	1,049	1.084	138.5	0.744074
2020	0	0	0	0	0.0418	0.0418	0.037996	7,659,713	0.037996	1,081	1.084	125.7	0.030228
TOTAL	1	1	0	0	0.1437	0.1437	0.130623	95,132,237	1.130623			1,762.2	0.808663
Average: State Frequency													0.080866
Federal Excess Frequency (times 40.0%)													0.032346

BITUMINOUS CO-GEN (1024)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.0000	0.0000	0.000000	9,102,411	0.000000	858	1.084	188.2	0.000000
2012	0	0	0	0	0.0000	0.0000	0.000000	9,047,745	0.000000	888	1.084	180.8	0.000000
2013	0	0	0	0	0.0000	0.0000	0.000000	10,355,884	0.000000	917	1.084	200.3	0.000000
2014	0	0	0	0	0.0023	0.0023	0.002091	11,721,184	0.002091	932	1.084	223.1	0.000937
2015	0	0	0	0	0.0053	0.0053	0.004818	11,748,205	0.004818	951	1.084	219.2	0.002198
2016	0	0	0	0	0.0132	0.0132	0.011999	11,327,552	0.011999	978	1.084	205.5	0.005839
2017	0	0	0	0	0.0223	0.0223	0.020271	11,435,057	0.020271	995	1.084	203.9	0.009941
2018	0	0	0	0	0.0354	0.0354	0.032179	12,043,297	0.032179	1,025	1.084	208.4	0.015441
2019	0	0	0	0	0.0485	0.0485	0.044087	11,818,883	0.044087	1,049	1.084	199.9	0.022054
2020	0	0	0	0	0.0593	0.0593	0.053904	10,877,350	0.053904	1,081	1.084	178.5	0.030198
TOTAL	0	0	0	0	0.1863	0.1863	0.169347	109,477,568	0.169347			2,007.8	0.086608
Average: State Frequency													0.008661
Federal Excess Frequency (times 40.0%)													0.003464

Source: Claim counts - CMCRB OD Database as of 08/02/2021
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) = 50 / [50 + 05] = 0.909
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

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	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	0	0	0	0	0.0000	0.0000	0.000000	7,236,583	0.000000	858	1.084	149.6	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	8,671,140	0.000000	888	1.084	173.2	0.000000	
2013	0	0	0	0	0.0000	0.0000	0.000000	8,265,665	0.000000	917	1.084	159.9	0.000000	
2014	1	1	0	0	0.0041	0.0041	0.003727	8,234,771	1.003727	932	1.084	156.7	0.640540	
2015	1	1	0	0	0.0085	0.0085	0.007727	7,606,274	1.007727	951	1.084	141.9	0.710167	
2016	0	0	0	0	0.0205	0.0205	0.018635	7,018,927	0.018635	978	1.084	127.3	0.014638	
2017	1	1	0	0	0.0377	0.0377	0.034269	7,746,154	1.034269	995	1.084	138.1	0.748928	
2018	0	0	0	0	0.0709	0.0709	0.064448	9,651,288	0.064448	1,025	1.084	167.0	0.038592	
2019	0	0	0	0	0.1285	0.1285	0.116807	12,534,373	0.116807	1,049	1.084	212.0	0.055097	
2020	1	1	0	0	0.1661	0.1661	0.150985	12,187,657	1.150985	1,081	1.084	200.0	0.575492	
TOTAL	4	4	0	0	0.4363	0.4363	0.396597	89,152,832	4.396597			1,625.7	2.783454	
Average: State Frequency													0.278345	
Federal Excess Frequency (times 40.0%)													0.111338	

BITUMINOUS PREP PLANT (1028)

IBNR Factor adjusted by 0.4000

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.0000	0.0000	0.000000	35,155,068	0.000000	858	1.586	496.8	0.000000
2012	0	0	0	0	0.0000	0.0000	0.000000	34,211,729	0.000000	888	1.586	467.1	0.000000
2013	0	0	0	0	0.0000	0.0000	0.000000	34,253,697	0.000000	917	1.586	452.9	0.000000
2014	0	0	0	0	0.0087	0.0087	0.007908	43,520,040	0.007908	932	1.586	566.2	0.001397
2015	0	0	0	0	0.0150	0.0150	0.013635	33,564,176	0.013635	951	1.586	427.9	0.003186
2016	1	1	0	0	0.0277	0.0277	0.025179	23,689,882	1.025179	978	1.586	293.7	0.349057
2017	0	0	0	0	0.0561	0.0561	0.050995	28,803,457	0.050995	995	1.586	351.0	0.014528
2018	0	0	0	0	0.0947	0.0947	0.086082	32,199,872	0.086082	1,025	1.586	380.9	0.022600
2019	0	0	0	0	0.1480	0.1480	0.134532	36,099,579	0.134532	1,049	1.586	417.3	0.032239
2020	0	0	0	0	0.1842	0.1842	0.167438	33,777,559	0.167438	1,081	1.586	378.9	0.044190
TOTAL	1	1	0	0	0.5344	0.5344	0.485770	335,275,059	1.485770			4,232.7	0.467197
Average: State Frequency													0.046720
Federal Excess Frequency (times 40.0%)													0.018688

TOTAL OTHER CLASSES

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2011	0	0	0	0	0.0000	0.0000	0.000000	67,989,438	0.000000	858		1,175.6	0.000000	
2012	0	0	0	0	0.0000	0.0000	0.000000	68,749,931	0.000000	888		1,157.0	0.000000	
2013	0	0	0	0	0.0000	0.0000	0.000000	67,035,206	0.000000	917		1,087.0	0.000000	
2014	1	1	0	0	0.0180	0.0180	0.016362	77,808,252	1.016362	932		1,218.9	0.083384	
2015	1	1	0	0	0.0357	0.0357	0.032451	68,310,739	1.032451	951		1,076.2	0.095935	
2016	1	1	0	0	0.0775	0.0775	0.070448	55,838,525	1.070448	978		877.0	0.122058	
2017	1	1	0	0	0.1431	0.1431	0.130078	61,819,490	1.130078	995		939.7	0.120259	
2018	0	0	0	0	0.2501	0.2501	0.227341	70,580,230	0.227341	1,025		1,045.1	0.021753	
2019	1	1	0	0	0.3791	0.3791	0.344602	73,651,389	1.344602	1,049		1,052.3	0.127777	
2020	1	1	0	0	0.4553	0.4553	0.413868	65,211,574	1.413868	1,081		894.8	0.158009	
TOTAL	6	6	0	0	1.3588	1.3588	1.235149	676,994,774	7.235149			10,523.6	0.729175	
Average: State Frequency													0.072918	0.077726
Federal Excess Frequency (times 40.0%)													0.029167	0.03109

GRAND TOTAL

YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	0.909 AWARD RATIO	Payroll	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2011	5	5	0	0	0.0000	0.0000	0.000000	324,841,755	5.000000	858		5,514.6	0.090668	
2012	6	5	0	1	0.0000	0.0000	0.000000	326,146,817	5.000000	888		5,327.9	0.093846	
2013	9	7	0	2	0.0000	0.0000	0.000000	300,963,743	7.000000	917		4,695.7	0.149073	
2014	12	12	0	0	0.2350	0.2350	0.213597	423,814,574	12.213597	932		6,171.0	0.197919	
2015	11	8	2	1	0.5944	2.5944	2.358282	350,172,362	10.358282	951		5,056.1	0.204867	
2016	7	7	0	0	0.7485	0.7485	0.680341	254,559,392	7.680341	978		3,628.8	0.211650	
2017	1	1	0	0	1.4828	1.4828	1.347874	289,088,505	2.347874	995		4,017.2	0.058446	
2018	4	3	0	1	2.3603	2.3603	2.145522	306,135,580	5.145522	1,025		4,133.0	0.124498	
2019	1	1	0	0	3.2663	3.2663	2.969030	310,590,243	3.969030	1,049		4,107.4	0.096631	
2020	1	1	0	0	3.7448	3.7448	3.404014	253,879,902	4.404014	1,081		3,273.5	0.134535	
TOTAL	57	50	2	5	12.4320	14.4320	13.118661	3,140,192,873	63.118661			45,925.2	1.362133	
Average: State Frequency													0.136213	0.135766
Federal Excess Frequency (times 40.0%)													0.054485	0.054307

Source: Claim counts - CMCRB OD Database as of 08/02/2021
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) = 50 / [50 + 05] = 0.909
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

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ANTHRACITE UNDERGROUND (1011)

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
36	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0		
48	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0			
60	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0				
72	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0					
84	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0						
96	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1							
108	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0								
120	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1									
132	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0										
144	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0											
156	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0												
168	0	0	0	0	0	1	1	1	0	0	0	0	0	0													
180	0	0	0	0	0	1	1	1	0	0	0	0	0														
192	0	0	0	0	0	1	1	1	0	0	0	0															
204	0	0	0	0	0	1	1	1	0	0	0																
216	0	0	0	0	0	1	1	1	0	0																	
228	0	0	0	0	0	1	1	1	0																		
240	0	0	0	0	0	1	1	1																			

Incremental Changes

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

Payroll ($Millions)	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	2020	Average	Smoothed
	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	0.29970		
12-24														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	0.20143
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	2.61862	0.00000	0.00000	0.00000	0.00000	0.00000			0.20143	0.00000
36-48												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
48-60											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
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
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
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
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.20143	0.20143

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	0.20143
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	0.06037

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-2

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
BITUMINOUS UNDERGROUND (1002)

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
12	3	0	0	1	0	0	0	2	1	1	1	1	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0
24	3	1	0	2	0	0	0	2	1	2	1	3	0	0	0	0	0	1	3	3	1	1	2	0	2	0	
36	3	3	0	3	1	2	1	2	2	2	1	3	0	0	0	0	0	1	3	3	2	1	3	0	4		
48	4	3	0	3	1	2	1	2	2	2	2	3	0	0	1	0	0	2	3	3	4	3	4	0			
60	4	3	0	3	1	2	1	3	3	2	2	3	0	0	2	0	0	2	4	3	6	6	4				
72	4	3	2	3	1	2	1	3	3	2	2	4	0	0	2	0	0	2	4	6	8	6					
84	4	3	2	3	1	2	9	3	3	2	2	4	0	0	2	0	0	2	4	7	9						
96	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2	0	0	2	4	7							
108	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2	0	0	2	4								
120	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2	0	0	2									
132	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2	0	0										
144	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2	0											
156	4	3	2	3	1	2	9	4	3	2	2	4	0	0	2												
168	4	3	2	3	1	2	9	4	3	2	2	4	0	0													
180	4	3	2	3	1	2	9	4	3	2	2	4	0														
192	4	3	2	3	1	2	9	4	3	2	2	4															
204	4	3	2	3	1	2	9	4	3	2	2																
216	4	3	2	3	1	2	9	4	3	2																	
228	4	3	2	3	1	2	9	4	3																		
240	4	3	2	3	1	2	9	4																			

Incremental Changes

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

Payroll	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	2020		
($Millions)	60.59094	65.27115	75.22304	70.39669	61.08733	58.68524	47.52056	48.52263	49.25035	54.21550	65.49767	70.87262	70.46594	79.90427	101.35398	101.34814	125.39358	148.48571	153.61891	149.74709	271.23071	216.45446	148.55641	172.70878	180.55314	177.83367	138.14227		
																												Average	Smoothed
12-24														0.00000	0.00000	0.00000	0.00000	0.00673	0.01953	0.00668	0.00369	0.00462	0.01346	0.00000	0.00554	0.00000		0.00463	0.00463
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00369	0.00000	0.00673	0.00000	0.01108			0.00165	0.00319
36-48												0.00000	0.00000	0.00000	0.00987	0.00000	0.00000	0.00673	0.00000	0.00000	0.00737	0.00924	0.00673	0.00000				0.00307	0.00307
48-60											0.00000	0.00000	0.00000	0.00000	0.00987	0.00000	0.00000	0.00000	0.00651	0.00000	0.00737	0.01386	0.00000					0.00289	0.00289
60-72										0.00000	0.00000	0.01411	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02003	0.00737	0.00000						0.00319	0.00165
72-84									0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00668	0.00369							0.00080	0.00159
84-96								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								0.00159	0.00080
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.01782	0.01782

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	0.00080	0.00239	0.00404	0.00693	0.01000	0.01319	0.01782
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	0.21698	0.51733	0.60017	1.19687	1.80553	2.34563	2.46170

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-2

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ANTHRACITE SURFACE (1016)

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
	Year																										
12	1	1	0	2	1	1	0	1	1	1	1	1	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0
24	6	4	1	3	1	1	3	1	1	2	1	1	0	2	1	0	0	1	0	0	0	0	1	0	0	0	
36	6	7	1	3	1	1	3	1	2	2	1	1	0	2	1	0	0	1	0	1	0	0	1	0	0		
48	8	7	1	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	1	0	0	2	0			
60	8	7	2	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	1	0	0	2				
72	8	7	2	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	1	0	0					
84	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	1	0						
96	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	1							
108	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0								
120	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0	0	1									
132	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0	0										
144	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1	0											
156	8	7	3	3	1	1	3	1	2	2	1	1	0	3	1												
168	8	7	3	3	1	1	3	1	2	2	1	1	0	3													
180	8	7	3	3	1	1	3	1	2	2	1	1	0														
192	8	7	3	3	1	1	3	1	2	2	1	1															
204	8	7	3	3	1	1	3	1	2	2	1																
216	8	7	3	3	1	1	3	1	2	2																	
228	8	7	3	3	1	1	3	1	2																		
240	8	7	3	3	1	1	3	1																			

Incremental Changes

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

Payroll ($Millions)	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	2020	Average	Smoothed
	30.21045	20.28889	16.19217	17.78314	17.37629	18.44114	16.80781	13.94080	12.25126	12.16621	12.35973	12.14091	11.94638	14.55558	16.95431	16.44546	14.29529	21.03460	26.29591	22.44982	20.46608	24.21878	20.87361	21.16707	19.57668	23.56309	22.88471		
12-24														0.06870	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00528	0.00897
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04454	0.00000	0.00000	0.00000	0.00000	0.00000			0.00343	0.00528
36-48												0.00000	0.00000	0.06870	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04791	0.00000				0.00897	0.00343
48-60											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
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
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
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
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.01768	0.01768

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	0.00343	0.00871	0.01768	
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	0.06715	0.20523	0.40460	

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-2

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
BITUMINOUS SURFACE (1013)

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
	Year																										
12	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	4	1	2	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
36	5	2	3	2	1	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0		
48	5	3	3	3	1	2	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	2	0	0			
60	5	3	3	3	1	2	0	0	0	0	0	1	0	0	0	0	0	1	2	0	1	2	0				
72	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0	1	2	0	1	4					
84	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0	1	2	0	2						
96	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0	1	2	0							
108	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0	1	2								
120	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0	1									
132	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0	0										
144	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0	0											
156	5	3	3	4	1	2	0	0	0	0	0	1	0	0	0												
168	5	3	3	4	1	2	0	0	0	0	0	1	0	0													
180	5	3	3	4	1	2	0	0	0	0	0	1	0														
192	5	3	3	4	1	2	0	0	0	0	0	1															
204	5	3	3	4	1	2	0	0	0	0	0																
216	5	3	3	4	1	2	0	0	0	0																	
228	5	3	3	4	1	2	0	0	0																		
240	5	3	3	4	1	2	0	0																			

Incremental Changes

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

Payroll ($Millions)	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	2020	Average	Smoothed
	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	35.36271	27.34166		
12-24														0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02443	0.00000	0.00000	0.00000	0.00000		0.00188	0.00376
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.01162	0.00000	0.00000	0.00000	0.02443	0.00000	0.00000	0.00000			0.00277	0.00277
36-48												0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01308	0.00000	0.01850	0.00000	0.00000	0.00000				0.00243	0.00243
48-60											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01308	0.00000	0.00000	0.00000	0.00000					0.00101	0.00188
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	0.04886						0.00376	0.00142
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	0.01850							0.00142	0.00101
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
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.01327	0.01327

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	0.00101	0.00243	0.00431	0.00674	0.00951	0.01327
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	0.04134	0.07078	0.14284	0.23753	0.33630	0.36282

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-2

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
	Year																										
12	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1
24	0	0	0	1	0	0	1	0	1	1	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	1	
36	0	0	0	1	0	0	1	0	1	1	1	0	1	1	0	0	1	0	0	0	0	1	1	1	0		
48	0	0	0	1	0	0	1	0	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1	1			
60	0	0	0	1	0	0	1	0	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1				
72	0	0	0	1	0	1	1	0	1	1	1	0	1	1	0	0	1	0	0	0	1	1					
84	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0	1	0	0	0	1						
96	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0	1	0	0	0							
108	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0	1	0	0								
120	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0	1	0									
132	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0	1										
144	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0	0											
156	0	0	0	2	0	1	1	0	1	1	1	0	1	1	0												
168	0	0	0	2	0	1	1	0	1	1	1	0	1	1													
180	0	0	0	2	0	1	1	0	1	1	1	0	1														
192	0	0	0	2	0	1	1	0	1	1	1	0															
204	0	0	0	2	0	1	1	0	1	1	1																
216	0	0	0	2	0	1	1	0	1	1																	
228	0	0	0	2	0	1	1	0	1																		
240	0	0	0	2	0	1	1	0																			

Incremental Changes

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

Payroll ($Millions)	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	2020	Average	Smoothed
	60.28848	60.34187	62.83464	73.62183	31.35678	30.45185	29.53686	32.92543	36.81203	41.30010	49.30786	53.12798	53.54405	59.39238	56.31762	48.54853	55.53150	67.98944	68.74993	67.03521	77.80825	68.31074	55.83853	61.81949	70.58023	73.65139	65.21157		
12-24														0.01684	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00130	0.00250
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01464	0.01791	0.00000	0.00000			0.00250	0.00130
36-48												0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000				0.00099	0.00099
48-60											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
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
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
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
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.00479	0.00479

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	0.00099	0.00229	0.00479	
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	0.06987	0.16866	0.31236	

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-2

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS

Exhibit VII-C-6

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
	Year																										
12	5	2	0	4	1	3	0	3	3	3	2	3	0	1	1	0	1	2	0	2	0	0	1	1	1	1	1
24	13	6	3	8	1	4	5	3	3	5	3	5	1	3	1	0	1	3	3	3	1	2	3	1	2	1	
36	14	12	4	9	3	6	6	3	5	5	3	5	1	3	1	0	1	4	3	5	2	4	5	1	4		
48	17	13	4	10	3	6	6	4	5	5	4	5	1	4	2	0	1	5	4	5	6	6	7	1			
60	17	13	5	10	3	6	6	5	6	5	4	5	1	4	3	0	1	5	6	5	8	9	7				
72	17	13	7	11	3	7	6	5	6	5	4	6	1	4	3	0	1	5	6	8	10	11					
84	17	13	8	12	3	7	14	5	6	5	4	6	1	4	3	0	1	5	6	9	12						
96	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3	0	1	5	6	9							
108	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3	0	1	5	6								
120	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3	0	1	5									
132	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3	0	1										
144	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3	0											
156	17	13	8	12	3	7	14	6	6	5	4	6	1	4	3												
168	17	13	8	12	3	7	14	6	6	5	4	6	1	4													
180	17	13	8	12	3	7	14	6	6	5	4	6	1														
192	17	13	8	12	3	7	14	6	6	5	4	6															
204	17	13	8	12	3	7	14	6	6	5	4																
216	17	13	8	12	3	7	14	6	6	5																	
228	17	13	8	12	3	7	14	6	6																		
240	17	13	8	12	3	7	14	6																			

Incremental Changes

12-24													1	2	0	0	0	1	3	1	1	2	2	0	1	0	
24-36												0	0	0	0	0	0	1	0	2	1	2	2	0	2		
36-48											1	0	0	1	1	0	0	1	1	0	4	2	2	0			
48-60										0	0	0	0	0	1	0	0	0	2	0	2	3	0				
60-72									0	0	0	1	0	0	0	0	0	0	0	3	2	2					
72-84								0	0	0	0	0	0	0	0	0	0	0	0	1	2						
84-96							0	1	0	0	0	0	0	0	0	0	0	0	0	0							
96-108						0	0	0	0	0	0	0	0	0	0	0	0	0	0								
108-120					0	0	0	0	0	0	0	0	0	0	0	0	0	0									
120-132				0	0	0	0	0	0	0	0	0	0	0	0	0	0										
132-144			0	0	0	0	0	0	0	0	0	0	0	0	0	0											
144-156		0	0	0	0	0	0	0	0	0	0	0	0	0	0												
156-168	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
168-180	0	0	0	0	0	0	0	0	0	0	0	0	0														
180-192	0	0	0	0	0	0	0	0	0	0	0	0															
192-204	0	0	0	0	0	0	0	0	0	0	0																
204-216	0	0	0	0	0	0	0	0	0	0																	
216-228	0	0	0	0	0	0	0	0	0																		
228-240	0	0	0	0	0	0	0	0																			

Payroll	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	2020
($Millions)	244.86519	226.14804	233.69096	231.27906	175.23425	163.55466	145.17101	155.17671	153.20228	156.90982	184.72788	202.43064	200.40787	218.81054	249.81710	229.46239	269.23152	324.84175	326.14682	300.96375	423.81458	350.17237	254.55940	289.08850	306.13559	310.59024	253.87991

																												Average	Smoothed
12-24														0.00914	0.00000	0.00000	0.00000	0.00308	0.00920	0.00332	0.00236	0.00571	0.00786	0.00000	0.00327	0.00000		0.00338	0.00338
24-36													0.00000	0.00000	0.00000	0.00000	0.00000	0.00308	0.00000	0.00665	0.00236	0.00571	0.00786	0.00000	0.00653			0.00248	0.00290
36-48												0.00000	0.00000	0.00457	0.00400	0.00000	0.00000	0.00308	0.00307	0.00000	0.00944	0.00571	0.00786	0.00000				0.00290	0.00248
48-60											0.00000	0.00000	0.00000	0.00000	0.00400	0.00000	0.00000	0.00000	0.00613	0.00000	0.00472	0.00857	0.00000					0.00180	0.00195
60-72										0.00000	0.00000	0.00494	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00997	0.00472	0.00571						0.00195	0.00180
72-84									0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00332	0.00472							0.00062	0.00062
84-96								0.00644	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000								0.00050	0.00050
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
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
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
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
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
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
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
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
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
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
216-228	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
																												0.01363	0.01363

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	0.00050	0.00112	0.00292	0.00487	0.00735	0.01025	0.01363
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	0.21191	0.39219	0.74331	1.40786	2.25010	3.18355	3.46038

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

COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS

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
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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2014	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
2015	0.00112	0.00112	0.00112	0.00112	0.00112	0.00112
2016	0.00292	0.00292	0.00292	0.00292	0.00292	0.00292
2017	0.00487	0.00487	0.00487	0.00487	0.00487	0.00487
2018	0.00735	0.00735	0.00735	0.00735	0.00735	0.00735
2019	0.01025	0.01025	0.01025	0.01025	0.01025	0.01025
2020	0.01363	0.01363	0.01363	0.01363	0.01363	0.01363
B. Adjustment Factor	0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
C. Payroll Per $1M						
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	4.46697	0.53991	8.19167	11.81888	12.53437	36.09958
2020	0.32099	0.38831	7.65971	10.87735	12.18766	33.77756
D. IBNR						
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2014	0.0009	0.0002	0.0018	0.0023	0.0041	0.0087
2015	0.0019	0.0003	0.0047	0.0053	0.0085	0.0150
2016	0.0052	0.0004	0.0105	0.0132	0.0205	0.0277
2017	0.0089	0.0009	0.0172	0.0223	0.0377	0.0561
2018	0.0132	0.0018	0.0341	0.0354	0.0709	0.0947
2019	0.0183	0.0022	0.0336	0.0485	0.1285	0.1480
2020	0.0018	0.0021	0.0418	0.0593	0.1661	0.1842

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

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
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
2010	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						
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
2010	5.43566	0.80670	8.48123	8.73270	5.76209	26.31313
D. IBNR						
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
2010	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

Coal Mine Compensation Rating Bureau

State O.D. Severity- Before Act 57

Underground Antrhacite

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	702,762	-	-			-	-		
	1	929,163	-	-			-	-		
	1	1,924,211	-	-			-	-		
	1	543,226	-	-			-	-		
	1	658,933	-	-			-	-		
	1	1,580,429	-	-			-	-		
	-	-	1	194,682			-	-		
	-	-	1	656,870			-	-		
	-	-	1	505,336			-	-		
(i) Total	# 6	$6,338,724	# 3	$1,356,887	# 9	$7,695,611	# 0	$0	# 9	$7,695,611
(ii) Average		$1,056,454		$452,296		$855,068		$0		$855,068
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$1,056,454		$452,296						
(ii) Difference (Col. 2 minus Col. 1)						($604,158)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Total	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($604,158)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$6,338,724	$1,056,454	# 0.0000	$0	$0	# 6.0000	$6,338,724	$1,056,454
(ii) Comm./Comp.	# 3	$1,356,887	$452,296	# 0.0000	$0	$0	# 3.0000	$1,356,887	$452,296
(iii) Total	# 9	$7,695,611	$855,068	# 0.0000	$0	$0	# 9.0000	$7,695,611	$855,068
(iv) Average Severity before Adjustment									$855,068
(v) Impact									$0

Source: Exhibit IX-A

State O.D. Severity- Before Act 57

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	977,083	-	-			-	-		
	-	-	1	160,210			-	-		
	-	-	1	234,652			-	-		
	-	-	1	501,033			-	-		
	-	-	1	99,733			-	-		
	-	-	1	207,467			-	-		
	-	-	1	392,916			-	-		
	-	-	1	166,402			-	-		
	1	1,012,108	-	-			-	-		
	1	1,272,943	-	-			-	-		
	1	1,792,034	-	-			-	-		
	-	-	1	552,249			-	-		
	-	-	1	152,282			-	-		
	1	1,355,151	-	-			-	-		
	-	-	1	218,642			-	-		
	-	-	1	50,640			-	-		
	1	1,710,959	-	-			-	-		
	-	-	1	109,138			-	-		
	-	-	1	192,240			-	-		
	-	-	1	52,495			-	-		
	-	-	1	188,036			-	-		
	-	-	1	724,723			-	-		
	-	-	1	282,348			-	-		
	-	-	1	153,308			-	-		
	-	-	1	218,624			-	-		
	-	-	1	133,043			-	-		
	-	-	1	144,074			-	-		
	-	-	1	145,932			-	-		
	-	-	1	140,907			-	-		
	-	-	1	154,925			-	-		
	-	-	1	149,503			-	-		
	-	-	1	177,114			-	-		
	-	-	1	150,442			-	-		
	-	-	1	291,767			-	-		
	-	-	1	169,033			-	-		
	-	-	1	249,028			-	-		
	-	-	1	629,495			-	-		
	-	-	1	291,689			-	-		
	-	-	1	142,041			-	-		
	-	-	1	156,279			-	-		
	-	-	1	122,794			-	-		
	-	-	1	115,616			-	-		
	-	-	1	275,844			-	-		
	-	-	1	47,649			-	-		
	-	-	1	98,240			-	-		
	-	-	1	180,061			-	-		
	-	-	1	339,860			-	-		
	-	-	1	207,840			-	-		
	-	-	1	271,230			-	-		
	-	-	1	92,828			-	-		
	-	-	1	148,626			-	-		
	-	-	1	94,147			-	-		
	-	-	1	99,878			-	-		
	-	-	1	42,386			-	-		
	-	-	1	99,617			-	-		
	-	-	1	96,854			-	-		
	-	-	1	90,149			-	-		
	-	-	1	101,891			-	-		
	-	-	1	102,345			-	-		
	-	-	1	99,109			-	-		
	-	-	1	52,148			-	-		
	-	-	1	251,053			-	-		
	-	-	1	42,397			-	-		
	1	1,972,074	-	-			-	-		
	1	1,552,238	-	-			-	-		
	-	-	1	103,673			-	-		
	-	-	1	242,894			-	-		
	-	-	1	47,475			-	-		
(i) Total	# 8	$11,644,590	# 60	$11,249,011	# 68	$22,893,601	# 0	$0	# 68	$22,893,601
(ii) Average		$1,455,574		$187,484		$336,671		$0		$336,671
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$1,455,574		$187,484						
(ii) Difference (Col. 2 minus Col. 1)						($1,268,090)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Total	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($1,268,090)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$11,644,590	$1,455,574	# 0.0000	$0	$0	# 8.0000	$11,644,590	$1,455,574
(ii) Comm./Comp.	# 60	$11,249,011	$187,484	# 0.0000	$0	$0	# 60.0000	$11,249,011	$187,484
(iii) Total	# 68	$22,893,601	$336,671	# 0.0000	$0	$0	# 68.0000	$22,893,601	$336,671
(iv) Average Severity before Adjustment									$336,671
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O.D. Severity- Before Act 57

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	935,619	-	-			-	-		
	-	-	1	43,780			-	-		
	1	1,009,058	-	-			-	-		
	1	673,177	-	-			-	-		
	1	327,990	-	-			-	-		
	-	-	1	66,614			-	-		
	1	800,603	-	-			-	-		
	1	604,249	-	-			-	-		
	-	-	1	606,739			-	-		
	1	892,216	-	-			-	-		
	1	1,115,609	-	-			-	-		
	1	884,377	-	-			-	-		
	1	728,690	-	-			-	-		
	1	89,736	-	-			-	-		
	-	-	1	428,880			-	-		
	1	832,095	-	-			-	-		
	1	675,252	-	-			-	-		
	1	1,022,738	-	-			-	-		
	-	-	1	646,207			-	-		
	1	754,172	-	-			-	-		
	1	522,990	-	-			-	-		
	1	570,155	-	-			-	-		
	1	706,463	-	-			-	-		
	1	1,492,781	-	-			-	-		
	1	549,272	-	-			-	-		
	1	841,515	-	-			-	-		
	-	-	1	39,310			-	-		
	1	1,148,989	-	-			-	-		
	-	-	1	263,845			-	-		
	1	642,066	-	-			-	-		
	1	770,311	-	-			-	-		
	-	-	1	146,234			-	-		
	-	-	1	139,935			-	-		
	-	-	1	126,291			-	-		
	-	-	1	68,809			-	-		
	-	-	1	125,550			-	-		
	-	-	1	200,667			-	-		
	-	-	1	271,903			-	-		
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(i) Total	# 24	$18,590,124	# 14	$3,174,764	# 38	$21,764,888	# 0	$0	# 38	$21,764,888
(ii) Average		$774,588		$226,769		$572,760		$0		$572,760
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$774,588		$226,769						
(ii) Difference (Col. 2 minus Col. 1)						($547,820)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Total	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($547,820)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded Count	Awarded Amount	Awarded Average	Pending Count	Pending Amount	Pending Average	Total Count	Total Amount	Total Average
(i) Permanent	# 24	$18,590,124	$774,588	# 0.0000	$0	$0	# 24.0000	$18,590,124	$774,588
(ii) Comm./Comp.	# 14	$3,174,764	$226,769	# 0.0000	$0	$0	# 14.0000	$3,174,764	$226,769
(iii) Total	# 38	$21,764,888	$572,760	# 0.0000	$0	$0	# 38.0000	$21,764,888	$572,760
(iv) Average Severity before Adjustment									$572,760
(v) Impact									$0

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	1,487,889	-	-			-	-		
	1	1,210,184	-	-			-	-		
	-	-	1	702,157			-	-		
	-	-	1	117,773			-	-		
	-	-	1	414,327			-	-		
	1	1,851,896	-	-			-	-		
	-	-	1	545,412			-	-		
	-	-	1	49,697			-	-		
	-	-	1	240,528			-	-		
	-	-	1	112,776			-	-		
	-	-	1	391,830			-	-		
	-	-	1	236,106			-	-		
	-	-	1	89,261			-	-		
	-	-	1	159,815			-	-		
	-	-	1	105,655			-	-		
	1	874,392	-	-			-	-		
	-	-	1	155,212			-	-		
	-	-	1	126,848			-	-		
	-	-	1	63,194			-	-		
	-	-	1	137,830			-	-		
	-	-	1	354,301			-	-		
	-	-	-	-			1	1,158,716		
	-	-	1	149,936			-	-		
	-	-	-	-			1	444,101		
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(i) Total	# 4	$5,424,361	# 18	$4,152,658	# 22	$9,577,019	# 2	$1,602,817	# 24	$11,179,836
(ii) Average		$1,356,090		$230,703		$435,319		$801,408		$465,826

b. Percentage of Awarded and Commuted/Compromised within Total Awarded

	(1)	(2)	(3)
(i) Number	# 4	# 18	# 22
(ii) Percentage	18.1818%	81.8182%	100%

c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim

	(1)	(2)	(3)
(i) Average	$1,356,090	$230,703	
(ii) Difference (Col. 2 minus Col. 1)			($1,125,387)

d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix

	(1)	(2)	(4)
(i) Awarded Mix	18.1818%	81.8182%	
(ii) Total	# 0.3636	# 1.6364	# 2

e. Pending Average from Above; Commuted and Compromised less Awarded Difference

	(1)	(2)		(4)
(i) Pending Ave.	$801,408	$801,408		
(ii) C/C Difference	$0	($1,125,387)		
(iii) (e-i) + (e-ii)	$801,408	$0	limited to zero: negative offset is impossible	
(iv) Total (d-ii) x (e-iii)	$291,421	$0		
(v) Total of (e-iv)				$291,421

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	$5,424,361	$1,356,090	# 0.3636	$291,421	$801,408	# 4.3636	$5,715,782	$1,309,867
(ii) Comm./Comp.	# 18	$4,152,658	$230,703	# 1.6364	$0	$0	# 19.6364	$4,152,658	$211,478
(iii) Total	# 22	$9,577,019	$435,319	# 2.0000	$291,421	$145,711	# 24.0000	$9,868,440	$411,185
(iv) Average Severity before Adjustment									$465,826
(v) Impact									($54,641)

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O.D. Severity- Before Act 57

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	1,642,903	-	-			-	-		
	-	-	1	301,659			-	-		
	-	-	1	145,876			-	-		
	-	-	1	251,370			-	-		
	-	-	1	166,260			-	-		
	1	589,116	-	-			-	-		
	-	-	1	91,718			-	-		
	-	-	1	81,246			-	-		
	-	-	1	104,819			-	-		
	1	496,022	-	-			-	-		
	-	-	1	216,050			-	-		
	-	-	1	153,820			-	-		
	-	-	1	163,023			-	-		
	-	-	1	372,658			-	-		
	-	-	1	74,977			-	-		
	-	-	1	76,158			-	-		
(i) Total	# 3	$2,728,041	# 13	$2,199,635	# 16	$4,927,676	# 0	$0	# 16	$4,927,676
(ii) Average		$909,347		$169,203		$307,980		$0		$307,980
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$909,347		$169,203						
(ii) Difference (Col. 2 minus Col. 1)						($740,144)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Total	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($740,144)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$2,728,041	$909,347	# 0.0000	$0	$0	# 3.0000	$2,728,041	$909,347
(ii) Comm./Comp.	# 13	$2,199,635	$169,203	# 0.0000	$0	$0	# 13.0000	$2,199,635	$169,203
(iii) Total	# 16	$4,927,676	$307,980	# 0.0000	$0	$0	# 16.0000	$4,927,676	$307,980
(iv) Average Severity before Adjustment									$307,980
(v) Impact									$0

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	322,060	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	292,181	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
(i) Total	# 6	$614,241	# 3	$0	# 9	$614,241	# 0	$0	# 9	$614,241
(ii) Average		$102,374		$0		$68,249		$0		$68,249
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$102,374		$0						
(ii) Difference (Col. 2 minus Col. 1)						($102,374)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($102,374)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$614,241	$102,374	# 0.0000	$0	$0	# 6.0000	$614,241	$102,374
(ii) Comm./Comp.	# 3	$0	$0	# 0.0000	$0	$0	# 3.0000	$0	$0
(iii) Total	# 9	$614,241	$68,249	# 0.0000	$0	$0	# 9.0000	$614,241	$68,249
(iv) Average Severity before Adjustment									$68,249
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O. D. Severity- Social Security 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	-	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	64,891			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	350,473	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	-	-	1	16,006			-	-		
	-	-	1	-			-	-		
	1	325,941	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	98			-	-		
	-	-	1	51,220			-	-		
	-	-	1	87,873			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	62,041			-	-		
	-	-	1	-			-	-		
	-	-	1	36,122			-	-		
	-	-	1	27,187			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	2,586			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	33,289			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	51,328			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	54,166			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	43,540			-	-		
	-	-	1	33,181			-	-		
	-	-	1	-			-	-		
	-	-	1	2,564			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	27,441			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	85,636			-	-		
	-	-	1	-			-	-		
	1	299,917	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	21,937			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
(i) Total	# 8	$976,332	# 60	$701,106	# 68	$1,677,437	# 0	$0	# 68	$1,677,437
(ii) Average		$122,041		$11,685		$24,668		$0		$24,668
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$122,041		$11,685						
(ii) Difference (Col. 2 minus Col. 1)						($110,356)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($110,356)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$976,332	$122,041	# 0.0000	$0	$0	# 8.0000	$976,332	$122,041
(ii) Comm./Comp.	# 60	$701,106	$11,685	# 0.0000	$0	$0	# 60.0000	$701,106	$11,685
(iii) Total	# 68	$1,677,437	$24,668	# 0.0000	$0	$0	# 68.0000	$1,677,437	$24,668
(iv) Average Severity before Adjustment									$24,668
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O. D. Severity- Social Security Offset

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	59,675			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	274,808	-	-			-	-		
	-	-	1	-			-	-		
	1	229,966	-	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
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	-	-	-	-			-	-		
(i) Total	# 24	$504,774	# 14	$59,675	# 38	$564,449	# 0	$0	# 38	$564,449
(ii) Average		$21,032		$4,263		$14,854		$0		$14,854
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$21,032		$4,263						
(ii) Difference (Col. 2 minus Col. 1)						($16,770)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($16,770)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 24	$504,774	$21,032	# 0.0000	$0	$0	# 24.0000	$504,774	$21,032
(ii) Comm./Comp.	# 14	$59,675	$4,263	# 0.0000	$0	$0	# 14.0000	$59,675	$4,263
(iii) Total	# 38	$564,449	$14,854	# 0.0000	$0	$0	# 38.0000	$564,449	$14,854
(iv) Average Severity before Adjustment									$14,854
(v) Impact									$0

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	1	259,334	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	42,847			-	-		
	1	310,962	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	25,134			-	-		
	-	-	1	25,022			-	-		
	-	-	1	-			-	-		
	-	-	1	16,877			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	16,572			-	-		
	-	-	1	15,117			-	-		
	-	-	-	-			1	-		
	-	-	1	-			-	-		
	-	-	-	-			1	172,682		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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(i) Total	# 4	$570,296	# 18	$141,568	# 22	$711,864	# 2	$172,682	# 24	$884,546
(ii) Average		$142,574		$7,865		$32,357		$86,341		$36,856
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 4		# 18		# 22					
(ii) Percentage	18.1818%		81.8182%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$142,574		$7,865						
(ii) Difference (Col. 2 minus Col. 1)						($134,709)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.1818%		81.8182%							
(ii) Number	# 0.3636		# 1.6364				# 2			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$86,341		$86,341						
(ii) C/C Difference		$0		($134,709)						
(iii) (e-i) + (e-ii)		$86,341		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$31,397		$0						
(v) Total of (e-iv)								$31,397		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	$570,296	$142,574	# 0.3636	$31,397	$86,341	# 4.3636	$601,693	$137,888
(ii) Comm./Comp.	# 18	$141,568	$7,865	# 1.6364	$0	$0	# 19.6364	$141,568	$7,209
(iii) Total	# 22	$711,864	$32,357	# 2.0000	$31,397	$15,698	# 24.0000	$743,261	$30,969
(iv) Average Severity before Adjustment									$36,856
(v) Impact									($5,887)

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O. D. Severity- Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	39,927			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	55,712			-	-		
	1	188,863	-	-			-	-		
	-	-	1	1,104			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	39,633			-	-		
	-	-	1	3,371			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
(i) Total	# 3	$188,863	# 13	$139,747	# 16	$328,611	# 0	$0	# 16	$328,611
(ii) Average		$62,954		$10,750		$20,538		$0		$20,538
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$62,954		$10,750						
(ii) Difference (Col. 2 minus Col. 1)						($52,205)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($52,205)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$188,863	$62,954	# 0.0000	$0	$0	# 3.0000	$188,863	$62,954
(ii) Comm./Comp.	# 13	$139,747	$10,750	# 0.0000	$0	$0	# 13.0000	$139,747	$10,750
(iii) Total	# 16	$328,611	$20,538	# 0.0000	$0	$0	# 16.0000	$328,611	$20,538
(iv) Average Severity before Adjustment									$20,538
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O. D. Severity- Private Pension Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	163,170	-	-			-	-		
	1	199,894	-	-			-	-		
	1	215,136	-	-			-	-		
	1	161,778	-	-			-	-		
	1	175,843	-	-			-	-		
	1	186,181	-	-			-	-		
	-	-	1	78,740			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
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(i) Total	# 6	$1,102,003	# 3	$78,740	# 9	$1,180,742	# 0	$0	# 9	$1,180,742
(ii) Average		$183,667		$26,247		$131,194		$0		$131,194
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$183,667		$26,247						
(ii) Difference (Col. 2 minus Col. 1)						($157,420)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($157,420)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$1,102,003	$183,667	# 0.0000	$0	$0	# 6.0000	$1,102,003	$183,667
(ii) Comm./Comp.	# 3	$78,740	$26,247	# 0.0000	$0	$0	# 3.0000	$78,740	$26,247
(iii) Total	# 9	$1,180,742	$131,194	# 0.0000	$0	$0	# 9.0000	$1,180,742	$131,194
(iv) Average Severity before Adjustment									$131,194
(v) Impact									$0

Source: Exhibit IX-A

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	411,807	-	-			-	-		
	-	-	1	109,553			-	-		
	-	-	1	162,666			-	-		
	-	-	1	144,117			-	-		
	-	-	1	55,404			-	-		
	-	-	1	53,466			-	-		
	-	-	1	27,537			-	-		
	-	-	1	108,083			-	-		
	1	266,095	-	-			-	-		
	1	406,595	-	-			-	-		
	1	365,815	-	-			-	-		
	-	-	1	168,758			-	-		
	-	-	1	31,022			-	-		
	1	333,747	-	-			-	-		
	-	-	1	51			-	-		
	-	-	1	15,963			-	-		
	1	290,513	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	91,287			-	-		
	-	-	1	-			-	-		
	-	-	1	338			-	-		
	-	-	1	108,319			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	257			-	-		
	-	-	1	79,258			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	62,388			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	81,293			-	-		
	-	-	1	-			-	-		
	-	-	1	153,016			-	-		
	-	-	1	-			-	-		
	-	-	1	148,854			-	-		
	-	-	1	-			-	-		
	-	-	1	173,112			-	-		
	-	-	1	65,680			-	-		
	-	-	1	-			-	-		
	-	-	1	74,247			-	-		
	-	-	1	57,841			-	-		
	-	-	1	7,337			-	-		
	-	-	1	-			-	-		
	-	-	1	48,095			-	-		
	-	-	1	96,380			-	-		
	-	-	1	123,908			-	-		
	-	-	1	-			-	-		
	-	-	1	7,172			-	-		
	-	-	1	49,749			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	3,972			-	-		
	-	-	1	46,458			-	-		
	-	-	1	51,667			-	-		
	-	-	1	31,714			-	-		
	-	-	1	-			-	-		
	-	-	1	43,776			-	-		
	-	-	1	53,483			-	-		
	-	-	1	15,655			-	-		
	-	-	1	7,317			-	-		
	-	-	1	10,194			-	-		
	1	153,127	-	-			-	-		
	1	276,764	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	138,909			-	-		
	-	-	1	13,857			-	-		
(i) Total	# 8	$2,504,462	# 60	$2,722,156	# 68	$5,226,618	# 0	$0	# 68	$5,226,618
(ii) Average		$313,058		$45,369		$76,862		$0		$76,862
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$313,058		$45,369						
(ii) Difference (Col. 2 minus Col. 1)						($267,688)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($267,688)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$2,504,462	$313,058	# 0.0000	$0	$0	# 8.0000	$2,504,462	$313,058
(ii) Comm./Comp.	# 60	$2,722,156	$45,369	# 0.0000	$0	$0	# 60.0000	$2,722,156	$45,369
(iii) Total	# 68	$5,226,618	$76,862	# 0.0000	$0	$0	# 68.0000	$5,226,618	$76,862
(iv) Average Severity before Adjustment									$76,862
(v) Impact									$0

Source: Exhibit IX-A

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	197,821	-	-			-	-		
	-	-	1	-			-	-		
	1	179,230	-	-			-	-		
	1	160,700	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	22,977			-	-		
	1	260,839	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	145,870			-	-		
	1	245,409	-	-			-	-		
	1	246,488	-	-			-	-		
	1	188,760	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	-			-	-		
	1	174,419	-	-			-	-		
	1	-	-	-			-	-		
	1	234,537	-	-			-	-		
	-	-	1	59,413			-	-		
	1	161,460	-	-			-	-		
	1	107,774	-	-			-	-		
	1	-	-	-			-	-		
	1	214,559	-	-			-	-		
	1	370,337	-	-			-	-		
	1	114,617	-	-			-	-		
	1	227,064	-	-			-	-		
	-	-	1	14,479			-	-		
	1	116,325	-	-			-	-		
	-	-	1	91,139			-	-		
	1	173,858	-	-			-	-		
	1	171,421	-	-			-	-		
	-	-	1	65,607			-	-		
	-	-	1	85,938			-	-		
	-	-	1	59,985			-	-		
	-	-	1	31,976			-	-		
	-	-	1	50,514			-	-		
	-	-	1	135,290			-	-		
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(i) Total	# 24	$3,545,618	# 14	$763,188	# 38	$4,308,806	# 0	$0	# 38	$4,308,806
(ii) Average		$147,734		$54,513		$113,390		$0		$113,390
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$147,734		$54,513						
(ii) Difference (Col. 2 minus Col. 1)						($93,221)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($93,221)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 24	$3,545,618	$147,734	# 0.0000	$0	$0	# 24.0000	$3,545,618	$147,734
(ii) Comm./Comp.	# 14	$763,188	$54,513	# 0.0000	$0	$0	# 14.0000	$763,188	$54,513
(iii) Total	# 38	$4,308,806	$113,390	# 0.0000	$0	$0	# 38.0000	$4,308,806	$113,390
(iv) Average Severity before Adjustment									$113,390
(v) Impact									$0

Source: Exhibit IX-A

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1) Count	Amount	Commuted and Compromised- As Settled (2) Count	Amount	Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2) Count	Amount	Pending, on Permanent Basis (4) Count	Amount	Total Claims (5) Count	Amount
a. Numbers and Amounts										
(i) List	1	427,855	-	-			-	-		
	1	177,910	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	68,518			-	-		
	-	-	1	41,347			-	-		
	1	184,159	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	7,268			-	-		
	-	-	1	122,590			-	-		
	-	-	1	-			-	-		
	-	-	1	22,461			-	-		
	-	-	1	140,918			-	-		
	-	-	1	-			-	-		
	-	-	1	89,287			-	-		
	-	-	1	-			-	-		
	1	285,393	-	-			-	-		
	-	-	1	98,675			-	-		
	-	-	1	-			-	-		
	-	-	1	18,880			-	-		
	-	-	1	-			-	-		
	-	-	1	13,614			-	-		
	-	-	-	-			1	287,125		
	-	-	1	82,258			-	-		
	-	-	-	-			1	109,073		
	-	-	-	-			-	-		
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(i) Total	# 4	$1,075,316	# 18	$705,817	# 22	$1,781,134	# 2	$396,199	# 24	$2,177,333
(ii) Average		$268,829		$39,212		$80,961		$198,099		$90,722
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 4		# 18		# 22					
(ii) Percentage	18.1818%		81.8182%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$268,829		$39,212						
(ii) Difference (Col. 2 minus Col. 1)						($229,617)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.1818%		81.8182%							
(ii) Number	# 0.3636		# 1.6364				# 2			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$198,099		$198,099						
(ii) C/C Difference		$0		($229,617)						
(iii) (e-i) + (e-ii)		$198,099		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$72,036		$0						
(v) Total of (e-iv)								$72,036		

f. Calculation of Impact of Adjustment

	Awarded Count	Amount	Average	Pending Count	Amount	Average	Total Count	Amount	Average
(i) Permanent	# 4	$1,075,316	$268,829	# 0.3636	$72,036	$198,099	# 4.3636	$1,147,353	$262,935
(ii) Comm./Comp.	# 18	$705,817	$39,212	# 1.6364	$0	$0	# 19.6364	$705,817	$35,944
(iii) Total	# 22	$1,781,134	$80,961	# 2.0000	$72,036	$36,018	# 24.0000	$1,853,170	$77,215
(iv) Average Severity before Adjustment									$90,722
(v) Impact									($13,507)

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

State O. D. Severity- Private Pension Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	459,461	-	-			-	-		
	-	-	1	5,851			-	-		
	-	-	1	-			-	-		
	-	-	1	104,180			-	-		
	-	-	1	-			-	-		
	1	108,240	-	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	-	-	1	-			-	-		
	1	98,639	-	-			-	-		
	-	-	1	61,755			-	-		
	-	-	1	-			-	-		
	-	-	1	3,143			-	-		
	-	-	1	2,844			-	-		
	-	-	1	-			-	-		
	-	-	1	34,996			-	-		
	-	-	-	-			-	-		
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(i) Total	# 3	$666,339	# 13	$212,767	# 16	$879,107	# 0	$0	# 16	$879,107
(ii) Average		$222,113		$16,367		$54,944		$0		$54,944
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$222,113		$16,367						
(ii) Difference (Col. 2 minus Col. 1)						($205,746)				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		($205,746)						
(iii) (e-i) + (e-ii)		$0		$0	limited to zero: negative offset is impossible					
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$666,339	$222,113	# 0.0000	$0	$0	# 3.0000	$666,339	$222,113
(ii) Comm./Comp.	# 13	$212,767	$16,367	# 0.0000	$0	$0	# 13.0000	$212,767	$16,367
(iii) Total	# 16	$879,107	$54,944	# 0.0000	$0	$0	# 16.0000	$879,107	$54,944
(iv) Average Severity before Adjustment									$54,944
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess Before Offsets

Underground Antrhacite

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	10	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	3	-	-			-	-		
	1	4	-	-			-	-		
	-	-	1	221,413			-	-		
	-	-	1	466,227			-	-		
	-	-	1	409,018			-	-		
(i) Total	# 6	$17	# 3	$1,096,658	# 9	$1,096,675	# 0	$0	# 9	$1,096,675
(ii) Average		$3		$365,553		$121,853		$0		$121,853
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$3		$365,553						
(ii) Difference (Col. 2 minus Col. 1)						$365,550				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$365,550						
(iii) (e-i) + (e-ii)		$0		$365,550						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$17	$3	# 0.0000	$0	$0	# 6.0000	$17	$3
(ii) Comm./Comp.	# 3	$1,096,658	$365,553	# 0.0000	$0	$0	# 3.0000	$1,096,658	$365,553
(iii) Total	# 9	$1,096,675	$121,853	# 0.0000	$0	$0	# 9.0000	$1,096,675	$121,853
(iv) Average Severity before Adjustment									$121,853
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess Before Offsets

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	-	-	-			-	-		
	-	-	1	210,316			-	-		
	-	-	1	216,299			-	-		
	-	-	1	268,143			-	-		
	-	-	1	228,350			-	-		
	-	-	1	231,020			-	-		
	-	-	1	280,287			-	-		
	-	-	1	207,431			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	244,215			-	-		
	-	-	1	104,150			-	-		
	1	-	-	-			-	-		
	-	-	1	298,757			-	-		
	-	-	1	246,416			-	-		
	1	-	-	-			-	-		
	-	-	1	456,669			-	-		
	-	-	1	272,805			-	-		
	-	-	1	488,248			-	-		
	-	-	1	287,781			-	-		
	-	-	1	276,214			-	-		
	-	-	1	549,785			-	-		
	-	-	1	426,743			-	-		
	-	-	1	266,984			-	-		
	-	-	1	184,883			-	-		
	-	-	1	286,997			-	-		
	-	-	1	312,924			-	-		
	-	-	1	245,273			-	-		
	-	-	1	712,041			-	-		
	-	-	1	367,879			-	-		
	-	-	1	104,440			-	-		
	-	-	1	551,951			-	-		
	-	-	1	215,200			-	-		
	-	-	1	369,119			-	-		
	-	-	1	269,583			-	-		
	-	-	1	493,111			-	-		
	-	-	1	176,510			-	-		
	-	-	1	254,737			-	-		
	-	-	1	120,944			-	-		
	-	-	1	220,121			-	-		
	-	-	1	269,296			-	-		
	-	-	1	300,701			-	-		
	-	-	1	137,614			-	-		
	-	-	1	107,655			-	-		
	-	-	1	96,418			-	-		
	-	-	1	252,516			-	-		
	-	-	1	135,503			-	-		
	-	-	1	298,257			-	-		
	-	-	1	283,004			-	-		
	-	-	1	368,646			-	-		
	-	-	1	44,166			-	-		
	-	-	1	102,048			-	-		
	-	-	1	340,985			-	-		
	-	-	1	301,628			-	-		
	-	-	1	277,786			-	-		
	-	-	1	324,517			-	-		
	-	-	1	343,919			-	-		
	-	-	1	266,619			-	-		
	-	-	1	267,055			-	-		
	-	-	1	290,686			-	-		
	-	-	1	277,854			-	-		
	-	-	1	318,330			-	-		
	1	1,268	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	155,059			-	-		
	-	-	1	203,967			-	-		
	-	-	1	312,314			-	-		
(i) Total	# 8	$1,268	# 60	$16,522,871	# 68	$16,524,139	# 0	$0	# 68	$16,524,139
(ii) Average		$158		$275,381		$243,002		$0		$243,002
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$158		$275,381						
(ii) Difference (Col. 2 minus Col. 1)						$275,223				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$275,223						
(iii) (e-i) + (e-ii)		$0		$275,223						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$1,268	$158	# 0.0000	$0	$0	# 8.0000	$1,268	$158
(ii) Comm./Comp.	# 60	$16,522,871	$275,381	# 0.0000	$0	$0	# 60.0000	$16,522,871	$275,381
(iii) Total	# 68	$16,524,139	$243,002	# 0.0000	$0	$0	# 68.0000	$16,524,139	$243,002
(iv) Average Severity before Adjustment									$243,002
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess Before Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	81,480			-	-		
	1	9,674	-	-			-	-		
	1	8	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	311,635			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	147,074			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	43,300	-	-			-	-		
	-	-	1	276,991			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	126,895			-	-		
	1	0	-	-			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	239,108			-	-		
	1	733	-	-			-	-		
	-	-	1	280,299			-	-		
	1	-	-	-			-	-		
	1	11	-	-			-	-		
	-	-	1	105,486			-	-		
	-	-	1	176,211			-	-		
	-	-	1	103,656			-	-		
	-	-	1	160,178			-	-		
	-	-	1	104,162			-	-		
	-	-	1	235,960			-	-		
	-	-	1	348,286			-	-		
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(i) Total	# 24	$53,727	# 14	$2,697,420	# 38	$2,751,147	# 0	$0	# 38	$2,751,147
(ii) Average		$2,239		$192,673		$72,399		$0		$72,399
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$2,239		$192,673						
(ii) Difference (Col. 2 minus Col. 1)						$190,434				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$190,434						
(iii) (e-i) + (e-ii)		$0		$190,434						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 24	$53,727	$2,239	# 0.0000	$0	$0	# 24.0000	$53,727	$2,239
(ii) Comm./Comp.	# 14	$2,697,420	$192,673	# 0.0000	$0	$0	# 14.0000	$2,697,420	$192,673
(iii) Total	# 38	$2,751,147	$72,399	# 0.0000	$0	$0	# 38.0000	$2,751,147	$72,399
(iv) Average Severity before Adjustment									$72,399
(v) Impact									$0

Source: Exhibit IX-A

Federal Excess Before Offsets

Surface 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	-	-	-			-	-		
	1	4	-	-			-	-		
	-	-	1	534,333			-	-		
	-	-	1	95,810			-	-		
	-	-	1	310,353			-	-		
	1	1	-	-			-	-		
	-	-	1	267,503			-	-		
	-	-	1	314,059			-	-		
	-	-	1	232,133			-	-		
	-	-	1	353,240			-	-		
	-	-	1	350,676			-	-		
	-	-	1	97,558			-	-		
	-	-	1	326,420			-	-		
	-	-	1	96,927			-	-		
	-	-	1	298,591			-	-		
	1	-	-	-			-	-		
	-	-	1	188,773			-	-		
	-	-	1	42,028			-	-		
	-	-	1	320,006			-	-		
	-	-	1	148,972			-	-		
	-	-	1	346,537			-	-		
	-	-	-	-			1	-		
	-	-	1	97,383			-	-		
	-	-	-	-			1	16		
(i) Total	# 4	$4	# 18	$4,421,304	# 22	$4,421,308	# 2	$16	# 24	$4,421,324
(ii) Average		$1		$245,628		$200,969		$8		$184,222
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 4		# 18		# 22					
(ii) Percentage	18.1818%		81.8182%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$1		$245,628						
(ii) Difference (Col. 2 minus Col. 1)						$245,627				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.1818%		81.8182%							
(ii) Number	# 0.3636		# 1.6364				# 2			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$8		$8						
(ii) C/C Difference		$0		$245,627						
(iii) (e-i) + (e-ii)		$8		$245,635						
(iv) Total (d-ii) x (e-iii)		$3		$401,948						
(v) Total of (e-iv)								$401,951		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	$4	$1	# 0.3636	$3	$8	# 4.3636	$7	$2
(ii) Comm./Comp.	# 18	$4,421,304	$245,628	# 1.6364	$401,948	$245,635	# 19.6364	$4,823,252	$245,629
(iii) Total	# 22	$4,421,308	$200,969	# 2.0000	$401,951	$200,975	# 24.0000	$4,823,259	$200,969
(iv) Average Severity before Adjustment									$184,222
(v) Impact									$16,747

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess Before Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	328,195			-	-		
	-	-	1	380,518			-	-		
	-	-	1	212,002			-	-		
	-	-	1	331,609			-	-		
	1	13	-	-			-	-		
	-	-	1	208,472			-	-		
	-	-	1	150,847			-	-		
	-	-	1	751,346			-	-		
	1	-	-	-			-	-		
	-	-	1	57,798			-	-		
	-	-	1	276,957			-	-		
	-	-	1	319,969			-	-		
	-	-	1	401,508			-	-		
	-	-	1	208,820			-	-		
	-	-	1	131,000			-	-		
(i) Total	# 3	$13	# 13	$3,759,040	# 16	$3,759,053	# 0	$0	# 16	$3,759,053
(ii) Average		$4		$289,157		$234,941		$0		$234,941
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$4		$289,157						
(ii) Difference (Col. 2 minus Col. 1)						$289,153				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$289,153						
(iii) (e-i) + (e-ii)		$0		$289,153						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$13	$4	# 0.0000	$0	$0	# 3.0000	$13	$4
(ii) Comm./Comp.	# 13	$3,759,040	$289,157	# 0.0000	$0	$0	# 13.0000	$3,759,040	$289,157
(iii) Total	# 16	$3,759,053	$234,941	# 0.0000	$0	$0	# 16.0000	$3,759,053	$234,941
(iv) Average Severity before Adjustment									$234,941
(v) Impact									$0

Source: Exhibit IX-A

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	10	-	-			-	-		
	1	-	-	-			-	-		
	1	19,715	-	-			-	-		
	1	-	-	-			-	-		
	1	3	-	-			-	-		
	1	36,334	-	-			-	-		
	-	-	1	221,413			-	-		
	-	-	1	466,227			-	-		
	-	-	1	409,018			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
(i) Total	# 6	$56,062	# 3	$1,096,658	# 9	$1,152,720	# 0	$0	# 9	$1,152,720
(ii) Average		$9,344		$365,553		$128,080		$0		$128,080
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$9,344		$365,553						
(ii) Difference (Col. 2 minus Col. 1)						$356,209				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$356,209						
(iii) (e-i) + (e-ii)		$0		$356,209						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$56,062	$9,344	# 0.0000	$0	$0	# 6.0000	$56,062	$9,344
(ii) Comm./Comp.	# 3	$1,096,658	$365,553	# 0.0000	$0	$0	# 3.0000	$1,096,658	$365,553
(iii) Total	# 9	$1,152,720	$128,080	# 0.0000	$0	$0	# 9.0000	$1,152,720	$128,080
(iv) Average Severity before Adjustment									$128,080
(v) Impact									$0

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 (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	210,316			-	-		
	-	-	1	216,299			-	-		
	-	-	1	268,143			-	-		
	-	-	1	228,350			-	-		
	-	-	1	231,020			-	-		
	-	-	1	294,226			-	-		
	-	-	1	207,431			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	1,852	-	-			-	-		
	-	-	1	244,215			-	-		
	-	-	1	104,150			-	-		
	1	-	-	-			-	-		
	-	-	1	312,453			-	-		
	-	-	1	246,416			-	-		
	1	1,717	-	-			-	-		
	-	-	1	456,669			-	-		
	-	-	1	272,805			-	-		
	-	-	1	488,347			-	-		
	-	-	1	336,747			-	-		
	-	-	1	276,214			-	-		
	-	-	1	549,785			-	-		
	-	-	1	426,743			-	-		
	-	-	1	316,096			-	-		
	-	-	1	184,883			-	-		
	-	-	1	322,943			-	-		
	-	-	1	340,006			-	-		
	-	-	1	245,273			-	-		
	-	-	1	712,041			-	-		
	-	-	1	370,465			-	-		
	-	-	1	104,440			-	-		
	-	-	1	551,951			-	-		
	-	-	1	215,200			-	-		
	-	-	1	402,107			-	-		
	-	-	1	269,583			-	-		
	-	-	1	493,111			-	-		
	-	-	1	176,510			-	-		
	-	-	1	254,737			-	-		
	-	-	1	162,592			-	-		
	-	-	1	220,121			-	-		
	-	-	1	269,296			-	-		
	-	-	1	331,445			-	-		
	-	-	1	137,614			-	-		
	-	-	1	107,655			-	-		
	-	-	1	96,418			-	-		
	-	-	1	252,516			-	-		
	-	-	1	161,536			-	-		
	-	-	1	317,259			-	-		
	-	-	1	283,004			-	-		
	-	-	1	371,209			-	-		
	-	-	1	44,166			-	-		
	-	-	1	102,048			-	-		
	-	-	1	340,985			-	-		
	-	-	1	301,628			-	-		
	-	-	1	277,786			-	-		
	-	-	1	324,517			-	-		
	-	-	1	371,360			-	-		
	-	-	1	266,619			-	-		
	-	-	1	267,055			-	-		
	-	-	1	290,686			-	-		
	-	-	1	331,806			-	-		
	-	-	1	318,330			-	-		
	1	84,247	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	176,997			-	-		
	-	-	1	203,967			-	-		
	-	-	1	312,314			-	-		
(i) Total	# 8	$87,816	# 60	$16,970,606	# 68	$17,058,422	# 0	$0	# 68	$17,058,422
(ii) Average		$10,977		$282,843		$250,859		$0		$250,859
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$10,977		$282,843						
(ii) Difference (Col. 2 minus Col. 1)						$271,866				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$271,866						
(iii) (e-i) + (e-ii)		$0		$271,866						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$87,816	$10,977	# 0.0000	$0	$0	# 8.0000	$87,816	$10,977
(ii) Comm./Comp.	# 60	$16,970,606	$282,843	# 0.0000	$0	$0	# 60.0000	$16,970,606	$282,843
(iii) Total	# 68	$17,058,422	$250,859	# 0.0000	$0	$0	# 68.0000	$17,058,422	$250,859
(iv) Average Severity before Adjustment									$250,859
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security Offset

Surface Anthracite

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	81,480			-	-		
	1	9,674	-	-			-	-		
	1	8	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	311,635			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	147,074			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	43,300	-	-			-	-		
	-	-	1	276,991			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	126,895			-	-		
	1	0	-	-			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	1	0	-	-			-	-		
	1	2,249	-	-			-	-		
	-	-	1	239,108			-	-		
	1	100,057	-	-			-	-		
	-	-	1	280,299			-	-		
	1	-	-	-			-	-		
	1	11	-	-			-	-		
	-	-	1	105,486			-	-		
	-	-	1	176,211			-	-		
	-	-	1	103,656			-	-		
	-	-	1	160,178			-	-		
	-	-	1	104,162			-	-		
	-	-	1	235,960			-	-		
	-	-	1	348,286			-	-		
(i) Total	# 24	$155,300	# 14	$2,697,420	# 38	$2,852,721	# 0	$0	# 38	$2,852,721
(ii) Average		$6,471		$192,673		$75,072		$0		$75,072
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$6,471		$192,673						
(ii) Difference (Col. 2 minus Col. 1)						$186,202				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$186,202						
(iii) (e-i) + (e-ii)		$0		$186,202						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 24	$155,300	$6,471	# 0.0000	$0	$0	# 24.0000	$155,300	$6,471
(ii) Comm./Comp.	# 14	$2,697,420	$192,673	# 0.0000	$0	$0	# 14.0000	$2,697,420	$192,673
(iii) Total	# 38	$2,852,721	$75,072	# 0.0000	$0	$0	# 38.0000	$2,852,721	$75,072
(iv) Average Severity before Adjustment									$75,072
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	1	30,579	-	-			-	-		
	-	-	1	534,333			-	-		
	-	-	1	95,810			-	-		
	-	-	1	312,431			-	-		
	1	42,390	-	-			-	-		
	-	-	1	267,503			-	-		
	-	-	1	314,059			-	-		
	-	-	1	232,133			-	-		
	-	-	1	378,373			-	-		
	-	-	1	352,821			-	-		
	-	-	1	97,558			-	-		
	-	-	1	343,297			-	-		
	-	-	1	96,927			-	-		
	-	-	1	298,591			-	-		
	1	-	-	-			-	-		
	-	-	1	188,773			-	-		
	-	-	1	42,028			-	-		
	-	-	1	320,006			-	-		
	-	-	1	165,545			-	-		
	-	-	1	351,588			-	-		
	-	-	-	-			1	-		
	-	-	1	97,383			-	-		
	-	-	-	-			1	39,299		
(i) Total	# 4	$72,969	# 18	$4,489,160	# 22	$4,562,129	# 2	$39,299	# 24	$4,601,428
(ii) Average		$18,242		$249,398		$207,369		$19,650		$191,726
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 4		# 18		# 22					
(ii) Percentage	18.1818%		81.8182%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$18,242		$249,398						
(ii) Difference (Col. 2 minus Col. 1)						$231,156				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.1818%		81.8182%							
(ii) Number	# 0.3636		# 1.6364				# 2			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$19,650		$19,650						
(ii) C/C Difference		$0		$231,156						
(iii) (e-i) + (e-ii)		$19,650		$250,805						
(iv) Total (d-ii) x (e-iii)		$7,145		$410,409						
(v) Total of (e-iv)								$417,554		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	$72,969	$18,242	# 0.3636	$7,145	$19,650	# 4.3636	$80,114	$18,359
(ii) Comm./Comp.	# 18	$4,489,160	$249,398	# 1.6364	$410,409	$250,805	# 19.6364	$4,899,569	$249,515
(iii) Total	# 22	$4,562,129	$207,369	# 2.0000	$417,554	$208,777	# 24.0000	$4,979,683	$207,487
(iv) Average Severity before Adjustment									$191,726
(v) Impact									$15,761

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security Offset

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	348,591			-	-		
	-	-	1	380,518			-	-		
	-	-	1	212,002			-	-		
	-	-	1	386,776			-	-		
	1	46,812	-	-			-	-		
	-	-	1	209,576			-	-		
	-	-	1	150,847			-	-		
	-	-	1	751,346			-	-		
	1	-	-	-			-	-		
	-	-	1	57,798			-	-		
	-	-	1	276,957			-	-		
	-	-	1	359,143			-	-		
	-	-	1	401,508			-	-		
	-	-	1	208,820			-	-		
	-	-	1	131,000			-	-		
(i) Total	# 3	$46,812	# 13	$3,874,881	# 16	$3,921,693	# 0	$0	# 16	$3,921,693
(ii) Average		$15,604		$298,068		$245,106		$0		$245,106
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$15,604		$298,068						
(ii) Difference (Col. 2 minus Col. 1)						$282,464				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$282,464						
(iii) (e-i) + (e-ii)		$0		$282,464						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$46,812	$15,604	# 0.0000	$0	$0	# 3.0000	$46,812	$15,604
(ii) Comm./Comp.	# 13	$3,874,881	$298,068	# 0.0000	$0	$0	# 13.0000	$3,874,881	$298,068
(iii) Total	# 16	$3,921,693	$245,106	# 0.0000	$0	$0	# 16.0000	$3,921,693	$245,106
(iv) Average Severity before Adjustment									$245,106
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security and Private Pension Offsets

Underground Antrhacite

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	3,275	-	-			-	-		
	1	0	-	-			-	-		
	1	165,900	-	-			-	-		
	1	126	-	-			-	-		
	1	1,419	-	-			-	-		
	1	185,797	-	-			-	-		
	-	-	1	285,577			-	-		
	-	-	1	466,227			-	-		
	-	-	1	409,018			-	-		
(i) Total	# 6	$356,516	# 3	$1,160,822	# 9	$1,517,339	# 0	$0	# 9	$1,517,339
(ii) Average		$59,419		$386,941		$168,593		$0		$168,593
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$59,419		$386,941						
(ii) Difference (Col. 2 minus Col. 1)						$327,521				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$327,521						
(iii) (e-i) + (e-ii)		$0		$327,521						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(v) Total of (e-iv)								$0		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 6	$356,516	$59,419	# 0.0000	$0	$0	# 6.0000	$356,516	$59,419
(ii) Comm./Comp.	# 3	$1,160,822	$386,941	# 0.0000	$0	$0	# 3.0000	$1,160,822	$386,941
(iii) Total	# 9	$1,517,339	$168,593	# 0.0000	$0	$0	# 9.0000	$1,517,339	$168,593
(iv) Average Severity before Adjustment									$168,593
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security and Private Pension Offsets

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	-	-	-			-	-		
	-	-	1	317,318			-	-		
	-	-	1	322,396			-	-		
	-	-	1	268,143			-	-		
	-	-	1	283,755			-	-		
	-	-	1	241,823			-	-		
	-	-	1	316,684			-	-		
	-	-	1	312,407			-	-		
	1	1	-	-			-	-		
	1	21	-	-			-	-		
	1	139,115	-	-			-	-		
	-	-	1	244,215			-	-		
	-	-	1	111,740			-	-		
	1	0	-	-			-	-		
	-	-	1	312,504			-	-		
	-	-	1	262,379			-	-		
	1	88,482	-	-			-	-		
	-	-	1	456,669			-	-		
	-	-	1	354,915			-	-		
	-	-	1	488,347			-	-		
	-	-	1	337,085			-	-		
	-	-	1	277,180			-	-		
	-	-	1	549,785			-	-		
	-	-	1	426,743			-	-		
	-	-	1	316,353			-	-		
	-	-	1	264,141			-	-		
	-	-	1	322,943			-	-		
	-	-	1	340,006			-	-		
	-	-	1	307,309			-	-		
	-	-	1	712,041			-	-		
	-	-	1	370,465			-	-		
	-	-	1	161,626			-	-		
	-	-	1	551,951			-	-		
	-	-	1	286,288			-	-		
	-	-	1	402,107			-	-		
	-	-	1	361,179			-	-		
	-	-	1	493,111			-	-		
	-	-	1	254,656			-	-		
	-	-	1	319,950			-	-		
	-	-	1	162,592			-	-		
	-	-	1	294,368			-	-		
	-	-	1	327,137			-	-		
	-	-	1	338,703			-	-		
	-	-	1	137,614			-	-		
	-	-	1	155,750			-	-		
	-	-	1	161,031			-	-		
	-	-	1	267,282			-	-		
	-	-	1	161,536			-	-		
	-	-	1	324,301			-	-		
	-	-	1	332,753			-	-		
	-	-	1	371,209			-	-		
	-	-	1	44,166			-	-		
	-	-	1	102,048			-	-		
	-	-	1	344,957			-	-		
	-	-	1	348,086			-	-		
	-	-	1	329,453			-	-		
	-	-	1	356,231			-	-		
	-	-	1	371,360			-	-		
	-	-	1	310,395			-	-		
	-	-	1	320,538			-	-		
	-	-	1	306,341			-	-		
	-	-	1	339,078			-	-		
	-	-	1	328,524			-	-		
	1	227,357	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	176,997			-	-		
	-	-	1	297,631			-	-		
	-	-	1	326,171			-	-		
(i) Total	# 8	$454,976	# 60	$18,684,467	# 68	$19,139,443	# 0	$0	# 68	$19,139,443
(ii) Average		$56,872		$311,408		$281,462		$0		$281,462
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 8		# 60		# 68					
(ii) Percentage	11.7647%		88.2353%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$56,872		$311,408						
(ii) Difference (Col. 2 minus Col. 1)						$254,536				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	11.7647%		88.2353%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$254,536						
(iii) (e-i) + (e-ii)		$0		$254,536						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 8	$454,976	$56,872	# 0.0000	$0	$0	# 8.0000	$454,976	$56,872
(ii) Comm./Comp.	# 60	$18,684,467	$311,408	# 0.0000	$0	$0	# 60.0000	$18,684,467	$311,408
(iii) Total	# 68	$19,139,443	$281,462	# 0.0000	$0	$0	# 68.0000	$19,139,443	$281,462
(iv) Average Severity before Adjustment									$281,462
(v) Impact									$0

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	-	-	-			-	-		
	-	-	1	81,480			-	-		
	1	14,264	-	-			-	-		
	1	3,454	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	334,612			-	-		
	1	-	-	-			-	-		
	1	-	-	-			-	-		
	-	-	1	147,074			-	-		
	1	3	-	-			-	-		
	1	-	-	-			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	1	43,300	-	-			-	-		
	-	-	1	276,991			-	-		
	1	0	-	-			-	-		
	1	-	-	-			-	-		
	1	15	-	-			-	-		
	-	-	1	126,895			-	-		
	1	175	-	-			-	-		
	1	726	-	-			-	-		
	1	-	-	-			-	-		
	1	0	-	-			-	-		
	1	0	-	-			-	-		
	1	676	-	-			-	-		
	1	62,755	-	-			-	-		
	-	-	1	253,588			-	-		
	1	210,916	-	-			-	-		
	-	-	1	320,634			-	-		
	1	0	-	-			-	-		
	1	2,468	-	-			-	-		
	-	-	1	162,638			-	-		
	-	-	1	262,149			-	-		
	-	-	1	163,585			-	-		
	-	-	1	192,154			-	-		
	-	-	1	154,676			-	-		
	-	-	1	342,747			-	-		
	-	-	1	348,286			-	-		
(i) Total	# 24	$338,754	# 14	$3,167,507	# 38	$3,506,261	# 0	$0	# 38	$3,506,261
(ii) Average		$14,115		$226,250		$92,270		$0		$92,270
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 24		# 14		# 38					
(ii) Percentage	63.1579%		36.8421%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$14,115		$226,250						
(ii) Difference (Col. 2 minus Col. 1)						$212,136				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	63.1579%		36.8421%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$212,136						
(iii) (e-i) + (e-ii)		$0		$212,136						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 24	$338,754	$14,115	# 0.0000	$0	$0	# 24.0000	$338,754	$14,115
(ii) Comm./Comp.	# 14	$3,167,507	$226,250	# 0.0000	$0	$0	# 14.0000	$3,167,507	$226,250
(iii) Total	# 38	$3,506,261	$92,270	# 0.0000	$0	$0	# 38.0000	$3,506,261	$92,270
(iv) Average Severity before Adjustment									$92,270
(v) Impact									$0

Source: Exhibit IX-A

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded-Permanent Basis (1)		Commuted and Compromised-As Settled (2)		Total Awarded-Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	0	-	-			-	-		
	1	171,656	-	-			-	-		
	-	-	1	534,333			-	-		
	-	-	1	163,862			-	-		
	-	-	1	335,678			-	-		
	1	194,719	-	-			-	-		
	-	-	1	267,503			-	-		
	-	-	1	321,328			-	-		
	-	-	1	315,529			-	-		
	-	-	1	378,373			-	-		
	-	-	1	364,632			-	-		
	-	-	1	188,549			-	-		
	-	-	1	343,297			-	-		
	-	-	1	161,610			-	-		
	-	-	1	298,591			-	-		
	1	-	-	-			-	-		
	-	-	1	285,691			-	-		
	-	-	1	42,028			-	-		
	-	-	1	338,886			-	-		
	-	-	1	165,545			-	-		
	-	-	1	358,916			-	-		
	-	-	-	-			1	0		
	-	-	1	162,103			-	-		
	-	-	-	-			1	136,119		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
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	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
(i) Total	# 4	$366,374	# 18	$5,026,456	# 22	$5,392,830	# 2	$136,119	# 24	$5,528,949
(ii) Average		$91,594		$279,248		$245,129		$68,060		$230,373
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 4		# 18		# 22					
(ii) Percentage	18.1818%		81.8182%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$91,594		$279,248						
(ii) Difference (Col. 2 minus Col. 1)						$187,654				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.1818%		81.8182%							
(ii) Number	# 0.3636		# 1.6364				# 2			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$68,060		$68,060						
(ii) C/C Difference		$0		$187,654						
(iii) (e-i) + (e-ii)		$68,060		$255,714						
(iv) Total (d-ii) x (e-iii)		$24,749		$418,441						
(v) Total of (e-iv)								$443,190		

f. Calculation of Impact of Adjustment

	Awarded			Pending			Total		
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 4	$366,374	$91,594	# 0.3636	$24,749	$68,060	# 4.3636	$391,123	$89,632
(ii) Comm./Comp.	# 18	$5,026,456	$279,248	# 1.6364	$418,441	$255,714	# 19.6364	$5,444,896	$277,286
(iii) Total	# 22	$5,392,830	$245,129	# 2.0000	$443,190	$221,595	# 24.0000	$5,836,019	$243,167
(iv) Average Severity before Adjustment									$230,373
(v) Impact									$12,795

Source: Exhibit IX-A

Coal Mine Compensation Rating Bureau

Federal Excess After Social Security and Private Pension Offsets

Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awarded- Permanent Basis (1)		Commuted and Compromised- As Settled (2)		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		Pending, on Permanent Basis (4)		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount
a. Numbers and Amounts										
(i) List	1	83	-	-			-	-		
	-	-	1	354,217			-	-		
	-	-	1	380,518			-	-		
	-	-	1	265,911			-	-		
	-	-	1	386,776			-	-		
	1	145,189	-	-			-	-		
	-	-	1	209,576			-	-		
	-	-	1	150,847			-	-		
	-	-	1	751,346			-	-		
	1	1	-	-			-	-		
	-	-	1	88,049			-	-		
	-	-	1	276,957			-	-		
	-	-	1	362,286			-	-		
	-	-	1	403,757			-	-		
	-	-	1	208,820			-	-		
	-	-	1	165,996			-	-		
(i) Total	# 3	$145,274	# 13	$4,005,055	# 16	$4,150,329	# 0	$0	# 16	$4,150,329
(ii) Average		$48,425		$308,081		$259,396		$0		$259,396
b. Percentage of Awarded and Commuted/Compromised within Total Awarded										
(i) Number	# 3		# 13		# 16					
(ii) Percentage	18.7500%		81.2500%		100%					
c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim										
(i) Average		$48,425		$308,081						
(ii) Difference (Col. 2 minus Col. 1)						$259,657				
d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix										
(i) Awarded Mix	18.7500%		81.2500%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average from Above; Commuted and Compromised less Awarded Difference										
(i) Pending Ave.		$0		$0						
(ii) C/C Difference		$0		$259,657						
(iii) (e-i) + (e-ii)		$0		$259,657						
(iv) Total (d-ii) x (e-iii)		$0		$0						
(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	# 3	$145,274	$48,425	# 0.0000	$0	$0	# 3.0000	$145,274	$48,425
(ii) Comm./Comp.	# 13	$4,005,055	$308,081	# 0.0000	$0	$0	# 13.0000	$4,005,055	$308,081
(iii) Total	# 16	$4,150,329	$259,396	# 0.0000	$0	$0	# 16.0000	$4,150,329	$259,396
(iv) Average Severity before Adjustment									$259,396
(v) Impact									$0

Source: Exhibit IX-A

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

a) Average Weekly Wage (Smoothed):

	Year	U/G Anthracite	U/G Bituminous	Surface Anthracite	Surface Bituminous	Wage Level Decrease	
Pre Act 57:	1990	$518.23	684.94	483.05	520.60	5.1817%	
	1991	534.47	709.02	497.25	537.10	5.1817%	
	1992	551.22	733.94	511.87	554.11	5.1817%	
	1993	568.50	759.73	526.93	571.67	5.1817%	
	1994	586.32	786.44	542.42	589.78	5.1817%	
	1995	604.70	814.08	558.38	608.46	5.1817%	
Mixed Pre & Post Act 57:	1996	623.65	842.69	574.80	627.74	3.3220%	***
Post Act 57:	1997	643.20 *	872.31 *	591.70 *	647.62	0.0%	
	1998	663.35 *	902.97 *	609.10 *	668.14	0.0%	
	1999	684.15 *	934.71 *	627.01 *	689.31	0.0%	
	2000	705.59 *	967.56 *	645.45 *	711.14	0.0%	
	2001	727.70 *	1,001.57 *	664.44 *	733.67	0.0%	
	2002	750.51 *	1,036.78 *	683.98 *	756.92	0.0%	
	2003	774.04 *	1,073.22 *	704.09 *	780.89	0.0%	
	2004	798.30 *	1,110.94 *	724.80 *	805.63	0.0%	
	2005	823.32 *	1,149.99 *	746.11 *	831.16	0.0%	
	2006	849.12 *	1,190.41 *	768.05 *	857.49	0.0%	
	2007	875.74 *	1,232.25 *	790.64 *	884.65	0.0%	
	2008	903.18 *	1,275.56 *	813.89 *	912.68	0.0%	
	2009	931.49 *	1,320.39 *	837.83 *	941.59	0.0%	
	2010	960.69 *	1,366.80 *	862.47 *	971.42	0.0%	
	2011	990.80 *	1,414.85 *	887.83 *	1,002.19	0.0%	
	2012	1,021.85 *	1,464.58 *	913.94 *	1,033.94	0.0%	
	2013	1,053.88 *	1,516.05 *	940.82 *	1,066.70	0.0%	
	2014	1,086.91 *	1,569.34 *	968.48 *	1,100.49	0.0%	
	2015	1,120.98 *	1,624.50 *	996.97 *	1,135.36	0.0%	
	2016	1,156.12 *	1,681.60 *	1,026.28 *	1,171.32	0.0%	
	2017	1,192.35 *	1,740.70 *	1,056.47 *	1,208.43	0.0%	
	2018	1,229.72 *	1,801.89 *	1,087.53 *	1,246.71	0.0%	
	2019	1,268.27 *	1,865.22 *	1,119.52 *	1,286.21	0.0%	
	2020	1,308.02 *	1,930.78 *	1,152.44 *	1,326.96	0.0%	
	Average:					1.1101%	
	Projected to:						
Pre Act 57:	4/1/2023	1,389.16	1,961.02	1,273.96	1,407.28		
Post Act 57:	4/1/2023	1,317.17 *	1,859.41 *	1,207.94 *	1,334.36		

b) Conversion Calculation:

Conversion Factor:		5.1817%	5.1817%	5.1817%	5.1817%	
						Note:
Post Act 57:	1996	$591.33	$799.03	$545.01	$595.21	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1997	609.87	827.11	561.04	614.07	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1998	628.98	856.18	577.54	633.52	Pre Act 57 times (1.0 - Factor)
Post Act 57:	1999	648.70	886.28	594.52	653.59	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2000	669.03	917.43	612.01	674.29	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2001	690.00	949.67	630.01	695.66	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2002	711.62	983.05	648.53	717.69	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2003	733.93	1,017.61	667.61	740.43	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2004	756.93	1,053.37	687.24	763.89	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2005	780.66	1,090.40	707.45	788.09	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2006	805.12	1,128.72	728.25	813.05	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2007	830.36	1,168.40	749.67	838.81	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2008	856.38	1,209.46	771.72	865.39	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2009	883.23	1,251.98	794.41	892.80	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2010	910.91	1,295.98	817.78	921.08	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2011	939.46	1,341.53	841.82	950.26	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2012	968.90	1,388.69	866.58	980.37	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2013	999.27	1,437.50	892.07	1,011.43	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2014	1,030.59	1,488.02	918.30	1,043.47	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2015	1,062.89	1,540.32	945.31	1,076.52	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2016	1,096.21	1,594.46	973.11	1,110.63	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2017	1,130.57	1,650.51	1,001.72	1,145.81	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2018	1,166.00	1,708.52	1,031.18	1,182.11	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2019	1,202.55	1,768.57	1,061.51	1,219.56	Pre Act 57 times (1.0 - Factor)
Post Act 57:	2020	1,240.24	1,830.73	1,092.72	1,258.20	Pre Act 57 times (1.0 - Factor)
Post Act 57:	4/1/2023	1,317.17	1,859.41	1,207.94	1,334.36	Pre Act 57 times (1.0 - Factor)

* Post Act 57 for 1997-2020 and Projected to 04/01/2023
** 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 04/01/2023 Weekly Wage - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (6)
Wage level decrease - Exhibit VII-G, Page 2.

COAL MINE COMPENSATION RATING BUREAU

WAGE LEVEL OFFSET (Act 57, Section 309) and PENSION PERCENTAGE

State Occupational Disease and Federal Excess

Calculation of Wage Offset	Average Benefits		State OD
	Before	After	Claim Count
(a) Wage Ranges	Offset	Offset	
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 5 4.6635%

(See Exhibit VII-G, Page 1)

Source:

Wage Ranges - Pennsylvania Compensation Rating Bureau

Evaluation of SB801 Amendments to Section 309 of Act 57

Above $869.55 - Claims eligible for maximum under either wage calculation.

$790.50-869.55 - Claims at maximum under current but 2/3 of wage under proposed method.

$447.95-790.49 - Claims at 2/3 under either wage calculation.

$395.25-447.94 - Claims at 2/3 under current method but 50% of maximum under proposed method.

$316.20-395.24 - Claims at 50% under either method.

$289.95-316.19 - Claims at 50% under current method but 90% of maximum under proposed method.

$.00-289.94 - Claims at 90% under either method.

Average Benefits Before and After Act 57

State Claim Counts - Claimant wages from 1987 through 1996 Exposure Years from CMCRB database, projected to 1996 level.

Calculation of Pension Offset Percentage

	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)

	(1) Statewide Avg Wage	(2) Claimants' Actual Avg Wage	(3) (2) Adjusted For Act 57	(4) (3)/(1)	(5) (3) Ex. High & Low	(6) (1) Adjusted To Claimants' Wage Level	(7) (5) & (6) Adjusted Avg Wages	(8) Exponentially Fitted Wages
1990	419.00	539.87	539.87	1.2885	539.87		539.87	518.23
1991	436.00	0.00				510.68	510.68	534.47
1992	455.00	608.33	608.33	1.3370	608.33		608.33	551.22
1993	475.00	419.67	419.67	0.8835 Low		556.37	556.37	568.50
1994	493.00	0.00				577.45	577.45	586.32
1995	509.00	0.00				596.19	596.19	604.70
1996	527.00	0.00				617.27	617.27	623.65
1997	542.00	0.00				634.84	634.84	643.20
1998	561.00	0.00				657.10	657.10	663.35
1999	588.00	501.00	528.38	0.8986	528.38		528.38	684.15
2000	611.00	0.00				715.66	715.66	705.59
2001	644.00	0.00				754.31	754.31	727.70
2002	662.00	0.00				775.40	775.40	750.51
2003	675.00	0.00				790.62	790.62	774.04
2004	690.00	0.00				808.19	808.19	798.30
2005	716.00	0.00				838.65	838.65	823.32
2006	745.00	0.00				872.61	872.61	849.12
2007	779.00	0.00				912.44	912.44	875.74
2008	807.00	0.00				945.23	945.23	903.18
2009	836.00	0.00				979.20	979.20	931.49
2010	845.00	0.00				989.74	989.74	960.69
2011	858.00	1400.00	1476.51	1.7209 High		1004.97	1004.97	990.80
2012	888.00	0.00				1040.11	1040.11	1021.85
2013	917.00	1009.57	1064.74	1.1611	1064.74		1064.74	1053.88
2014	932.00	0.00				1091.65	1091.65	1086.91
2015	951.00	0.00				1113.90	1113.90	1120.98
2016	978.00	0.00				1145.53	1145.53	1156.12
2017	995.00	0.00				1165.44	1165.44	1192.35
2018	1025.00	0.00				1200.58	1200.58	1229.72
2019	1049.00	0.00				1228.69	1228.69	1268.27
2020	1081.00	0.00				1266.17	1266.17	1308.02
2021	1130.00							
			High	1.7209				
			Low	0.8835				
Average Ratio Claimant/State - High & Low				1.1713				

Projected	
2022	1,162.00
2023	1,194.00
2024	1,228.00
4/1/2023	1,186.00

Projected Avg. Wage at Claimants' Level

1,186.00 * 1.1713 = $1,389.16

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)

	(1) Statewide Avg Wage	(2) Claimants' Actual Avg Wage	(3) (2) Adjusted For Act 57	(4) (3)/(1)		(5) (3) Ex. High & Low	(6) (1) Adjusted To Claimants' Wage Level	(7) (5) & (6) Adjusted Avg Wages	(8) Exponentially Fitted Wages
1990	419.00	779.92	779.92	1.8614		779.92		779.92	684.94
1991	436.00	827.00	827.00	1.8968		827.00		827.00	709.02
1992	455.00	652.04	652.04	1.4331		652.04		652.04	733.94
1993	475.00	729.40	729.40	1.5356		729.40		729.40	759.73
1994	493.00	1043.85	1043.85	2.1173		1043.85		1043.85	786.44
1995	509.00	1525.00	1525.00	2.9961	High		841.62	841.62	814.08
1996	527.00	706.64	706.64	1.3409		706.64		706.64	842.69
1997	542.00	672.19	708.92	1.3080		708.92		708.92	872.31
1998	561.00	1058.08	1115.90	1.9891		1115.90		1115.90	902.97
1999	588.00	675.00	711.89	1.2107		711.89		711.89	934.71
2000	611.00	901.03	950.27	1.5553		950.27		950.27	967.56
2001	644.00	604.79	637.84	0.9904	Low		1064.84	1064.84	1001.57
2002	662.00	800.15	843.88	1.2747		843.88		843.88	1036.78
2003	675.00	1324.39	1396.77	2.0693		1396.77		1396.77	1073.22
2004	690.00	876.68	924.59	1.3400		924.59		924.59	1110.94
2005	716.00	912.44	962.30	1.3440		962.30		962.30	1149.99
2006	745.00	0.00					1231.84	1231.84	1190.41
2007	779.00	0.00					1288.06	1288.06	1232.25
2008	807.00	1164.02	1227.63	1.5212		1227.63		1227.63	1275.56
2009	836.00	0.00					1382.30	1382.30	1320.39
2010	845.00	0.00					1397.19	1397.19	1366.80
2011	858.00	1269.97	1339.37	1.5610		1339.37		1339.37	1414.85
2012	888.00	1326.96	1399.48	1.5760		1399.48		1399.48	1464.58
2013	917.00	1500.49	1582.49	1.7257		1582.49		1582.49	1516.05
2014	932.00	1408.93	1485.93	1.5943		1485.93		1485.93	1569.34
2015	951.00	2040.43	2151.94	2.2628		2151.94		2151.94	1624.50
2016	978.00	1566.91	1652.54	1.6897		1652.54		1652.54	1681.60
2017	995.00	0.00					1645.21	1645.21	1740.70
2018	1025.00	2108.50	2223.73	2.1695		2223.73		2223.73	1801.89
2019	1049.00	0.00					1734.50	1734.50	1865.22
2020	1081.00	0.00					1787.41	1787.41	1930.78
2021	1130.00								
			High	2.9961					
			Low	0.9904					
Average Ratio Claimant/State - High & Low				1.6535					

Projected	
2022	1,162.00
2023	1,194.00
2024	1,228.00
4/1/2023	1,186.00

Projected Avg. Wage at Claimants' Level

1,186.00 * 1.6535 = $1,961.02

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)

	(1) Statewide Avg Wage	(2) Claimants' Actual Avg Wage	(3) (2) Adjusted For Act 57	(4) (3)/(1)		(5) (3) Ex. High & Low	(6) (1) Adjusted To Claimants' Wage Level	(7) (5) & (6) Adjusted Avg Wages	(8) Exponentially Fitted Wages
1990	419.00	549.31	549.31	1.3110		549.31		549.31	483.05
1991	436.00	492.75	492.75	1.1302		492.75		492.75	497.25
1992	455.00	565.40	565.40	1.2426		565.40		565.40	511.87
1993	475.00	548.61	548.61	1.1550		548.61		548.61	526.93
1994	493.00	543.95	543.95	1.1033		543.95		543.95	542.42
1995	509.00	651.62	651.62	1.2802		651.62		651.62	558.38
1996	527.00	453.71	453.71	0.8609		453.71		453.71	574.80
1997	542.00	530.26	559.24	1.0318		559.24		559.24	591.70
1998	561.00	744.92	785.63	1.4004		785.63		785.63	609.10
1999	588.00	571.47	602.70	1.0250		602.70		602.70	627.01
2000	611.00	133.68	140.99	0.2307	Low		656.31	656.31	645.45
2001	644.00	517.49	545.77	0.8475		545.77		545.77	664.44
2002	662.00	589.00	621.19	0.9384		621.19		621.19	683.98
2003	675.00	633.40	668.01	0.9897		668.01		668.01	704.09
2004	690.00	1568.35	1654.06	2.3972	High		741.17	741.17	724.80
2005	716.00	575.91	607.38	0.8483		607.38		607.38	746.11
2006	745.00	0.00					800.25	800.25	768.05
2007	779.00	733.08	773.14	0.9925		773.14		773.14	790.64
2008	807.00	0.00					866.85	866.85	813.89
2009	836.00	0.00					898.00	898.00	837.83
2010	845.00	0.00					907.67	907.67	862.47
2011	858.00	466.84	492.35	0.5738		492.35		492.35	887.83
2012	888.00	0.00					953.86	953.86	913.94
2013	917.00	0.00					985.01	985.01	940.82
2014	932.00	0.00					1001.12	1001.12	968.48
2015	951.00	0.00					1021.53	1021.53	996.97
2016	978.00	1419.00	1496.55	1.5302		1496.55		1496.55	1026.28
2017	995.00	0.00					1068.79	1068.79	1056.47
2018	1025.00	0.00					1101.02	1101.02	1087.53
2019	1049.00	0.00					1126.80	1126.80	1119.52
2020	1081.00	0.00					1161.17	1161.17	1152.44
2021	1130.00								
			High	2.3972					
			Low	0.2307					
Average Ratio Claimant/State - High & Low				1.0742					

Projected	
2022	1,162.00
2023	1,194.00
2024	1,228.00
4/1/2023	1,186.00

Projected Avg. Wage at Claimants' Level

1,186.00 * 1.0742 = $1,273.96

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)

	(1) Statewide Avg Wage	(2) Claimants' Actual Avg Wage	(3) (2) Adjusted For Act 57	(4) (3)/(1)		(5) (3) Ex. High & Low	(6) (1) Adjusted To Claimants' Wage Level	(7) (5) & (6) Adjusted Avg Wages	(8) Exponentially Fitted Wages
1990	419.00	481.50	481.50	1.1492		481.50		481.50	520.60
1991	436.00	595.45	595.45	1.3657		595.45		595.45	537.10
1992	455.00	652.89	652.89	1.4349		652.89		652.89	554.11
1993	475.00	705.41	705.41	1.4851	High		563.63	563.63	571.67
1994	493.00	621.91	621.91	1.2615		621.91		621.91	589.78
1995	509.00	477.90	477.90	0.9389		477.90		477.90	608.46
1996	527.00	628.07	644.84	1.2236		644.84		644.84	627.74
1997	542.00	698.16	736.31	1.3585		736.31		736.31	647.62
1998	561.00	500.00	527.32	0.9400		527.32		527.32	668.14
1999	588.00	569.19	600.30	1.0209		600.30		600.30	689.31
2000	611.00	0.00					725.00	725.00	711.14
2001	644.00	0.00					764.16	764.16	733.67
2002	662.00	0.00					785.52	785.52	756.92
2003	675.00	0.00					800.94	800.94	780.89
2004	690.00	0.00					818.74	818.74	805.63
2005	716.00	676.00	712.94	0.9957		712.94		712.94	831.16
2006	745.00	0.00					884.00	884.00	857.49
2007	779.00	0.00					924.35	924.35	884.65
2008	807.00	0.00					957.57	957.57	912.68
2009	836.00	0.00					991.98	991.98	941.59
2010	845.00	0.00					1002.66	1002.66	971.42
2011	858.00	1111.56	1172.31	1.3663		1172.31		1172.31	1002.19
2012	888.00	1157.60	1220.86	1.3748		1220.86		1220.86	1033.94
2013	917.00	0.00					1088.09	1088.09	1066.70
2014	932.00	879.70	927.77	0.9955		927.77		927.77	1100.49
2015	951.00	809.44	853.67	0.8977	Low		1128.44	1128.44	1135.36
2016	978.00	0.00					1160.48	1160.48	1171.32
2017	995.00	0.00					1180.65	1180.65	1208.43
2018	1025.00	0.00					1216.24	1216.24	1246.71
2019	1049.00	0.00					1244.72	1244.72	1286.21
2020	1081.00	0.00					1282.69	1282.69	1326.96
2021	1130.00								
			High	1.4851					
			Low	0.8977					
Average Ratio Claimant/State - High & Low				1.1866					

Projected	
2022	1,162.00
2023	1,194.00
2024	1,228.00
4/1/2023	1,186.00

Projected Avg. Wage at Claimants' Level

1,186.00 * 1.1866 = $1,407.28

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.

Year	Annual Changes
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%
2021	5.9%
Average All years	2.3%
Average latest 10 years	1.9%
Average latest 5 years	2.7%
Average latest 3 years	2.9%
Selected Annual Change	2.3%
Last Year's Selection was 2.3%	

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:							
Year	90% of First:	Percent Change	Plus 32% of next:	Percent Change	Plus 15% of next:	Percent Change	Annual SS Wage Base	Percent Change
1992	387		1,946		2,292		55,500	
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%
2022	1,024	2.8%	5,148	2.8%	6,078	3.1%	147,000	2.9%
Average All years		3.3%		3.3%		3.3%		3.3%
Average latest 10 years		2.9%		2.9%		3.0%		3.0%
Average latest 5 years		3.0%		3.0%		2.9%		2.9%
Average latest 3 years		3.4%		3.4%		3.4%		3.4%
Last Year's Selection		2.5%		2.5%		2.5%		2.5%
Selection		2.5%		2.5%		2.5%		2.5%
Projections		Selected		Selected		Selected		Selected
2022	1,024	Actual	5,148	Actual	6,078	Actual	147,000	Actual
2023	1,050	2.5%	5,277	2.5%	6,230	2.5%	150,700	2.5%
2024	1,076	2.5%	5,409	2.5%	6,386	2.5%	154,500	2.5%
Average Break Point For Policies effective between 4-1-2022 and 4-1-2023	1,044		5,245		6,192		149,800	

Note: Weighted average of the three calendar years: 2022, 2023, 2024.

Weights: 2022	28.125%
2023	68.750%
2024	3.125%
	100.00%

Notes:

The above weights assume 1-year policies effective between 4-1-2022 and 4-1-2023

E.G.: 28.125% of the losses will occur between 4-1-2022 and 12-31-2022.

68.750% of the losses will occur between 1-1-2023 and 12-31-2023.

3.125% of the losses will occur between 1-1-2024 and 3-31-2024.

Source: Social Se curity 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 4-1-2023 with a 4-1-2022 filing effective date.)

		Monthly Wages		
	Yearly Maximum	First Break Point	Second Break Point	Third Break Point
Wage Amount:	149,800	1,044	5,245	6,192
Factor:		90%	32%	15%

II. Example Calculations

Example Number	Monthly Wage	Adjusted Monthly Wage (a)	PIA at each Breakpoint First (b)	Second (c)	Third (d)	Total PIA
1	2,000	2,000	1,044	956	0	
			90%	32%	15%	
			940	306	0	1,246
2	4,000	4,000	1,044	2,956	0	
			90%	32%	15%	
			940	946	0	1,886
3	6,000	6,000	1,044	4,956	0	
			90%	32%	15%	
			940	1,586	0	2,526
4	8,000	8,000	1,044	5,245	1,711	
			90%	32%	15%	
			940	1,678	257	2,875
5	10,000	10,000	1,044	5,245	3,711	
			90%	32%	15%	
			940	1,678	557	3,175
6	12,000	12,000	1,044	5,245	5,711	
			90%	32%	15%	
			940	1,678	857	3,475

Notes:
(a) Monthly Wage limited to Monthly Maximum ($149,800/12 = $12,000)
(b) minimum of adjusted monthly wage and $1044
(c) minimum of (adjusted monthly wage less $1044) and $5,245
(d) minimum of (adjusted monthly wage less $1044 less $5,245) and $6,192

Source: Exhibit VII-J, Page 2

Coal Mine Compensation Rating Bureau

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

ANTHRACITE UNDERGROUND (0160)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Reported	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year					(3) * 30%			(2)+(5)+(7)	(1)-(8)		(10)xAwd Ratio
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	1	1	-	-	-	-	-	1.00	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	0.0241	0.0090
Total	1	1	-	-	-	-	-	1.00	-	0.0241	0.0090

	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total Awarded	Payroll ($M)	Frequency	Statewide Average	Adjustment	Estimated Miner	Frequency Per 100
Year	(8)+(11)		(12)/(13)	Weekly Wage	Factor	Years	Miner Years
2001	# 0.0000	$ 1.6365	-	644	1.084	45.1	-
2002	-	1.3865	-	662	1.084	37.2	-
2003	-	1.3543	-	675	1.084	35.6	-
2004	-	1.3453	-	690	1.084	34.6	-
2005	-	1.4176	-	716	1.084	35.1	-
2006	-	1.4425	-	745	1.084	34.4	-
2007	-	1.6625	-	779	1.084	37.9	-
2008	-	2.1367	-	807	1.084	47.0	-
2009	-	1.3359	-	836	1.084	28.3	-
2010	-	1.2996	-	845	1.084	27.3	-
2011	-	1.2579	-	858	1.084	26.0	-
2012	-	1.0293	-	888	1.084	20.6	-
2013	1.0000	0.3819	2.6185	917	1.084	7.4	13.5135
2014	-	0.2588	-	932	1.084	4.9	-
2015	-	0.2543	-	951	1.084	4.7	-
2016	-	0.1638	-	978	1.084	3.0	-
2017	-	0.2524	-	995	1.084	4.5	-
2018	-	0.1833	-	1,025	1.084	3.2	-
2019	-	0.1794	-	1,049	1.084	3.0	-
2020	0.0090	0.2997	0.0300	1,081	1.084	4.9	0.1834
Total	1.0090	19.2782	0.0523			444.7	0.2269

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

BITUMINOUS UNDERGROUND(0158)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded	Ultimate Awarded (2)+(5)+(7)	Ultimate Denied (1)-(8)	IBNR	IBNR Awarded (10)xAwd Ratio
2001	# 2	# 1	# 0	# 1	# 0.00	# 0.05	# 0.05	# 1.05	# 0.95	# 0.0000	# 0.0000
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2005	1	1	-	-	-	-	-	1.00	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	-	-
2011	2	2	-	-	-	-	-	2.00	-	-	-
2012	4	1	-	3	-	0.15	0.15	1.15	2.85	-	-
2013	6	1	2	3	0.60	0.15	0.15	1.75	4.25	-	-
2014	4	-	1	3	0.30	0.15	0.15	0.45	3.55	0.0868	0.0323
2015	5	2	-	3	-	0.15	0.15	2.15	2.85	0.2069	0.0770
2016	3	-	-	3	-	0.15	0.15	0.15	2.85	0.2401	0.0894
2017	-	-	-	-	-	-	-	-	-	0.4787	0.1782
2018	4	1	2	1	0.60	0.05	0.05	1.65	2.35	0.7222	0.2688
2019	-	-	-	-	-	-	-	-	-	0.9383	0.3492
2020	-	-	-	-	-	-	-	-	-	0.9847	0.3665
Total	36	11	5	20	1.50	1.00	1.00	13.50	22.50	3.6577	1.3614

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
2001	# 1.0500	$ 48.5226	0.0216	644	1.586	913.6	0.1149
2002	0.0500	40.8380	0.0012	662	1.586	748.0	0.0067
2003	-	36.4984	-	675	1.586	655.6	-
2004	0.0500	46.0739	0.0011	690	1.586	809.7	0.0062
2005	1.0000	66.2758	0.0151	716	1.586	1,122.4	0.0891
2006	-	70.4659	-	745	1.586	1,146.9	-
2007	-	79.9043	-	779	1.586	1,243.7	-
2008	1.0500	101.3540	0.0104	807	1.586	1,522.9	0.0689
2009	-	101.3481	-	836	1.586	1,470.0	-
2010	1.0000	125.3936	0.0080	845	1.586	1,799.3	0.0556
2011	2.0000	148.4857	0.0135	858	1.586	2,098.4	0.0953
2012	1.1500	153.6189	0.0075	888	1.586	2,097.6	0.0548
2013	1.7500	145.1463	0.0121	917	1.586	1,919.2	0.0912
2014	0.4823	183.4320	0.0026	932	1.586	2,386.5	0.0202
2015	2.2270	140.5703	0.0158	951	1.586	1,792.3	0.1243
2016	0.2394	118.5455	0.0020	978	1.586	1,469.7	0.0163
2017	0.1782	172.7088	0.0010	995	1.586	2,104.7	0.0085
2018	1.9188	180.5998	0.0106	1,025	1.586	2,136.4	0.0898
2019	0.3492	178.0190	0.0020	1,049	1.586	2,057.7	0.0170
2020	0.3665	138.3313	0.0026	1,081	1.586	1,551.6	0.0236
Total	14.8614	2,276.1322	0.0065			31,046.2	0.0479

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

ANTHRACITE SURFACE(0153)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 1	# 1	# 0	# 0	# 0.00	# 0.00	# 0.00	# 1.00	# 0.00	# 0.0000	# 0.0000
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	-	0.05	0.05	0.05	0.95	-	-
2017	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	0.0269	0.0100
2019	-	-	-	-	-	-	-	-	-	0.0821	0.0306
2020	-	-	-	-	-	-	-	-	-	0.1618	0.0602
Total	10	4	1	5	0.30	0.25	0.25	4.55	5.45	0.2708	0.1008

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
2001	# 1.0000	$ 12.9237	0.0774	644	1.084	356.0	0.2809
2002	-	11.0466	-	662	1.084	296.0	-
2003	1.0500	11.9282	0.0880	675	1.084	313.5	0.3349
2004	1.0000	12.3597	0.0809	690	1.084	317.8	0.3147
2005	-	12.1409	-	716	1.084	300.8	-
2006	0.0500	12.0653	0.0041	745	1.084	287.3	0.0174
2007	0.3500	14.8666	0.0235	779	1.084	338.6	0.1034
2008	-	16.2202	-	807	1.084	356.6	-
2009	-	15.8935	-	836	1.084	337.3	-
2010	-	13.3192	-	845	1.084	279.6	-
2011	1.0000	19.5074	0.0513	858	1.084	403.3	0.2480
2012	-	24.7347	-	888	1.084	494.2	-
2013	-	20.7200	-	917	1.084	400.9	-
2014	0.0500	18.9113	0.0026	932	1.084	360.0	0.0139
2015	-	22.2344	-	951	1.084	414.8	-
2016	0.0500	19.2571	0.0026	978	1.084	349.3	0.0143
2017	-	19.0946	-	995	1.084	340.5	-
2018	0.0100	18.3035	0.0005	1,025	1.084	316.8	0.0032
2019	0.0306	20.5041	0.0015	1,049	1.084	346.8	0.0088
2020	0.0602	19.7257	0.0031	1,081	1.084	323.7	0.0186
Total	4.6508	335.7567	0.0139			6,933.8	0.0671

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

BITUMINOUS SURFACE(0156)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
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	4	-	2	2	0.60	0.10	0.10	0.70	3.30	0.0165	0.0062
2016	-	-	-	-	-	-	-	-	-	0.0283	0.0105
2017	-	-	-	-	-	-	-	-	-	0.0571	0.0213
2018	-	-	-	-	-	-	-	-	-	0.0950	0.0354
2019	-	-	-	-	-	-	-	-	-	0.1345	0.0501
2020	-	-	-	-	-	-	-	-	-	0.1451	0.0540
Total	8	1	2	5	0.60	0.25	0.25	1.85	6.15	0.4766	0.1774

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
2001	# 0.0000	$ 58.1513	-	644	1.084	1,601.9	-
2002	-	53.5021	-	662	1.084	1,433.8	-
2003	-	47.8737	-	675	1.084	1,258.2	-
2004	-	56.2173	-	690	1.084	1,445.4	-
2005	-	64.8716	-	716	1.084	1,607.3	-
2006	-	63.7985	-	745	1.084	1,519.2	-
2007	-	64.8081	-	779	1.084	1,475.9	-
2008	-	74.6012	-	807	1.084	1,640.0	-
2009	-	63.3067	-	836	1.084	1,343.4	-
2010	-	74.2552	-	845	1.084	1,559.0	-
2011	-	87.7305	-	858	1.084	1,814.0	-
2012	0.1000	77.8905	0.0013	888	1.084	1,556.1	0.0064
2013	-	62.7181	-	917	1.084	1,213.4	-
2014	1.0500	55.3686	0.0190	932	1.084	1,053.9	0.0996
2015	0.7062	42.0001	0.0168	951	1.084	783.5	0.0901
2016	0.0105	30.1312	0.0003	978	1.084	546.6	0.0019
2017	0.0213	34.2490	0.0006	995	1.084	610.6	0.0035
2018	0.0354	36.3052	0.0010	1,025	1.084	628.4	0.0056
2019	0.0501	36.5036	0.0014	1,049	1.084	617.3	0.0081
2020	0.0540	27.9965	0.0019	1,081	1.084	459.5	0.0118
Total	2.0274	1,112.2790	0.0018			24,167.4	0.0084

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

FOUR STANDARD CLASSES

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Reported	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year					(3) * 30%			(2)+(5)+(7)	(1)-(8)		(10)xAwd Ratio
2001	# 3	# 2	# 0	# 1	# 0.00	# 0.05	# 0.05	# 2.05	# 0.95	# 0.0000	# 0.0000
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2005	1	1	-	-	-	-	-	1.00	-	-	-
2006	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2007	2	-	1	1	0.30	0.05	0.05	0.35	1.65	-	-
2008	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	-	-
2011	3	3	-	-	-	-	-	3.00	-	-	-
2012	6	1	-	5	-	0.25	0.25	1.25	4.75	-	-
2013	7	2	2	3	0.60	0.15	0.15	2.75	4.25	-	-
2014	7	1	1	5	0.30	0.25	0.25	1.55	5.45	0.0868	0.0323
2015	9	2	2	5	0.60	0.25	0.25	2.85	6.15	0.2235	0.0832
2016	4	-	-	4	-	0.20	0.20	0.20	3.80	0.2684	0.0999
2017	-	-	-	-	-	-	-	-	-	0.5359	0.1995
2018	4	1	2	1	0.60	0.05	0.05	1.65	2.35	0.8441	0.3142
2019	-	-	-	-	-	-	-	-	-	1.1549	0.4298
2020	-	-	-	-	-	-	-	-	-	1.3158	0.4897
Total	55	17	8	30	2.40	1.50	1.50	20.90	34.10	4.4293	1.6486

	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total Awarded	Payroll ($M)	Frequency	Statewide Average	Adjustment	Estimated Miner	Frequency Per 100
Year	(8)+(11)		(12)/(13)	Weekly Wage	Factor	Years	Miner Years
2001	# 2.0500	$ 121.2341	0.0169	644		2,916.6	0.0703
2002	0.0500	106.7732	0.0005	662		2,515.0	0.0020
2003	1.0500	97.6546	0.0108	675		2,262.9	0.0464
2004	1.0500	115.9962	0.0091	690		2,607.5	0.0403
2005	1.0000	144.7059	0.0069	716		3,065.6	0.0326
2006	0.0500	147.7722	0.0003	745		2,987.8	0.0017
2007	0.3500	161.2415	0.0022	779		3,096.1	0.0113
2008	1.0500	194.3121	0.0054	807		3,566.5	0.0294
2009	-	181.8842	-	836		3,179.0	-
2010	1.0000	214.2676	0.0047	845		3,665.2	0.0273
2011	3.0000	256.9815	0.0117	858		4,341.7	0.0691
2012	1.2500	257.2734	0.0049	888		4,168.5	0.0300
2013	2.7500	228.9663	0.0120	917		3,540.9	0.0777
2014	1.5823	257.9707	0.0061	932		3,805.3	0.0416
2015	2.9332	205.0591	0.0143	951		2,995.3	0.0979
2016	0.2999	168.0976	0.0018	978		2,368.6	0.0127
2017	0.1995	226.3048	0.0009	995		3,060.3	0.0065
2018	1.9642	235.3918	0.0083	1,025		3,084.8	0.0637
2019	0.4298	235.2061	0.0018	1,049		3,024.8	0.0142
2020	0.4897	186.3532	0.0026	1,081		2,339.7	0.0209
Total	22.5486	3,743.4461	0.0060			62,592.1	0.0360

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

COKE(0154)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	0.0004	0.0001
2015	-	-	-	-	-	-	-	-	-	0.0008	0.0003
2016	-	-	-	-	-	-	-	-	-	0.0021	0.0008
2017	-	-	-	-	-	-	-	-	-	0.0036	0.0013
2018	-	-	-	-	-	-	-	-	-	0.0053	0.0020
2019	-	-	-	-	-	-	-	-	-	0.0073	0.0027
2020	-	-	-	-	-	-	-	-	-	0.0007	0.0003
Total	-	-	-	-	-	-	-	-	-	0.0201	0.0075

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
2001	# 0.0000	$ 10.3758	-	644	1.084	285.8	-
2002	-	10.4850	-	662	1.084	281.0	-
2003	-	11.5341	-	675	1.084	303.1	-
2004	-	12.0491	-	690	1.084	309.8	-
2005	-	12.8610	-	716	1.084	318.7	-
2006	-	12.7374	-	745	1.084	303.3	-
2007	-	13.6699	-	779	1.084	311.3	-
2008	-	9.7611	-	807	1.084	214.6	-
2009	-	5.1736	-	836	1.084	109.8	-
2010	-	5.4357	-	845	1.084	114.1	-
2011	-	3.5991	-	858	1.084	74.4	-
2012	-	5.7381	-	888	1.084	114.6	-
2013	-	4.7919	-	917	1.084	92.7	-
2014	0.0001	4.4644	0.0000	932	1.084	85.0	0.0002
2015	0.0003	4.3404	0.0001	951	1.084	81.0	0.0003
2016	0.0008	4.4351	0.0002	978	1.084	80.5	0.0010
2017	0.0013	4.5661	0.0003	995	1.084	81.4	0.0016
2018	0.0020	4.4847	0.0004	1,025	1.084	77.6	0.0025
2019	0.0027	4.5199	0.0006	1,049	1.084	76.4	0.0036
2020	0.0003	0.3210	0.0008	1,081	1.084	5.3	0.0051
Total	0.0075	145.3434	0.0001			3,320.4	0.0002

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

AUGER(0157)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Reported	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year					(3) * 30%			(2)+(5)+(7)	(1)-(8)		(10)xAwd Ratio
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2015	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2016	-	-	-	-	-	-	-	-	-	0.0002	0.0001
2017	-	-	-	-	-	-	-	-	-	0.0004	0.0001
2018	-	-	-	-	-	-	-	-	-	0.0007	0.0003
2019	-	-	-	-	-	-	-	-	-	0.0009	0.0003
2020	-	-	-	-	-	-	-	-	-	0.0008	0.0003
Total	-	-	-	-	-	-	-	-	-	0.0032	0.0012

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
2001	# 0.0000	$ 1.4291	-	644	1.084	39.4	-
2002	-	1.1508	-	662	1.084	30.8	-
2003	-	1.1022	-	675	1.084	29.0	-
2004	-	1.0588	-	690	1.084	27.2	-
2005	-	1.0265	-	716	1.084	25.4	-
2006	-	1.0668	-	745	1.084	25.4	-
2007	-	1.1212	-	779	1.084	25.5	-
2008	-	2.5068	-	807	1.084	55.1	-
2009	-	0.9470	-	836	1.084	20.1	-
2010	-	0.8275	-	845	1.084	17.4	-
2011	-	1.1763	-	858	1.084	24.3	-
2012	-	0.8082	-	888	1.084	16.1	-
2013	-	1.0469	-	917	1.084	20.3	-
2014	0.0000	0.8616	0.0000	932	1.084	16.4	0.0002
2015	0.0000	0.6548	0.0001	951	1.084	12.2	0.0004
2016	0.0001	0.3928	0.0002	978	1.084	7.1	0.0008
2017	0.0001	0.5663	0.0002	995	1.084	10.1	0.0013
2018	0.0003	0.6001	0.0004	1,025	1.084	10.4	0.0026
2019	0.0003	0.5932	0.0006	1,049	1.084	10.0	0.0033
2020	0.0003	0.3990	0.0008	1,081	1.084	6.5	0.0048
Total	0.0012	19.3359	0.0001			428.7	0.0003

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

ANTHRACITE CO-GEN(0181)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded	Ultimate Awarded (2)+(5)+(7)	Ultimate Denied (1)-(8)	IBNR	IBNR Awarded (10)xAwd Ratio
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	0.0007	0.0003
2015	-	-	-	-	-	-	-	-	-	0.0019	0.0007
2016	-	-	-	-	-	-	-	-	-	0.0042	0.0016
2017	-	-	-	-	-	-	-	-	-	0.0069	0.0026
2018	-	-	-	-	-	-	-	-	-	0.0136	0.0051
2019	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0134	0.0050
2020	-	-	-	-	-	-	-	-	-	0.0167	0.0062
Total	2	-	-	2	-	0.10	0.10	0.10	1.90	0.0575	0.0214

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
2001	# 0.0000	$ 4.6618	-	644	1.084	128.4	-
2002	-	5.6588	-	662	1.084	151.6	-
2003	0.0500	7.0096	0.0071	675	1.084	184.2	0.0271
2004	-	7.3515	-	690	1.084	189.0	-
2005	-	7.8553	-	716	1.084	194.6	-
2006	-	8.4125	-	745	1.084	200.3	-
2007	-	9.1867	-	779	1.084	209.2	-
2008	-	7.5214	-	807	1.084	165.3	-
2009	-	7.5347	-	836	1.084	159.9	-
2010	-	7.9580	-	845	1.084	167.1	-
2011	-	10.9816	-	858	1.084	227.1	-
2012	-	9.3118	-	888	1.084	186.0	-
2013	-	7.6308	-	917	1.084	147.6	-
2014	0.0003	8.3609	0.0000	932	1.084	159.1	0.0002
2015	0.0007	9.5548	0.0001	951	1.084	178.2	0.0004
2016	0.0016	7.9533	0.0002	978	1.084	144.3	0.0011
2017	0.0026	7.7936	0.0003	995	1.084	139.0	0.0018
2018	0.0051	10.0538	0.0005	1,025	1.084	174.0	0.0029
2019	0.0550	6.8075	0.0081	1,049	1.084	115.1	0.0478
2020	0.0062	6.8802	0.0009	1,081	1.084	112.9	0.0055
Total	0.1214	158.4786	0.0008			3,332.9	0.0036

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

BITUMINOUS CO-GEN(0182)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded	Ultimate Awarded (2)+(5)+(7)	Ultimate Denied (1)-(8)	IBNR	IBNR Awarded (10)xAwd Ratio
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	0.0009	0.0003
2015	-	-	-	-	-	-	-	-	-	0.0021	0.0008
2016	-	-	-	-	-	-	-	-	-	0.0053	0.0020
2017	-	-	-	-	-	-	-	-	-	0.0089	0.0033
2018	-	-	-	-	-	-	-	-	-	0.0142	0.0053
2019	-	-	-	-	-	-	-	-	-	0.0194	0.0072
2020	-	-	-	-	-	-	-	-	-	0.0237	0.0088
Total	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0745	0.0277

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
2001	# 0.0000	$ 2.1213	-	644	1.084	58.4	-
2002	-	2.3861	-	662	1.084	63.9	-
2003	-	3.0525	-	675	1.084	80.2	-
2004	-	6.3745	-	690	1.084	163.9	-
2005	-	8.5248	-	716	1.084	211.2	-
2006	-	9.4236	-	745	1.084	224.4	-
2007	0.0500	10.8291	0.0046	779	1.084	246.6	0.0203
2008	-	8.4819	-	807	1.084	186.5	-
2009	-	7.8664	-	836	1.084	166.9	-
2010	-	8.7327	-	845	1.084	183.3	-
2011	-	9.1024	-	858	1.084	188.2	-
2012	-	9.0477	-	888	1.084	180.8	-
2013	-	10.3559	-	917	1.084	200.3	-
2014	0.0003	11.7212	0.0000	932	1.084	223.1	0.0002
2015	0.0008	11.7482	0.0001	951	1.084	219.2	0.0004
2016	0.0020	11.3276	0.0002	978	1.084	205.5	0.0010
2017	0.0033	11.4351	0.0003	995	1.084	203.9	0.0016
2018	0.0053	12.0433	0.0004	1,025	1.084	208.4	0.0025
2019	0.0072	11.8189	0.0006	1,049	1.084	199.9	0.0036
2020	0.0088	10.8774	0.0008	1,081	1.084	178.5	0.0049
Total	0.0777	177.2706	0.0004			3,593.1	0.0022

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

ANTHRACITE PREP PLANT(0183)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
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	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0016	0.0006
2015	1	1	-	-	-	-	-	1.00	-	0.0034	0.0013
2016	-	-	-	-	-	-	-	-	-	0.0082	0.0031
2017	-	-	-	-	-	-	-	-	-	0.0151	0.0056
2018	-	-	-	-	-	-	-	-	-	0.0284	0.0106
2019	-	-	-	-	-	-	-	-	-	0.0514	0.0191
2020	1	-	1	-	0.30	-	-	0.30	0.70	0.0664	0.0247
Total	5	2	1	2	0.30	0.10	0.10	2.40	2.60	0.1745	0.0650

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
2001	# 0.0000	$ 2.2163	-	644	1.084	61.1	-
2002	-	2.3228	-	662	1.084	62.2	-
2003	-	3.4080	-	675	1.084	89.6	-
2004	-	4.4067	-	690	1.084	113.3	-
2005	-	5.1701	-	716	1.084	128.1	-
2006	-	4.8859	-	745	1.084	116.3	-
2007	0.0500	5.8173	0.0086	779	1.084	132.5	0.0377
2008	-	5.7335	-	807	1.084	126.0	-
2009	-	6.2646	-	836	1.084	132.9	-
2010	1.0000	4.8769	0.2050	845	1.084	102.4	0.9766
2011	-	6.1233	-	858	1.084	126.6	-
2012	-	7.5690	-	888	1.084	151.2	-
2013	-	7.0749	-	917	1.084	136.9	-
2014	0.0506	6.5215	0.0078	932	1.084	124.1	0.0408
2015	1.0013	6.1966	0.1616	951	1.084	115.6	0.8661
2016	0.0031	5.5430	0.0006	978	1.084	100.5	0.0030
2017	0.0056	6.0568	0.0009	995	1.084	108.0	0.0052
2018	0.0106	6.9168	0.0015	1,025	1.084	119.7	0.0088
2019	0.0191	10.4902	0.0018	1,049	1.084	177.4	0.0108
2020	0.3247	10.2681	0.0316	1,081	1.084	168.5	0.1927
Total	2.4650	117.8623	0.0209			2,392.9	0.1030

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

BITUMINOUS PREP PLANT(0184)

	Counts										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Reported	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year					(3) * 30%			(2)+(5)+(7)	(1)-(8)		(10)xAwd Ratio
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	0.0035	0.0013
2015	-	-	-	-	-	-	-	-	-	0.0060	0.0022
2016	-	-	-	-	-	-	-	-	-	0.0111	0.0041
2017	-	-	-	-	-	-	-	-	-	0.0224	0.0084
2018	-	-	-	-	-	-	-	-	-	0.0379	0.0141
2019	-	-	-	-	-	-	-	-	-	0.0592	0.0220
2020	-	-	-	-	-	-	-	-	-	0.0737	0.0274
Total	-	-	-	-	-	-	-	-	-	0.2138	0.0796

	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total Awarded	Payroll ($M)	Frequency	Statewide Average	Adjustment	Estimated Miner	Frequency Per 100
Year	(8)+(11)		(12)/(13)	Weekly Wage	Factor	Years	Miner Years
2001	# 0.0000	$ 10.1550	-	644	1.586	191.2	-
2002	-	10.0945	-	662	1.586	184.9	-
2003	-	10.1952	-	675	1.586	183.1	-
2004	-	13.4602	-	690	1.586	236.5	-
2005	-	16.5483	-	716	1.586	280.2	-
2006	-	17.0510	-	745	1.586	277.5	-
2007	-	18.8952	-	779	1.586	294.1	-
2008	-	21.2503	-	807	1.586	319.3	-
2009	-	19.8280	-	836	1.586	287.6	-
2010	-	26.3131	-	845	1.586	377.6	-
2011	-	35.1551	-	858	1.586	496.8	-
2012	-	34.2117	-	888	1.586	467.1	-
2013	-	33.6400	-	917	1.586	444.8	-
2014	0.0013	31.8544	0.0000	932	1.586	414.4	0.0003
2015	0.0022	24.3206	0.0001	951	1.586	310.1	0.0007
2016	0.0041	20.0794	0.0002	978	1.586	248.9	0.0017
2017	0.0084	28.8035	0.0003	995	1.586	351.0	0.0024
2018	0.0141	32.1999	0.0004	1,025	1.586	380.9	0.0037
2019	0.0220	36.1173	0.0006	1,049	1.586	417.5	0.0053
2020	0.0274	33.7776	0.0008	1,081	1.586	378.9	0.0072
Total	0.0796	473.9503	0.0002			6,542.4	0.0012

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

TOTAL OTHER CLASSES

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
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	-	-	-	-	-	-	-	-	-	-	-
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0072	0.0027
2015	1	1	-	-	-	-	-	1.00	-	0.0143	0.0053
2016	-	-	-	-	-	-	-	-	-	0.0310	0.0115
2017	-	-	-	-	-	-	-	-	-	0.0572	0.0213
2018	-	-	-	-	-	-	-	-	-	0.1000	0.0372
2019	1	-	-	1	-	0.05	0.05	0.05	0.95	0.1516	0.0564
2020	1	-	1	-	0.30	-	-	0.30	0.70	0.1821	0.0678
Total	8	2	1	5	0.30	0.25	0.25	2.55	5.45	0.5435	0.2023

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
2001	# 0.0000	$ 30.9593	-	644		764.3	-
2002	-	32.0980	-	662		774.4	-
2003	0.0500	36.3016	0.0014	675		869.2	0.0058
2004	-	44.7008	-	690		1,039.7	-
2005	-	51.9860	-	716		1,158.2	-
2006	-	53.5772	-	745		1,147.2	-
2007	0.1000	59.5194	0.0017	779		1,219.2	0.0082
2008	-	55.2550	-	807		1,066.8	-
2009	-	47.6143	-	836		877.2	-
2010	1.0000	54.1439	0.0185	845		961.9	0.1040
2011	-	66.1378	-	858		1,137.4	-
2012	-	66.6865	-	888		1,115.8	-
2013	-	64.5404	-	917		1,042.6	-
2014	0.0527	63.7840	0.0008	932		1,022.1	0.0052
2015	1.0053	56.8154	0.0177	951		916.3	0.1097
2016	0.0115	49.7312	0.0002	978		786.8	0.0015
2017	0.0213	59.2214	0.0004	995		893.4	0.0024
2018	0.0372	66.2986	0.0006	1,025		971.0	0.0038
2019	0.1064	70.3470	0.0015	1,049		996.3	0.0107
2020	0.3678	62.5233	0.0059	1,081		850.6	0.0432
Total	2.7523	1,092.2411	0.0025			19,610.4	0.0140

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau

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

GRAND TOTAL

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(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
2001	# 3	# 2	# 0	# 1	# 0.00	# 0.05	# 0.05	# 2.05	# 0.95	# 0.0000	# 0.0000
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	2	2	3	0.60	0.15	0.15	2.75	4.25	-	-
2014	8	1	1	6	0.30	0.30	0.30	1.60	6.40	0.0940	0.0350
2015	10	3	2	5	0.60	0.25	0.25	3.85	6.15	0.2377	0.0885
2016	4	-	-	4	-	0.20	0.20	0.20	3.80	0.2994	0.1114
2017	-	-	-	-	-	-	-	-	-	0.5931	0.2208
2018	4	1	2	1	0.60	0.05	0.05	1.65	2.35	0.9441	0.3514
2019	1	-	-	1	-	0.05	0.05	0.05	0.95	1.3065	0.4863
2020	1	-	1	-	0.30	-	-	0.30	0.70	1.4979	0.5575
Total	63	19	9	35	2.70	1.75	1.75	23.45	39.55	4.9728	1.8509

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
2001	# 2.0500	$ 152.1934	0.0135	644		3,680.9	0.0557
2002	0.0500	138.8712	0.0004	662		3,289.4	0.0015
2003	1.1000	133.9562	0.0082	675		3,132.1	0.0351
2004	1.0500	160.6970	0.0065	690		3,647.2	0.0288
2005	1.0000	196.6919	0.0051	716		4,223.8	0.0237
2006	0.0500	201.3494	0.0002	745		4,135.0	0.0012
2007	0.4500	220.7609	0.0020	779		4,315.3	0.0104
2008	1.0500	249.5671	0.0042	807		4,633.3	0.0227
2009	-	229.4985	-	836		4,056.2	-
2010	2.0000	268.4115	0.0075	845		4,627.1	0.0432
2011	3.0000	323.1193	0.0093	858		5,479.1	0.0548
2012	1.2500	323.9599	0.0039	888		5,284.3	0.0237
2013	2.7500	293.5067	0.0094	917		4,583.5	0.0600
2014	1.6350	321.7547	0.0051	932		4,827.4	0.0339
2015	3.9385	261.8745	0.0150	951		3,911.6	0.1007
2016	0.3114	217.8288	0.0014	978		3,155.4	0.0099
2017	0.2208	285.5262	0.0008	995		3,953.7	0.0056
2018	2.0014	301.6904	0.0066	1,025		4,055.8	0.0493
2019	0.5363	305.5531	0.0018	1,049		4,021.1	0.0133
2020	0.8575	248.8765	0.0034	1,081		3,190.3	0.0269
Total	25.3009	4,835.6872	0.0052			82,202.5	0.0308

Sources: Cols.(1) to (4): CMCRB Claims Database
Col.(6): (0.05)xCol(4)
Col.(7): (1.00)xCol(6)
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: 0.3722

Coal Mine Compensation Rating Bureau
Summary of Individual Claim Detail for Federal Basic
Claims from Exposure Years 1990 to 2020

Federal Basic Severities

	Indemnity	Medical	Total
Underground Anthracite Class 160			
Total	8,586,012	1,830,369	10,416,381
Number of Claims	22	22	22
Average	390,273	83,199	473,472
Underground Bituminous Class 158			
Total	29,881,935	6,714,602	36,596,536
Number of Claims	92	92	92
Average	324,804	72,985	397,788
Surface Anthracite Class 153			
Total	15,103,449	3,030,725	18,134,174
Number of Claims	50	50	50
Average	302,069	60,614	362,683
Surface Bituminous Class 156			
Total	20,153,250	4,072,200	24,225,450
Number of Claims	67	67	67
Average	300,795	60,779	361,574
Four Standard Classes Combined			
Total	73,724,646	15,647,896	89,372,542
Number of Claims	231	231	231
Average	319,154	67,740	386,894
Other Classes			
Total	6,190,788	1,374,353	7,565,141
Number of Claims	19	19	19
Average	325,831	72,334	398,165
All Classes Combined			
Total	79,915,434	17,022,249	96,937,682
Number of Claims	250	250	250
Average	319,662	68,089	387,751

Source: Exhibit IX-B

FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE UNDERGROUND (0160)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.200 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	2	0	0	2	0.0698	0.0698	0.013958	1,257,944	0.013958	858	1.084	26.0	0.053685	
2012	0	0	0	0	0.1155	0.1155	0.023100	1,029,260	0.023100	888	1.084	20.6	0.112136	
2013	4	1	1	2	0.0662	1.0662	0.213242	381,876	1.213242	917	1.084	7.4	16.395162	
2014	0	0	0	0	0.0702	0.0702	0.014040	258,809	0.014040	932	1.084	4.9	0.286531	
2015	1	0	1	0	0.1054	1.1054	0.221084	254,336	0.221084	951	1.084	4.7	4.703915	
2016	0	0	0	0	0.0953	0.0953	0.019064	163,760	0.019064	978	1.084	3.0	0.635467	
2017	0	0	0	0	0.1977	0.1977	0.039548	252,383	0.039548	995	1.084	4.5	0.878844	
2018	0	0	0	0	0.1872	0.1872	0.037438	183,346	0.037438	1,025	1.084	3.2	1.169938	
2019	0	0	0	0	0.2295	0.2295	0.045892	179,379	0.045892	1,049	1.084	3.0	1.529733	
2020	0	0	0	0	0.4923	0.4923	0.098468	299,700	0.098468	1,081	1.084	4.9	2.009551	
TOTAL	7	1	2	4	1.6292	3.6292	0.725834	4,260,793	1.725834			82.2	27.774962	
AVERAGE													2.777496	

BITUMINOUS UNDERGROUND (0158)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.057 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	6	1	0	5	8.9641	8.9641	0.510953	148,485,709	1.510953	858	1.586	2,098.4	0.072005
2012	6	0	0	6	10.7887	10.7887	0.614954	153,618,908	0.614954	888	1.586	2,097.6	0.029317
2013	4	1	0	3	11.7612	11.7612	0.670388	145,146,253	1.670388	917	1.586	1,919.2	0.087036
2014	15	0	1	14	17.7599	18.7599	1.069313	183,431,952	1.069313	932	1.586	2,386.5	0.044807
2015	19	0	3	16	15.8479	18.8479	1.074330	140,570,275	1.074330	951	1.586	1,792.3	0.059941
2016	10	0	2	8	15.3979	17.3979	0.991679	118,545,477	0.991679	978	1.586	1,469.7	0.067475
2017	6	1	0	5	25.7181	25.7181	1.465929	172,708,778	2.465929	995	1.586	2,104.7	0.117163
2018	10	1	2	7	30.6279	32.6279	1.859791	180,599,760	2.859791	1,025	1.586	2,136.4	0.133860
2019	2	0	0	2	34.4645	34.4645	1.964475	178,019,000	1.964475	1,049	1.586	2,057.7	0.095469
2020	3	0	3	0	30.7607	33.7607	1.924362	138,331,311	1.924362	1,081	1.586	1,551.6	0.124024
TOTAL	81	4	11	66	202.0908	213.0908	12.146173	1,559,457,423	16.146173			19,614.1	0.831097
AVERAGE													0.083110

ANTHRACITE SURFACE (0153)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.250 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	1	0	0	1	0.9149	0.9149	0.228725	19,507,428	0.228725	858	1.084	403.3	0.056713
2012	1	0	0	1	1.4265	1.4265	0.356613	24,734,711	0.356613	888	1.084	494.2	0.072160
2013	4	1	3	0	1.4564	4.4564	1.114103	20,720,014	2.114103	917	1.084	400.9	0.527339
2014	2	0	1	1	1.5689	2.5689	0.642220	18,911,339	0.642220	932	1.084	360.0	0.178394
2015	1	0	0	1	2.1407	2.1407	0.535180	22,234,350	0.535180	951	1.084	414.8	0.129021
2016	3	1	0	2	2.1200	2.1200	0.530005	19,257,107	1.530005	978	1.084	349.3	0.438020
2017	1	0	1	0	2.3763	3.3763	0.844083	19,094,634	0.844083	995	1.084	340.5	0.247895
2018	1	0	1	0	2.5572	3.5572	0.889295	18,303,511	0.889295	1,025	1.084	316.8	0.280712
2019	0	0	0	0	3.2110	3.2110	0.802738	20,504,131	0.802738	1,049	1.084	346.8	0.231470
2020	0	0	0	0	3.5199	3.5199	0.879963	19,725,668	0.879963	1,081	1.084	323.7	0.271845
TOTAL	14	2	6	6	21.2917	27.2917	6.822923	202,992,893	8.822923			3,750.3	2.433569
AVERAGE													0.243357

BITUMINOUS SURFACE (0156)

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.161 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	5	0	1	4	2.6424	3.6424	0.586433	87,730,506	0.586433	858	1.084	1,814.0	0.032328
2012	9	2	1	6	2.7737	3.7737	0.607562	77,890,500	2.607562	888	1.084	1,556.1	0.167570
2013	5	0	0	5	2.5777	2.5777	0.415011	62,718,061	0.415011	917	1.084	1,213.4	0.034202
2014	4	2	0	2	2.5857	2.5857	0.416299	55,368,615	2.416299	932	1.084	1,053.9	0.229272
2015	8	1	0	7	2.2033	2.2033	0.354735	42,000,092	1.354735	951	1.084	783.5	0.172908
2016	0	0	0	0	1.7714	1.7714	0.285197	30,131,218	0.285197	978	1.084	546.6	0.052177
2017	1	0	0	1	2.2358	2.2358	0.359959	34,248,962	0.359959	995	1.084	610.6	0.058952
2018	0	0	0	0	2.6579	2.6579	0.427922	36,305,197	0.427922	1,025	1.084	628.4	0.068097
2019	1	0	0	1	3.0831	3.0831	0.496377	36,503,594	0.496377	1,049	1.084	617.3	0.080411
2020	1	0	1	0	2.7565	3.7565	0.604803	27,996,529	0.604803	1,081	1.084	459.5	0.131622
TOTAL	34	5	3	26	25.2876	28.2876	4.554299	490,893,274	9.554299			9,283.3	1.027539
AVERAGE													0.102754

FOUR STANDARD CLASSES

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.105 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2011	14	1	1	12	12.5912	13.5912	1.427077	256,981,587	2.340068	858		4,341.7	0.053898	
2012	16	2	1	13	15.1043	16.1043	1.690950	257,273,379	3.602229	888		4,168.5	0.086415	
2013	17	3	4	10	15.8615	19.8615	2.085461	228,966,204	5.412744	917		3,540.9	0.152864	
2014	21	2	2	17	21.9847	23.9847	2.518390	257,970,715	4.141872	932		3,805.3	0.108845	
2015	29	1	4	24	20.2974	24.2974	2.551222	205,059,053	3.185328	951		2,995.3	0.106344	
2016	13	1	2	10	19.3846	21.3846	2.245385	168,097,562	2.825945	978		2,368.6	0.119309	
2017	8	1	1	6	30.5279	31.5279	3.310430	226,304,757	3.709519	995		3,060.3	0.121214	
2018	11	1	3	7	36.0302	39.0302	4.098169	235,391,814	4.214446	1,025		3,084.8	0.136620	
2019	3	0	0	3	40.9880	40.9880	4.303738	235,206,104	3.309482	1,049		3,024.8	0.109412	
2020	4	0	4	0	37.5295	41.5295	4.360593	186,353,208	3.507595	1,081		2,339.7	0.149916	
TOTAL	136	12	22	102	250.2992	272.2992	24.249229	2,257,604,383	36.249229			32,729.9	1.144837	
AVERAGE													0.114484	0.113810

Source: Claim counts - CMCRB OD Database as of 4/30/2021
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: 0.098=12 / [12 + 110]
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

FEDERAL BASIC OCCUPATIONAL DISEASE

COKE (0154)

IBNR Factor adjusted by 0.2000

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	0	0	0	0	0.0386	0.0386	0.003783	3,599,086	0.003783	858	1.084	74.4	0.005084	
2012	0	0	0	0	0.0701	0.0701	0.006870	5,738,105	0.006870	888	1.084	114.6	0.005995	
2013	0	0	0	0	0.0660	0.0660	0.006468	4,791,910	0.006468	917	1.084	92.7	0.006977	
2014	0	0	0	0	0.0689	0.0689	0.006752	4,464,398	0.006752	932	1.084	85.0	0.007944	
2015	0	0	0	0	0.0749	0.0749	0.007340	4,340,376	0.007340	951	1.084	81.0	0.009062	
2016	0	0	0	0	0.0848	0.0848	0.008310	4,435,066	0.008310	978	1.084	80.5	0.010323	
2017	0	0	0	0	0.0961	0.0961	0.009418	4,566,113	0.009418	995	1.084	81.4	0.011570	
2018	0	0	0	0	0.1032	0.1032	0.010114	4,484,744	0.010114	1,025	1.084	77.6	0.013033	
2019	0	0	0	0	0.1142	0.1142	0.011192	4,519,863	0.011192	1,049	1.084	76.4	0.014649	
2020	0	0	0	0	0.0089	0.0089	0.000872	320,988	0.000872	1,081	1.084	5.3	0.016457	
TOTAL	0	0	0	0	0.7257	0.7257	0.071119	41,260,649	0.071119			768.9	0.101094	
AVERAGE													0.010109	

AUGER (0157)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.0316	0.0316	0.003097	1,176,255	0.003097	858	1.084	24.3	0.012744
2012	1	0	0	1	0.0247	0.0247	0.002421	808,208	0.002421	888	1.084	16.1	0.015035
2013	0	0	0	0	0.0361	0.0361	0.003538	1,046,947	0.003538	917	1.084	20.3	0.017428
2014	0	0	0	0	0.0332	0.0332	0.003254	861,590	0.003254	932	1.084	16.4	0.019839
2015	0	0	0	0	0.0282	0.0282	0.002764	654,766	0.002764	951	1.084	12.2	0.022652
2016	0	0	0	0	0.0188	0.0188	0.001842	392,776	0.001842	978	1.084	7.1	0.025949
2017	0	0	0	0	0.0298	0.0298	0.002920	566,324	0.002920	995	1.084	10.1	0.028915
2018	0	0	0	0	0.0345	0.0345	0.003381	600,138	0.003381	1,025	1.084	10.4	0.032510
2019	0	0	0	0	0.0375	0.0375	0.003675	593,214	0.003675	1,049	1.084	10.0	0.036750
2020	0	0	0	0	0.0276	0.0276	0.002705	398,967	0.002705	1,081	1.084	6.5	0.041612
TOTAL	1	0	0	1	0.3020	0.3020	0.029596	7,099,185	0.029596			133.4	0.253434
AVERAGE													0.025343

ANTHRACITE CO-GEN (0181)

IBNR Factor adjusted by 0.5000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.2947	0.2947	0.028881	10,981,642	0.028881	858	1.084	227.1	0.012717
2012	1	0	0	1	0.2842	0.2842	0.027852	9,311,812	0.027852	888	1.084	186.0	0.014974
2013	1	0	0	1	0.2629	0.2629	0.025764	7,630,762	0.025764	917	1.084	147.6	0.017455
2014	0	0	0	0	0.3226	0.3226	0.031615	8,360,898	0.031615	932	1.084	159.1	0.019871
2015	0	0	0	0	0.4120	0.4120	0.040376	9,554,806	0.040376	951	1.084	178.2	0.022658
2016	0	0	0	0	0.3804	0.3804	0.037279	7,953,309	0.037279	978	1.084	144.3	0.025835
2017	0	0	0	0	0.4103	0.4103	0.040209	7,793,558	0.040209	995	1.084	139.0	0.028928
2018	1	0	0	1	0.5785	0.5785	0.056693	10,053,839	0.056693	1,025	1.084	174.0	0.032582
2019	0	0	0	0	0.4300	0.4300	0.042140	6,807,496	0.042140	1,049	1.084	115.1	0.036612
2020	1	0	1	0	0.4754	1.4754	0.144589	6,880,189	0.144589	1,081	1.084	112.9	0.128068
TOTAL	4	0	1	3	3.8510	4.8510	0.475398	85,328,311	0.475398			1,583.3	0.339700
AVERAGE													0.033970

BITUMINOUS CO-GEN (0182)

IBNR Factor adjusted by 0.4000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	0	0	0	0	0.1954	0.1954	0.019149	9,102,411	0.019149	858	1.084	188.2	0.010175
2012	0	0	0	0	0.2209	0.2209	0.021648	9,047,745	0.021648	888	1.084	180.8	0.011974
2013	0	0	0	0	0.2854	0.2854	0.027969	10,355,884	0.027969	917	1.084	200.3	0.013964
2014	0	0	0	0	0.3619	0.3619	0.035466	11,721,184	0.035466	932	1.084	223.1	0.015897
2015	0	0	0	0	0.4052	0.4052	0.039710	11,748,205	0.039710	951	1.084	219.2	0.018116
2016	1	0	0	1	0.4334	0.4334	0.042473	11,327,552	0.042473	978	1.084	205.5	0.020668
2017	0	0	0	0	0.4816	0.4816	0.047197	11,435,057	0.047197	995	1.084	203.9	0.023147
2018	0	0	0	0	0.5544	0.5544	0.054331	12,043,297	0.054331	1,025	1.084	208.4	0.026071
2019	0	0	0	0	0.5973	0.5973	0.058535	11,818,883	0.058535	1,049	1.084	199.9	0.029282
2020	0	0	0	0	0.6013	0.6013	0.058927	10,877,350	0.058927	1,081	1.084	178.5	0.033013
TOTAL	1	0	0	1	4.1368	4.1368	0.405406	109,477,568	0.405406			2,007.8	0.202307
AVERAGE													0.020231

Source: Claim counts - CMCRB OD Database as of 4/30/2021
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: 0.098=12 / [12 + 110]
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

FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE PREP PLANT (0183)

IBNR Factor adjusted by 0.9000

Year	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	Weighted Frequency
2011	0	0	0	0	0.2958	0.2958	0.028988	6,123,259	0.028988	858	1.084	126.6	0.022898	
2012	0	0	0	0	0.4158	0.4158	0.040748	7,569,023	0.040748	888	1.084	151.2	0.026950	
2013	1	0	1	0	0.4388	1.4388	0.141002	7,074,886	0.141002	917	1.084	136.9	0.102997	
2014	0	0	0	0	0.4530	0.4530	0.044394	6,521,541	0.044394	932	1.084	124.1	0.035773	
2015	0	0	0	0	0.4809	0.4809	0.047128	6,196,596	0.047128	951	1.084	115.6	0.040768	
2016	0	0	0	0	0.4772	0.4772	0.046766	5,542,968	0.046766	978	1.084	100.5	0.046533	
2017	0	0	0	0	0.5739	0.5739	0.056242	6,056,810	0.056242	995	1.084	108.0	0.052076	
2018	0	0	0	0	0.7164	0.7164	0.070207	6,916,759	0.070207	1,025	1.084	119.7	0.058653	
2019	0	0	0	0	1.1928	1.1928	0.116894	10,490,218	0.116894	1,049	1.084	177.4	0.065893	
2020	1	0	1	0	1.2771	2.2771	0.223156	10,268,091	0.223156	1,081	1.084	168.5	0.132437	
TOTAL	2	0	2	0	6.3217	8.3217	0.815527	72,760,151	0.815527			1,328.5	0.584978	
Average													0.058498	

BITUMINOUS PREP PLANT (0184)

IBNR Factor adjusted by 0.4000

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years
2011	1	0	0	1	0.7548	0.7548	0.073970	35,155,068	0.073970	858	1.586	496.8	0.014889
2012	0	0	0	0	0.8353	0.8353	0.081859	34,211,729	0.081859	888	1.586	467.1	0.017525
2013	0	0	0	0	0.9273	0.9273	0.090875	33,639,969	0.090875	917	1.586	444.8	0.020431
2014	2	0	0	2	0.9834	0.9834	0.096373	31,854,431	0.096373	932	1.586	414.4	0.023256
2015	0	0	0	0	0.8389	0.8389	0.082212	24,320,608	0.082212	951	1.586	310.1	0.026512
2016	0	0	0	0	0.7682	0.7682	0.075284	20,079,401	0.075284	978	1.586	248.9	0.030247
2017	0	0	0	0	1.2130	1.2130	0.118874	28,803,457	0.118874	995	1.586	351.0	0.033867
2018	1	0	1	0	1.4822	2.4822	0.243256	32,199,872	0.243256	1,025	1.586	380.9	0.063863
2019	0	0	0	0	1.8252	1.8252	0.178870	36,117,344	0.178870	1,049	1.586	417.5	0.042843
2020	1	0	1	0	1.8671	2.8671	0.280976	33,777,559	0.280976	1,081	1.586	378.9	0.074156
TOTAL	5	0	2	3	11.4954	13.4954	1.322549	310,159,438	1.322549			3,910.4	0.347589
Average													0.034759

TOTAL OTHER CLASSES

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2011	1	0	0	1	1.6109	1.6109	0.157868	66,137,721	0.157868	858		1,137.4	0.013880	
2012	2	0	0	2	1.8510	1.8510	0.181398	66,686,622	0.181398	888		1,115.8	0.016257	
2013	2	0	1	1	2.0165	3.0165	0.295617	64,540,358	0.295617	917		1,042.6	0.028354	
2014	2	0	0	2	2.2230	2.2230	0.217854	63,784,042	0.217854	932		1,022.1	0.021314	
2015	0	0	0	0	2.2401	2.2401	0.219530	56,815,357	0.219530	951		916.3	0.023958	
2016	1	0	0	1	2.1628	2.1628	0.211954	49,731,072	0.211954	978		786.8	0.026939	
2017	0	0	0	0	2.8047	2.8047	0.274861	59,221,319	0.274861	995		893.4	0.030766	
2018	2	0	1	1	3.4692	4.4692	0.437982	66,298,649	0.437982	1,025		971.0	0.045106	
2019	0	0	0	0	4.1970	4.1970	0.411306	70,347,018	0.411306	1,049		996.3	0.041283	
2020	3	0	3	0	4.2574	7.2574	0.711225	62,523,144	0.711225	1,081		850.6	0.083615	
TOTAL	13	0	5	8	26.8326	31.8326	3.119595	626,085,302	3.119595			9,732.3	0.331472	
Average													0.033147	0.032797

GRAND TOTAL

YEAR	Reported	Awarded	Pending	Denied	IBNR	IBNR + Pending	0.098 Award Ratio	Payroll	Expected Ultimate Awarded	Statewide Average Weekly Wage	Adjustment Factor	Estimated Miner Years	Frequency Claims per 100 Miner Years	
2011	15	1	1	13	14.2021	15.2021	1.489807	323,119,308	2.497937	858		5,479.1	0.045590	
2012	18	2	1	15	16.9553	17.9553	1.759618	323,960,001	3.783627	888		5,284.3	0.071601	
2013	19	3	5	11	17.8780	22.8780	2.242047	293,506,562	5.708361	917		4,583.5	0.124542	
2014	23	2	2	19	24.2077	26.2077	2.568352	321,754,757	4.359726	932		4,827.4	0.090312	
2015	29	1	4	24	22.5375	26.5375	2.600670	261,874,410	3.404858	951		3,911.6	0.087045	
2016	14	1	2	11	21.5474	23.5474	2.307647	217,828,634	3.037899	978		3,155.4	0.096276	
2017	8	1	1	6	33.3326	34.3326	3.364595	285,526,076	3.984379	995		3,953.7	0.100776	
2018	13	1	4	8	39.4994	43.4994	4.262939	301,690,463	4.652427	1,025		4,055.8	0.114710	
2019	3	0	0	3	45.1850	45.1850	4.428128	305,553,122	3.720788	1,049		4,021.1	0.092532	
2020	7	0	7	0	41.7869	48.7869	4.781112	248,876,352	4.218820	1,081		3,190.3	0.132239	
TOTAL	149	12	27	110	277.1318	304.1318	29.804915	2,883,689,685	39.368823			42,462.2	0.955623	
Average													0.095562	0.095242

Source: Claim counts - CMCRB OD Database as of 4/30/2021
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: 0.098=12 / [12 + 110]
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

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	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	0
24	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	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		
48	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0	2	0	1	0	1	0	0			
60	1	0	0	0	0	1	1	2	0	0	0	0	1	0	0	1	0	2	0	2	0	1	0				
72	1	1	0	0	0	1	1	3	0	0	0	0	1	0	1	1	0	2	0	3	0	1					
84	1	1	0	0	0	1	1	4	0	0	0	0	1	0	1	1	0	2	0	3	0						
96	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0	4							
108	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2	0								
120	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0	2									
132	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1	0										
144	1	1	0	0	0	1	1	4	0	1	0	0	1	0	1	1											
156	1	2	0	0	0	2	1	4	1	1	0	0	1	0	1												
168	1	2	0	0	0	2	1	4	2	1	0	0	1	0													
180	1	2	0	0	1	3	1	4	2	1	1	0	1														
192	1	2	0	0	1	3	1	4	2	1	1	0															
204	1	2	0	0	1	3	1	4	2	1	1																
216	1	2	0	0	2	3	1	4	2	1																	
228	1	2	0	0	2	3	1	4	2																		
240	1	2	0	0	2	3	2	5																			

Incremental Changes

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

Payroll	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	2020		
($Millions)	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	0.29970		
																												Average	Smoothed
12-24														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	0.36359
24-36													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			0.06115	0.25823
36-48												0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.79495	0.00000	0.00000	0.00000	3.93174	0.00000	0.00000				0.36359	0.23743
48-60											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	2.61862	0.00000	0.00000	0.00000					0.20143	0.20143
60-72										0.00000	0.00000	0.00000	0.00000	0.00000	0.46801	0.00000	0.00000	0.00000	0.00000	2.61862	0.00000	0.00000						0.23743	0.16761
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	0.14323
84-96								0.00000	0.00000	0.73841	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	2.61862								0.25823	0.09788
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	0.06115
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	0.05674
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	0.05548
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
144-156			0.00000	0.00000	0.00000	0.55122	0.00000	0.00000	0.72121	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000													0.09788	0.00000
156-168		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.72121	0.00000	0.00000	0.00000	0.00000	0.00000														0.05548	0.00000
168-180	0.00000	0.00000	0.00000	0.00000	0.56744	0.55122	0.00000	0.00000	0.00000	0.00000	0.74332	0.00000	0.00000															0.14323	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
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
204-216	0.00000	0.00000	0.00000	0.00000	0.56744	0.00000	0.00000	0.00000	0.00000	0.00000																		0.05674	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
228-240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.72984	0.61105																				0.16761	0.00000
																											Total=	1.64277	1.64277

IBNR Claims

Cumulative Factor									0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.05548	0.11222	0.17337	0.27125	0.41448	0.58209	0.78352	1.02095	1.27918	1.64277
times Payroll									0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06979	0.11550	0.06621	0.07020	0.10542	0.09532	0.19774	0.18719	0.22946	0.49234

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-3
File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2021 Rate Filing\XL\[2021-08-C.xlsx]VIII-C-1
Run Date: September 10, 2021 - 02:00:06 PM

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	4	3	0	0	1	2	2	1	1	0	0	0	1	0	0	0	0	2	1	2	3	6	4	3	4	1	3
24	4	3	2	1	2	4	4	1	2	0	0	0	1	0	1	1	2	2	3	3	6	8	5	4	8	2	
36	7	5	2	4	5	6	4	2	4	0	1	0	1	2	1	1	2	2	4	3	10	12	7	6	10		
48	8	6	2	5	5	7	4	2	5	0	2	0	1	2	1	4	2	2	4	3	12	16	10	6			
60	9	7	3	6	5	7	4	3	6	0	2	0	1	3	1	4	2	4	4	3	14	16	10				
72	9	8	4	7	5	7	4	4	6	0	2	0	1	3	1	5	3	4	4	4	15	19					
84	9	8	4	7	5	7	5	4	6	0	2	1	1	3	1	5	4	6	5	4	15						
96	9	8	5	7	5	8	5	4	7	0	2	1	1	4	1	5	4	6	6	4							
108	11	8	5	7	5	9	5	6	7	1	2	1	1	4	1	5	5	6	6								
120	11	8	5	7	5	10	5	6	11	1	2	1	1	4	1	5	5	6									
132	11	8	5	8	5	11	8	7	11	1	2	1	1	4	1	5	5										
144	11	8	5	9	5	15	11	7	13	1	2	1	1	5	1	5											
156	11	8	5	9	5	16	11	7	15	1	3	1	2	5	1												
168	11	9	5	9	6	16	15	7	16	1	3	1	2	5													
180	12	9	5	9	6	17	22	7	17	1	3	1	2														
192	13	9	5	9	7	18	35	7	17	1	4	1															
204	13	10	6	9	7	19	37	7	20	2	4																
216	14	10	8	10	10	19	40	8	20	2																	
228	15	10	8	11	10	20	48	8	20																		
240	17	10	8	12	10	22	52	8																			

Incremental Changes

12-24													0	0	1	1	2	0	2	1	3	2	1	1	4	1	
24-36												0	0	2	0	0	0	0	1	0	4	4	2	2	2		
36-48											1	0	0	0	0	3	0	0	0	0	2	4	3	0			
48-60										0	0	0	0	1	0	0	0	2	0	0	2	0	0				
60-72									0	0	0	0	0	0	0	1	1	0	0	1	1	3					
72-84								0	0	0	0	1	0	0	0	0	1	2	1	0	0						
84-96							0	0	1	0	0	0	0	1	0	0	0	0	1	0							
96-108						1	0	2	0	1	0	0	0	0	0	0	1	0	0								
108-120					0	1	0	0	4	0	0	0	0	0	0	0	0	0									
120-132				1	0	1	3	1	0	0	0	0	0	0	0	0	0										
132-144			0	1	0	4	3	0	2	0	0	0	0	1	0	0											
144-156		0	0	0	0	1	0	0	2	0	1	0	1	0	0												
156-168	0	1	0	0	1	0	4	0	1	0	0	0	0	0													
168-180	1	0	0	0	0	1	7	0	1	0	0	0	0														
180-192	1	0	0	0	1	1	13	0	0	0	1	0															
192-204	0	1	1	0	0	1	2	0	3	1	0																
204-216	1	0	2	1	3	0	3	1	0	0																	
216-228	1	0	0	1	0	1	8	0	0																		
228-240	2	0	0	1	0	2	4	0																			

Payroll	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	2020		
($Millions)	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	178.01900	138.33131		
																												Average	Smoothed
12-24														0.00000	0.00987	0.00987	0.01595	0.00000	0.01302	0.00689	0.01635	0.01423	0.00844	0.00579	0.02215	0.00562		0.00986	0.02877
24-36													0.00000	0.02503	0.00000	0.00000	0.00000	0.00000	0.00651	0.00000	0.02181	0.02846	0.01687	0.01158	0.01107			0.00933	0.02401
36-48												0.00000	0.00000	0.00000	0.00000	0.02960	0.00000	0.00000	0.00000	0.00000	0.01090	0.02846	0.02531	0.00000				0.00725	0.02068
48-60											0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.01347	0.00000	0.00000	0.01090	0.00000	0.00000					0.00284	0.01902
60-72										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00987	0.00797	0.00000	0.00000	0.00689	0.00545	0.02134						0.00396	0.01715
72-84									0.00000	0.00000	0.00000	0.01509	0.00000	0.00000	0.00000	0.00000	0.00797	0.01347	0.00651	0.00000	0.00000							0.00331	0.01592
84-96								0.00000	0.02449	0.00000	0.00000	0.00000	0.00000	0.01251	0.00000	0.00000	0.00000	0.00000	0.00651	0.00000								0.00335	0.01579
96-108							0.00000	0.04122	0.00000	0.02740	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00797	0.00000	0.00000									0.00589	0.01080
108-120						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										0.00885	0.00986
120-132					0.00000	0.01704	0.06313	0.02061	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000											0.00775	0.00933
132-144				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												0.01592	0.00885
144-156			0.00000	0.00000	0.00000	0.01704	0.00000	0.00000	0.04897	0.00000	0.02170	0.00000	0.01419	0.00000	0.00000													0.00784	0.00784
156-168		0.01532	0.00000	0.00000	0.01637	0.00000	0.08417	0.00000	0.02449	0.00000	0.00000	0.00000	0.00000	0.00000														0.01080	0.00775
168-180	0.01650	0.00000	0.00000	0.00000	0.00000	0.01704	0.14730	0.00000	0.02449	0.00000	0.00000	0.00000	0.00000															0.01579	0.00725
180-192	0.01650	0.00000	0.00000	0.00000	0.01637	0.01704	0.27357	0.00000	0.00000	0.00000	0.02170	0.00000																0.02877	0.00589
192-204	0.00000	0.01532	0.01329	0.00000	0.00000	0.01704	0.04209	0.00000	0.07346	0.02740	0.00000																	0.01715	0.00396
204-216	0.01650	0.00000	0.02659	0.01421	0.04911	0.00000	0.06313	0.02061	0.00000	0.00000																		0.01902	0.00335
216-228	0.01650	0.00000	0.00000	0.01421	0.00000	0.01704	0.16835	0.00000	0.00000																			0.02401	0.00331
228-240	0.03301	0.00000	0.00000	0.01421	0.00000	0.03408	0.08417	0.00000																				0.02068	0.00284
																											Total=	0.22237	0.22237

IBNR Claims

Cumulative Factor	0.00284	0.00615	0.00950	0.01346	0.01935	0.02660	0.03435	0.04219	0.05104	0.06037	0.07023	0.08103	0.09682	0.11274	0.12989	0.14891	0.16959	0.19360	0.22237
times Payroll	0.11598	0.22447	0.43770	0.89207	1.36352	2.12545	3.48151	4.27588	6.40009	8.96408	10.78866	11.76120	17.75988	15.84789	15.39787	25.71806	30.62791	34.46448	30.76073

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-3
File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2021 Rate Filing\XL\[2021-08-C.xlsx]VIII-C-2
Run Date: September 10, 2021 - 02:00:06 PM

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	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	0	0
24	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	0	
36	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	19	12	6	8	7	0	5	4	5	3	3	2	1	2	2	1	0	1	1	1	1	1	3	1			
60	21	13	6	8	7	0	5	5	5	3	4	2	1	2	2	1	0	1	1	2	1	1	3				
72	21	13	8	8	8	0	5	5	6	3	4	2	1	2	2	2	0	1	1	3	2	1					
84	21	15	8	8	8	0	5	5	6	4	5	2	1	2	2	2	0	1	1	3	2						
96	21	16	9	8	8	0	5	5	6	4	5	2	1	2	2	2	2	1	1	4							
108	21	19	9	8	8	0	5	6	6	4	5	2	1	2	2	2	2	1	1								
120	22	21	9	8	8	1	7	6	6	4	5	2	1	2	2	2	2	1									
132	23	21	9	8	8	1	7	7	6	4	5	2	1	2	2	2	2										
144	23	21	9	8	9	1	7	7	6	4	5	2	1	2	2	2											
156	23	21	9	9	9	1	7	7	6	5	5	2	1	2	2												
168	24	23	9	9	9	1	7	7	6	5	6	2	1	2													
180	24	24	10	9	9	1	7	7	6	5	6	2	1														
192	24	24	10	9	9	1	7	7	6	5	6	2															
204	24	24	11	9	9	1	10	7	6	5	6																
216	24	24	11	9	9	1	10	7	6	5																	
228	24	24	11	9	9	1	10	7	6																		
240	25	24	11	9	9	1	10	7																			

Incremental Changes

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

Payroll	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	2020		
($Millions)	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	20.50413	19.72567		
																												Average	Smoothed
12-24														0.00000	0.12330	0.00000	0.00000	0.05126	0.00000	0.00000	0.00000	0.04498	0.00000	0.00000	0.00000	0.00000		0.01689	0.02184
24-36													0.00000	0.00000	0.00000	0.06292	0.00000	0.00000	0.04043	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000			0.00795	0.01689
36-48												0.00000	0.08288	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10386	0.00000				0.01436	0.01526
48-60											0.08091	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.04826	0.00000	0.00000	0.00000					0.00994	0.01436
60-72										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06292	0.00000	0.00000	0.00000	0.04826	0.05288	0.00000						0.01262	0.01381
72-84									0.00000	0.08383	0.08091	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000							0.01267	0.01332
84-96								0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.15016	0.00000	0.00000	0.04826								0.01526	0.01267
96-108							0.00000	0.07738	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000									0.00595	0.01262
108-120						0.05423	0.11899	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000										0.01332	0.01077
120-132					0.00000	0.00000	0.00000	0.07738	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000											0.00595	0.00994
132-144				0.00000	0.05755	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000												0.00443	0.00854
144-156			0.00000	0.05623	0.00000	0.00000	0.00000	0.00000	0.00000	0.08383	0.00000	0.00000	0.00000	0.00000	0.00000													0.01077	0.00795
156-168		0.09858	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.08091	0.00000	0.00000	0.00000														0.01381	0.00595
168-180	0.00000	0.04929	0.06176	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000															0.00854	0.00595
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	0.00443
192-204	0.00000	0.00000	0.06176	0.00000	0.00000	0.00000	0.17849	0.00000	0.00000	0.00000	0.00000																	0.02184	0.00414
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
216-228	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000																			0.00000	0.00000
228-240	0.03310	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000																				0.00414	0.00000
																											Total=	0.17844	0.17844

IBNR Claims

Cumulative Factor	0.00000	0.00000	0.00000	0.00414	0.00857	0.01452	0.02047	0.02842	0.03696	0.04690	0.05767	0.07029	0.08296	0.09628	0.11009	0.12445	0.13971	0.15660	0.17844
times Payroll	0.00000	0.00000	0.00000	0.05026	0.10340	0.21586	0.33203	0.45169	0.49228	0.91490	1.42645	1.45641	1.56888	2.14072	2.12002	2.37633	2.55718	3.21095	3.51985

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-3
File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2021 Rate Filing\XL\[2021-08-C.xlsx]VIII-C-3
Run Date: September 10, 2021 - 02:00:06 PM

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	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	1
24	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	1	
36	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	7	10	6	5	2	1	5	1	2	1	1	1	2	3	1	0	1	2	8	3	1	7	0	1			
60	8	11	7	5	2	1	5	1	2	1	1	1	2	3	1	0	1	3	8	3	3	8	0				
72	9	13	8	5	3	2	6	1	2	1	1	1	2	4	4	0	2	3	8	4	4	8					
84	10	14	9	7	3	2	6	2	2	1	1	1	4	5	5	0	2	4	9	4	4						
96	11	15	10	7	4	2	6	2	2	1	1	1	4	5	5	0	2	4	9	5							
108	12	18	10	7	5	2	6	2	2	2	1	1	4	5	5	1	2	5	9								
120	13	21	10	8	5	2	6	2	3	3	2	1	4	6	5	1	2	5									
132	13	21	11	8	5	2	6	3	4	3	2	1	4	6	6	1	2										
144	13	21	11	8	6	2	6	3	4	4	2	1	4	6	7	1											
156	13	21	11	8	6	2	6	3	4	5	2	1	4	6	7												
168	15	22	12	8	6	2	6	4	4	5	2	2	4	6													
180	15	22	13	8	6	2	6	5	4	5	2	2	4														
192	15	22	13	9	6	2	7	7	4	5	2	2															
204	16	22	13	10	7	2	7	7	4	5	2																
216	16	24	14	10	8	3	9	7	4	5																	
228	16	24	14	10	9	4	9	7	4																		
240	16	24	15	10	9	4	9	7																			

Incremental Changes

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

Payroll	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	2020		
($Millions)	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	36.50359	27.99653	Average	Smoothed
12-24														0.00000	0.01340	0.00000	0.00000	0.01140	0.06419	0.00000	0.01806	0.04762	0.00000	0.00000	0.00000	0.02739		0.01400	0.01400
24-36													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			0.00549	0.01125
36-48												0.00000	0.01567	0.01543	0.00000	0.00000	0.00000	0.01140	0.00000	0.01594	0.00000	0.02381	0.00000	0.00000				0.00633	0.00793
48-60											0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01140	0.00000	0.00000	0.03612	0.02381	0.00000					0.00549	0.00649
60-72										0.00000	0.00000	0.00000	0.00000	0.01543	0.04021	0.00000	0.01347	0.00000	0.00000	0.01594	0.01806	0.00000						0.00793	0.00633
72-84									0.00000	0.00000	0.00000	0.00000	0.03135	0.01543	0.01340	0.00000	0.00000	0.01140	0.01284	0.00000	0.00000							0.00649	0.00576
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	0.01594								0.00123	0.00560
96-108							0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.00000	0.01580	0.00000	0.01140	0.00000									0.00370	0.00549
108-120						0.00000	0.00000	0.00000	0.01869	0.02089	0.01779	0.00000	0.00000	0.01543	0.00000	0.00000	0.00000	0.00000										0.00560	0.00549
120-132					0.00000	0.00000	0.00000	0.01720	0.01869	0.00000	0.00000	0.00000	0.00000	0.00000	0.01340	0.00000	0.00000											0.00379	0.00447
132-144				0.00000	0.01571	0.00000	0.00000	0.00000	0.00000	0.02089	0.00000	0.00000	0.00000	0.00000	0.01340	0.00000												0.00385	0.00385
144-156			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													0.00161	0.00380
156-168		0.01270	0.01285	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000	0.01542	0.00000	0.00000														0.00447	0.00379
168-180	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000	0.01720	0.00000	0.00000	0.00000	0.00000	0.00000															0.00231	0.00375
180-192	0.00000	0.00000	0.00000	0.01473	0.00000	0.00000	0.02003	0.03439	0.00000	0.00000	0.00000	0.00000																0.00576	0.00370
192-204	0.01081	0.00000	0.00000	0.01473	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000																	0.00375	0.00231
204-216	0.00000	0.02540	0.01285	0.00000	0.01571	0.01846	0.04005	0.00000	0.00000	0.00000																		0.01125	0.00161
216-228	0.00000	0.00000	0.00000	0.00000	0.01571	0.01846	0.00000	0.00000	0.00000																			0.00380	0.00161
228-240	0.00000	0.00000	0.01285	0.00000	0.00000	0.00000	0.00000	0.00000																				0.00161	0.00123
																											Total=	0.09846	0.09846

IBNR Claims

Cumulative Factor	0.00123	0.00284	0.00445	0.00676	0.01046	0.01421	0.01800	0.02180	0.02565	0.03012	0.03561	0.04110	0.04670	0.05246	0.05879	0.06528	0.07321	0.08446	0.09846
times Payroll	0.06581	0.13596	0.25017	0.43853	0.66733	0.92092	1.34282	1.38009	1.90465	2.64244	2.77368	2.57771	2.58571	2.20332	1.77141	2.23577	2.65790	3.08309	2.75654

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-3
File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2021 Rate Filing\XL\[2021-08-C.xlsx]VIII-C-4
Run Date: September 10, 2021 - 02:00:06 PM

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

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
	Year																										
12	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	3
24	0	0	0	2	2	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	
36	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2		
48	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0			
60	0	0	0	5	2	4	1	0	1	0	1	1	0	0	0	0	0	1	1	2	2	0	1				
72	0	0	0	6	2	4	1	0	2	0	1	1	0	0	0	1	0	1	2	2	2	0					
84	0	0	0	6	3	4	1	0	2	1	1	1	0	0	0	1	0	1	2	2	2						
96	0	0	0	6	3	4	1	0	2	1	1	2	0	0	0	1	0	1	2	2							
108	0	0	0	6	3	4	1	0	2	1	1	2	0	1	1	1	0	1	2								
120	0	0	0	6	3	4	1	0	2	1	1	3	1	1	1	1	0	1									
132	0	0	0	6	3	4	1	0	2	1	1	3	1	1	1	1	0										
144	0	0	0	6	3	5	1	0	2	1	1	3	2	1	1	1											
156	0	0	0	6	3	5	1	0	2	2	1	3	2	1	2												
168	0	0	0	6	3	5	1	0	2	2	1	3	2	1													
180	0	0	0	7	3	5	1	0	2	2	1	3	2														
192	0	0	0	7	3	5	1	0	2	2	2	3															
204	0	0	0	7	3	5	2	0	2	2	2																
216	0	0	0	7	3	5	3	0	2	2																	
228	0	0	0	7	3	5	3	0	2																		
240	0	0	0	8	3	5	3	0																			

Payroll	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	2020
($Millions)	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	70.34702	62.52314

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2021
Payrolls: Exhibit X-A-3
File: C:\Users\Forum\OneDrive\Clients\Coal Mine\2021 Rate Filing\XL\[2021-08-C.xlsx]VIII-C-5
Run Date: September 10, 2021 - 02:00:06 PM

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS

Claims with File Dates on or before 12-31-2020, Valued as of 4-30-2021

Incremental Frequency and IBNR

Reported Claims

Months	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	2020
														Year													
12	17	10	9	7	6	2	6	3	6	0	4	2	1	4	0	1	1	2	4	6	4	7	5	5	5	1	7
24	24	16	13	13	12	6	12	4	8	1	5	3	3	4	4	2	3	4	11	8	8	12	6	6	10	3	
36	31	23	13	18	15	10	13	7	11	4	6	4	3	6	4	3	3	6	13	8	12	19	8	8	13		
48	35	28	14	22	16	11	16	9	13	4	7	4	5	7	4	6	3	8	14	10	14	25	13	8			
60	39	31	16	24	16	13	16	11	14	4	8	4	5	8	4	6	3	11	14	12	20	26	14				
72	40	35	20	26	18	14	17	13	16	4	8	4	5	9	8	9	5	11	15	16	23	29					
84	41	38	21	28	19	14	18	15	16	6	9	5	7	10	9	9	6	14	17	16	23						
96	42	40	24	28	20	15	18	15	17	7	9	6	7	11	9	9	8	14	18	19							
108	45	46	24	28	21	16	18	18	17	9	9	6	7	12	10	10	9	15	18								
120	47	51	24	29	21	18	20	18	22	10	10	7	8	13	10	10	9	15									
132	48	51	25	30	21	19	23	21	23	10	10	7	8	13	11	10	9										
144	48	51	25	31	23	24	26	21	25	11	10	7	9	14	12	10											
156	48	52	25	32	23	26	26	21	28	14	11	7	10	14	13												
168	51	56	26	32	24	26	30	22	30	14	12	8	10	14													
180	52	57	28	33	25	28	37	23	31	14	13	8	10														
192	53	57	28	34	26	29	51	25	31	14	15	8															
204	54	58	30	35	27	30	57	25	34	15	15																
216	55	60	33	36	32	31	63	26	34	15																	
228	56	60	33	37	33	33	71	26	34																		
240	59	60	34	39	33	35	76	27																			

Incremental Changes

12-24													2	0	4	1	2	2	7	2	4	5	1	1	5	2	
24-36												1	0	2	0	1	0	2	2	0	4	7	2	2	3		
36-48											1	0	2	1	0	3	0	2	1	2	2	6	5	0			
48-60										0	1	0	0	1	0	0	0	3	0	2	6	1	1				
60-72									2	0	0	0	0	1	4	3	2	0	1	4	3	3					
72-84								2	0	2	1	1	2	1	1	0	1	3	2	0	0						
84-96							0	0	1	1	0	1	0	1	0	0	2	0	1	3							
96-108						1	0	3	0	2	0	0	0	1	1	1	1	1	0								
108-120					0	2	2	0	5	1	1	1	1	1	0	0	0	0									
120-132				1	0	1	3	3	1	0	0	0	0	0	1	0	0										
132-144			0	1	2	5	3	0	2	1	0	0	1	1	1	0											
144-156		1	0	1	0	2	0	0	3	3	1	0	1	0	1												
156-168	3	4	1	0	1	0	4	1	2	0	1	1	0	0													
168-180	1	1	2	1	1	2	7	1	1	0	1	0	0														
180-192	1	0	0	1	1	1	14	2	0	0	2	0															
192-204	1	1	2	1	1	1	6	0	3	1	0																
204-216	1	2	3	1	5	1	6	1	0	0																	
216-228	1	0	0	1	1	2	8	0	0																		
228-240	3	0	1	2	0	2	5	1																			

Payroll	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	2020		
($Millions)	244.86519	226.14804	233.69096	231.27906	175.23425	163.55466	145.17101	152.19366	138.87132	133.95628	160.69703	196.69173	201.34946	220.76087	249.56714	229.49852	268.41150	323.11931	323.96000	293.50656	321.75476	261.87442	217.82864	285.52607	301.69047	305.55312	248.87635		
																												Average	Smoothed
12-24														0.00000	0.01603	0.00436	0.00745	0.00619	0.02161	0.00681	0.01243	0.01909	0.00459	0.00350	0.01657	0.00655		0.00963	0.01185
24-36													0.00000	0.00906	0.00000	0.00436	0.00000	0.00619	0.00617	0.00000	0.01243	0.02673	0.00918	0.00700	0.00994			0.00700	0.01126
36-48												0.00000	0.00993	0.00453	0.00000	0.01307	0.00000	0.00619	0.00309	0.00681	0.00622	0.02291	0.02295	0.00000				0.00736	0.00980
48-60											0.00622	0.00000	0.00000	0.00453	0.00000	0.00000	0.00000	0.00928	0.00000	0.00681	0.01865	0.00382	0.00459					0.00415	0.00963
60-72										0.00000	0.00000	0.00000	0.00000	0.00453	0.01603	0.01307	0.00745	0.00000	0.00309	0.01363	0.00932	0.01146						0.00604	0.00942
72-84									0.00000	0.01493	0.00622	0.00508	0.00993	0.00453	0.00401	0.00000	0.00373	0.00928	0.00617	0.00000	0.00000							0.00491	0.00905
84-96								0.00000	0.00720	0.00747	0.00000	0.00508	0.00000	0.00453	0.00000	0.00000	0.00745	0.00000	0.00309	0.01022								0.00346	0.00827
96-108							0.00000	0.01971	0.00000	0.01493	0.00000	0.00000	0.00000	0.00453	0.00401	0.00436	0.00373	0.00309	0.00000									0.00418	0.00787
108-120						0.01223	0.01378	0.00000	0.03600	0.00747	0.00622	0.00508	0.00497	0.00453	0.00000	0.00000	0.00000	0.00000										0.00694	0.00736
120-132					0.00000	0.00611	0.02067	0.01971	0.00720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00401	0.00000	0.00000											0.00444	0.00700
132-144				0.00432	0.01141	0.03057	0.02067	0.00000	0.01440	0.00747	0.00000	0.00000	0.00497	0.00453	0.00401	0.00000												0.00787	0.00694
144-156			0.00000	0.00432	0.00000	0.01223	0.00000	0.00000	0.02160	0.02240	0.00622	0.00000	0.00497	0.00000	0.00401													0.00583	0.00673
156-168		0.01769	0.00428	0.00000	0.00571	0.00000	0.02755	0.00657	0.01440	0.00000	0.00622	0.00508	0.00000	0.00000														0.00673	0.00604
168-180	0.00408	0.00442	0.00856	0.00432	0.00571	0.01223	0.04822	0.00657	0.00720	0.00000	0.00622	0.00000	0.00000															0.00827	0.00583
180-192	0.00408	0.00000	0.00000	0.00432	0.00571	0.00611	0.09644	0.01314	0.00000	0.00000	0.01245	0.00000																0.01185	0.00491
192-204	0.00408	0.00442	0.00856	0.00432	0.00571	0.00611	0.04133	0.00000	0.02160	0.00747	0.00000																	0.00942	0.00444
204-216	0.00408	0.00884	0.01284	0.00432	0.02853	0.00611	0.04133	0.00657	0.00000	0.00000																		0.01126	0.00418
216-228	0.00408	0.00000	0.00000	0.00432	0.00571	0.01223	0.05511	0.00000	0.00000																			0.00905	0.00415
228-240	0.01225	0.00000	0.00428	0.00865	0.00000	0.01223	0.03444	0.00657																				0.00980	0.00346
																											Total=	0.13819	0.13819

IBNR Claims

Cumulative Factor									0.00346	0.00761	0.01179	0.01623	0.02114	0.02697	0.03301	0.03974	0.04668	0.05368	0.06104	0.06891	0.07718	0.08623	0.09565	0.10528	0.11508	0.12634	0.13819
times Payroll									0.48049	1.01941	1.89462	3.19231	4.25653	5.95392	8.23821	9.12027	12.52945	17.34504	19.77452	20.22554	24.83303	22.58143	20.83531	30.06018	34.71854	38.60358	34.39222

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

COAL MINE COMPENSATION RATING BUREAU
FEDERAL OCCUPATIONAL DISEASE
ALL CLASSIFICATIONS

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
	2011	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537
	2012	0.0610	0.0610	0.0610	0.0610	0.0610	0.0610
	2013	0.0689	0.0689	0.0689	0.0689	0.0689	0.0689
	2014	0.0772	0.0772	0.0772	0.0772	0.0772	0.0772
	2015	0.0862	0.0862	0.0862	0.0862	0.0862	0.0862
	2016	0.0957	0.0957	0.0957	0.0957	0.0957	0.0957
	2017	0.1053	0.1053	0.1053	0.1053	0.1053	0.1053
	2018	0.1151	0.1151	0.1151	0.1151	0.1151	0.1151
	2019	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263
	2020	0.1382	0.1382	0.1382	0.1382	0.1382	0.1382
B. Adjustment Factor		0.2000	0.5000	0.5000	0.4000	0.9000	0.4000
C. Payroll Per $1M							
	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	4.51986	0.59321	6.80750	11.81888	10.49022	36.11734
	2020	0.32099	0.39897	6.88019	10.87735	10.26809	33.77756
D. IBNR							
	2011	0.0386	0.0316	0.2947	0.1954	0.2958	0.7548
	2012	0.0701	0.0247	0.2842	0.2209	0.4158	0.8353
	2013	0.0660	0.0361	0.2629	0.2854	0.4388	0.9273
	2014	0.0689	0.0332	0.3226	0.3619	0.4530	0.9834
	2015	0.0749	0.0282	0.4120	0.4052	0.4809	0.8389
	2016	0.0848	0.0188	0.3804	0.4334	0.4772	0.7682
	2017	0.0961	0.0298	0.4103	0.4816	0.5739	1.2130
	2018	0.1032	0.0345	0.5785	0.5544	0.7164	1.4822
	2019	0.1142	0.0375	0.4300	0.5973	1.1928	1.8252
	2020	0.0089	0.0276	0.4754	0.6013	1.2771	1.8671

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

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
	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2002	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
	2003	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076
	2004	0.0118	0.0118	0.0118	0.0118	0.0118	0.0118
	2005	0.0162	0.0162	0.0162	0.0162	0.0162	0.0162
	2006	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211
	2007	0.0270	0.0270	0.0270	0.0270	0.0270	0.0270
	2008	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330
	2009	0.0397	0.0397	0.0397	0.0397	0.0397	0.0397
	2010	0.0467	0.0467	0.0467	0.0467	0.0467	0.0467
B. Adjustment Factor		0.2000	0.5000	0.5000	0.4000	0.9000	0.4000
C. Payroll Per $1M							
	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
	2010	5.43566	0.82750	7.95805	8.73270	4.87693	26.31313
D. IBNR							
	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2002	0.0073	0.0020	0.0098	0.0033	0.0072	0.0140
	2003	0.0176	0.0042	0.0267	0.0093	0.0233	0.0310
	2004	0.0284	0.0062	0.0433	0.0301	0.0468	0.0635
	2005	0.0417	0.0083	0.0637	0.0553	0.0755	0.1074
	2006	0.0539	0.0113	0.0889	0.0797	0.0930	0.1442
	2007	0.0737	0.0151	0.1239	0.1168	0.1412	0.2038
	2008	0.0644	0.0414	0.1241	0.1120	0.1703	0.2806
	2009	0.0411	0.0188	0.1497	0.1250	0.2241	0.3152
	2010	0.0507	0.0193	0.1857	0.1631	0.2049	0.4913

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%
1/1/2021	to	12/31/2021	693.60	346.80	1.0%

All Years	Average	2.2%
Last 10 Yrs	Average	1.0%
Last 5 Yrs	Average	1.5%
Last 3 Yrs	Average	1.7%

Selected Benefit Change from	2021	to	2022	1.00%
Selected Benefit Change from	2022	to	2023	1.50%
Selected Benefit Change from	2023	to	2024	2.50%

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

			Projected Benefit- Claimant		Dependant	Weight
1/1/2022	to	12/31/2022	700.50	a	350.30	28.125%
1/1/2023	to	12/31/2023	711.00	a	355.50	68.750%
1/1/2024	to	12/31/2024	728.80	a	364.40	3.125%

Average Monthly Benefit During the Policy Period Beginning 04/01/2022	708.60	b	354.30
Average Weekly Benefit During the Policy Period Beginning 04/01/2022	163.50	c	81.80
Annual (Weekly X 52)	8,502.00		4,251.00
Annual Miner and Spouse			12,753.00

a Previous year's benefit times selected benefit change
b Weighted average of projected benefit levels from 01-01-22 to 12-31-24
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 (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 2	# 0	# 0	# 2	# 0.00	# 0.10	# 0.10
2012	-	-	-	-	-	-	-
2013	4	1	1	2	0.30	0.10	0.10
2014	-	-	-	-	-	-	-
2015	1	-	1	-	0.30	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Total	7	1	2	4	0.60	0.20	0.20

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
2011	# 0.10	# 1.90	# 0.0698	# 0.0120	# 0.1120	$ 1,257,944	0.0890
2012	-	-	0.1155	0.0198	0.0198	1,029,260	0.0193
2013	1.40	2.60	0.0662	0.0114	1.4114	381,876	3.6959
2014	-	-	0.0702	0.0121	0.0121	258,809	0.0466
2015	0.30	0.70	0.1054	0.0181	0.3181	254,336	1.2508
2016	-	-	0.0953	0.0164	0.0164	163,760	0.1000
2017	-	-	0.1977	0.0340	0.0340	252,383	0.1346
2018	-	-	0.1872	0.0322	0.0322	183,346	0.1754
2019	-	-	0.2295	0.0394	0.0394	179,379	0.2198
2020	-	-	0.4923	0.0846	0.0846	299,700	0.2822
Total	1.80	5.20	1.6292	0.2799	2.0799	$ 4,260,793	0.4881

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	26.0	0.4307
2012	888	1.0840	20.6	0.0963
2013	917	1.0840	7.4	19.0726
2014	932	1.0840	4.9	0.2461
2015	951	1.0840	4.7	6.7683
2016	978	1.0840	3.0	0.5459
2017	995	1.0840	4.5	0.7549
2018	1,025	1.0840	3.2	1.0050
2019	1,049	1.0840	3.0	1.3140
2020	1,081	1.0840	4.9	1.7262
Total			82.2	2.5303

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: 0.1718

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

Bituminous Underground (0158)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 6	# 1	# 0	# 5	# 0.00	# 0.25	# 0.25
2012	6	-	-	6	-	0.30	0.30
2013	4	1	-	3	-	0.15	0.15
2014	15	-	1	14	0.30	0.70	0.70
2015	19	-	3	16	0.90	0.80	0.80
2016	10	-	2	8	0.60	0.40	0.40
2017	6	1	-	5	-	0.25	0.25
2018	10	1	2	7	0.60	0.35	0.35
2019	2	-	-	2	-	0.10	0.10
2020	3	-	3	-	0.90	-	-
Total	81	4	11	66	3.30	3.30	3.30

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
2011	# 1.25	# 4.75	# 8.9641	# 1.5400	# 2.7900	$ 148,485,709	0.0188
2012	0.30	5.70	10.7887	1.8535	2.1535	153,618,908	0.0140
2013	1.15	2.85	11.7612	2.0206	3.1706	145,146,253	0.0218
2014	1.00	14.00	17.7599	3.0511	4.0511	183,431,952	0.0221
2015	1.70	17.30	15.8479	2.7227	4.4227	140,570,275	0.0315
2016	1.00	9.00	15.3979	2.6454	3.6454	118,545,477	0.0308
2017	1.25	4.75	25.7181	4.4184	5.6684	172,708,778	0.0328
2018	1.95	8.05	30.6279	5.2619	7.2119	180,599,760	0.0399
2019	0.10	1.90	34.4645	5.9210	6.0210	178,019,000	0.0338
2020	0.90	2.10	30.7607	5.2847	6.1847	138,331,311	0.0447
Total	10.60	70.40	202.0908	34.7192	45.3192	$ 1,559,457,423	0.0291

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.5860	2,098.4	0.1330
2012	888	1.5860	2,097.6	0.1027
2013	917	1.5860	1,919.2	0.1652
2014	932	1.5860	2,386.5	0.1698
2015	951	1.5860	1,792.3	0.2468
2016	978	1.5860	1,469.7	0.2480
2017	995	1.5860	2,104.7	0.2693
2018	1,025	1.5860	2,136.4	0.3376
2019	1,049	1.5860	2,057.7	0.2926
2020	1,081	1.5860	1,551.6	0.3986
Total			19,614.1	0.2311

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: 0.1718

Anthracite Surface (0153)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2012	1	-	-	1	-	0.05	0.05
2013	4	1	3	-	0.90	-	-
2014	2	-	1	1	0.30	0.05	0.05
2015	1	-	-	1	-	0.05	0.05
2016	3	1	-	2	-	0.10	0.10
2017	1	-	1	-	0.30	-	-
2018	1	-	1	-	0.30	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Total	14	2	6	6	1.80	0.30	0.30

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
2011	# 0.05	# 0.95	# 0.9149	# 0.1572	# 0.2072	$ 19,507,428	0.0106
2012	0.05	0.95	1.4265	0.2451	0.2951	24,734,711	0.0119
2013	1.90	2.10	1.4564	0.2502	2.1502	20,720,014	0.1038
2014	0.35	1.65	1.5689	0.2695	0.6195	18,911,339	0.0328
2015	0.05	0.95	2.1407	0.3678	0.4178	22,234,350	0.0188
2016	1.10	1.90	2.1200	0.3642	1.4642	19,257,107	0.0760
2017	0.30	0.70	2.3763	0.4083	0.7083	19,094,634	0.0371
2018	0.30	0.70	2.5572	0.4393	0.7393	18,303,511	0.0404
2019	-	-	3.2110	0.5516	0.5516	20,504,131	0.0269
2020	-	-	3.5199	0.6047	0.6047	19,725,668	0.0307
Total	4.10	9.90	21.2917	3.6579	7.7579	$ 202,992,893	0.0382

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	403.3	0.0514
2012	888	1.0840	494.2	0.0597
2013	917	1.0840	400.9	0.5363
2014	932	1.0840	360.0	0.1721
2015	951	1.0840	414.8	0.1007
2016	978	1.0840	349.3	0.4192
2017	995	1.0840	340.5	0.2080
2018	1,025	1.0840	316.8	0.2334
2019	1,049	1.0840	346.8	0.1591
2020	1,081	1.0840	323.7	0.1868
Total			3,750.3	0.2069

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: 0.1718

Bituminous Surface (0156)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 5	# 0	# 1	# 4	# 0.30	# 0.20	# 0.20
2012	9	2	1	6	0.30	0.30	0.30
2013	5	-	-	5	-	0.25	0.25
2014	4	2	-	2	-	0.10	0.10
2015	8	1	-	7	-	0.35	0.35
2016	-	-	-	-	-	-	-
2017	1	-	-	1	-	0.05	0.05
2018	-	-	-	-	-	-	-
2019	1	-	-	1	-	0.05	0.05
2020	1	-	1	-	0.30	-	-
Total	34	5	3	26	0.90	1.30	1.30

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
2011	# 0.50	# 4.50	# 2.6424	# 0.4540	# 0.9540	$ 87,730,506	0.0109
2012	2.60	6.40	2.7737	0.4765	3.0765	77,890,500	0.0395
2013	0.25	4.75	2.5777	0.4429	0.6929	62,718,061	0.0110
2014	2.10	1.90	2.5857	0.4442	2.5442	55,368,615	0.0460
2015	1.35	6.65	2.2033	0.3785	1.7285	42,000,092	0.0412
2016	-	-	1.7714	0.3043	0.3043	30,131,218	0.0101
2017	0.05	0.95	2.2358	0.3841	0.4341	34,248,962	0.0127
2018	-	-	2.6579	0.4566	0.4566	36,305,197	0.0126
2019	0.05	0.95	3.0831	0.5297	0.5797	36,503,594	0.0159
2020	0.30	0.70	2.7565	0.4736	0.7736	27,996,529	0.0276
Total	7.20	26.80	25.2876	4.3444	11.5444	$ 490,893,274	0.0235

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	1,814.0	0.0526
2012	888	1.0840	1,556.1	0.1977
2013	917	1.0840	1,213.4	0.0571
2014	932	1.0840	1,053.9	0.2414
2015	951	1.0840	783.5	0.2206
2016	978	1.0840	546.6	0.0557
2017	995	1.0840	610.6	0.0711
2018	1,025	1.0840	628.4	0.0727
2019	1,049	1.0840	617.3	0.0939
2020	1,081	1.0840	459.5	0.1684
Total			9,283.3	0.1244

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: 0.1718

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

Four Standard Classes

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 14	# 1	# 1	# 12	# 0.30	# 0.60	# 0.60
2012	16	2	1	13	0.30	0.65	0.65
2013	17	3	4	10	1.20	0.50	0.50
2014	21	2	2	17	0.60	0.85	0.85
2015	29	1	4	24	1.20	1.20	1.20
2016	13	1	2	10	0.60	0.50	0.50
2017	8	1	1	6	0.30	0.30	0.30
2018	11	1	3	7	0.90	0.35	0.35
2019	3	-	-	3	-	0.15	0.15
2020	4	-	4	-	1.20	-	-
Total	136	12	22	102	6.60	5.10	5.10

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
2011	# 1.90	# 12.10	# 12.5912	# 2.1632	# 4.0632	$ 256,981,587	0.0158
2012	2.95	13.05	15.1043	2.5949	5.5449	257,273,379	0.0216
2013	4.70	12.30	15.8615	2.7250	7.4250	228,966,204	0.0324
2014	3.45	17.55	21.9847	3.7770	7.2270	257,970,715	0.0280
2015	3.40	25.60	20.2974	3.4871	6.8871	205,059,053	0.0336
2016	2.10	10.90	19.3846	3.3303	5.4303	168,097,562	0.0323
2017	1.60	6.40	30.5279	5.2447	6.8447	226,304,757	0.0302
2018	2.25	8.75	36.0302	6.1900	8.4400	235,391,814	0.0359
2019	0.15	2.85	40.9880	7.0417	7.1917	235,206,104	0.0306
2020	1.20	2.80	37.5295	6.4476	7.6476	186,353,208	0.0410
Total	23.70	112.30	250.2992	43.0014	66.7014	$ 2,257,604,383	0.0295

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858		4,341.7	0.0936
2012	888		4,168.5	0.1330
2013	917		3,540.9	0.2097
2014	932		3,805.3	0.1899
2015	951		2,995.3	0.2299
2016	978		2,368.6	0.2293
2017	995		3,060.3	0.2237
2018	1,025		3,084.8	0.2736
2019	1,049		3,024.8	0.2378
2020	1,081		2,339.7	0.3269
Total			32,729.9	0.2038

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: 0.1718

Coke (0154)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-

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
2011	# 0.00	# 0.00	# 0.0386	# 0.0066	# 0.0066	$ 3,599,086	0.0018
2012	-	-	0.0701	0.0120	0.0120	5,738,105	0.0021
2013	-	-	0.0660	0.0113	0.0113	4,791,910	0.0024
2014	-	-	0.0689	0.0118	0.0118	4,464,398	0.0027
2015	-	-	0.0749	0.0129	0.0129	4,340,376	0.0030
2016	-	-	0.0848	0.0146	0.0146	4,435,066	0.0033
2017	-	-	0.0961	0.0165	0.0165	4,566,113	0.0036
2018	-	-	0.1032	0.0177	0.0177	4,484,744	0.0040
2019	-	-	0.1142	0.0196	0.0196	4,519,863	0.0043
2020	-	-	0.0089	0.0015	0.0015	320,988	0.0048
Total	-	-	0.7257	0.1247	0.1247	$ 41,260,649	0.0030

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	74.4	0.0089
2012	888	1.0840	114.6	0.0105
2013	917	1.0840	92.7	0.0122
2014	932	1.0840	85.0	0.0139
2015	951	1.0840	81.0	0.0159
2016	978	1.0840	80.5	0.0181
2017	995	1.0840	81.4	0.0203
2018	1,025	1.0840	77.6	0.0228
2019	1,049	1.0840	76.4	0.0257
2020	1,081	1.0840	5.3	0.0288
Total			768.9	0.0162

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: 0.1718

Auger (0157)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2012	1	-	-	1	-	0.05	0.05
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Total	1	-	-	1	-	0.05	0.05

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
2011	# 0.00	# 0.00	# 0.0316	# 0.0054	# 0.0054	$ 1,176,255	0.0046
2012	0.05	0.95	0.0247	0.0042	0.0542	808,208	0.0671
2013	-	-	0.0361	0.0062	0.0062	1,046,947	0.0059
2014	-	-	0.0332	0.0057	0.0057	861,590	0.0066
2015	-	-	0.0282	0.0048	0.0048	654,766	0.0074
2016	-	-	0.0188	0.0032	0.0032	392,776	0.0082
2017	-	-	0.0298	0.0051	0.0051	566,324	0.0090
2018	-	-	0.0345	0.0059	0.0059	600,138	0.0099
2019	-	-	0.0375	0.0064	0.0064	593,214	0.0109
2020	-	-	0.0276	0.0047	0.0047	398,967	0.0119
Total	0.05	0.95	0.3020	0.0519	0.1019	$ 7,099,185	0.0144

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	24.3	0.0223
2012	888	1.0840	16.1	0.3369
2013	917	1.0840	20.3	0.0306
2014	932	1.0840	16.4	0.0348
2015	951	1.0840	12.2	0.0397
2016	978	1.0840	7.1	0.0455
2017	995	1.0840	10.1	0.0507
2018	1,025	1.0840	10.4	0.0570
2019	1,049	1.0840	10.0	0.0644
2020	1,081	1.0840	6.5	0.0729
Total			133.4	0.0764

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: 0.1718

Anthracite Co-Gen (0181)

	Counts						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded
2011	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2012	1	-	-	1	-	0.05	0.05
2013	1	-	-	1	-	0.05	0.05
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	1	-	-	1	-	0.05	0.05
2019	-	-	-	-	-	-	-
2020	1	-	1	-	0.30	-	-
Total	4	-	1	3	0.30	0.15	0.15

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
2011	# 0.00	# 0.00	# 0.2947	# 0.0506	# 0.0506	$ 10,981,642	0.0046
2012	0.05	0.95	0.2842	0.0488	0.0988	9,311,812	0.0106
2013	0.05	0.95	0.2629	0.0452	0.0952	7,630,762	0.0125
2014	-	-	0.3226	0.0554	0.0554	8,360,898	0.0066
2015	-	-	0.4120	0.0708	0.0708	9,554,806	0.0074
2016	-	-	0.3804	0.0654	0.0654	7,953,309	0.0082
2017	-	-	0.4103	0.0705	0.0705	7,793,558	0.0090
2018	0.05	0.95	0.5785	0.0994	0.1494	10,053,839	0.0149
2019	-	-	0.4300	0.0739	0.0739	6,807,496	0.0109
2020	0.30	0.70	0.4754	0.0817	0.3817	6,880,189	0.0555
Total	0.45	3.55	3.8510	0.6616	1.1116	$ 85,328,311	0.0130

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	227.1	0.0223
2012	888	1.0840	186.0	0.0531
2013	917	1.0840	147.6	0.0645
2014	932	1.0840	159.1	0.0348
2015	951	1.0840	178.2	0.0397
2016	978	1.0840	144.3	0.0453
2017	995	1.0840	139.0	0.0507
2018	1,025	1.0840	174.0	0.0859
2019	1,049	1.0840	115.1	0.0642
2020	1,081	1.0840	112.9	0.3381
Total			1,583.3	0.0702

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: 0.1718

Bituminous Co-Gen (0182)

	Counts						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded
2011	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	1	-	-	1	-	0.05	0.05
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Total	1	-	-	1	-	0.05	0.05

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
2011	# 0.00	# 0.00	# 0.1954	# 0.0336	# 0.0336	$ 9,102,411	0.0037
2012	-	-	0.2209	0.0380	0.0380	9,047,745	0.0042
2013	-	-	0.2854	0.0490	0.0490	10,355,884	0.0047
2014	-	-	0.3619	0.0622	0.0622	11,721,184	0.0053
2015	-	-	0.4052	0.0696	0.0696	11,748,205	0.0059
2016	0.05	0.95	0.4334	0.0745	0.1245	11,327,552	0.0110
2017	-	-	0.4816	0.0827	0.0827	11,435,057	0.0072
2018	-	-	0.5544	0.0952	0.0952	12,043,297	0.0079
2019	-	-	0.5973	0.1026	0.1026	11,818,883	0.0087
2020	-	-	0.6013	0.1033	0.1033	10,877,350	0.0095
Total	0.05	0.95	4.1368	0.7107	0.7607	$ 109,477,568	0.0069

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	188.2	0.0178
2012	888	1.0840	180.8	0.0210
2013	917	1.0840	200.3	0.0245
2014	932	1.0840	223.1	0.0279
2015	951	1.0840	219.2	0.0318
2016	978	1.0840	205.5	0.0606
2017	995	1.0840	203.9	0.0406
2018	1,025	1.0840	208.4	0.0457
2019	1,049	1.0840	199.9	0.0513
2020	1,081	1.0840	178.5	0.0579
Total			2,007.8	0.0379

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: 0.1718

Anthracite Prep-Plant (0183)

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00
2012	-	-	-	-	-	-	-
2013	1	-	1	-	0.30	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	1	-	1	-	0.30	-	-
Total	2	-	2	-	0.60	-	-

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
2011	# 0.00	# 0.00	# 0.2958	# 0.0508	# 0.0508	$ 6,123,259	0.0083
2012	-	-	0.4158	0.0714	0.0714	7,569,023	0.0094
2013	0.30	0.70	0.4388	0.0754	0.3754	7,074,886	0.0531
2014	-	-	0.4530	0.0778	0.0778	6,521,541	0.0119
2015	-	-	0.4809	0.0826	0.0826	6,196,596	0.0133
2016	-	-	0.4772	0.0820	0.0820	5,542,968	0.0148
2017	-	-	0.5739	0.0986	0.0986	6,056,810	0.0163
2018	-	-	0.7164	0.1231	0.1231	6,916,759	0.0178
2019	-	-	1.1928	0.2049	0.2049	10,490,218	0.0195
2020	0.30	0.70	1.2771	0.2194	0.5194	10,268,091	0.0506
Total	0.60	1.40	6.3217	1.0861	1.6861	$ 72,760,151	0.0232

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.0840	126.6	0.0401
2012	888	1.0840	151.2	0.0472
2013	917	1.0840	136.9	0.2742
2014	932	1.0840	124.1	0.0627
2015	951	1.0840	115.6	0.0715
2016	978	1.0840	100.5	0.0816
2017	995	1.0840	108.0	0.0913
2018	1,025	1.0840	119.7	0.1028
2019	1,049	1.0840	177.4	0.1155
2020	1,081	1.0840	168.5	0.3083
Total			1,328.5	0.1269

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: 0.1718

Bituminous Prep-Plant (0184)

	Counts						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded
2011	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	2	-	-	2	-	0.10	0.10
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	1	-	1	-	0.30	-	-
2019	-	-	-	-	-	-	-
2020	1	-	1	-	0.30	-	-
Total	5	-	2	3	0.60	0.15	0.15

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
2011	# 0.05	# 0.95	# 0.7548	# 0.1297	# 0.1797	$ 35,155,068	0.0051
2012	-	-	0.8353	0.1435	0.1435	34,211,729	0.0042
2013	-	-	0.9273	0.1593	0.1593	33,639,969	0.0047
2014	0.10	1.90	0.9834	0.1689	0.2689	31,854,431	0.0084
2015	-	-	0.8389	0.1441	0.1441	24,320,608	0.0059
2016	-	-	0.7682	0.1320	0.1320	20,079,401	0.0066
2017	-	-	1.2130	0.2084	0.2084	28,803,457	0.0072
2018	0.30	0.70	1.4822	0.2546	0.5546	32,199,872	0.0172
2019	-	-	1.8252	0.3136	0.3136	36,117,344	0.0087
2020	0.30	0.70	1.8671	0.3208	0.6208	33,777,559	0.0184
Total	0.75	4.25	11.4954	1.9749	2.7249	$ 310,159,438	0.0088

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858	1.5860	496.8	0.0362
2012	888	1.5860	467.1	0.0307
2013	917	1.5860	444.8	0.0358
2014	932	1.5860	414.4	0.0649
2015	951	1.5860	310.1	0.0465
2016	978	1.5860	248.9	0.0530
2017	995	1.5860	351.0	0.0594
2018	1,025	1.5860	380.9	0.1456
2019	1,049	1.5860	417.5	0.0751
2020	1,081	1.5860	378.9	0.1638
Total			3,910.4	0.0697

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: 0.1718

Total Other Classes

	Counts						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded
2011	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2012	2	-	-	2	-	0.10	0.10
2013	2	-	1	1	0.30	0.05	0.05
2014	2	-	-	2	-	0.10	0.10
2015	-	-	-	-	-	-	-
2016	1	-	-	1	-	0.05	0.05
2017	-	-	-	-	-	-	-
2018	2	-	1	1	0.30	0.05	0.05
2019	-	-	-	-	-	-	-
2020	3	-	3	-	0.90	-	-
Total	13	-	5	8	1.50	0.40	0.40

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
2011	# 0.05	# 0.95	# 1.6109	# 0.2768	# 0.3268	$ 66,137,721	0.0049
2012	0.10	1.90	1.8510	0.3180	0.4180	66,686,622	0.0063
2013	0.35	1.65	2.0165	0.3464	0.6964	64,540,358	0.0108
2014	0.10	1.90	2.2230	0.3819	0.4819	63,784,042	0.0076
2015	-	-	2.2401	0.3848	0.3848	56,815,357	0.0068
2016	0.05	0.95	2.1628	0.3716	0.4216	49,731,072	0.0085
2017	-	-	2.8047	0.4818	0.4818	59,221,319	0.0081
2018	0.35	1.65	3.4692	0.5960	0.9460	66,298,649	0.0143
2019	-	-	4.1970	0.7210	0.7210	70,347,018	0.0102
2020	0.90	2.10	4.2574	0.7314	1.6314	62,523,144	0.0261
Total	1.90	11.10	26.8326	4.6098	6.5098	$ 626,085,302	0.0104

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858		1,137.4	0.0287
2012	888		1,115.8	0.0375
2013	917		1,042.6	0.0668
2014	932		1,022.1	0.0471
2015	951		916.3	0.0420
2016	978		786.8	0.0536
2017	995		893.4	0.0539
2018	1,025		971.0	0.0974
2019	1,049		996.3	0.0724
2020	1,081		850.6	0.1918
Total			9,732.3	0.0669

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: 0.1718

Grand Total

Year	Counts (1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2011	# 15	# 1	# 1	# 13	# 0.30	# 0.65	# 0.65
2012	18	2	1	15	0.30	0.75	0.75
2013	19	3	5	11	1.50	0.55	0.55
2014	23	2	2	19	0.60	0.95	0.95
2015	29	1	4	24	1.20	1.20	1.20
2016	14	1	2	11	0.60	0.55	0.55
2017	8	1	1	6	0.30	0.30	0.30
2018	13	1	4	8	1.20	0.40	0.40
2019	3	-	-	3	-	0.15	0.15
2020	7	-	7	-	2.10	-	-
Total	149	12	27	110	8.10	5.50	5.50

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
2011	# 1.95	# 13.05	# 14.2021	# 2.4399	# 4.3899	$ 323,119,308	0.0136
2012	3.05	14.95	16.9553	2.9129	5.9629	323,960,001	0.0184
2013	5.05	13.95	17.8780	3.0714	8.1214	293,506,562	0.0277
2014	3.55	19.45	24.2077	4.1589	7.7089	321,754,757	0.0240
2015	3.40	25.60	22.5375	3.8719	7.2719	261,874,410	0.0278
2016	2.15	11.85	21.5474	3.7018	5.8518	217,828,634	0.0269
2017	1.60	6.40	33.3326	5.7265	7.3265	285,526,076	0.0257
2018	2.60	10.40	39.4994	6.7860	9.3860	301,690,463	0.0311
2019	0.15	2.85	45.1850	7.7628	7.9128	305,553,122	0.0259
2020	2.10	4.90	41.7869	7.1790	9.2790	248,876,352	0.0373
Total	25.60	123.40	277.1318	47.6112	73.2112	$ 2,883,689,685	0.0254

Year	(15) Statewide Average Weekly Wage	(16) Adjustment Factor	(17) Estimated Miner Years	(18) Frequency Claims per 100 Miner Years
2011	858		5,479.1	0.0801
2012	888		5,284.3	0.1128
2013	917		4,583.5	0.1772
2014	932		4,827.4	0.1597
2015	951		3,911.6	0.1859
2016	978		3,155.4	0.1855
2017	995		3,953.7	0.1853
2018	1,025		4,055.8	0.2314
2019	1,049		4,021.1	0.1968
2020	1,081		3,190.3	0.2908
Total			42,462.2	0.1724

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: 0.1718

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

															"All Permanent Partial" Scenario (see note)					
					Age of						Federal Excess:							Federal Excess:		
		Awd (2)		Exp.	Miner at	State	Medical	Act 44	Act	Offsets for:		After Offsets:			State	Offsets for:		After Offsets:		
ID No.	Class	Pend (1)	Type*	Yr.	Comp Date	Benefit	Bef. Act 44	Factor	44 Med.	Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Soc. Sec.	Pension	Base	SS	SS, PP
1717	1011	2		1993	61.3	665,092	37,670	1.00	37,670	-	163,170	10	10	3,275	350,647	-	89,117	180,962	180,962	181,813
1721	1011	2		1990	66.8	901,007	28,155	1.00	28,155	-	199,894	-	-	0	543,056	-	159,887	118,984	118,984	119,811
2053	1011	2		1992	47.4	1,859,640	64,571	1.00	64,571	322,060	215,136	-	19,715	165,900	671,681	-	-	436,067	436,067	436,067
3070	1011	2		1993	61.2	505,557	37,670	1.00	37,670	-	161,778	-	-	126	309,765	-	88,357	85,299	85,299	86,142
5551	1011	2		1993	64.8	627,782	31,150	1.00	31,150	-	175,843	3	3	1,419	350,367	-	116,465	153,230	153,230	154,024
5717	1011	2		1992	50.0	1,521,915	58,514	1.00	58,514	292,181	186,181	4	36,334	185,797	553,869	-	-	438,170	438,170	438,170
6627	1011	2	LS	1999	62.2	158,710	35,972	1.00	35,972	-	78,740	221,413	221,413	285,577	158,710	-	78,740	221,413	221,413	285,577
10280	1011	2	LS	2011	49.9	598,356	58,514	1.00	58,514	-	-	466,227	466,227	466,227	598,356	-	-	466,227	466,227	466,227
10536	1011	2	LS	2013	53.7	454,745	50,591	1.00	50,591	-	-	409,018	409,018	409,018	454,745	-	-	409,018	409,018	409,018
Total Underground Anthracite		9				7,292,804	402,807		402,807	614,241	1,180,742	1,096,675	1,152,720	1,517,339	3,991,195	0	532,565	2,509,371	2,509,371	2,576,849
Average of 9 claims						810,312	44,756		44,756	68,249	131,194	121,853	128,080	168,593	443,466	0	59,174	278,819	278,819	286,317
						7,695,611														
Medical plus Indemnity						855,068				68,249	131,194	121,853	128,080	168,593	488,222	0	59,174	278,819	278,819	286,317
Adjusted															488,222	0	59,174	278,819	278,819	286,317

* 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)					
											Federal Excess:						Federal Excess:		
		Awd (2)		Exp.	Age of Miner at	State	Medical	Act 44	Act	Offsets for:		After Offsets:			State	Offsets for:		After Offsets:		
ID No.	Class	Pend (1)	Type*	Yr.	Comp Date	Benefit	Bef. Act 44	Factor	44 Med.	Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Soc. Sec.	Pension	Base	SS	SS, PP
511	1002	2		1992	63.5	944,370	32,713	1.00	32,713	-	411,807	-	-	-	609,450	-	260,901	69,165	69,165	71,079
517	1002	2	LS	1993	64.9	129,060	31,150	1.00	31,150	-	109,553	210,316	210,316	317,318	129,060	-	109,553	210,316	210,316	317,318
518	1002	2	LS	1992	63.6	201,940	32,713	1.00	32,713	-	162,666	216,299	216,299	322,396	201,940	-	162,666	216,299	216,299	322,396
1330	1002	2	500	1993	63.3	466,714	34,319	1.00	34,319	-	144,117	268,143	268,143	268,143	466,714	-	144,117	268,143	268,143	268,143
1892	1002	2	LS	1990	67.4	71,578	28,155	1.00	28,155	-	55,404	228,350	228,350	283,755	71,578	-	55,404	228,350	228,350	283,755
3222	1002	2	500	1992	62.8	173,147	34,319	1.00	34,319	-	53,466	231,020	231,020	241,823	173,147	-	53,466	231,020	231,020	241,823
3532	1002	2	LS	1995	58.1	349,902	43,014	1.00	43,014	64,891	27,537	280,287	294,226	316,684	349,902	64,891	27,537	280,287	294,226	316,684
3706	1002	2	LS	1992	65.1	135,252	31,150	1.00	31,150	-	108,083	207,431	207,431	312,407	135,252	-	108,083	207,431	207,431	312,407
5479	1002	2		1992	63.7	979,395	32,713	1.00	32,713	-	266,095	-	-	1	530,540	-	168,585	165,447	165,447	166,685
5918	1002	2		1990	66.7	1,244,788	28,155	1.00	28,155	-	406,595	-	-	21	696,111	-	319,108	131,914	131,914	133,628
5966	1002	2		1994	58.8	1,750,840	41,193	1.00	41,193	350,473	365,815	-	1,852	139,115	714,868	117,612	147,167	305,739	307,684	332,181
6415	1002	2	500	1992	62.4	516,277	35,972	1.00	35,972	-	168,758	244,215	244,215	244,215	516,277	-	168,758	244,215	244,215	244,215
6771	1002	2	500	1992	62.5	116,310	35,972	1.00	35,972	-	31,022	104,150	104,150	111,740	116,310	-	31,022	104,150	104,150	111,740
7004	1002	2		1992	60.7	1,317,481	37,670	1.00	37,670	-	333,747	-	-	0	677,844	-	197,269	191,505	191,505	193,151
7051	1002	2	LS	1997	56.5	171,892	46,750	1.00	46,750	16,006	51	298,757	312,453	312,504	171,892	16,006	51	298,757	312,453	312,504
7941	1002	2	LS	1994	66.3	21,009	29,631	1.00	29,631	-	15,963	246,416	246,416	262,379	21,009	-	15,963	246,416	246,416	262,379
8028	1002	2		1992	55.5	1,664,209	46,750	1.00	46,750	325,941	290,513	-	1,717	88,482	706,934	60,793	66,503	304,176	306,075	308,874
9826	1002	2	LS	1999	52.9	56,591	52,547	1.00	52,547	-	-	456,669	456,669	456,669	56,591	-	-	456,669	456,669	456,669
9829	1002	2	LS	2001	61.4	154,570	37,670	1.00	37,670	-	91,287	272,805	272,805	354,915	154,570	-	91,287	272,805	272,805	354,915
9835	1002	2	LS	1999	55.0	3,837	48,658	1.00	48,658	98	-	488,248	488,347	488,347	3,837	98	-	488,248	488,347	488,347
9841	1002	2	LS	2001	59.3	146,843	41,193	1.00	41,193	51,220	338	287,781	336,747	337,085	146,843	51,220	338	287,781	336,747	337,085
9886	1002	2	LS	2000	59.9	685,312	39,411	1.00	39,411	87,873	108,319	276,214	276,214	277,180	685,312	87,873	108,319	276,214	276,214	277,180
9901	1002	2	LS	2002	45.3	213,740	68,608	1.00	68,608	-	-	549,785	549,785	549,785	213,740	-	-	549,785	549,785	549,785
9996	1002	2	LS	2004	52.3	98,786	54,522	1.00	54,522	-	-	426,743	426,743	426,743	98,786	-	-	426,743	426,743	426,743
10016	1002	2	LS	2002	58.7	177,430	41,193	1.00	41,193	62,041	257	266,984	316,096	316,353	177,430	62,041	257	266,984	316,096	316,353
10021	1002	2	LS	2000	66.1	103,411	29,631	1.00	29,631	-	79,258	184,883	184,883	264,141	103,411	-	79,258	184,883	184,883	264,141
10022	1002	2	LS	2000	59.0	102,880	41,193	1.00	41,193	36,122	-	286,997	322,943	322,943	102,880	36,122	-	286,997	322,943	322,943
10025	1002	2	LS	2000	57.7	102,919	43,014	1.00	43,014	27,187	-	312,924	340,006	340,006	102,919	27,187	-	312,924	340,006	340,006
10026	1002	2	LS	2000	61.4	103,237	37,670	1.00	37,670	-	62,388	245,273	245,273	307,309	103,237	-	62,388	245,273	245,273	307,309
10038	1002	2	LS	2000	44.4	84,315	70,610	1.00	70,610	-	-	712,041	712,041	712,041	84,315	-	-	712,041	712,041	712,041
10048	1002	2	LS	2005	54.6	100,845	48,658	1.00	48,658	2,586	-	367,879	370,465	370,465	100,845	2,586	-	367,879	370,465	370,465
10088	1002	2	LS	2005	60.5	137,703	39,411	1.00	39,411	-	81,293	104,440	104,440	161,626	137,703	-	81,293	104,440	104,440	161,626
10164	1002	2	LS	2001	53.4	97,895	52,547	1.00	52,547	-	-	551,951	551,951	551,951	97,895	-	-	551,951	551,951	551,951
10208	1002	2	LS	2005	61.6	255,795	35,972	1.00	35,972	-	153,016	215,200	215,200	286,288	255,795	-	153,016	215,200	215,200	286,288
10286	1002	2	LS	2008	58.0	126,019	43,014	1.00	43,014	33,289	-	369,119	402,107	402,107	126,019	33,289	-	369,119	402,107	402,107
10330	1002	2	LS	2012	63.3	214,709	34,319	1.00	34,319	-	148,854	269,583	269,583	361,179	214,709	-	148,854	269,583	269,583	361,179
10345	1002	2	LS	2008	49.6	570,981	58,514	1.00	58,514	-	-	493,111	493,111	493,111	570,981	-	-	493,111	493,111	493,111
10347	1002	2	LS	2011	65.3	260,539	31,150	1.00	31,150	-	173,112	176,510	176,510	254,656	260,539	-	173,112	176,510	176,510	254,656
10357	1002	2	LS	2012	62.4	106,069	35,972	1.00	35,972	-	65,680	254,737	254,737	319,950	106,069	-	65,680	254,737	254,737	319,950
10360	1002	2	LS	2013	59.7	116,868	39,411	1.00	39,411	51,328	-	120,944	162,592	162,592	116,868	51,328	-	120,944	162,592	162,592
10433	1002	2	LS	2012	68.0	96,071	26,724	1.00	26,724	-	74,247	220,121	220,121	294,368	96,071	-	74,247	220,121	220,121	294,368
10434	1002	2	LS	2013	62.7	81,296	34,319	1.00	34,319	-	57,841	269,296	269,296	327,137	81,296	-	57,841	269,296	269,296	327,137
10435	1002	2	LS	2013	58.5	232,830	43,014	1.00	43,014	54,166	7,337	300,701	331,445	338,703	232,830	54,166	7,337	300,701	331,445	338,703
10465	1002	2	LS	2011	65.8	18,018	29,631	1.00	29,631	-	-	137,614	137,614	137,614	18,018	-	-	137,614	137,614	137,614
10516	1002	2	LS	2014	75.8	81,224	17,016	1.00	17,016	-	48,095	107,655	107,655	155,750	81,224	-	48,095	107,655	107,655	155,750
10561	1002	2	LS	2014	60.6	142,392	37,670	1.00	37,670	-	96,380	96,418	96,418	161,031	142,392	-	96,380	96,418	96,418	161,031
10601	1002	2	LS	2015	61.6	303,888	35,972	1.00	35,972	-	123,908	252,516	252,516	267,282	303,888	-	123,908	252,516	252,516	267,282
10652	1002	2	LS	2016	57.5	164,826	43,014	1.00	43,014	43,540	-	135,503	161,536	161,536	164,826	43,540	-	135,503	161,536	161,536
10671	1002	2	LS	2013	57.4	226,363	44,867	1.00	44,867	33,181	7,172	298,257	317,259	324,301	226,363	33,181	7,172	298,257	317,259	324,301
10698	1002	2	LS	2014	65.1	61,678	31,150	1.00	31,150	-	49,749	283,004	283,004	332,753	61,678	-	49,749	283,004	283,004	332,753
10699	1002	2	LS	2014	55.3	99,968	48,658	1.00	48,658	2,564	-	368,646	371,209	371,209	99,968	2,564	-	368,646	371,209	371,209
10700	1002	2	LS	2014	73.8	74,976	19,171	1.00	19,171	-	-	44,166	44,166	44,166	74,976	-	-	44,166	44,166	44,166
10701	1002	2	LS	2014	65.0	68,728	31,150	1.00	31,150	-	-	102,048	102,048	102,048	68,728	-	-	102,048	102,048	102,048
10703	1002	2	LS	2016	62.4	6,414	35,972	1.00	35,972	-	3,972	340,985	340,985	344,957	6,414	-	3,972	340,985	340,985	344,957
10731	1002	2	LS	2018	62.8	65,298	34,319	1.00	34,319	-	46,458	301,628	301,628	348,086	65,298	-	46,458	301,628	301,628	348,086
10740	1002	2	LS	2016	64.0	64,141	32,713	1.00	32,713	-	51,667	277,786	277,786	329,453	64,141	-	51,667	277,786	277,786	329,453
10743	1002	2	LS	2016	61.4	52,479	37,670	1.00	37,670	-	31,714	324,517	324,517	356,231	52,479	-	31,714	324,517	324,517	356,231
10744	1002	2	LS	2014	59.7	62,480	39,411	1.00	39,411	27,441	-	343,919	371,360	371,360	62,480	27,441	-	343,919	371,360	371,360
10745	1002	2	LS	2013	60.6	64,675	37,670	1.00	37,670	-	43,776	266,619	266,619	310,395	64,675	-	43,776	266,619	266,619	310,395
10749	1002	2	LS	2015	64.3	66,396	32,713	1.00	32,713	-	53,483	267,055	267,055	320,538	66,396	-	53,483	267,055	267,055	320,538
10772	1002	2	LS	2013	64.5	19,435	32,713	1.00	32,713	-	15,655	290,686	290,686	306,341	19,435	-	15,655	290,686	290,686	306,341
10778	1002	2	LS	2015	59.9	211,641	39,411	1.00	39,411	85,636	7,317	277,854	331,806	339,078	211,641	85,636	7,317	277,854	331,806	339,078
10812	1002	2	LS	2015	65.6	12,766	29,631	1.00	29,631	-	10,194	318,330	318,330	328,524	12,766	-	10,194	318,330	318,330	328,524
10828	1002	2		2014	44.3	1,901,464	70,610	1.00	70,610	299,917	153,127	1,268	84,247	227,357	563,483	-	-	698,677	698,677	698,677
10853	1002	2		2018	70.2	1,528,234	24,005	1.00	24,005	-	276,764	-	-	-	671,367	-	213,756	272,468	272,468	273,645
10860	1002	2	LS	2014	58.8	62,480	41,193	1.00	41,193	21,937	-	155,059	176,997	176,997	62,480	21,937	-	155,059	176,997	176,997
10861	1002	2	LS	2015	60.6	205,224	37,670	1.00	37,670	-	138,909	203,967	203,967	297,631	205,224	-	138,909	203,967	203,967	297,631
10891	1002	2	LS	2018	64.8	16,325	31,150	1.00	31,150	-	13,857	312,314	312,314	326,171	16,325	-	13,857	312,314	312,314	326,171
Total Underground Bituminous						20,267,167	2,626,434		2,626,434	1,677,437	5,226,618	16,524,139	17,058,422	19,139,443	14,106,981	879,511	4,095,444	18,661,962	19,113,542	20,862,387
Average of 68 claims						298,047	38,624		38,624	24,668	76,862	243,002	250,859	281,462	207,456	12,934	60,227	274,441	281,081	306,800
						22,893,601														
Medical plus Indemnity						336,671				24,668	76,862	243,002	250,859	281,462	246,080	12,934	60,227	274,441	281,081	306,800
Adjusted															246,080	12,934	60,227	274,441	281,081	306,800

* 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						Federal Excess:							Federal Excess:		
		Awd (2)		Exp.	Miner at	State	Medical	Act 44	Act	Offsets for:		After Offsets:			State	Offsets for:		After Offsets:		
ID No.	Class	Pend (1)	Type*	Yr.	Comp Date	Benefit	Bef. Act 44	Factor	44 Med.	Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Soc. Sec.	Pension	Base	SS	SS, PP
408	1016	2		1994	69.0	910,280	25,339	1.00	25,339	-	197,821	-	-	-	592,906	-	167,160	89,927	89,927	90,669
439	1016	2	LS	1999	73.6	24,609	19,171	1.00	19,171	-	-	81,480	81,480	81,480	24,609	-	-	81,480	81,480	81,480
566	1016	2		1990	63.6	976,346	32,713	1.00	32,713	-	179,230	9,674	9,674	14,264	360,145	-	113,552	442,294	442,294	443,127
636	1016	2		1994	62.3	637,205	35,972	1.00	35,972	-	160,700	8	8	3,454	340,315	-	87,768	171,441	171,441	172,279
778	1016	2	WO	1991	#N/A	327,990	-	1.00	-	-	-	-	-	-	327,990	-	-	-	-	-
924	1016	2	LS	1997	62.6	32,295	34,319	1.00	34,319	-	22,977	311,635	311,635	334,612	32,295	-	22,977	311,635	311,635	334,612
1719	1016	2		1996	63.1	766,284	34,319	1.00	34,319	-	260,839	-	-	-	481,847	-	154,175	76,885	76,885	78,172
2268	1016	2		1997	66.6	576,094	28,155	1.00	28,155	-	-	-	-	-	401,770	-	-	51,954	51,954	51,954
2287	1016	2	LS	1998	67.8	580,015	26,724	1.00	26,724	-	145,870	147,074	147,074	147,074	580,015	-	145,870	147,074	147,074	147,074
2479	1016	2		1990	63.9	859,503	32,713	1.00	32,713	-	245,409	-	-	3	487,425	-	155,480	143,015	143,015	144,156
2794	1016	2		1993	65.9	1,085,978	29,631	1.00	29,631	-	246,488	-	-	-	671,030	-	201,439	104,499	104,499	105,488
2827	1016	2		1992	66.1	854,745	29,631	1.00	29,631	-	188,760	-	-	0	522,801	-	152,419	111,542	111,542	112,314
3350	1016	2	WO	1993	#N/A	728,690	-	1.00	-	-	-	-	-	-	728,690	-	-	-	-	-
3814	1016	2		1993	71.8	68,245	21,491	1.00	21,491	-	-	43,300	43,300	43,300	53,829	-	-	57,716	57,716	57,716
3970	1016	2	LS	1991	43.1	356,287	72,593	1.00	72,593	-	-	276,991	276,991	276,991	356,287	-	-	276,991	276,991	276,991
5605	1016	2		1992	69.3	806,756	25,339	1.00	25,339	-	174,419	-	-	0	533,556	-	148,864	84,752	84,752	85,390
5805	1016	2		1992	67.2	647,096	28,155	1.00	28,155	-	-	-	-	-	451,288	-	-	51,635	51,635	51,635
6071	1016	2		1994	60.3	983,327	39,411	1.00	39,411	-	234,537	-	-	15	511,241	-	128,095	190,214	190,214	191,437
6322	1016	2	LS	1991	59.5	605,014	41,193	1.00	41,193	59,675	59,413	126,895	126,895	126,895	605,014	59,675	59,413	126,895	126,895	126,895
6481	1016	2		1990	65.7	724,541	29,631	1.00	29,631	-	161,460	0	0	175	402,865	-	122,632	155,443	155,443	156,142
6603	1016	2		1995	69.8	498,986	24,005	1.00	24,005	-	107,774	0	0	726	318,643	-	90,547	100,043	100,043	100,451
6765	1016	2	WO	1990	#N/A	570,155	-	1.00	-	-	-	-	-	-	570,155	-	-	-	-	-
7028	1016	2		1997	62.3	670,492	35,972	1.00	35,972	-	214,559	-	-	0	410,824	-	117,183	84,536	84,536	85,655
7473	1016	2		1995	67.0	1,464,625	28,155	1.00	28,155	-	370,337	-	-	0	703,361	-	276,584	193,633	193,633	195,251
7825	1016	2		1995	67.6	522,548	26,724	1.00	26,724	-	114,617	0	0	676	330,018	-	94,757	102,623	102,623	103,074
7857	1016	2		1993	59.7	802,104	39,411	1.00	39,411	274,808	227,064	-	2,249	62,755	466,773	105,405	102,544	99,292	100,783	104,163
9805	1016	2	LS	2000	74.6	21,237	18,073	1.00	18,073	-	14,479	239,108	239,108	253,588	21,237	-	14,479	239,108	239,108	253,588
9811	1016	2		2001	48.1	1,086,442	62,547	1.00	62,547	229,966	116,325	733	100,057	210,916	396,663	-	-	430,099	430,099	430,099
9939	1016	2	LS	2003	61.4	226,175	37,670	1.00	37,670	-	91,139	280,299	280,299	320,634	226,175	-	91,139	280,299	280,299	320,634
9981	1016	2		2004	79.6	628,855	13,211	1.00	13,211	-	173,858	-	-	0	544,019	-	170,475	15,655	15,655	15,815
10030	1016	2		2005	60.2	730,900	39,411	1.00	39,411	-	171,421	11	11	2,468	374,095	-	93,623	200,427	200,427	201,321
10074	1016	2	LS	2003	61.5	108,564	37,670	1.00	37,670	-	65,607	105,486	105,486	162,638	108,564	-	65,607	105,486	105,486	162,638
10140	1016	2	LS	2007	68.8	114,596	25,339	1.00	25,339	-	85,938	176,211	176,211	262,149	114,596	-	85,938	176,211	176,211	262,149
10190	1016	2	LS	2007	60.6	88,622	37,670	1.00	37,670	-	59,985	103,656	103,656	163,585	88,622	-	59,985	103,656	103,656	163,585
10259	1016	2	LS	2007	72.9	48,500	20,309	1.00	20,309	-	31,976	160,178	160,178	192,154	48,500	-	31,976	160,178	160,178	192,154
10278	1016	2	LS	2011	76.7	109,549	16,001	1.00	16,001	-	50,514	104,162	104,162	154,676	109,549	-	50,514	104,162	104,162	154,676
10602	1016	2	LS	2016	63.7	167,954	32,713	1.00	32,713	-	135,290	235,960	235,960	342,747	167,954	-	135,290	235,960	235,960	342,747
10810	1016	2	LS	2016	51.6	217,381	54,522	1.00	54,522	-	-	348,286	348,286	348,286	217,381	-	-	348,286	348,286	348,286
Total Surface Anthracite						38	20,628,984	1,135,904	1,135,904	564,449	4,308,806	2,751,147	2,852,721	3,506,261	13,683,047	165,081	3,140,484	5,655,044	5,656,536	6,143,815
Average of 38 claims							542,868	29,892	29,892	14,854	113,390	72,399	75,072	92,270	360,080	4,344	82,644	148,817	148,856	161,679
							21,764,888													
Medical plus Indemnity							572,760			14,854	113,390	72,399	75,072	92,270	389,972	4,344	82,644	148,817	148,856	161,679
Adjusted															389,972	4,344	82,644	148,817	148,856	161,679

* 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)					
											Federal Excess:							Federal Excess:		
		Awd (2)		Exp.	Age of Miner at	State	Medical	Act 44	Act	Offsets for:		After Offsets:			State	Offsets for:		After Offsets:		
ID No.	Class	Pend (1)	Type*	Yr.	Comp Date	Benefit	Bef. Act 44	Factor	44 Med.	Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Soc. Sec.	Pension	Base	SS	SS, PP
513	1013	2		1993	64.4	1,455,176	32,713	1.00	32,713	-	427,855	-	-	0	704,888	-	271,068	199,358	199,358	201,347
656	1013	2		1999	53.5	1,159,592	50,591	1.00	50,591	259,334	177,910	4	30,579	171,656	476,465	21,789	19,313	332,734	334,276	341,706
1135	1013	2	LS	1990	45.5	633,549	68,608	1.00	68,608	-	-	534,333	534,333	534,333	633,549	-	-	534,333	534,333	534,333
2486	1013	2	LS	1996	64.2	85,061	32,713	1.00	32,713	-	68,518	95,810	95,810	163,862	85,061	-	68,518	95,810	95,810	163,862
3386	1013	2	LS	1993	57.8	371,313	43,014	1.00	43,014	42,847	41,347	310,353	312,431	335,678	371,313	42,847	41,347	310,353	312,431	335,678
3867	1013	2		1994	45.8	1,785,303	66,593	1.00	66,593	310,962	184,159	1	42,390	194,719	610,243	-	-	497,701	497,701	497,701
3968	1013	2	500	1991	43.7	474,802	70,610	1.00	70,610	-	-	267,503	267,503	267,503	474,802	-	-	267,503	267,503	267,503
5814	1013	2	LS	1997	61.0	12,028	37,670	1.00	37,670	-	7,268	314,059	314,059	321,328	12,028	-	7,268	314,059	314,059	321,328
5816	1013	2	LS	1996	61.0	202,858	37,670	1.00	37,670	-	122,590	232,133	232,133	315,529	202,858	-	122,590	232,133	232,133	315,529
5963	1013	2	LS	1994	59.1	71,583	41,193	1.00	41,193	25,134	-	353,240	378,373	378,373	71,583	25,134	-	353,240	378,373	378,373
5968	1013	2	LS	1995	56.9	346,963	44,867	1.00	44,867	25,022	22,461	350,676	352,821	364,632	346,963	25,022	22,461	350,676	352,821	364,632
7788	1013	2	LS	1991	69.2	210,766	25,339	1.00	25,339	-	140,918	97,558	97,558	188,549	210,766	-	140,918	97,558	97,558	188,549
9770	1013	2	LS	1999	59.2	48,067	41,193	1.00	41,193	16,877	-	326,420	343,297	343,297	48,067	16,877	-	326,420	343,297	343,297
9771	1013	2	LS	1998	62.5	125,495	34,319	1.00	34,319	-	89,287	96,927	96,927	161,610	125,495	-	89,287	96,927	96,927	161,610
9999	1013	2	LS	2005	46.2	39,062	66,593	1.00	66,593	-	-	298,591	298,591	298,591	39,062	-	-	298,591	298,591	298,591
10439	1013	2		2011	61.5	838,421	35,972	1.00	35,972	-	285,393	-	-	-	527,208	-	168,688	76,496	76,496	77,904
10537	1013	2	LS	2012	64.5	122,499	32,713	1.00	32,713	-	98,675	188,773	188,773	285,691	122,499	-	98,675	188,773	188,773	285,691
10582	1013	2	LS	2015	72.1	105,358	21,491	1.00	21,491	-	-	42,028	42,028	42,028	105,358	-	-	42,028	42,028	42,028
10598	1013	2	LS	2012	61.7	27,222	35,972	1.00	35,972	-	18,880	320,006	320,006	338,886	27,222	-	18,880	320,006	320,006	338,886
10659	1013	2	LS	2015	56.9	92,963	44,867	1.00	44,867	16,572	-	148,972	165,545	165,545	92,963	16,572	-	148,972	165,545	165,545
10665	1013	2	LS	2014	55.8	307,551	46,750	1.00	46,750	15,117	13,614	346,537	351,588	358,916	307,551	15,117	13,614	346,537	351,588	358,916
10826	1013	1		2015	63.1	1,124,396	34,319	1.00	34,319	-	287,125	-	-	0	591,376	-	169,712	179,195	179,195	180,611
10895	1013	2	LS	2014	63.0	115,616	34,319	1.00	34,319	-	82,258	97,383	97,383	162,103	115,616	-	82,258	97,383	97,383	162,103
10899	1013	1		2015	59.8	404,690	39,411	1.00	39,411	172,682	109,073	16	39,299	136,119	235,504	66,240	51,737	101,030	102,044	141,527
Total Surface Bituminous						24	10,160,335	1,019,501		1,019,501	884,546	2,177,333	4,421,324	4,601,428	5,528,949	6,538,440	229,597	1,386,336	5,807,817	5,878,230	6,467,253
Average of 24 claims							423,347	42,479		42,479	36,856	90,722	184,222	191,726	230,373	272,435	9,567	57,764	241,992	244,926	269,469
							11,179,836													
Medical plus Indemnity							465,826				36,856	90,722	184,222	191,726	230,373	314,914	9,567	57,764	241,992	244,926	269,469
Adjusted																314,914	9,567	57,764	241,992	244,926	269,469

* 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)					
											Federal Excess:							Federal Excess:		
		Awd (2)		Exp.	Age of Miner at	State	Medical	Act 44	Act	Offsets for:		After Offsets:			State	Offsets for:		After Offsets:		
ID No.	Class	Pend (1)	Type*	Yr.	Comp Date	Benefit	Bef. Act 44	Factor	44 Med.	Soc. Sec.	Pension	Base	SS	SS, PP	Benefit	Soc. Sec.	Pension	Base	SS	SS, PP
3221	1017	2		1993	60.8	1,605,234	37,670	1.00	37,670	-	459,461	-	-	83	704,651	-	271,575	253,740	253,740	256,007
3224	1017	2	LS	1992	56.9	256,792	44,867	1.00	44,867	39,927	5,851	328,195	348,591	354,217	256,792	39,927	5,851	328,195	348,591	354,217
9944	1022	2	LS	2003	53.1	93,329	52,547	1.00	52,547	-	-	380,518	380,518	380,518	93,329	-	-	380,518	380,518	380,518
10817	1022	2	LS	2019	60.6	213,700	37,670	1.00	37,670	-	104,180	212,002	212,002	265,911	213,700	-	104,180	212,002	212,002	265,911
10124	1024	2	LS	2006	60.0	126,849	39,411	1.00	39,411	55,712	-	331,609	386,776	386,776	126,849	55,712	-	331,609	386,776	386,776
1126	1026	2		1997	55.4	540,458	48,658	1.00	48,658	188,863	108,240	13	46,812	145,189	277,630	25,600	19,852	143,109	144,222	156,366
9877	1026	2	LS	1997	54.7	43,060	48,658	1.00	48,658	1,104	-	208,472	209,576	209,576	43,060	1,104	-	208,472	209,576	209,576
9993	1026	2	LS	2004	78.1	81,246	-	1.00	-	-	-	150,847	150,847	150,847	81,246	-	-	150,847	150,847	150,847
10161	1026	2	LS	2007	43.2	32,226	72,593	1.00	72,593	-	-	751,346	751,346	751,346	32,226	-	-	751,346	751,346	751,346
10245	1026	2		2010	74.5	476,851	19,171	1.00	19,171	-	98,639	-	-	1	360,459	-	91,254	47,766	47,766	48,012
10600	1026	2	LS	2015	72.2	194,559	21,491	1.00	21,491	-	61,755	57,798	57,798	88,049	194,559	-	61,755	57,798	57,798	88,049
10650	1026	2	LS	2017	52.5	99,299	54,522	1.00	54,522	-	-	276,957	276,957	276,957	99,299	-	-	276,957	276,957	276,957
10718	1026	2	LS	2014	58.6	121,830	41,193	1.00	41,193	39,633	3,143	319,969	359,143	362,286	121,830	39,633	3,143	319,969	359,143	362,286
10904	1026	2	LS	2020	54.6	323,999	48,658	1.00	48,658	3,371	2,844	401,508	401,508	403,757	323,999	3,371	2,844	401,508	401,508	403,757
9784	1028	2	LS	2000	78.3	74,977	-	1.00	-	-	-	208,820	208,820	208,820	74,977	-	-	208,820	208,820	208,820
10741	1028	2	LS	2016	64.2	43,445	32,713	1.00	32,713	-	34,996	131,000	131,000	165,996	43,445	-	34,996	131,000	131,000	165,996
Total Surface Bituminous					16	4,327,854	599,822		599,822	328,611	879,107	3,759,053	3,921,693	4,150,329	3,048,052	165,348	595,448	4,203,655	4,320,610	4,465,440
Average of 16 claims						270,491	37,489		37,489	20,538	54,944	234,941	245,106	259,396	190,503	10,334	37,216	262,728	270,038	279,090
						4,927,676														
Medical plus Indemnity						307,980				20,538	54,944	234,941	245,106	259,396	227,992	10,334	37,216	262,728	270,038	279,090
Adjusted															227,992	10,334	37,216	262,728	270,038	279,090

* 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) Pend (1)	Exp. Date	Type*	Age of Miner at Comp. Date	Federal Benefit	Medical
1335	160	2	4/4/1994	0	61.23	192,977	82,402
2051	160	2	12/6/1990	0	64.94	310,584	68,142
3089	160	2	12/6/1990	0	52.39	615,928	119,266
3156	160	2	6/22/1990	0	67.11	446,938	61,590
3720	160	2	10/1/1990	WO	N/A	251,026	-
4555	160	2	6/22/1990	0	67.34	307,762	61,590
4735	160	2	5/5/1992	WO	N/A	286,670	-
7258	160	2	12/2/1993	0	59.78	449,016	86,212
7489	160	2	6/22/1990	0	54.50	564,402	106,440
7863	160	2	12/6/1990	0	56.42	667,975	102,266
9876	160	2	6/13/2001	0	64.89	301,876	68,142
9929	160	2	5/7/2001	0	51.00	463,444	123,620
9960	160	2	4/1/1999	WO	N/A	141,897	-
10199	160	2	1/1/1990	0	60.50	425,028	86,212
10200	160	2	10/24/2006	0	53.47	593,578	114,946
10237	160	2	7/21/2003	0	65.28	293,512	68,142
10395	160	2	6/30/1999	0	59.24	210,475	90,111
10482	160	2	6/1/1991	0	61.87	436,081	78,688
10814	160	1	1/1/2015	0	54.84	247,264	106,440
10873	160	2	3/22/2013	0	55.43	247,264	106,440
10896	160	1	3/1/2013	0	48.67	304,951	132,401
10900	160	1	8/1/2001	0	41.03	827,364	167,322

Total Underground Anthracite		8,586,012	1,830,369
Average of 22 claims	57.89	390,273	83,199
Medical plus Indemnity		473,472	

*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	286,782	49,704
508	158	2	8/15/1991	0	75.55	88,678	37,222
917	158	2	4/1/1993	0	62.00	389,140	78,688
931	158	2	3/3/1995	0	68.32	302,162	58,458
3481	158	2	5/20/1990	0	57.28	457,977	98,148
5821	158	2	5/1/1992	0	69.52	256,084	52,510
6950	158	2	9/30/1990	0	57.91	417,000	94,092
7484	158	2	1/1/1990	WO	N/A	337,299	-
7689	158	2	9/19/1991	0	54.11	504,632	110,668
8381	158	2	12/31/1997	0	77.23	179,132	35,002
9758	158	1	6/28/2000	0	52.23	532,684	119,266
9839	158	1	11/1/2000	0	49.96	601,804	127,999
9857	158	2	7/14/1992	0	79.44	164,891	30,843
9863	158	2	5/1/1990	0	73.06	105,521	44,426
9870	158	2	6/1/1994	WO	N/A	311,620	-
10032	158	2	1/3/1999	0	74.23	254,613	41,936
10042	158	2	11/15/2001	0	55.61	489,600	102,266
10065	158	2	10/9/1992	WO	N/A	111,049	-
10086	158	2	2/9/2006	0	56.41	489,600	102,266
10090	158	2	5/1/2004	0	61.18	364,885	82,402
10123	158	2	3/1/1999	0	52.44	508,355	119,266
10129	158	2	7/1/1993	0	61.63	517,863	78,688
10134	158	1	5/1/2004	0	61.27	364,885	82,402
10182	158	2	9/1/2001	0	61.75	358,023	78,688
10189	158	2	7/11/2002	0	55.34	247,264	106,440
10194	158	2	10/10/2001	0	66.61	317,335	61,590
10218	158	2	1/1/1999	0	66.66	289,692	61,590
10254	158	2	5/1/1999	0	67.52	267,105	58,458
10255	158	2	12/1/1992	WO	N/A	177,557	-
10265	158	2	5/15/1999	0	63.36	455,797	75,074
10287	158	1	2/19/2007	0	55.23	497,033	106,440
10291	158	2	6/30/2002	0	67.37	145,315	61,590
10292	158	1	4/29/2002	0	47.94	314,673	136,822
10293	158	2	12/1/2003	0	65.01	359,681	68,142
10299	158	2	2/4/2001	0	65.28	277,803	68,142
10315	158	2	4/1/1993	0	66.37	295,666	64,818
10327	158	2	12/1/1991	0	68.11	267,105	58,458
10328	158	2	4/6/1994	0	72.51	210,463	44,426
10366	158	2	10/12/1991	0	71.12	235,039	49,704
10367	158	2	6/10/1997	0	64.04	399,543	71,559
10368	158	2	2/24/1996	0	70.14	344,071	52,510
10387	158	2	10/12/1991	0	61.09	346,278	82,402
10397	158	1	12/15/1996	0	75.22	175,140	39,535
10402	158	2	1/15/2013	0	65.42	310,584	68,142
10443	158	1	6/30/1998	0	51.31	686,711	123,620
10446	158	2	12/1/1992	0	69.46	131,085	55,430
10455	158	2	3/1/2002	0	67.39	281,172	61,590
10486	158	1	5/26/2000	0	61.38	192,977	82,402
10498	158	2	5/15/1992	0	75.59	88,678	37,222
10499	158	2	9/30/1996	0	62.19	184,517	78,688
10509	158	1	8/7/2000	0	63.25	176,265	75,074
10523	158	1	4/11/1995	0	66.87	317,335	61,590
10526	158	1	5/26/2000	0	69.75	273,208	52,510
10529	158	2	5/26/2000	0	66.26	287,223	64,818
10530	158	1	5/26/2000	0	65.36	349,093	68,142
10531	158	2	5/26/2000	0	72.88	190,703	44,426
10551	158	1	10/23/2015	0	62.04	367,998	78,688
10558	158	2	9/30/1994	0	66.17	279,119	64,818
10584	158	2	7/15/1996	0	79.41	158,579	30,843
10593	158	2	5/29/2000	0	62.50	351,407	75,074
10595	158	1	2/11/2010	0	73.01	217,704	44,426
10597	158	1	4/19/1991	0	37.90	899,078	179,587
10605	158	1	7/1/2016	0	59.77	321,055	86,212
10610	158	2	7/31/1999	0	66.67	420,183	61,590
10639	158	1	11/24/1996	0	41.32	777,626	167,322
10655	158	2	5/31/2017	0	61.49	346,278	82,402
10664	158	1	12/21/2015	0	57.15	482,332	98,148
10669	158	1	12/31/2014	0	59.10	522,392	90,111
10673	158	2	11/18/2011	0	65.02	285,487	68,142
10687	158	1	8/1/1997	0	35.99	423,077	187,286
10695	158	2	3/30/2000	0	59.79	371,989	86,212
10720	158	1	12/1/1992	0	52.39	572,384	119,266
10721	158	2	7/1/1992	0	79.66	69,099	28,899
10725	158	2	4/1/1993	0	76.03	149,112	37,222
10757	158	1	5/1/1992	0	55.38	247,264	106,440
10761	158	1	12/31/1999	0	51.18	580,074	123,620
10765	158	1	6/30/2002	0	49.75	295,242	127,999
10770	158	2	9/1/2004	0	65.97	353,893	64,818
10795	158	2	12/31/1996	0	81.28	107,824	27,051
10824	158	1	1/15/2016	0	58.98	210,475	90,111
10830	158	1	12/1/2015	0	55.77	489,600	102,266
10849	158	1	2/11/2020	0	62.00	400,297	78,688
10852	158	1	2/17/2018	0	59.35	210,475	90,111
10871	158	1	1/15/2018	0	63.20	382,750	75,074
10872	158	2	7/1/1994	0	60.52	329,166	82,402
10874	158	2	7/7/2018	0	66.24	271,354	64,818
10875	158	2	10/31/1992	0	73.59	237,034	41,936
10881	158	2	7/20/2000	0	66.63	298,551	61,590
10883	158	2	5/19/2000	0	69.22	269,795	55,430
10885	158	2	4/15/1994	WO	N/A	168,181	-
10908	158	1	7/1/2020	0	56.68	228,630	98,148
10909	158	1	12/15/2020	0	63.89	300,041	71,559
Total Underground Bituminous						29,881,935	6,714,602
Average of 92 claims					63.37	324,804	72,985
Medical plus Indemnity						397,788	

*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	406,561	94,092
2157	153	1	10/10/1990	0	54.96	594,214	106,440
2299	153	2	1/15/1990	0	60.12	425,028	86,212
3725	153	2	9/30/1995	0	65.56	263,934	64,818
3955	153	2	10/29/1995	0	66.54	337,610	61,590
4749	153	2	1/3/1992	0	65.72	250,121	64,818
5044	153	2	2/4/1990	0	71.50	215,348	47,012
5131	153	2	5/22/1992	0	68.11	332,192	58,458
5372	153	2	3/10/1997	0	60.04	413,626	86,212
5952	153	2	1/31/1995	WO	N/A	125,890	-
6287	153	2	10/28/1990	0	73.92	192,185	41,936
6303	153	2	8/5/1990	WO	N/A	197,181	-
6581	153	2	6/5/1997	WO	N/A	207,403	-
7032	153	2	2/10/1993	0	62.41	378,372	78,688
7250	153	2	9/30/1993	WO	N/A	311,620	-
7263	153	2	3/1/1991	WO	N/A	207,403	-
7451	153	2	11/5/1990	0	72.80	196,969	44,426
9726	153	2	8/10/1995	0	68.28	283,954	58,458
9739	153	2	12/22/2000	0	73.86	220,750	41,936
9760	153	2	2/7/2000	0	75.44	194,328	39,535
9793	153	1	1/26/2001	0	53.76	492,498	110,668
9883	153	1	10/10/2000	0	65.83	332,979	64,818
9885	153	2	6/1/1998	0	66.88	272,991	61,590
9940	153	2	12/1/1990	0	63.20	497,324	75,074
10049	153	2	11/19/2005	0	72.28	215,348	47,012
10073	153	2	3/1/2005	0	60.49	402,619	86,212
10107	153	2	1/6/2004	0	56.26	442,864	102,266
10109	153	2	4/4/2003	0	65.00	160,388	68,142
10145	153	2	5/24/2007	0	59.55	436,824	86,212
10156	153	2	10/21/2002	0	75.14	216,422	39,535
10222	153	2	2/2/2006	0	74.97	201,363	39,535
10231	153	2	4/2/2003	0	65.03	301,876	68,142
10232	153	2	7/31/2004	0	56.70	435,259	98,148
10261	153	2	5/30/1996	0	67.25	307,762	61,590
10275	153	2	3/31/2003	0	68.92	306,493	55,430
10384	153	2	10/23/2007	0	76.31	88,678	37,222
10429	153	2	5/22/2013	0	54.36	517,190	110,668
10459	153	2	8/3/2009	0	57.34	424,507	98,148
10621	153	1	2/28/2013	0	63.34	371,910	75,074
10672	153	1	5/12/2013	0	65.49	310,584	68,142
10704	153	1	3/5/2017	WO	N/A	337,299	-
10717	153	2	1/30/2008	0	70.84	235,039	49,704
10785	153	2	8/1/2016	0	66.94	298,551	61,590
10791	153	1	8/18/1996	0	57.47	228,630	98,148
10801	153	1	8/22/2014	0	64.28	316,952	71,559
10856	153	1	8/9/2018	0	61.42	385,072	82,402
10876	153	2	1/5/2004	0	79.13	136,342	30,843
10878	153	2	4/2/2003	0	63.12	361,460	75,074
10882	153	2	3/1/2004	0	64.07	168,224	71,559
10903	153	1	11/1/2013	0	67.04	145,315	61,590

Total Surface Anthracite		15,103,449	3,030,725
Average of 50 claims	65.45	302,069	60,614
Medical plus Indemnity		362,683	

*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	256,084	52,510
600	156	2	9/10/1992	0	62.67	341,744	75,074
601	156	2	6/19/1992	0	66.18	313,590	64,818
1356	156	2	5/1/1995	0	55.30	550,098	106,440
2494	156	2	4/19/1996	0	64.66	349,093	68,142
3047	156	2	12/31/1996	0	77.58	156,430	32,877
3058	156	2	1/17/1991	0	65.64	323,095	64,818
4332	156	1	7/31/1999	0	58.15	417,000	94,092
5221	156	2	6/4/1995	0	66.01	287,223	64,818
5374	156	2	10/21/1991	WO	N/A	514,006	-
5483	156	2	8/6/1990	0	61.43	192,977	82,402
6244	156	2	10/10/1990	0	81.72	104,282	25,326
6949	156	2	12/7/1994	0	54.92	564,402	106,440
7245	156	2	9/1/1991	0	77.57	156,430	32,877
7248	156	2	8/31/1995	0	64.94	310,584	68,142
7893	156	2	2/19/1992	0	61.43	364,885	82,402
8012	156	2	1/1/1990	0	70.45	240,299	52,510
8022	156	2	11/1/1995	0	61.86	358,023	78,688
9761	156	2	9/30/1991	0	74.06	192,185	41,936
9767	156	2	6/1/2000	0	62.11	367,998	78,688
9795	156	2	12/1/1992	0	69.69	256,084	52,510
9866	156	2	9/20/1994	0	78.84	73,684	30,843
9945	156	2	8/31/1995	0	73.69	205,807	41,936
9953	156	2	3/1/1994	0	55.28	564,402	106,440
9961	156	2	5/31/2000	0	52.09	600,997	119,266
9967	156	2	1/15/1990	0	71.04	227,591	49,704
10003	156	2	5/30/1995	0	72.79	225,283	44,426
10104	156	2	6/1/1990	0	71.51	111,545	47,012
10112	156	2	12/1/2007	0	63.94	240,534	71,559
10114	156	2	10/26/1991	WO	N/A	177,557	-
10128	156	2	8/1/1994	0	74.82	194,328	39,535
10204	156	2	2/28/1992	0	69.75	264,480	52,510
10206	156	2	2/8/2010	0	70.82	277,327	49,704
10217	156	2	11/25/2008	0	63.72	316,952	71,559
10221	156	2	1/1/1993	0	81.01	124,082	27,051
10281	156	1	5/1/2011	0	68.47	138,089	58,458
10305	156	2	3/1/1995	0	61.87	378,372	78,688
10333	156	2	6/15/1992	0	80.08	69,099	28,899
10335	156	2	6/1/1995	WO	N/A	228,655	-
10351	156	2	12/27/2012	0	58.61	420,626	90,111
10385	156	2	3/1/2012	WO	N/A	251,026	-
10400	156	1	2/28/1993	0	80.02	154,975	28,899
10414	156	2	4/27/2001	0	75.85	212,296	37,222
10418	156	2	1/1/2003	0	73.15	225,283	44,426
10447	156	2	12/1/2008	0	76.83	172,620	35,002
10458	156	2	11/1/2008	0	73.78	205,807	41,936
10517	156	2	4/1/2014	0	67.97	275,361	58,458
10521	156	2	5/1/1996	0	67.14	307,762	61,590
10554	156	2	4/13/2015	0	76.53	179,132	35,002
10566	156	2	8/31/2001	0	76.17	159,274	37,222
10609	156	2	7/1/1996	0	68.92	269,795	55,430
10679	156	1	10/1/2008	0	51.30	553,355	123,620
10690	156	2	8/1/1995	0	67.23	298,551	61,590
10692	156	1	11/1/1994	0	51.61	730,521	119,266
10694	156	2	8/1/1992	0	76.16	154,034	37,222
10756	156	2	10/1/1991	0	60.98	321,133	82,402
10774	156	1	6/1/2012	0	63.74	335,293	71,559
10779	156	2	11/1/2014	0	74.24	213,110	41,936
10788	156	1	1/15/1990	0	36.75	822,490	183,491
10836	156	1	3/1/2008	0	61.84	400,297	78,688
10844	156	2	10/10/1997	0	82.97	56,844	23,717
10857	156	1	11/17/1993	0	59.02	399,174	90,111
10879	156	2	12/13/1994	0	76.53	154,905	35,002
10880	156	2	8/14/2007	0	61.18	481,547	82,402
10884	156	2	1/1/1994	0	68.06	275,361	58,458
10906	156	1	4/3/2020	0	78.89	164,891	30,843
10911	156	1	9/1/1993	0	36.69	922,493	183,491

Total Surface Bituminous		20,153,250	4,072,200
Average of 67 claims	67.28	300,795	60,779
Medical plus Indemnity		361,574	

*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	220,750	41,936
3158	181	2	3/14/1997	0	62.00	378,372	78,688
10886	181	1	1/24/2020	0	51.77	545,489	119,266
10451	182	2	5/1/2005	0	65.93	152,751	64,818
4592	183	2	7/19/1997	WO	N/A	118,328	-
9887	183	1	2/2/2000	0	51.88	275,891	119,266
9904	183	2	12/31/1997	WO	N/A	150,351	-
9992	183	2	7/22/2004	0	71.54	230,038	47,012
10620	183	1	10/1/2013	0	53.08	537,756	114,946
10877	183	2	4/4/2003	0	58.24	427,841	94,092
10907	183	1	7/3/2020	0	59.29	420,626	90,111
10135	184	2	2/1/2002	0	75.55	246,541	37,222
10244	184	2	1/1/1999	0	81.69	136,425	25,326
10338	184	2	10/15/2005	0	68.77	131,085	55,430
10838	184	1	7/1/2004	0	45.32	670,047	150,081
10843	184	1	2/27/1998	0	60.01	449,016	86,212
10848	184	1	3/1/2020	0	65.54	287,223	64,818
10892	184	1	3/30/2018	0	61.56	339,248	78,688
10901	184	1	1/1/2008	0	54.58	473,011	106,440

Total Other Classes		6,190,788	1,374,353
Average of 19 claims	62.38	325,831	72,334
Medical plus Indemnity		398,165	

*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

Traumatic	Anthracite Underground (1010)	Bituminous Underground (1001)	Anthracite Surface (1012)	Bituminous Surface (1014)	Coke (1469)	Auger (1015)	Anthracite Co-gen (1021)	Bituminous Co-gen (1023)	Anthracite Prep Plant (1025)	Bituminous Prep Plant (1027)	Total
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	177,833,672	23,563,089	35,362,714	4,466,971	539,914	8,191,669	11,818,883	12,534,373	36,099,579	310,590,243
2020	299,700	138,142,265	22,884,705	27,341,658	320,988	388,307	7,659,713	10,877,350	12,187,657	33,777,559	253,879,902

Source: Exhibits X-C and X-D
Prior filings for 2009 and prior.

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

State OD	Anthracite Underground (1011)	Bituminous Underground (1002)	Anthracite Surface (1016)	Bituminous Surface (1013)	Coke (1017)	Auger (1019)	Anthracite Co-gen (1022)	Bituminous Co-gen (1024)	Anthracite Prep Plant (1026)	Bituminous Prep Plant (1028)	Total
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	177,833,672	23,563,089	35,362,714	4,466,971	539,914	8,191,669	11,818,883	12,534,373	36,099,579	310,590,243
2020	299,700	138,142,265	22,884,705	27,341,658	320,988	388,307	7,659,713	10,877,350	12,187,657	33,777,559	253,879,902

Source: Exhibits X-C and X-D
Prior filings for 2009 and prior.

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

Federal OD	Anthracite Underground (0160)	Bituminous Underground (0158)	Anthracite Surface (0153)	Bituminous Surface (0156)	Coke (0154)	Auger (0157)	Anthracite Co-gen (0181)	Bituminous Co-gen (0182)	Anthracite Prep Plant (0183)	Bituminous Prep Plant (0184)	Total
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	178,019,000	20,504,131	36,503,594	4,519,863	593,214	6,807,496	11,818,883	10,490,218	36,117,344	305,553,122
2020	299,700	138,331,311	19,725,668	27,996,529	320,988	398,967	6,880,189	10,877,350	10,268,091	33,777,559	248,876,352

Source: Exhibits X-C and X-D
Prior filings for 2009 and prior.

COAL MINE COMPENSATION RATING BUREAU
TRAUMATIC LOSS COST PREMIUM

	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
2010	19.20	5,700	1,094	6.86	126,687,464	8,690,760	6.99	14,295,288	999,241	1.84	72,711,558	1,337,893
2011	19.20	110,125	21,144	6.86	149,633,528	10,264,860	6.99	21,034,600	1,470,319	1.84	86,074,064	1,583,763
2012	19.20	219,407	42,126	6.86	154,428,761	10,593,813	6.99	26,295,907	1,838,084	1.84	76,452,811	1,406,732
2013	19.20	175,900	33,773	6.86	149,953,068	10,286,780	6.99	22,449,824	1,569,243	1.84	61,349,745	1,128,835
2014	19.20	258,809	49,691	6.86	271,230,707	18,606,427	6.99	20,466,075	1,430,579	1.84	54,050,731	994,533
2015	19.20	254,336	48,833	6.86	216,454,460	14,848,776	6.99	24,218,779	1,692,893	1.84	40,934,048	753,186
2016	19.20	163,760	31,442	6.86	148,556,407	10,190,970	6.99	20,873,611	1,459,065	1.84	29,127,089	535,938
2017	19.20	252,383	48,458	6.86	172,708,778	11,847,822	6.99	21,167,074	1,479,578	1.84	33,140,780	609,790
2018	19.20	183,346	35,202	6.86	180,553,142	12,385,946	6.99	19,576,675	1,368,410	1.84	35,242,187	648,456
2019	19.20	179,379	34,441	6.86	177,833,672	12,199,390	6.99	23,563,089	1,647,060	1.84	35,362,714	650,674
2020	19.20	299,700	57,542	6.86	138,142,265	9,476,559	6.99	22,884,705	1,599,641	1.84	27,341,658	503,087

	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
2010	4.28	5,435,658	232,646	7.33	806,696	59,131	6.39	8,481,228	541,950	1.28	8,732,701	111,779
2011	4.28	3,599,086	154,041	7.33	1,176,255	86,219	6.39	11,720,035	748,910	1.28	9,102,411	116,511
2012	4.28	5,738,105	245,591	7.33	808,208	59,242	6.39	10,273,004	656,445	1.28	9,047,745	115,811
2013	4.28	4,791,910	205,094	7.33	1,025,399	75,162	6.39	8,342,651	533,095	1.28	10,355,884	132,555
2014	4.28	4,464,398	191,076	7.33	806,976	59,151	6.39	9,060,883	578,990	1.28	11,721,184	150,031
2015	4.28	4,340,376	185,768	7.33	582,619	42,706	6.39	10,469,089	668,975	1.28	11,748,205	150,377
2016	4.28	4,435,066	189,821	7.33	372,496	27,304	6.39	8,994,602	574,755	1.28	11,327,552	144,993
2017	4.28	4,566,113	195,430	7.33	449,009	32,912	6.39	8,819,700	563,579	1.28	11,435,057	146,369
2018	4.28	4,484,744	191,947	7.33	600,138	43,990	6.39	11,600,891	741,297	1.28	12,043,297	154,154
2019	4.28	4,466,971	191,186	7.33	539,914	39,576	6.39	8,191,669	523,448	1.28	11,818,883	151,282
2020	4.28	320,988	13,738	7.33	388,307	28,463	6.39	7,659,713	489,456	1.28	10,877,350	139,230

	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
2010	4.05	5,762,086	233,364	3.06	26,313,130	805,182	269,231,509	13,013,040
2011	4.05	7,236,583	293,082	3.06	35,155,068	1,075,745	324,841,755	15,814,594
2012	4.05	8,671,140	351,181	3.06	34,211,729	1,046,879	326,146,817	16,355,904
2013	4.05	8,265,665	334,759	3.06	34,253,697	1,048,163	300,963,743	15,347,459
2014	4.05	8,234,771	333,508	3.06	43,520,040	1,331,713	423,814,574	23,725,699
2015	4.05	7,606,274	308,054	3.06	33,564,176	1,027,064	350,172,362	19,726,632
2016	4.05	7,018,927	284,267	3.06	23,689,882	724,910	254,559,392	14,163,465
2017	4.05	7,746,154	313,719	3.06	28,803,457	881,386	289,088,505	16,119,043
2018	4.05	9,651,288	390,877	3.06	32,199,872	985,316	306,135,580	16,945,595
2019	4.05	12,534,373	507,642	3.06	36,099,579	1,104,647	310,590,243	17,049,346
2020	4.05	12,187,657	493,600	3.06	33,777,559	1,033,593	253,879,902	13,834,909

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, 2021

CLASS DESCRIPTION	CLASS CODE	CURRENT MANUAL LOSS COST	CLASS CODE	CURRENT MANUAL LOSS COST	CLASS CODE	CURRENT MANUAL LOSS COST
	TRAUMATIC		**STATE O D**		**FEDERAL O D**	
UNDERGROUND						
Anthracite	1010	$19.20	1011	$16.10	0160	$9.08
Bituminous	1001	$6.86	1002	$0.56	0158	$0.68
SURFACE						
Anthracite	1012	$6.99	1016	$1.01	0153	$1.29
Bituminous	1014	$1.84	1013	$0.31	0156	$0.80
COKE	1469	$4.28	1017	$0.09	0154	$0.09
AUGER	1015	$7.33	1019	$0.18	0157	$0.41
CO-GEN						
Anthracite	1021	$6.39	1022	$0.29	0181	$0.35
Bituminous	1023	$1.28	1024	$0.22	0182	$0.26
PREP PLANT						
Anthracite	1025	$4.05	1026	$2.67	0183	$0.80
Bituminous	1027	$3.06	1028	$0.17	0184	$0.26

CLASS DESCRIPTION	CLASS CODE	UNLOADED APPROVED LOSS COST	CLASS CODE	UNLOADED APPROVED LOSS COST	CLASS CODE	UNLOADED APPROVED LOSS COST
	TRAUMATIC		**STATE O D**		**FEDERAL O D**	
UNDERGROUND						
Anthracite	1010	$18.67	1011	$16.10	0160	$9.08
Bituminous	1001	$6.56	1002	$0.56	0158	$0.68
SURFACE						
Anthracite	1012	$6.83	1016	$1.01	0153	$1.29
Bituminous	1014	$1.78	1013	$0.31	0156	$0.80
COKE	1469	$4.17	1017	$0.09	0154	$0.09
AUGER	1015	$7.12	1019	$0.18	0157	$0.41
CO-GEN						
Anthracite	1021	$6.24	1022	$0.29	0181	$0.35
Bituminous	1023	$1.23	1024	$0.22	0182	$0.26
PREP PLANT						
Anthracite	1025	$3.95	1026	$2.67	0183	$0.80
Bituminous	1027	$2.97	1028	$0.17	0184	$0.26

Source: Current Manual Loss Costs from Exhibit I-A-M approved filing effective April 1, 2021
Unloaded Approved Loss Costs from Exhibit I-A-UL approved filing effective April 1, 2021

Coal Mine Compensation Rating Bureau
Adjustments from 2021 Filing

Section 1 Catastrophic Loss Cost (2021)

Underground		
Anthracite	0.18	
Bituminous	0.18	
Auger	0.08	(1/3 Underground, 2/3 Surface)
Other Classes	0.03	

Section 2 Load Factors (2021)

Experience Rating	1.0000
Merit Rating (Exh XIV-A, page 1)	1.0002
Safety Committee (Exh. XIV-B)	1.0182
	1.0184
Small Business Advocate (XI-A)	1.0001

ANTHRACITE UNDERGROUND (1010)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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
2020	299,700	0	0	1.0000	299,700	0.299700

BITUMINOUS UNDERGROUND (1001)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	177,833,672	0	185,328	1.0000	178,019,000	178.019000
2020	138,142,265	0	189,046	1.0000	138,331,311	138.331311

ANTHRACITE SURFACE (1012)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	23,563,089	3,889,152	830,194	1.0000	20,504,131	20.504131
2020	22,884,705	3,744,355	601,660	1.0052	19,725,668	19.725668

BITUMINOUS SURFACE (1014)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	35,362,714	0	1,140,880	1.0000	36,503,594	36.503594
2020	27,341,658	0	654,871	1.0000	27,996,529	27.996529

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

COKE (1469)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	4,466,971	0	52,892	1.0000	4,519,863	4.519863
2020	320,988	0	0	1.0236	320,988	0.320988

AUGER (1015)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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
2020	388,307	0	10,660	1.0000	398,967	0.398967

ANTHRACITE CO-GEN (1021)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	8,191,669	1,508,278	124,105	1.0000	6,807,496	6.807496
2020	7,659,713	1,316,271	536,747	1.0000	6,880,189	6.880189

BITUMINOUS CO-GEN (1023)

Year	State OD Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	11,818,883	0	0	1.0000	11,818,883	11.818883
2020	10,877,350	0	0	1.0000	10,877,350	10.877350

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

ANTHRACITE PREP PLANT (1025)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	12,534,373	2,160,285	116,130	1.0000	10,490,218	10.490218
2020	12,187,657	1,982,278	72,642	1.0052	10,268,091	10.268091

BITUMINOUS PREP PLANT (1027)

Year	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Partnership Reported Payroll (3)	Development Factor (4)	Federal OD Payroll (1) + [(3)-(2)]*(4) (5)	Payroll Per Million (5)/1000000 (6)
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	36,099,579	0	17,765	1.0000	36,117,344	36.117344
2020	33,777,559	0	0	1.0133	33,777,559	33.777559

Source: Anthracite Prep Plant (1025) - Exhibit X-D, page 5
Bituminous Prep Plant (1027) - Exhibit X-D, page 5

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
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
2020	299,700	0	299,700	0.299700

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
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	177,833,672	0	177,833,672	177.833672
2020	138,142,265	0	138,142,265	138.142265

* 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 4-30-2021

ANTHRACITE UNDERGROUND (1010)

Year	REPORTED PAYROLL* (1)	DEVELOPMENT FACTORS** (2)	DEVELOPED PAYROLL (3) = (1) * (2)
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	1.0000	0
2020	0	1.0000	0

Source: CMCRB database for files 258, 330, 4027 and 4049 Payrolls as of 4-30-2021
* 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

ANTHRACITE UNDERGROUND (1010)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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
2020	299,700	1.0000	299,700	0.299700

BITUMINOUS UNDERGROUND (1001)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	177,833,672	1.0000	177,833,672	177.833672
2020	138,142,265	1.0000	138,142,265	138.142265

Source: (1) Payroll and (2) Development - Exhibit X-E, page 1

ANTHRACITE SURFACE (1012)

YEAR	REPORTED PAYROLL (1)	DEVELOP FACTORS (2)	DEVELOPMENT PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	23,563,089	1.0000	23,563,089	23.563089
2020	22,766,320	1.0052	22,884,705	22.884705

BITUMINOUS SURFACE (1014)

YEAR	REPORTED PAYROLL (1)	DEVELOP FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	35,362,714	1.0000	35,362,714	35.362714
2020	27,341,658	1.0000	27,341,658	27.341658

Source: (1) Payroll and (2) Development - Exhibit X-E, page 2

COKE (1469)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	1.0000	4,466,971	4.466971
2020	313,587	1.0236	320,988	0.320988

AUGER (1015)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	DEVELOPED PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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
2020	388,307	1.0000	388,307	0.388307

Source: (1) Payroll and (2) Development - Exhibit X-E, page 3

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
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	8,191,669	1.0000	8,191,669	8.191669
2020	7,659,713	1.0000	7,659,713	7.659713

BITUMINOUS CO-GEN (1023)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	11,818,883	1.0000	11,818,883	11.818883
2020	10,877,350	1.0000	10,877,350	10.877350

Source: (1) Payroll and (2) Development - Exhibit X-E, page 4

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
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	12,534,373	1.0000	12,534,373	12.534373
2020	12,124,609	1.0052	12,187,657	12.187657

BITUMINOUS PREP PLANT (1027)

YEAR	REPORTED PAYROLL (1)	DEVELOPMENT FACTORS (2)	PAYROLL (3) =(1) x (2)	PAYROLL PER MILLION (4) =(1)X(2)/1000000
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	36,099,579	1.0000	36,099,579	36.099579
2020	33,334,214	1.0133	33,777,559	33.777559

Source: (1) Payroll and (2) Development - Exhibit X-E, page 5

COAL MINE COMPENSATION RATING BUREAU
Payroll Development

PAYROLLS
ANTHRACITE UNDERGROUND (1010)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346	179,379	299,700
2ND	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346	179,379	
3RD	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346		
4TH	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383			
5TH	5,700	110,125	219,407	175,900	258,809	254,336	163,760				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
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	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 UNDERGROUND (1001)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	138,142,265
2ND	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	177,833,672	
3RD	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407	172,708,778	180,553,142		
4TH	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407	172,708,778			
5TH	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0033	0.9970	0.9898	1.0074	1.0048	0.9998	0.9977	1.0191	1.0106	0.9634	0.9981	0.9980	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9995	1.0000		0.9999	0.9999	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2021 - Traumatic Payroll Reports

PAYROLLS
ANTHRACITE SURFACE (1012)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	22,766,320
2ND	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	23,563,089	
3RD	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611	21,167,074	19,576,675		
4TH	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611	21,167,074			
5TH	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1ST	0.9990	0.9997	1.0090	1.0146	1.0021	0.9977	1.0075	1.0196	1.0031	0.9982	1.0052	1.0052	1.0052
2-3	0.9995	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 SURFACE (1014)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	27,341,658
2ND	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	35,362,714	
3RD	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		
4TH	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089	33,140,780			
5TH	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0098	1.0164	0.9909	0.9665	0.9884	0.9940	1.0044	0.9613	0.9993	0.9968	0.9912	0.9912	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 4-30-2021 - Traumatic Payroll Reports

PAYROLLS
COKE (1469)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	313,587
2ND	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	4,466,971	
3RD	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		
4TH	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066	4,566,113			
5TH	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0697	1.0000	1.0233	1.0250	1.0000	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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	793,313	1,151,902	789,136	1,082,639	876,196	592,775	372,496	452,051	560,126	539,914	388,307
2ND	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009	600,138	539,914	
3RD	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009	600,138		
4TH	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009			
5TH	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0169	1.0211	1.0242	0.9471	0.9210	0.9829	1.0000	0.9933	1.0714	1.0000	1.0095	1.0095	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 4-30-2021 - Traumatic Payroll Reports

PAYROLLS
ANTHRACITE CO-GEN (1021)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	7,659,713
2ND	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	8,191,669	
3RD	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		
4TH	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602	8,819,700			
5TH	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0030	1.0008	0.9899	0.9613	0.9764	0.9833	0.8292	0.9758	1.0008	0.9967	0.9572	0.9572	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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	10,877,350
2ND	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	11,818,883	
3RD	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		
4TH	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552	11,435,057			
5TH	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	0.9454	1.0096	0.9989	0.7917	1.0235	1.0021	0.9948	0.9878	1.0039	1.0034	0.9984	0.9984	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 4-30-2021 - Traumatic Payroll Reports

PAYROLLS
ANTHRACITE PREP PLANT (1025)

RPT	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	12,124,609
2ND	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	12,534,373	
3RD	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		
4TH	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927	7,746,154			
5TH	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0067	0.9913	1.0062	1.0019	1.0168	0.9789	1.0068	1.0324	1.0083	0.9997	1.0052	1.0052	1.0052
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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1ST	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	33,334,214
2ND	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	36,099,579	
3RD	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882	28,803,457	32,199,872		
4TH	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882	28,803,457			
5TH	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882				

DEV.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 YEAR AVERAGE	ACCUM.	SELECTED
1-2	1.0182	1.0151	0.9959	1.0142	1.0028	0.9868	1.0736	1.0075	1.0216	0.9777	1.0134	1.0133	1.0133
2-3	1.0000	1.0000	1.0000	1.0014	1.0000	1.0000	1.0000	0.9995	1.0000		0.9999	0.9999	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

Source: CMCRB Database as of 4-30-2021 - Traumatic Payroll Reports

COAL MINE COMPENSATION RATING BUREAU

Exhibit X-F

OD Frequencies From Approved Filing

		State OD Class Code	State OD Indicated Frequency (Eff. 4/1/2021) (1)	Federal OD Class Code	Fedeal OD Basic Indicated Frequency (Eff. 4/1/2021) (2)	Fedeal OD Excess Indicated Frequency (Eff. 4/1/2021) (3)
Underground:	Anthracite	1011	0.239142	160	0.178841	0.088467
	Bituminous	1002	0.021065	158	0.011626	0.007706
Surface:	Anthracite	1016	0.019597	153	0.032848	0.009318
	Bituminous	1013	0.009170	156	0.020519	0.003010
	Coke	1017	0.002298	154	0.002093	0.000905
	Auger	1019	0.004738	157	0.010516	0.001945
Co-Gen:	Anthracite	1022	0.005685	181	0.009027	0.002026
	Bituminous	1024	0.005805	182	0.006163	0.002001
Prep Plants:	Anthracite	1026	0.051764	183	0.017506	0.020938
	Bituminous	1028	0.004407	184	0.006561	0.001548

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

COAL MINE COMPENSATION RATING BUREAU

Exhibit X-G

Calculation of Coal Class Adjustment Factor to SAWW

	Average Coal Class Weekly Wages									
	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant
Year	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
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	1,030.84		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	1,019.38	1,295.56
2016	#	1,660.09	1,076.11	1,001.43	2,109.00		1,133.39	714.00	1,148.41	1,816.23
2017	#	1,571.80	1,163.04	1,381.20	588.83		1,206.39	1,376.75	1,277.00	1,419.95
2018	#	1,619.99	1,434.53	1,260.86	546.00		950.16	1,388.60	995.60	1,103.76
2019	#	1,635.03	1,008.62	1,038.07	607.00		1,330.00	914.00	1,122.17	2,226.66
2020	#	1,683.64	1,319.82	1,342.44		710.31	1,267.77	1,180.50	1,123.00	1,298.33

	Number of Wage Records Used to Calculate Average Coal Class Weekly Wages									
Year	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
2011	#	106	21	31	3	4	2	2	8	12
2012	#	124	20	31		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	5	8
2016	#	99	22	7	1		7	1	4	9
2017	#	119	23	5	6		7	4	1	6
2018	#	123	11	7	1		11	5	5	5
2019	#	122	16	11	1		2	1	6	8
2020	#	81	11	9		1	11	2	11	3
Total		1214	188	158	18	15	59	27	60	86

		Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage									
Year	SAWW	1010	1001	1012	1014	1469	1015	1021	1023	1025	1027
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	1.161		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	1.072	1.362
2016	978	#	1.697	1.100	1.024	2.156		1.159	0.730	1.174	1.857
2017	995	#	1.580	1.169	1.388	0.592		1.212	1.384	1.283	1.427
2018	1025	#	1.580	1.400	1.230	0.533		0.927	1.355	0.971	1.077
2019	1049	#	1.559	0.962	0.990	0.579		1.268	0.871	1.070	2.123
2020	1081	#	1.557	1.221	1.242		0.657	1.173	1.092	1.039	1.201
Average			1.594	1.134	1.137	0.724	0.619	1.072	1.118	1.074	1.441

		Average Coal Class Weekly Wage Indexed to Statewide Average Weekly Wage - Classes Combined	
Year	SAWW	Bit. Und. & Prep	All Other Classes
2011	858	1.466	1.028
2012	888	1.560	1.190
2013	917	1.564	1.036
2014	932	1.585	0.993
2015	951	1.699	1.026
2016	978	1.710	1.121
2017	995	1.573	1.145
2018	1025	1.560	1.159
2019	1049	1.594	0.992
2020	1081	1.544	1.151
Average		1.586	1.084
Selected Coal Class Adjt. Factor to SAWW		1.586	1.084

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.

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Run Date: August 11, 2021 - 08:34:41 AM

Effective Date - April 01, 2022

227,730.376367

Section A. Office of Small Business Advocate Assessment Factor Calculation

1.	2021-2022 Small Business Advocate Assessment	$	280,000
2.	2020 Insurance Carrier Paid Losses		
	CMCRB		19,654,979
	PCRB		2,051,577,901
	Total		2,071,232,880
3.	Insurer Assessment Ratio (item 1 divided by item 2)		0.0001

Section B. Employer Assessment Factor Calculation

1.	2021/2022 INSURANCE CARRIER ASSESSMENT AMOUNTS	
	A. Administrative Fund	58,722,138
	B. Subsequent Injury Fund	131,421
	C. Supersedeas Fund	17,175,821
	D. Uninsured Employers Guaranty Fund	5,178,174
	TOTAL	81,207,554
2.	2020 Employer Assessment Premium Base	3,032,959,619
3.	2020 Coal Mine Premium Base	13,427,475
4.	Coal Premium percent of Total (3)/(2)	0.443%
5.	Assessments to be paid by coal employers	359,521
6.	Coal Employer Assessment Factor	0.0268

Source: Pa. Dept. of Labor & Industry
PCRB

COAL MINE COMPENSATION RATING BUREAU

CATASTROPHE - Spread of Loss Cost to Classes

Classification		(1) 2020 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 4/1/2021	(8) Selected	(9) Change (8)/(7) - 1
Underground										
Anthracite Underground	1010	$299,700								
Bituminous Underground	1001	138,142,265								
Total		138,441,965	7	969,094	89.4%	399,452	0.29	0.18	0.22	22.2%
Other than Underground										
Anthracite Surface	1012	22,884,705								
Bituminous Surface	1014	27,341,658								
Coke	1469	320,988								
Auger	1015	388,307								
Anthracite Co-Gen	1021	7,659,713								
Bituminous Co-Gen	1023	10,877,350								
Anthracite Prep Plant	1025	12,187,657								
Bituminous Prep Plant	1027	33,777,559								
Total		115,437,937	1	115,438	10.6%	47,583	0.04	0.03	0.04	33.3%
Grand Total		253,879,902	8	1,084,532	100.0%	447,035	0.18	a-0.11	0.14	27.3%

a - Current Total Loss Cost is based on 2020 Payroll weights
b- Auger = one-third underground & two-thirds surface or $0.10

Source: Column (1) - Exhibit X-A
Column (2) - Judgement
Column (5) - Exhibit XII-B

COAL MINE COMPENSATION RATING BUREAU

Exhibit XII-B

CATASTROPHE CALCULATION

TRAUMATIC ON-LEVEL LOSSES IN EXCESS OF $1,250,000

Accident Year	Number of Excess Claims	Excess Over $ 1,250,000
2001	1	55,612
2002	1	557,962
2003	2	1,040,635
2004	2	1,835,752
2005	3	1,713,552
2006	-	-
2007	1	2,835,376
2008	2	450,825
2009	1	68,885
2010	-	-
2011	2	276,377
2012	1	105,717
2013	-	-
2014	-	-
2015	-	-
2016	-	-
2017	-	-
2018	-	-
2019	-	-
2020	-	-
	16	8,940,693

Average over 20 years	447,035
2020 Developed Payroll from Exhibit XII-A	253,879,902
Loss Cost	0.18

Source: Exhibit XII-C

COAL MINE COMPENSATION RATING BUREAU
CATASTROPHE CALCULATION
TRAUMATIC LOSSES OVER $1,250,000

(1) Key Number	(2) Class	(3) Accident Year	(4) Injury Type	(5) Incurred Indemnity & Funeral	(6) Incurred Medical	(7) Paid Medical	(8) O/S Medical	(9) Act 44 Factor	(10) Trend	(11) Medical w/Trend & Act 44 Factor	(12) Loss at Current Level	(13) Excess Over $1,250,000
39140	101200	2001	1	704,607	4,348	4,348	-	1.0000	1.8416	8,007	1,305,612	55,612
Que Creek	100100	2002	9	892,793	116,396	116,396	-	1.0000	1.7915	208,523	1,807,962	557,962
39840	100100	2003	2	419,207	485,877	277,954	207,923	1.0000	1.7570	853,686	1,590,233	340,233
39990	100100	2003	1	1,110,075	-	-	-	1.0000	1.7570	-	1,950,402	700,402
40926	100100	2004	9	769,019	603,806	491,912	111,894	1.0000	1.7188	1,037,822	2,359,612	1,109,612
41102	102700	2004	2	505,991	643,730	643,730	-	1.0000	1.7188	1,106,443	1,976,140	726,140
41672	100100	2005	2	882,438	650,000	505,787	144,213	1.0000	1.6564	1,076,660	2,538,330	1,288,330
41676	100100	2005	2	681,537	94,638	94,638	-	1.0000	1.6564	156,758	1,285,656	35,656
41534	101400	2005	1	964,271	25,566	25,566	-	1.0000	1.6564	42,348	1,639,566	389,566
43059	101200	2007	2	683,334	2,000,000	1,768,757	231,243	1.0000	1.5225	3,045,000	4,085,376	2,835,376
43335	100100	2008	1	918,605	223	223	-	1.0000	1.4696	328	1,350,310	100,310
43835	100100	2008	1	1,077,650	11,432	11,432	-	1.0000	1.4696	16,800	1,600,515	350,515
45177	101200	2009	9	629,643	300,000	270,749	29,251	1.0000	1.4187	425,610	1,318,885	68,885
46013	100100	2011	9	255,792	798,508	480,416	318,092	1.0000	1.3823	1,103,778	1,457,359	207,359
45686	101400	2011	9	321,808	632,412	568,377	64,035	1.0000	1.3823	874,183	1,319,018	69,018
46135	100100	2012	9	246,748	768,314	768,314	-	1.0000	1.3356	1,026,160	1,355,717	105,717
Totals	16										28,940,693	8,940,693

20 Year Average	447,035
2020 Developed Payroll	253,879,902
Loss Cost	0.18

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

Coal Mine Compensation Rating Bureau
Catastrophe Calculation
Trend Factors for Medical and Indemnity

Year	Statewide Average Weekly Wage	Yearly Percentage Change	Trend Factor	Year	Statewide Average Weekly Wage	Yearly Percentage Change	Trend Factor
2001	$644		1.8416				
2002	$662	2.8%	1.7915	2012	$888	3.5%	1.3356
2003	$675	2.0%	1.7570	2013	$917	3.3%	1.2933
2004	$690	2.2%	1.7188	2014	$932	1.6%	1.2725
2005	$716	3.8%	1.6564	2015	$951	2.0%	1.2471
2006	$745	4.1%	1.5919	2016	$978	2.8%	1.2127
2007	$779	4.6%	1.5225	2017	$995	1.7%	1.1920
2008	$807	3.6%	1.4696	2018	$1,025	3.0%	1.1571
2009	$836	3.6%	1.4187	2019	$1,049	2.3%	1.1306
2010	$845	1.1%	1.4036	2020	$1,081	3.1%	1.0971
2011	$858	1.5%	1.3823	2021	$1,130	4.5%	1.0496

Average of All Years=	2.86%
Average of last 10 years=	2.80%
Average of last 5 years=	2.94%
Average of last 3 years=	3.31%

Selected= 2.80% (Last Year's Selection was 2.50%)

	Projected Wage		Weight
01-01-2022	$1,162	a	28.125%
01-01-2023	$1,194	a	68.750%
01-01-2024	$1,228	a	3.125%

Average Weekly Wage For Policies effective between 04-01-2022 and 04-01-2024

$1,186 b

a. Previous year's wage times annual increase of 2.80%
b. Weighted average of projected wage levels from 01-01-2022 to 01-01-2024

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

Class Code	Description	Number of Claims	Excess Over $1,250,000
1010	Anthracite Underground	-	-
1001	Bituminous Underground	10	4,796,096
1012	Anthracite Surface	3	2,959,873
1014	Bituminous Surface	2	458,584
1469	Coke	-	-
1015	Auger	-	-
1021	Anthracite Co-Gen	-	-
1023	Bituminous Co-Gen	-	-
1025	Anthracite Prep Plant	-	-
1027	Bituminous Prep Plant	1	726,140
	Total	16	$8,940,693

Sources: Exhibit XII-C

PAB

Coal Mine Compensation Rating Bureau of Pennsylvania

Experience Rating Plan

Basic Data Lookup Tables

2022 plan factors at 50k and 150 k splits:

Table A: Ratemaking Factors

Year:	2020	2019	2018	Average split by Layer
Loss Develop.	1.6449	1.1888	1.0888	
Layers:	Split of total losses by Layer			
0- 50	0.49835	0.42303	0.40414	0.44184
50-150	0.28169	0.27539	0.26630	0.27446
Over 150	0.21996	0.30158	0.32956	0.28370
Trend	1.0204	1.0272	1.0435	1.0000

Table B: Payroll Development

Classification		Payroll De-velopment
1001	Bit deep	1.0000
1010	Anth deep	1.0000
1012	Anth surf	1.0052
1014	Bit surf	1.0000
1015	Auger	1.0000
1021	Anth Co-gen	1.0000
1023	Bit Co-gen	1.0000
1025	Anth Prep	1.0052
1027	Bit Prep	1.0133
1469	Coke	1.0236

Table C: Unloaded Loss Costs - Traumatic

Classification		Unloaded Loss Cost (1)
1001	Bit deep	6.52
1010	Anth deep	17.59
1012	Anth surf	6.45
1014	Bit surf	1.53
1015	Auger	5.94
1021	Anth Co-gen	7.80
1023	Bit Co-gen	1.05
1025	Anth Prep	3.56
1027	Bit Prep	2.53
1469	Coke	4.09

Table D: Manual Loss Costs - Traumatic

Classification		Unloaded Loss Cost (1)	Loadings: Catastrophe Exh. XII-A (2)	Loadings: Small Business Assessment (3)	Loadings: Off-Balances# (4)	Manual Loss Cost (5)
1001	Bit deep	6.52	0.22	1.0001	1.0210	6.88
1010	Anth deep	17.59	0.22	1.0001	1.0210	18.18
1012	Anth surf	6.45	0.04	1.0001	1.0210	6.63
1014	Bit surf	1.53	0.04	1.0001	1.0210	1.60
1015	Auger	5.94	0.10	1.0001	1.0210	6.17
1021	Anth Co-gen	7.80	0.04	1.0001	1.0210	8.00
1023	Bit Co-gen	1.05	0.04	1.0001	1.0210	1.11
1025	Anth Prep	3.56	0.04	1.0001	1.0210	3.68
1027	Bit Prep	2.53	0.04	1.0001	1.0210	2.62
1469	Coke	4.09	0.04	1.0001	1.0210	4.22

	Off-* Balances
Merit Rating Exh. XIV-A	1.0001
Safety Rating Exh XIV-B	1.0209
Combined	1.021

Table E: Expected Traumatic Loss Costs

Classification		Unloaded Manual Loss Cost	2020 All Layers: De-trended Loss Cost*	2020 All Layers: Undeveloped Losses**	2020 Layer 0-50 (Split of total losses by Layer 0.49835): Undeveloped Expected Loss Cost***	2020 Layer 50-150 (0.28169): Undeveloped Expected Loss Cost***	2020 XS over 150 (0.21996): Undeveloped Expected Loss Cost***	2019 All Layers: De-trended Loss Cost*	2019 All Layers: Undeveloped Losses**	2019 Layer 0-50 (Split of total losses by Layer 0.42303): Undeveloped Expected Loss Cost***	2019 Layer 50-150 (0.27539): Undeveloped Expected Loss Cost***	2019 XS over 150 (0.30158): Undeveloped Expected Loss Cost***	2018 All Layers: De-trended Loss Cost*	2018 All Layers: Undeveloped Losses**	2018 Layer 0-50 (Split of total losses by Layer 0.40414): Undeveloped Expected Loss Cost***	2018 Layer 50-150 (0.26630): Undeveloped Expected Loss Cost***	2018 XS over 150 (0.32956): 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	6.52	6.39	3.88	1.93	1.09	0.85	6.35	5.34	2.26	1.47	1.61	6.25	5.74	2.32	1.53	1.89
1010	Anth deep	17.59	17.24	10.48	5.22	2.95	2.31	17.12	14.40	6.09	3.97	4.34	16.86	15.48	6.26	4.12	5.10
1012	Anth surf	6.45	6.32	3.84	1.91	1.08	0.84	6.28	5.28	2.23	1.45	1.59	6.18	5.68	2.30	1.51	1.87
1014	Bit surf	1.53	1.50	0.91	0.45	0.26	0.20	1.49	1.25	0.53	0.34	0.38	1.47	1.35	0.55	0.36	0.44
1015	Auger	5.94	5.82	3.54	1.76	1.00	0.78	5.78	4.86	2.06	1.34	1.47	5.69	5.23	2.11	1.39	1.72
1021	Anth Co-gen	7.80	7.64	4.64	2.31	1.31	1.02	7.59	6.38	2.70	1.76	1.92	7.47	6.86	2.77	1.83	2.26
1023	Bit Co-gen	1.05	1.03	0.63	0.31	0.18	0.14	1.02	0.86	0.36	0.24	0.26	1.01	0.93	0.38	0.25	0.31
1025	Anth Prep	3.56	3.49	2.12	1.06	0.60	0.47	3.47	2.92	1.24	0.80	0.88	3.41	3.13	1.26	0.83	1.03
1027	Bit Prep	2.53	2.48	1.51	0.75	0.43	0.33	2.46	2.07	0.88	0.57	0.62	2.42	2.22	0.90	0.59	0.73
1469	Coke	4.09	4.01	2.44	1.22	0.69	0.54	3.98	3.35	1.42	0.92	1.01	3.92	3.60	1.45	0.96	1.19
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

		Reported Losses	LDF	Untrended Developed Losses	Weight: Percent Indemnity vs Medical	Medical Loss Development	Indemnity Loss Development	Combined Loss Development Weighted by % indemnity vs medical by year
Indemnity	2018	$8,370,682	1.0987	$9,196,868	61.84%	1.0727	1.0987	1.0888
	2019	$7,260,582	1.2471	$9,054,672	69.99%	1.0527	1.2471	1.1888
	2020	$4,610,453	1.9076	$8,794,900	68.71%	1.0681	1.9076	1.6449
				$27,046,440	66.60%			
Medical	2018	$5,289,853	1.0727	$5,674,425	38.16%			
	2019	$3,688,426	1.0527	$3,882,806	30.01%			
	2020	$3,750,095	1.0681	$4,005,476	31.29%			
				$13,562,707	33.40%			
	Total			$40,609,147	1.0000			

		Years of Trend	Medical / HB 1846 Trend at 1.9%	Indemnity / HB 1840 Trend at 0.2%	Combined Trend Weighted by % indemnity vs medical by year
Average Exp date AY 2018	7/1/2018	4.75	1.0935	1.0127	1.0435
Average Exp date AY 2019	7/1/2019	3.75	1.0731	1.0075	1.0272
Average Exp date AY 2020	7/1/2020	2.75	1.0531	1.0055	1.0204
Average Date of Accident	4/1/2023				

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

2022 Credibility Tables

PCRB shape

Expected Losses Greater than	Equivalent Modified Payroll at $5.12 *	Primary Credibility	Excess Credibility
14,394	300,000	0.30	0.06
17,632	344,380	0.31	0.06
21,218	414,414	0.32	0.06
23,729	463,462	0.33	0.06
25,895	505,762	0.34	0.07
28,223	551,235	0.35	0.07
31,724	619,609	0.36	0.07
33,340	651,162	0.37	0.07
36,148	706,016	0.38	0.07
39,261	766,808	0.39	0.07
42,723	834,438	0.40	0.07
46,173	901,809	0.41	0.07
50,260	981,636	0.42	0.07
54,480	1,064,054	0.43	0.07
58,930	1,150,972	0.44	0.07
64,137	1,252,681	0.45	0.07
69,460	1,356,638	0.46	0.07
72,885	1,423,533	0.47	0.07
75,602	1,476,593	0.48	0.07
78,457	1,532,367	0.49	0.07
81,395	1,589,740	0.50	0.07
84,414	1,648,712	0.51	0.07
87,590	1,710,750	0.52	0.07
90,840	1,774,215	0.53	0.07
94,219	1,840,219	0.54	0.07
97,737	1,908,931	0.55	0.07
101,336	1,979,216	0.56	0.07
105,125	2,053,215	0.57	0.07
109,027	2,129,424	0.58	0.07
113,042	2,207,842	0.59	0.07
117,273	2,290,479	0.60	0.07
121,605	2,375,100	0.61	0.08
126,119	2,463,259	0.62	0.08
130,628	2,551,335	0.63	0.08
135,136	2,639,375	0.64	0.08
146,976	2,870,628	0.65	0.08
159,790	3,120,907	0.66	0.08
174,343	3,405,143	0.67	0.08
190,774	3,726,060	0.68	0.08
208,366	4,069,655	0.69	0.08
228,292	4,458,825	0.70	0.09
249,705	4,877,051	0.71	0.09
274,047	5,352,486	0.72	0.09
302,119	5,900,762	0.73	0.09
333,210	6,508,008	0.74	0.10
366,752	7,163,115	0.75	0.10
407,662	7,962,148	0.76	0.10
450,677	8,802,279	0.77	0.11
498,112	9,728,750	0.78	0.11
558,410	10,906,452	0.79	0.12
624,012	12,187,732	0.80	0.12
697,648	13,625,938	0.81	0.13
788,985	15,409,863	0.82	0.13
894,945	17,479,395	0.83	0.14
1,018,370	19,890,039	0.84	0.15
1,157,231	22,602,171	0.85	0.16
1,321,831	25,817,008	0.86	0.17
1,528,079	29,845,296	0.87	0.18
1,795,880	35,075,773	0.88	0.19
2,120,319	41,412,480	0.89	0.20
2,120,319	44,485,215	0.89	0.21
2,505,663	48,938,730	0.90	0.22
3,000,680	58,607,025	0.91	0.23
3,000,680	62,598,008	0.91	0.24
3,000,680	70,084,630	0.91	0.25
3,851,016	75,215,150	0.92	0.26
4,547,151	88,811,543	0.93	0.27
4,547,151	99,118,112	0.93	0.28
6,019,437	117,567,132	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

Credibility Zp or Ze
= (S*Payroll+I*G)/(J*S*Payroll+K*G)
[where S adjusts Payroll to Expected Losses]

Variable	Layer 1	Layer 2
Av Claim G	N/A	11,512
S	N/A	0.054
I	N/A	43.50
J	N/A	2.4000
K	N/A	700.00

* The average unloaded loss cost underlying the proposed filing is $5.12.
the table was updated to reflect this change.

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2022
Mod Comparisons

File	Proposed Manual Premium	Proposed 2022 Mod	Proposed Experience Rated Premium	2021 Mod	Change in Mod Factor
37	233,457	1.067	249,099	1.194	-0.127
52	5,962	0.804	4,793	0.787	0.017
55	266,325	0.879	234,100	0.836	0.043
66	3,397	1.400	4,756	1.219	0.181
99	11,183	0.844	9,438	0.843	0.001
119	79,601	0.916	72,915	1.076	-0.160
121	158,193	0.918	145,221	0.802	0.116
124	11,735	0.716	8,402	0.695	0.021
214	11,637	0.699	8,134	0.891	-0.192
283	11,266	0.696	7,841	0.676	0.020
288	2,747	0.860	2,362	0.843	0.017
306	13,546	1.108	15,009	1.240	-0.132
352	5,135	0.809	4,154	1.439	-0.630
354	12,278	0.746	9,159	3.931	-3.185
360	1,881	0.864	1,625	0.848	0.016
370	2,274	0.856	1,947	0.843	0.013
421	8,087	1.540	12,454	1.124	0.416
426	0	0.849	0	1.134	-0.285
652	331,853	1.100	365,038	1.068	0.032
690	18,690	0.817	15,270	0.888	-0.071
954	6,197	0.809	5,013	0.780	0.029
1016	3,344	1.256	4,200	1.217	0.039
1037	54,485	0.830	45,223	0.823	0.007
1158	1,768	0.864	1,528	0.852	0.012
1361	1,762	0.864	1,522	0.852	0.012
1444	428,171	1.422	608,859	1.105	0.317
1700	23,246	0.678	15,761	0.666	0.012
2065	1,719	0.864	1,485	n/a	n/a
2353	10,281	0.826	8,492	0.814	0.012
2458	9,607	1.189	11,423	0.830	0.359
2687	31,214	0.791	24,690	0.780	0.011
2839	8,213	1.223	10,044	1.306	-0.083
3020	1,706	0.864	1,474	n/a	n/a
3157	23,015	0.813	18,711	0.800	0.013
3190	1,550	0.841	1,304	0.801	0.040
3552	4,162	0.831	3,459	1.127	-0.296
3614	24,851	1.741	43,266	1.341	0.400
3619	12,297	0.875	10,760	0.842	0.033
3629	17,496	0.822	14,382	0.809	0.013
3691	10,318	1.471	15,178	1.138	0.333
3798	1,347	0.865	1,165	0.848	0.017
3804	7,043	0.786	5,536	0.761	0.025
3932	5,281	0.805	4,251	0.791	0.014
3944	23	0.862	20	0.794	0.068
3977	42,764	0.861	36,820	1.131	-0.270
3978	0	0.948	0	0.868	0.080

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2022
Mod Comparisons

File	Proposed Manual Premium	Proposed 2022 Mod	Proposed Experience Rated Premium	2021 Mod	Change in Mod Factor
3982	431	1.200	517	1.400	-0.200
3988	5,541	1.300	7,203	1.167	0.133
3997	2,427	0.855	2,075	0.843	0.012
4011	322,267	0.690	222,364	0.712	-0.022
4024	10,657	0.850	9,058	0.825	0.025
4025	16,910	0.855	14,458	n/a	n/a
4030	2,460	0.851	2,093	1.157	-0.306
4031	21,437	1.248	26,753	0.785	0.463
4042	0	1.667	0	1.370	0.297
4044	90,026	1.157	104,160	0.753	0.404
4052	28,386	0.664	18,848	0.655	0.009
4058	18,483	1.120	20,701	0.699	0.421
4061	11,911	0.864	10,291	n/a	n/a
4072	348,362	0.940	327,460	0.885	0.055
4077	734,297	1.129	829,021	1.162	-0.033
4078	64,082	1.017	65,171	1.320	-0.303
4089	11,145	0.851	9,484	0.838	0.013
4094	31,915	1.923	61,373	1.379	0.544
4102	0	0.826	0	0.798	0.028
4103	16,777	0.831	13,942	0.814	0.017
4104	1,437,122	1.128	1,621,074	1.073	0.055
4110	7,200	1.042	7,502	0.728	0.314
4114	39,180	0.701	27,465	0.707	-0.006
4118	3,784	0.792	2,997	0.786	0.006
4120	27,893	0.777	21,673	0.781	-0.004
4121	56,954	0.764	43,513	0.810	-0.046
4122	5,280	0.822	4,340	0.832	-0.010
4123	10,303	0.871	8,974	0.841	0.030
4125	70,520	1.004	70,802	0.878	0.126
4126	0	0.846	0	0.835	0.011
4127	8,197	0.813	6,664	0.814	-0.001
999019	514,816	0.864	444,801	0.988	-0.124
999020	6,850	0.819	5,610	0.823	-0.004
999024	4,171	0.861	3,591	0.834	0.027
999031	75,424	1.013	76,405	1.022	-0.009
999038	50,646	1.446	73,234	1.320	0.126
999039	37,911	1.210	45,872	1.217	-0.007
999048	7,268	0.819	5,952	n/a	n/a
999051	964,814	0.889	857,720	1.083	-0.194
999052	28,390	0.849	24,103	1.050	-0.201
999061	0	0.919	0	0.805	0.114
999063	3,398,741	0.913	3,103,051	0.949	-0.036
999065	1,862	1.200	2,234	0.834	0.366
999071	3,122,890	1.035	3,232,191	n/a	n/a
999075	49,543	1.769	87,642	1.877	-0.108

Coal Mine Compensation Rating Bureau of Pennsylvania
Experience Rating 2022
Mod Comparisons

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	2021 Mod	Proposed 2022 Mod	Limited Mod
352	1.439	0.809	1.089
354	3.931	0.746	3.581
421	1.124	1.540	1.474
2458	0.830	1.189	1.180
3614	1.341	1.741	1.691
4031	0.785	1.248	1.135
4044	0.753	1.157	1.103
4058	0.699	1.120	1.049
4094	1.379	1.923	1.729
999065	0.834	1.200	1.184

MERIT RATING PLAN OFF-BALANCE CALCULATION

Class	(1) 2020 Developed Payroll	(2) Traumatic Proposed Unloaded Loss Cost	(3) Credit/ Surcharge	(4) Loss Cost Premium	Off-Balance
Underground Anthracite (1010)					
Total	$299,700	17.59		$52,717	
Credit	0	17.59	-5.00%	0	
Surcharge	0	17.59	5.00%	0	
Underground Bituminous (1001)					
Total	$138,142,265	6.52		$9,006,876	
Credit	0	6.52	-5.00%	0	
Surcharge	0	6.52	5.00%	0	
Surface Anthracite (1012)					
Total	$22,884,705	6.45		$1,476,063	
Credit	40,377	6.45	-5.00%	-130	
Surcharge	0	6.45	5.00%	0	
Surface Bituminous (1014)					
Total	$27,341,658	1.53		$418,327	
Credit	442,757	1.53	-5.00%	-339	
Surcharge	0	1.53	5.00%	0	
Coke (1469)					
Total	$320,988	4.09		$13,128	
Credit	0	4.09	-5.00%	0	
Surcharge	0	4.09	5.00%	0	
Auger (1015)					
Total	$388,307	5.94		$23,065	
Credit	34,027	5.94	-5.00%	-101	
Surcharge	0	5.94	5.00%	0	
Anthracite Co-Gen (1021)					
Total	$7,659,713	7.80		$597,458	
Credit	48,742	7.80	-5.00%	-190	
Surcharge	0	7.80	5.00%	0	
Bituminous Co-Gen (1023)					
Total	$10,877,350	1.05		$114,212	
Credit	0	1.05	-5.00%	0	
Surcharge	0	1.05	5.00%	0	
Anthracite Prep Plant (1025)					
Total	$12,187,657	3.56		$433,881	
Credit	157,778	3.56	-5.00%	-281	
Surcharge	0	3.56	5.00%	0	
Bituminous Prep Plant (1027)					
Total	$33,777,559	2.53		$854,572	
Credit	31,972	2.53	-5.00%	-40	
Surcharge	0	2.53	5.00%	0	
All Classes Combined					
Total	$253,879,902			$12,990,299	
Credit	755,653		-5.00%	-1,081	
Surcharge	0		5.00%	0	
				$12,989,218	1.0001

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

2020 PAYROLL BY CLASS

Class	2020 Total Developed Payroll	2020 Experience Rated Payroll	2020 Merit Rated Payroll	2020 Manual Payroll
Underground Anthracite (1010)	$299,700	$299,700	$0	$0
Underground Bituminous(1001)	138,142,265	137,098,833	0	1,043,432
Surface Anthracite (1012)	22,884,705	22,817,525	40,377	26,803
Surface Bituminous (1014)	27,341,658	26,568,904	442,757	329,997
Coke (1469)	320,988	320,988	0	0
Auger (1015)	388,307	199,295	34,027	154,985
Anthracite Co-Gen (1021)	7,659,713	7,399,598	48,742	211,373
Bituminous Co-Gen (1023)	10,877,350	10,690,492	0	186,858
Anthracite Prep Plant(1025)	12,187,657	12,029,879	157,778	0
Bituminous Prep Plant(1027)	33,777,559	33,039,503	31,972	706,084
TOTAL	$253,879,902	$250,464,717	$755,653	$2,659,532

MERIT PAYROLL - CREDIT/SURCHARGE

Class	2020 Merit Rated Payroll	2020 Merit Credit Payroll	2020 Merit No Adjustment Payroll	2020 Merit Surcharge Payroll
Underground Anthracite (1010)	$0	$0	$0	$0
Underground Bituminous(1001)	0	0	0	0
Surface Anthracite (1012)	40,377	40,377	0	0
Surface Bituminous (1014)	442,757	442,757	0	0
Coke (1469)	0	0	0	0
Auger (1015)	34,027	34,027	0	0
Anthracite Co-Gen (1021)	48,742	48,742	0	0
Bituminous Co-Gen (1023)	0	0	0	0
Anthracite Prep Plant(1025)	157,778	157,778	0	0
Bituminous Prep Plant(1027)	31,972	31,972	0	0
TOTAL	$755,653	$755,653	$0	$0

Source: Exhibit X-A and CMCRB database as of 4/30/2021

COAL MINE COMPENSATION RATING BUREAU
SAFETY COMMITTEE CREDIT OFFSET

CLASS	(1) 2020 Developed Payroll	(2) Traumatic Proposed Unloaded Loss Cost	(3) Credit	(4) Loss Cost Premium	Off-Balance
Underground Anthracite(1010)					
Total	$299,700	$17.59		$52,717	
Safety Committee	0	17.59	-5.00%	0	
Underground Bituminous(1001)					
Total	138,142,265	6.52		$9,006,876	
Safety Committee	59,259,299	6.52	-5.00%	(193,185)	
Surface Anthracite(1012)					
Total	22,884,705	6.45		$1,476,063	
Safety Committee	8,799,963	6.45	-5.00%	(28,380)	
Surface Bituminous(1014)					
Total	27,341,658	1.53		$418,327	
Safety Committee	5,713,361	1.53	-5.00%	(4,371)	
Coke(1469)					
Total	320,988	4.09		$13,128	
Safety Committee	0	4.09	-5.00%	0	
Auger(1015)					
Total	$388,307	5.94		$23,065	
Safety Committee	0	5.94	-5.00%	0	
Anthracite Co-gen(1021)					
Total	7,659,713	7.80		$597,458	
Safety Committee	2,267,217	7.80	-5.00%	(8,842)	
Bituminous Co-gen(1023)					
Total	10,877,350	1.05		$114,212	
Safety Committee	147,078	1.05	-5.00%	(77)	
Anthracite Prep Plant(1025)					
Total	12,187,657	3.56		$433,881	
Safety Committee	5,034,297	3.56	-5.00%	(8,961)	
Bituminous Prep Plant(1027)					
Total	33,777,559	2.53		$854,572	
Safety Committee	17,889,579	2.53	-5.00%	(22,630)	
All Classes Combined					
Total	253,879,902			12,990,299	
Safety Committee	99,110,794			(266,446)	
				12,723,853	1.0209

Source: (1) Exhibit X-A and CMCRB Database as of 4-30-2021
(2) Exhibit II
(4) = [(1) / 100] * (2) * (3)