



**Bureau of Workers'  
Compensation**

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To: **Legislative Service Commission  
Chair, Senate Transportation, Commerce and Workforce Committee  
Chair, Senate Insurance and Financial Institutions Committee  
Chair, House Insurance Committee**

From: **Chan Cochran, Chair, Ohio Bureau of Workers' Compensation (BWC) Board of Directors**

Date: October 30, 2021

Re: **2021 Annual Actuarial Estimate of Unpaid Liabilities – ORC 4121.125**

Attached you will find the report that provides a summary of the 2021 annual actuarial analysis of unpaid liabilities of the state insurance funds and all other funds under Chapters 4121., 4123., 4127., and 4131. of the Revised Code as required under Ohio Revised Code 4121.125.

This year's executive summary report, prepared for the Board by credentialed members of BWC's Actuarial staff, provides as required:

- 1) A summary of the funds and components evaluated.
- 2) A description of the actuarial methods and assumptions used in the analysis of the unpaid liabilities.
- 3) A schedule showing the differences in estimates of unpaid liabilities since the previous annual actuarial analysis report, prepared by the firm, Oliver Wyman Actuarial Consulting, Inc.

Copies of the more detailed reports that cover each of the specific funds and the components of the funds in much more detail are available from the Bureau of Workers' Compensation staff upon request.

Please feel free to contact our BWC staff if you have questions with respect to information contained in this executive summary report.

**Ohio Bureau of Workers Compensation  
BWC Actuarial Division**

**Estimated Unpaid Loss and Loss Adjustment Expenses  
as of 6-30-2021**

**Executive Summary  
Prepared August 2021**

## **Purpose**

The purpose of this report is to provide a high-level summary of the results from the most recent quarterly unpaid loss and loss adjustment expense analysis. Please see the individual fund's analysis documentation for the details of the results, assumptions, and methodologies. This report is used primarily to convey the results for the recommendations for booked reserve to BWC management. This report can also be used for internal or external auditing of BWC actuarial reserving practices. Using this report for purposes other than its stated purposes may result in misuse and incorrect information being represented.

## **Scope**

In the Actuarial Division's actuarial analysis, a central estimate of unpaid losses is determined for the various benefits, employer types, and funds detailed below. An actuarial central estimate represents an expected value over the range of reasonably possible outcomes. Such range of reasonably possible outcomes may not include all possible outcomes.

We have completed the BWC Actuarial Division's unpaid loss and loss adjustment expense analysis for the State Insurance Fund (SIF), which includes

- Private Employers (PA),
- Public Employers Taxing Districts (PEC),
- Public Employers State Agencies (PES), and
- Self-Insured Mandatory Fund (SI-Mand).

Additionally, Disabled Workers' Relief Fund (DWRF), Self-Insured Employer Guaranty Fund (SIEGF), Marine Fund (MIF), and Public Workers Relief Fund (PWRF) unpaid loss and loss adjustment expense analysis was completed.

Loss adjustment expenses include the

- Administrative Cost Fund (ACF),
- Health Plan Partnership (HPP), and
- Pharmacy Benefit Manager (PBM).

An analysis was not done for Coal Workers Pneumoconiosis (CWPF) by the BWC. BWC Management relied solely on Oliver Wyman's estimate for unpaid loss and loss adjustment expenses for this fund. While the results of the report are summarized here, the analysis details are not summarized. Please see the Oliver Wyman CWPF reserve analysis report for details.

## Overall Summary

### Estimated Unpaid Loss as of 6-30-21 (in millions)

Fund	Sub Fund	Nominal Unpaid Loss Estimate	Discounted Unpaid Loss Estimate
SIF	PA	\$12,317.4	\$7,861.5
	PEC	\$2,423.8	\$1,508.7
	PES	\$676.4	\$434.1
	SI-Mand	\$76.8	\$50.6
DWRP	DWRP I	\$416.0	\$319.2
	DWRP II	\$2,402.0	\$1,231.6
SIEGF	Loss	\$496.4	\$307.9
	DWRP	\$140.4	\$87.8
MIF	Loss	\$1.5	\$1.0
PWRP	Loss	\$2.0	\$1.3
CWPF*	Loss	\$196.2	\$83.9
<b>Total Loss</b>		<b>\$19,148.90</b>	<b>\$11,887.60</b>

\*From Oliver Wyman's CWPF 6-30-21 Reserve Analysis

### Estimated Unpaid Loss Adjustment Expense as of 6-30-21 (in millions)

Fund	Sub Fund	Nominal Unpaid Loss Estimate	Discounted Unpaid Loss Estimate
ACF	SIF	\$1,424.2	\$905.8
	SIEGF	\$45.6	\$28.3
	DWRP	\$2.6	\$1.4
	DWRP SIEGF	\$0.1	\$0.1
	MIF	\$0.1	\$0.1
	PWRP	\$0.2	\$0.1
	CWPF*	\$18.0	\$7.7
HPP	PA, PEC, PES	\$1,074.0	\$682.8
	Defaulted SI	\$8.9	\$5.6
PBM	PA, PEC, PES	\$24.9	\$18.1
<b>Total LAE</b>		<b>\$2,598.60</b>	<b>\$1,650.00</b>

\*From Oliver Wyman's CWPF 6-30-21 Reserve Analysis

### Commentary on Estimated Unpaid Losses (All Accident Years)

As of 6-30-2021, BWC management relied exclusively on BWC indicated unpaid loss and loss adjustment expenses for all funds, except for Coal Workers Pneumoconiosis. As of 6-30-2020, however, BWC management relied primarily on Oliver Wyman (OW) estimated unpaid losses and loss adjustment expenses. The below comparison displays the difference between OW estimated unpaid loss and loss adjustment expenses as of 6-30-2020 and the BWC indicated unpaid loss and loss adjustment expenses as of 6-30-2021.

The decrease in estimated unpaid loss is mainly driven by the decrease in estimated ultimate losses in the prior accident years, especially in accident years 1998 through 2020. This is explained in more detail at a later section of this report. The payment pattern that is used in estimating the amount of the discount in the reserves is also different between OW's 6-30-2020 analysis and BWC's 6-30-2021 analysis. Overall, the ratio of discounted unpaid losses to nominal unpaid losses is lower for the BWC 6-30-2021 analysis than the OW 6-30-2020, which contributes to the decrease in the discounted unpaid loss.

As expected, the DWRf I estimated unpaid loss decreased as it is continuing to run off its inventory of pre-1987 accident year claims. DWRf II estimated unpaid losses also decreased, as OW took a more conservative approach in their methodology and used different methods in their analysis as of 6-30-2020.

Defaulted Self-Insured Employers in total, had a decrease in estimated unpaid loss, with an increase in the DWRf costs associated with the claims for the defaulted SI policies. We have taken a conservative approach with DWRf costs, as they are extremely long lived, and have a long report lag. This makes them difficult to estimate, especially while the claims are only a few years old.

Marine Fund and Public Workers Relief Fund had very little change in estimated unpaid loss from last year.

ACF and HPP expense costs decreased mostly due to a decrease in the estimated unpaid losses that the ACF and HPP ratios are applied to. HPP expenses also decreased due to the new MCO contract provisions. It is estimated that the HPP costs will decrease 1-1.5% a year for the life of the contract.

The estimated PBM unpaid expenses decreased significantly. OW took a very conservative approach to estimating the PBM unpaid expense as of 6-30-2020 that did not take into consideration the continuing decrease in claim frequency. The PBM fee is a frequency-based expense, so not taking decreasing claim frequency into account led to a very conservative estimate.

When estimating future loss payments, it is certain that actual future payments will not equal the projected amount.

**Estimated Discounted Unpaid Loss (in thousands)**

Fund	Sub Fund	BWC 6-30-2021 Discounted Unpaid Loss Estimate	OW 6-30-2020 Discounted Unpaid Loss Estimate	Difference (in \$)	Difference (in %)
SIF	PA	7,861,509	8,387,295	-525,786	-6.27%
	PEC	1,508,746	1,670,544	-161,798	-9.69%
	PES	434,107	458,647	-24,540	-5.35%
	SI	50,607	57,334	-6,727	-11.73%
DWRF	DWRF I	319,207	422,058	-102,851	-24.37%
	DWRF II	1,231,595	1,341,676	-110,081	-8.20%
SIEGF	Loss	307,931	323,018	-15,087	-4.67%
	DWRF	87,842	74,569	13,273	17.80%
MIF		1,049	879	170	19.34%
PWRF		1,287	1,545	-258	-16.70%
CWPF	Loss	83,876*	86,680	-2,804	-3.2%
<b>Total Loss</b>		<b>11,887,756</b>	<b>12,824,245</b>	<b>-936,489</b>	<b>-7.30%</b>

\* CWPF is from Oliver Wyman's 6-30-2021 reserve analysis

#### Estimated Unpaid Loss Adjustment Expense (in thousands)

Fund	Sub Fund	BWC 6-30-2021 Discounted Unpaid LAE Estimate	OW 6-30-2020 Discounted Unpaid LAE Estimate	Difference (in \$)	Difference (in %)
ACF	PA, PEC, PES	901,174	931,742	-30,568	-3.28%
	SI	4,652	5,080	-428	-8.43%
	SIEGF	28,304	28,619	-315	-1.10%
	DWRF	1,404	1,410	-6	-0.43%
	DWRF SIEGF	80	60	20	33.33%
	MIF	96	78	18	23.08%
	PWRF	118	137	-19	-13.87%
	CWPF	7,710*	7,680	+30	+0.4%
HPP	PA, PEC, PES	682,811	742,444	-59,633	-8.03%
	SI	790	846	-56	-6.62%
	SIEGF	4,807	4,911	-104	-2.12%
PBM	PA, PEC, PES	18,080	35,423	-17,343	-48.96%
<b>Total LAE</b>		<b>1,650,026</b>	<b>1,758,430</b>	<b>-108,404</b>	<b>-6.16%</b>

\* CWPF is from Oliver Wyman's 6-30-2021 reserve analysis

#### Estimated Unpaid Loss and Loss Adjustment Expense (in thousands)

<b>Fund</b>	<b>BWC 6-30-2021 Discounted Unpaid Loss &amp; LAE Estimate</b>	<b>OW 6-30-2020 Discounted Unpaid Loss &amp; LAE Estimate</b>	<b>Difference (in \$)</b>	<b>Difference (in %)</b>
<b>Total Loss and LAE</b>	<b>13,537,782</b>	<b>14,582,675</b>	<b>-1,044,893</b>	<b>-7.17%</b>

### Commentary on Current Accident Year Losses

For the most recent accident year, 2021, the estimated losses for PA, PEC, and PES are higher than accident year 2020. The main reason for this is the significant decrease in claim frequency for accident year 2020 due in large part to COVID-19, which is causing that accident year to be an outlier. We anticipate the impact from COVID-19 to impact mainly accident year 2020, and accident year 2021 losses to be more in line with accident year 2019. Right now, accident year 2021 PA, PEC and PES losses are estimated to be approximately 7.3% more (8.4% more for medical and 6.6% more for indemnity) than accident year 2020, and -0.7% less than accident year 2019 losses.

For DWRF, we are comfortable with the fact that a conservative estimate of ultimate losses has been selected for accident year 2021, as by the very nature of this cost of living adjustment benefit, there have been very little payments made yet for this accident year. As more claims are awarded PTD benefits and are subsequently eligible to receive DWRF benefits, the estimated ultimate loss for 2021 will converge towards its actual amount many years from now.

There have been three Self-Insured employers that have defaulted in 2021. However, very few payments have been made by the BWC on behalf of these employers as of 6-30-21. As the year develops, more employers could default causing additional claims to be added to the inventory for which the BWC-operated Guaranty Funds are responsible for handling on behalf of the SI Community.

### Commentary on Prior Year Estimated Ultimate Losses

Overall, the estimated Ultimate loss for the State Insurance Fund decreased slightly due to two reasons. First, the impact of an additional year of paid loss data indicating lower levels of future costs than were indicated in the prior estimates. Also, OW had a conservative approach in estimating ultimate losses, especially in accident years 1998 through 2020. These conservative estimates tend to unwind over time and decrease. While we anticipate changes every year, the current change in estimated ultimate losses from last year is not unreasonable nor cause for concern.

### Change in Estimated Ultimate Loss Accident Years 1987 - 2020 (in millions)

<b>Fund</b>	<b>BWC Ultimate Loss as of 6-30-2021</b>	<b>OW Ultimate Loss as of 6-30-2020</b>	<b>Difference (in \$)</b>	<b>Difference (in %)</b>
PA	45,405.6	46,347.6	-942.0	-2.0%
PEC	7,275.4	7,590.6	-315.2	-4.2%
PES	2,333.9	2,330.8	3.1	0.1%
<b>Total</b>	<b>55,014.9</b>	<b>56,269.0</b>	<b>-1,254.0</b>	<b>-2.2%</b>

The reason that PES has an increase while PA, PEC and SIF in total decreased is because PES was allocated a slightly higher portion of the losses due to increases in case reserves for PES as of 6-30-2021.

We do not have estimated ultimate losses available for the other funds due to payment data limitations from older calendar periods and older accident periods.

### Commentary on the Quarterly Payments

Overall, Quarterly Payments increased during the most recent quarter overall over the latest fiscal year. The payments made during the first two quarters of 2021 are still lower than 2019 levels, even with the increase. The impact of COVID-19 on payments, both medical and indemnity, has been lessening. We have anticipated that there will be some catchup of medical payments as the surgeries and doctor visits are rescheduled, so there may be a slight increase in incremental quarterly payments in the future.

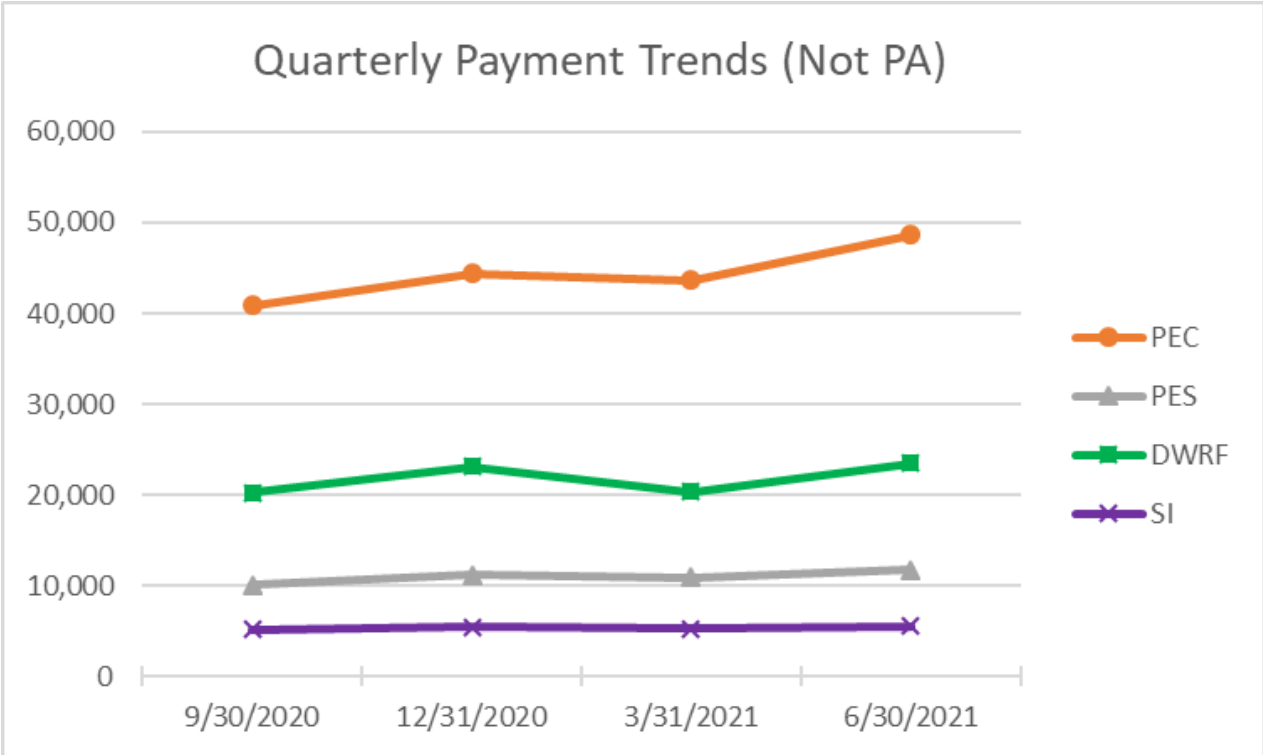
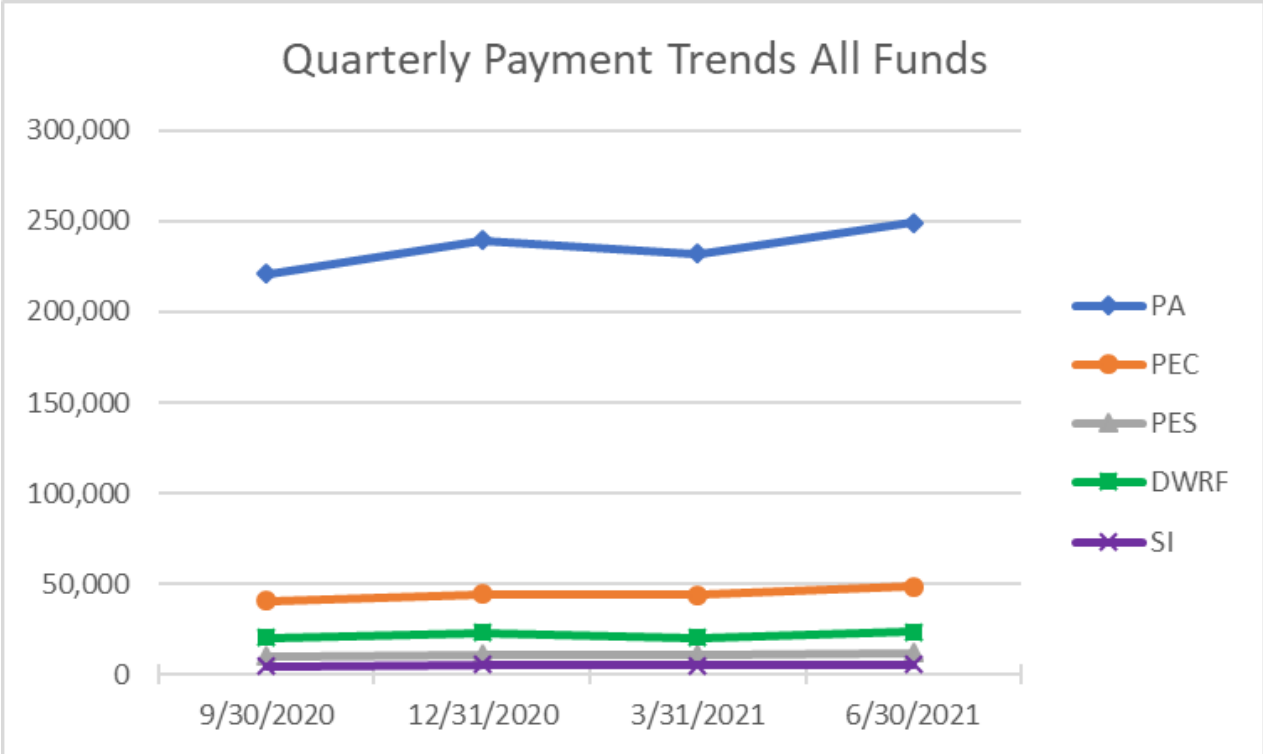
As shown in the following chart and graphs, the quarterly payments on an all-accident year combined basis have increased slightly over the past four quarters.

### Change Quarterly Payments (in thousands)

<b>Fund</b>	<b>Payments 7/1/2020 to 9/30/2020</b>	<b>Payments 10/1/2020 to 12/31/2020</b>	<b>Payments 1/1/2021 to 3/31/2021</b>	<b>Payments 4/1/2021 to 6/30/2021</b>
PA	220,820	239,514	231,903	249,279
PEC	40,875	44,409	43,660	48,610
PES	10,095	11,212	10,901	11,750
DWRF	20,271	23,096	20,370	23,474
Defaulted SI	5,217	5,480	5,238	5,525

\*Note that payments shown here are gross of pharmacy rebates and hospital overpayments





## Analysis Methodology

The methods used to estimate the unpaid losses by accident year include paid loss development, and Bornhuetter-Ferguson using both payroll and premium exposures. These methods are also used for estimating Pharmacy Benefit Manager loss adjustment expenses.

Under the paid development method, the selected loss development factors are estimated based on historical payment development. These selected loss development factors are multiplied to the latest cumulative paid losses to estimate the ultimate amount. This method is very frequently used in actuarial analyses but is less useful in situations where there is little payment development in the first few years.

The Bornhuetter-Ferguson (BF) methods are based on the percentage paid to date, as determined by the paid development method, and an exposure basis, such as payroll and premium. In this method a loss cost (for a payroll exposure basis) or a loss ratio (for a premium exposure basis) is selected for each accident year. This selected loss cost or loss ratio is multiplied by the exposure basis for that given accident year to estimate an ultimate loss. Then the percentage unpaid to date, which is 100% less the percentage paid to date, is multiplied by this estimated ultimate loss to estimate the unpaid loss for this method. In the 6-30-21 BWC analysis, the premium used in the BF method was on-leveled to 2021 rate leveled for all years, so that the impact of the rate changes over the past several years are mitigated. This method is less responsive than the paid loss development method but allows for estimates in accident years where there has been very little development.

For estimating the estimated unpaid loss for DWRF, we also used a paid-to-paid method. This method looks at the ratio of DWRF payments to PTD payments over the development periods. A selected ratio development factor is selected, similar to the paid development method. Then the future ratio of DWRF to PTD payments are estimated using the current ratio multiplied by the ratio development factors. These estimated ratios are multiplied by the estimated future PTD payments, as determined by the paid development method, to get an estimated unpaid DWRF loss.

To estimate unpaid loss adjustment expenses for the Administrative Cost Fund and the Health Plan Partnership Fund, we used a variation of the Classical (Traditional) Paid to Paid Technique for estimating unpaid unallocated loss adjustment expenses. This method assumes that half of the claim adjustment expenses are paid in the year the injury occurs and the other half is paid as future claim payments are made. We also assumed that 15% of the loss IBNR is related to future claims (Pure IBNR).

Historical ratios of paid loss adjustment expenses to total claim payments by fiscal year are calculated, and a selected future paid-to-paid ratio was selected. We then applied a modifier, which is based on applying 50% to case reserves and estimated future development on known claims (IBNR related to already reported claims), and 100% to pure IBNR, to the selected paid-

to-paid ratio to calculate an unpaid LAE ratio. We multiplied the unpaid LAE ratio by the unpaid losses for each employer type to calculate our estimate of unpaid loss adjustment expenses.

## **Identification**

This report has been prepared by Jeana Holewinski, FCAS, MAAA, AINS. I am an actuary employed by the Ohio Bureau of Workers' Compensation and meet the qualification standards of the American Academy of Actuaries to issue this report. This report adheres to all applicable Actuarial Standards of Practice.