Municipal Pensions Oversight Board

# City of Moundsville
# West Virginia
# Policemen's Pension and Relief Fund

GASB 68 Actuarial Information for the
Measurement Period Ending
June 30, 2022

Bolton


Submitted by:

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November 29, 2022

Ms. Lacey Williams
City Treasurer
City of Moundsville
800 Sixth Street
Moundsville, WV 26041

Lieutenant Steven Kosek
Pension Board Secretary
City of Moundsville
Policemen's Pension and Relief Fund

Re: City of Moundsville Policemen's Pension and Relief Fund
GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2022

Dear Lacey,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Moundsville Policemen's Pension and Relief Fund to be included in the City's financial statements for FY 2022. The GASB 67 information has been provided as of June 30, 2022 (the GASB 68 measurement date for FY 2022).

## Methodology, Reliance and Certification

This report is prepared for the City. The report contains the actuarial information to be included with the City's financial statements for the year ending June 30, 2022 (the City's fiscal year end date) as required by GASB 68. This information has been prepared for use in the financial statements of the City. This information is not intended for, nor should it be used for, any additional purposes.

The total pension liability is based on the July 1, 2021 actuarial valuation rolled forward to June 30, 2022. The methods, assumptions, and participant data used are detailed in the July 1, 2021 actuarial valuation report with the exception of the actuarial cost method. These calculations are based on the Entry Age Normal cost method as required by GASB 67. The calculation of the Actuarially Determined Contribution for the fiscal year ending June 30, 2022 is contained in the July 1, 2020 actuarial valuation report. The discount rate assumption may have changed if a blended rate was used for GASB purposes.

The included calculations assume that the members and the City will continue to make all required contributions in accordance with the City's funding policy.

The long-term nominal expected rate of return on pension plan investments was determined using a methodology approved by the Municipal Pensions Oversight Board (MPOB) and is based on the funded status (current and projected), equity exposure, and funding policy.

These calculations and comparisons with assets are applicable for the valuation date only. The future is uncertain, and the plan may become better funded or more poorly funded in the future. This valuation does not provide any guarantee that the plan will be able to provide the promised benefits in the future.

## Methodology, Reliance and Certification (cont.)

This is a deterministic valuation in that it is based on a single set of assumptions. This set of assumptions is one possible basis for our calculations. Other assumptions may be equally valid. The future is uncertain and the plan's actual experience will differ from the assumptions; the differences may be significant or material because the results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions. We may consider that some factors are not material to the valuation of the plan and may not provide a specific assumption for those factors. We may have used other assumptions in the past. We will likely consider changes in assumptions at a future date.

The City is responsible for selecting the plan's funding policy based on four methods allowed for under state law. The actuarial valuation methods are chosen by the actuary in accordance with actuarial standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries and as required by GASB 67 & 68. The MPOB selects the asset valuation methods and assumptions; these selections are reviewed by a qualified actuary no less than every five years. The actuary shall provide a report to the Board with recommendations on any changes to the actuarial process. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. The City and MPOB are solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

The City could reasonably ask how the valuation would change if we used a different assumption set or if plan experience exhibited variations from our assumptions. This report does not contain such an analysis. That type of analysis would be a separate assignment.

The cost of this plan is determined by the benefits promised by the plan, the plan's participant population, the investment experience of the plan and many other factors. An actuarial valuation is a budgeting tool for the City or, in this case, a measure of accounting expense. It does not affect the cost of the plan. As the experience of the plan evolves, it is normal for the level of contributions and expense of the plan to change.

We make every effort to ensure that our calculations are accurately performed. We reserve the right to correct any potential errors by amending the results of this report or by including the corrections in a future valuation report.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

This report is based on plan provisions, census data, and asset data submitted by the City. We have relied on this information for purposes of preparing this report, but have not performed an audit. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The plan sponsor is solely responsible for the validity and completeness of this information.

The valuation was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.

## Methodology, Reliance and Certification (cont.)

The City is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Bolton Partners, Inc.'s actuaries have not provided any investment advice to the City.

The information in this report was prepared for the internal use of the City, the plan and their auditors in connection with our actuarial valuations of the pension plan as required by GASB 68. This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use or the reliance on this information by any other party.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, an assumption based on the expected long-term rate of return on plan investments is used. If the plan is expected to become insolvent, the return assumption is blended with a long-term municipal bond rate. Using a lower discount rate assumption, such as a rate solely based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

This report provides certain financial calculations for use by the auditor. These values have been computed in accordance with our understanding of generally accepted actuarial principles and practices and fairly reflect the actuarial position of the Plan. The various actuarial assumptions and methods which have been used are, in our opinion, appropriate for the purposes of this report.

The report is conditioned on the assumption of an ongoing plan and is not meant to present the actuarial position of the plan in the case of plan termination. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status), and changes in plan provisions or applicable law.

The undersigned enrolled actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The July 1, 2021 actuarial valuation report contains information that is integral to the results contained herein and a copy may be provided upon request.

Sincerely,

James Ritchie, ASA, EA, FCA, MAAA

Jordan McClane, FSA, EA, FCA, MAAA

# City of Moundsville, West Virginia Policemen's Pension and Relief Fund
## Actuarial Information to Include in the Financial Statements
## for the June 30, 2022 Measurement Date

### Net Pension Liability of the Employer

The components of the net pension liability of the Employer at June 30, 2022, were as follows:

| | | |
|---|---|---|
| Total pension liability | $ | 8,519,014 |
| Plan fiduciary net position | | (5,912,541) |
| Employer's net pension liability | $ | 2,606,473 |
| | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 69.40% |

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2021 rolled forward to June 30, 2022 using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Inflation | 2.50 percent |
| Salary increases | Rates vary by years of service |
| Single discount rate (BOY) | 6.50% |
| Single discount rate (EOY) | 6.50% |
| Investment rate of return (BOY) | 6.50%, net of pension plan investment expense, including inflation |
| Investment rate of return (EOY) | 6.50%, net of pension plan investment expense, including inflation |
| Long-term municpal bond rate (BOY) | 1.92% |
| Long-term municpal bond rate (EOY) | 3.69% |
| Mortality | SOA PubS-2010(B) with generational projection using Scale MP-2019 |
| Year Fund is projected to be fully funded | 2040 |
| Year assets are expected to be depleted for a closed plan | N/A |

The above is a summary of key actuarial assumptions. Full descriptions of the actuarial assumptions are available in the July 1, 2021 actuarial valuation report.

### Sensitivity of the net pension liability to changes in the discount rate

| | | 1% Decrease 5.50% | | Current Discount Rate 6.50% | | 1% Increase 7.50% |
|---|---|---|---|---|---|---|
| Employer's net pension liability | $ | 3,687,776 | $ | 2,606,473 | $ | 1,717,749 |

Changes in the Net Pension Liability

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| **Balances at 6/30/21** | $ 7,827,809 | $ 6,238,745 | $ 1,589,064 |
| **Changes for the year:** | | | |
| Service cost | 91,147 | | 91,147 |
| Interest | 491,442 | | 491,442 |
| Changes of benefit terms | - | | - |
| Differences between expected and actual experience | 642,956 | | 642,956 |
| Changes of assumptions | - | | - |
| Contributions - employer (including Premium Tax Allocation) | | 267,552 | (267,552) |
| Contributions - member | | 21,679 | (21,679) |
| Net investment income | | (75,873) | 75,873 |
| Benefit payments, including refunds of member contributions | (534,340) | (534,340) | - |
| Administrative expense | | (5,222) | 5,222 |
| Other | | - | - |
| **Net Changes** | 691,205 | (326,204) | 1,017,409 |
| **Balances at 6/30/22** | $ 8,519,014 | $ 5,912,541 | $ 2,606,473 |

| | | | |
|---|---|---|---|
| Return on Investments | | (1.2%) | |

## Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2022

| Note | Description | Amount |
|---|---|---|
| A | Service cost | $ 91,147 |
| B | Interest on the total pension liability | 491,442 |
| A | Changes of benefit terms | - |
| C | Differences between expected and actual experience | 642,956 |
| C | Changes of assumptions | - |
| A | Employee contributions | (21,679) |
| D | Projected earnings on pension plan investments | (397,382) |
| C | Differences between expected and actual earnings on plan investments | 95,191 |
| A | Pension plan administrative expense | 5,222 |
| A | Other changes in fiduciary net position | - |
| | **Total Pension Expense** | **$ 906,897** |

**Notes:**

A Provided in the Changes in Net Pension Liability exhibit.

B Based on the following calculation:

| | Amount for Period (a) | Portion of Period (b) | Interest Rate (c) | Projected Earnings (a) x (b) x (c) |
|---|---|---|---|---|
| Beginning total pension liability | $ 7,827,809 | 100% | 6.50% | $ 508,808 |
| Service cost (End of Year) | 91,147 | 0% | 6.50% | - |
| Benefit payments, including refunds of employee contributions | (534,340) | 50% | 6.50% | (17,366) |
| **Total interest on the total pension liability** | | | | **$ 491,442** |

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

| | Amount for Period (a) | Portion of Period (b) | Projected Rate of Return (c) | Projected Earnings (a) x (b) x (c) |
|---|---|---|---|---|
| Beginning plan fiduciary net position | $ 6,238,745 | 100% | 6.50% | $ 405,518 |
| Employer contributions | 267,552 | 50% | 6.50% | 8,695 |
| Employee contributions | 21,679 | 50% | 6.50% | 705 |
| Benefit payments, including refunds of employee contributions | (534,340) | 50% | 6.50% | (17,366) |
| Administrative expense and other | (5,222) | 50% | 6.50% | (170) |
| **Total Projected Earnings** | | | | **$ 397,382** |

## Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2022, the Employer reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes of assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 138,206 | - |
| **Total** | **$ 138,206** | **$ -** |

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

| **Year ended June 30:** | |
|---|---|
| 2023 | $ 79,606 |
| 2024 | 30,015 |
| 2025 | (66,066) |
| 2026 | 94,651 |
| 2027 | - |
| Thereafter | - |

City of Moundsville, West Virginia Policemen's Pension and Relief Fund
Actuarial Information to Include in the Financial Statements
for the June 30, 2022 Measurement Date

## Changes in the Employer's Net Pension Liability and Related Ratios
Last 10 Fiscal Years

| **Total pension liability** | **2022** | **2021** | **2020** | **2019** | **2018** | **2017** | **2016** | **2015** | **2014** | **2013** |
|---|---|---|---|---|---|---|---|---|---|---|
| Service cost | $ 91,147 | $ 107,731 | $ 133,439 | $ 123,509 | $ 135,571 | $ 152,307 | $ 114,034 | $ 126,516 | $ 143,737 | $ - |
| Interest | 491,442 | 541,453 | 514,357 | 487,495 | 476,497 | 471,477 | 437,499 | 438,800 | 427,445 | - |
| Changes of benefit terms | - | - | - | - | - | - | - | - | - | - |
| Differences between expected and actual experience | 642,956 | (380,394) | 286,324 | 201,134 | (209,738) | 83,644 | (305,554) | (46,635) | - | - |
| Changes of assumptions | - | (455,948) | - | - | - | - | 629,781 | - | - | - |
| Benefit payments, including refunds of member contributions | (534,340) | (630,176) | (404,315) | (393,424) | (356,749) | (300,161) | (261,000) | (283,229) | (280,489) | - |
| Net change in total pension liability | 691,205 | (817,334) | 529,805 | 418,714 | 45,581 | 407,267 | 614,760 | 235,452 | 290,693 | - |
| Total pension liability - beginning | 7,827,809 | 8,645,143 | 8,115,338 | 7,696,624 | 7,651,043 | 7,243,776 | 6,629,016 | 6,393,564 | 6,102,871 | - |
| **Total pension liability - ending (a)** | **$ 8,519,014** | **$ 7,827,809** | **$ 8,645,143** | **$ 8,115,338** | **$ 7,696,624** | **$ 7,651,043** | **$ 7,243,776** | **$ 6,629,016** | **$ 6,393,564** | **$ -** |

| **Plan fiduciary net position** | **2022** | **2021** | **2020** | **2019** | **2018** | **2017** | **2016** | **2015** | **2014** | **2013** |
|---|---|---|---|---|---|---|---|---|---|---|
| Contributions - employer (including Premium Tax Allocation) | $ 267,552 | $ 271,666 | $ 263,367 | $ 247,716 | $ 347,478 | $ 273,415 | $ 221,724 | $ 281,621 | $ 402,121 | $ - |
| Contributions - member | 21,679 | 22,201 | 27,482 | 27,661 | 26,817 | 31,859 | 30,457 | 32,561 | 37,524 | - |
| Net investment income | (75,873) | 1,145,593 | (116,201) | 116,253 | 271,928 | 545,409 | (11,151) | 89,842 | 576,814 | - |
| Benefit payments, including refunds of member contributions | (534,340) | (630,176) | (404,315) | (393,424) | (356,749) | (300,161) | (261,000) | (283,229) | (280,489) | - |
| Administrative expense | (5,222) | (578) | (492) | - | (420) | (681) | (456) | (420) | (429) | - |
| Other | - | - | - | (703) | - | - | - | - | - | - |
| Net change in plan fiduciary net position | $ (326,204) | $ 808,706 | $ (230,159) | $ (2,497) | $ 289,054 | $ 549,841 | $ (20,426) | $ 120,375 | $ 735,541 | $ - |
| Plan fiduciary net position - beginning | 6,238,745 | 5,430,039 | 5,660,198 | 5,662,695 | 5,373,640 | 4,823,799 | 4,844,225 | 4,723,850 | 3,988,309 | - |
| **Plan fiduciary net position - ending (b)** | **$ 5,912,541** | **$ 6,238,745** | **$ 5,430,039** | **$ 5,660,198** | **$ 5,662,695** | **$ 5,373,640** | **$ 4,823,799** | **$ 4,844,225** | **$ 4,723,850** | **$ -** |
| Employer's net pension liability - ending (a)-(b) | $ 2,606,473 | $ 1,589,064 | $ 3,215,104 | $ 2,455,140 | $ 2,033,929 | $ 2,277,403 | $ 2,419,977 | $ 1,784,791 | $ 1,669,714 | $ - |
| Plan fiduciary net position as a percentage of the total pension liability | 69.40% | 79.70% | 62.81% | 69.75% | 73.57% | 70.23% | 66.59% | 73.08% | 73.88% | N/A |
| Covered payroll | $ 306,714 | $ 311,808 | $ 405,000 | $ 373,744 | $ 394,511 | $ 440,540 | $ 407,851 | $ 474,342 | $ 546,779 | N/A |
| Employer's net pension liability as a percentage of covered payroll | 849.81% | 509.63% | 793.85% | 656.90% | 515.56% | 516.96% | 593.35% | 376.27% | 305.37% | N/A |
| Expected average remaining service years of all participants | 1.00 | 1.00 | 2.00 | 2.00 | 2.49 | 2.84 | 3.12 | 3.98 | N/A | N/A |

**Notes to Schedule:**

Benefit changes: There were no changes for FY2022.

Changes of assumptions: There were no changes for FY2022.

*The Plan Fiduciary Net Position as of July 1, 2020 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2020 as provided in the prior GASB report. A difference of $323,680 has been included as investment income for the measurement period ending June 30, 2021.

City of Moundsville, West Virginia Policemen's Pension and Relief Fund
Actuarial Information to Include in the Financial Statements
for the June 30, 2022 Measurement Date

Schedule of Employer Contributions
Last 10 Fiscal Years

| | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| Actuarially determined contribution | $ 191,669 | $ 302,712 | $ 265,004 | $ 261,371 | $ 226,744 | $ 260,574 | $ 227,833 | $ 186,164 | $ 218,332 | $ 268,585 |
| Contributions in relation to the actuarially determined contribution | | | | | | | | | | |
| Employer provided | 69,639 | 129,575 | 92,613 | 95,000 | 202,902 | 128,950 | 101,449 | 136,456 | 187,790 | 236,235 |
| State provided | 197,913 | 142,091 | 170,754 | 152,716 | 144,576 | 144,465 | 120,275 | 145,165 | 214,331 | 137,459 |
| Contribution deficiency (excess) | $ (75,883) | $ 31,046 | $ 1,637 | $ 13,655 | $ (120,734) | $ (12,841) | $ 6,109 | $ (95,457) | $ (183,789) | $ (105,109) |
| Covered payroll | $ 306,714 | $ 311,808 | $ 405,000 | $ 373,744 | $ 394,511 | $ 443,540 | $ 407,851 | $ 474,342 | $ 546,779 | $ 552,648 |
| Contributions as a percentage of covered employee payroll | 87.23% | 87.13% | 65.03% | 66.28% | 88.08% | 61.64% | 54.36% | 59.37% | 73.54% | 67.62% |

Notes to Schedule

Valuation date:
Actuarially determined contribution amounts are calculated as of the beginning of the fiscal year (July 1) for the year immediately following the fiscal year. The assumption shown below are those used in the 7/1/2020 actuarial valuation to calculate the FY2022 ADC. Assumptions used to determine all contributions in the past would not have been the same.

Methods and assumptions used to determine contribution rates:

| | |
|---|---|
| Actuarial cost method | Entry Age Normal |
| Amortization method | Level Dollar |
| Remaining amortization period | 15 to 28.5 years |
| Asset valuation method | 4-year smoothed market |
| Inflation | 2.50 percent |
| Salary increases | Rates vary by years of service |
| Investment rate of return | 6.50%, net of pension plan investment expense, including inflation |
| Retirement age | Rates vary by age |
| Mortality | SOA PubS-2010(B) with generational projection using Scale MP-2019 |

## Schedule of Differences between Projected and Actual Earnings on Pension Plan Investments

In conformity with paragraph 33b of Statement 68, the effects of differences between projected and actual earnings on pension plan investments are recognized in pension expense using a systematic and rational method over a closed five-year period, beginning in the current reporting period. The following table illustrates the application of this requirement.

| | | | Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Plan Investments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Differences between Projected and Actual Earnings on Pension Plan Investments | Recognition Period (Years) | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| 2018 | $ 77,915 | 5 | $ 15,583 | 15,583 | 15,583 | 15,583 | 15,583 | | | | |
| 2019 | 247,963 | 5 | | $ 49,593 | 49,593 | 49,593 | 49,593 | 49,591 | | | |
| 2020 | 480,410 | 5 | | | $ 96,082 | 96,082 | 96,082 | 96,082 | 96,082 | | |
| 2021 | (803,589) | 5 | | | | $ (160,718) | (160,718) | (160,718) | (160,718) | (160,717) | |
| 2022 | 473,255 | 5 | | | | | $ 94,651 | 94,651 | 94,651 | 94,651 | 94,651 |
| Net increase (decrease) in pension expense | | | | | | | $ 95,191 | $ 79,606 | $ 30,015 | $ (66,066) | $ 94,651 |

## Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on Pension Plan Investments

| | | | | Balances at June 30, 2022 | |
|---|---|---|---|---|---|
| Year | Investment Earnings Less than Projected (a) | Investment Earnings Greater Than Projected (b) | Amounts Recognized in Pension Expense Through June 30, 2022 (c) | Deferred Outflows of Resources (a) - (c) | Deferred Inflows of Resources (b) - (c) |
| 2018 | $ 77,915 | $ - | $ 77,915 | $ - | $ - |
| 2019 | 247,963 | - | 198,372 | 49,591 | - |
| 2020 | 480,410 | - | 288,246 | 192,164 | - |
| 2021 | - | 803,589 | 321,436 | - | 482,153 |
| 2022 | 473,255 | - | 94,651 | 378,604 | - |
| | | | | **$ 620,359** | **$ 482,153** |

Schedule of Differences between Expected and Actual Experience

In conformity with paragraph 33a of Statement 68, the effects of differences between expected and actual experience are recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

| Year | Differences between Expected and Actual Experience | Recognition Period (Years) | Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Prior | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Thereafter |
| Prior | - | - | | | | | | | | | | | | | | - | - | - | - |
| 2013 | - | - | | | | | | | | | | | | | | | | | |
| 2014 | - | - | | | | | | | | | | | | | | | | | |
| 2015 | (46,635) | 3.976686 | | | | $ (11,727) | (11,727) | (11,727) | (11,454) | | | | | | | | | | |
| 2016 | (305,554) | 3.118626 | | | | | $ (97,977) | (97,977) | (97,977) | (11,623) | | | | | | | | | |
| 2017 | 83,644 | 2.842688 | | | | | | $ 29,424 | 29,424 | 24,796 | | | | | | | | | |
| 2018 | (209,738) | 2.491062 | | | | | | | $ (84,196) | (84,196) | (41,346) | | | | | | | | |
| 2019 | 201,134 | 2.000000 | | | | | | | | $ 100,567 | 100,567 | | | | | | | | |
| 2020 | 286,324 | 2.000000 | | | | | | | | | $ 143,162 | 143,162 | | | | | | | |
| 2021 | (380,394) | 1.000000 | | | | | | | | | | $ (380,394) | | | | | | | |
| 2022 | 642,956 | 1.000000 | | | | | | | | | | | $ 642,956 | | | | | | |
| Net increase (decrease) in pension expense | | | | | | | | | | | | | $ 642,956 | $ - | $ - | $ - | $ - | $ - | $ - |

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

| Year | Experience Losses (a) | Experience Gains (b) | Amounts Recognized in Pension Expense Through June 30, 2022 (c) | Balances at June 30, 2022 Deferred Outflows of Resources (a) - (c) | Balances at June 30, 2022 Deferred Inflows of Resources (b) - (c) |
|---|---|---|---|---|---|
| Prior | $ - | $ - | $ - | $ - | $ - |
| 2013 | - | - | - | - | - |
| 2014 | - | - | - | - | - |
| 2015 | - | 46,635 | 46,635 | - | - |
| 2016 | - | 305,554 | 305,554 | - | - |
| 2017 | 83,644 | - | 83,644 | - | - |
| 2018 | - | 209,738 | 209,738 | - | - |
| 2019 | 201,134 | - | 201,134 | - | - |
| 2020 | 286,324 | - | 286,324 | - | - |
| 2021 | - | 380,394 | 380,394 | - | - |
| 2022 | 642,956 | - | 642,956 | - | - |
| | | | | $ - | $ - |

Schedule of Changes of Assumptions

In conformity with paragraph 33a of Statement 68, the effects of changes of assumptions should be recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

| | | | Increase (Decrease) in Pension Expense Arising from the Effects of Changes of Assumptions | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Changes of Assumptions | Recognition Period (Years) | Prior | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Thereafter |
| Prior | $ - | - | | | | | | | | | | | | | | | | | - |
| 2013 | - | - | | | | | | | | | | | | | | | | | |
| 2014 | - | - | | | | | | | | | | | | | | | | | |
| 2015 | - | 3.976686 | | | | | | | | | | | | | | | | | |
| 2016 | 629,781 | 3.118626 | | | | | $ 201,942 | 201,942 | 201,942 | 23,955 | | | | | | | | | |
| 2017 | - | 2.842688 | | | | | | | | | | | | | | | | | |
| 2018 | - | 2.491062 | | | | | | | | | | | | | | | | | |
| 2019 | - | 2.000000 | | | | | | | | | | | | | | | | | |
| 2020 | - | 2.000000 | | | | | | | | | | | | | | | | | |
| 2021 | (455,948) | 1.000000 | | | | | | | | | | $ (455,948) | | | | | | | |
| 2022 | - | 1.000000 | | | | | | | | | | | $ - | | | | | | |
| Net increase (decrease) in pension expense | | | | | | | | | | | | | $ - | $ - | $ - | $ - | $ - | $ - | $ - |

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions

| | | | | Balances at June 30, 2022 | |
|---|---|---|---|---|---|
| Year | Increases in the Total Pension Liability (a) | Decreases in the Total Pension Liability (b) | Amounts Recognized in Pension Expense Through June 30, 2022 (c) | Deferred Outflows of Resources (a) - (c) | Deferred Inflows of Resources (b) - (c) |
| Prior | $ - | $ - | $ - | $ - | $ - |
| 2013 | - | - | - | - | - |
| 2014 | - | - | - | - | - |
| 2015 | - | - | - | - | - |
| 2016 | 629,781 | - | 629,781 | - | - |
| 2017 | - | - | - | - | - |
| 2018 | - | - | - | - | - |
| 2019 | - | - | - | - | - |
| 2020 | - | - | - | - | - |
| 2021 | - | 455,948 | 455,948 | - | - |
| 2022 | - | - | - | - | - |
| | | | | **$ -** | **$ -** |