Municipal Pensions Oversight Board

City of Wheeling
West Virginia
Firemen’s Pension and Relief Fund

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

Bolton

Submitted by:

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Bolton
Employee Benefits, Actuarial & Investment Consulting

November 28, 2022

Mr. Seth McIntyre
Finance Director
City of Wheeling
1500 Chapline Street, Rm 115
Wheeling, WV 26003

Fire Engineer Richard Brown
Pension Board Secretary
City of Wheeling
Firemen's Pension and Relief Fund

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

Dear Seth,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Wheeling Firemen'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

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	$	70,207,968
Plan fiduciary net position		(37,976,270)
Employer's net pension liability	$	32,231,698
Plan fiduciary net position as a percentage of the total pension liability		54.09%

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)	5.75%
Single discount rate (EOY)	6.00%
Investment rate of return (BOY)	5.75%, net of pension plan investment expense, including inflation
Investment rate of return (EOY)	6.00%, 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	2049
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 5.00%	Current Discount Rate 6.00%	1% Increase 7.00%
Employer's net pension liability	$ 41,371,489	$ 32,231,698	$ 24,739,598

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	$ 72,083,006	$ 42,645,842	$ 29,437,164
Changes for the year:			
Service cost	1,078,709		1,078,709
Interest	4,033,189		4,033,189
Changes of benefit terms	-		-
Differences between expected and actual experience	(992,377)		(992,377)
Changes of assumptions	(2,113,375)		(2,113,375)
Contributions - employer (including Premium Tax Allocation)		3,379,771	(3,379,771)
Contributions - member		258,501	(258,501)
Net investment income*		(4,373,375)	4,373,375
Benefit payments, including refunds of member contributions	(3,881,184)	(3,881,184)	-
Administrative expense		(53,285)	53,285
Other		-	-
Net Changes	(1,875,038)	(4,669,572)	2,794,534
Balances at 6/30/22	$ 70,207,968	$ 37,976,270	$ 32,231,698
Return on Investments		(10.3%)	

*The Plan Fiduciary Net Position as of July 1, 2021 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2021 as provided in the prior GASB report. A difference of $7,806 has been excluded as investment income for the measurement period ending June 30, 2022.

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

Note	Description	Amount
A	Service cost	$ 1,078,709
B	Interest on the total pension liability	4,033,189
A	Changes of benefit terms	-
C	Differences between expected and actual experience	(1,072,472)
C	Changes of assumptions	(4,731,723)
A	Employee contributions	(258,501)
D	Projected earnings on pension plan investments	(2,443,620)
C	Differences between expected and actual earnings on plan investments	(67,742)
A	Pension plan administrative expense	53,285
A	Other changes in fiduciary net position	-
	Total Pension Expense	**$ (3,408,875)**

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	$ 72,083,006	100%	5.75%	$ 4,144,773
Service cost (End of Year)	1,078,709	0%	5.75%	-
Benefit payments, including refunds of employee contributions	(3,881,184)	50%	5.75%	(111,584)
Total interest on the total pension liability				**$ 4,033,189**

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	$ 42,645,842	100%	5.75%	$ 2,452,136
Employer contributions	3,379,771	50%	5.75%	97,168
Employee contributions	258,501	50%	5.75%	7,432
Benefit payments, including refunds of employee contributions	(3,881,184)	50%	5.75%	(111,584)
Administrative expense and other	(53,285)	50%	5.75%	(1,532)
Total Projected Earnings				**$ 2,443,620**

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	$ -	$ 496,188
Changes of assumptions	-	1,056,687
Net difference between projected and actual earnings on pension plan investments	1,310,576	-
Total	**$ 1,310,576**	**$ 1,552,875**

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	$ (1,534,880)
2024	9,616
2025	(80,434)
2026	1,363,399
2027	-
Thereafter	-

City of Wheeling, West Virginia Firemen'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	$ 1,078,709	$ 1,401,417	$ 1,383,444	$ 1,327,567	$ 1,391,221	$ 1,382,494	$ 1,261,288	$ 1,392,349	$ 1,374,071	$ -
Interest	4,033,189	4,217,405	4,091,788	3,939,358	3,850,490	3,793,352	3,530,476	3,483,232	3,450,611	-
Changes of benefit terms	-	802,377	-	-	-	-	-	-	-	-
Differences between expected and actual experience	(992,377)	(1,152,566)	1,024,337	640,203	(1,170,618)	(241,686)	(990,399)	(694,230)	-	-
Changes of assumptions	(2,113,375)	(7,350,071)	-	-	-	-	3,114,434	-	-	-
Benefit payments, including refunds of member contributions	(3,881,184)	(5,031,288)	(3,399,986)	(2,871,341)	(2,989,299)	(2,952,120)	(2,938,988)	(2,982,343)	(2,736,564)	-
Net change in total pension liability	(1,875,038)	(7,112,726)	3,099,583	3,035,787	1,081,794	1,982,040	3,976,811	1,199,008	2,088,118	-
Total pension liability - beginning	72,083,006	79,195,732	76,096,149	73,060,362	71,978,568	69,996,528	66,019,717	64,820,709	62,732,591	-
Total pension liability - ending (a)	**$ 70,207,968**	**$ 72,083,006**	**$ 79,195,732**	**$ 76,096,149**	**$ 73,060,362**	**$ 71,978,568**	**$ 69,996,528**	**$ 66,019,717**	**$ 64,820,709**	**$ -**

Plan fiduciary net position	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Contributions - employer (including Premium Tax Allocation)	$ 3,379,771	$ 4,357,927	$ 4,301,455	$ 4,376,833	$ 4,524,329	$ 4,305,941	$ 4,021,930	$ 4,097,589	$ 2,812,885	$ -
Contributions - member	258,501	281,277	279,451	278,326	280,340	281,234	277,761	288,037	294,849	-
Net investment income	(4,373,375)	9,076,924	1,317,060	1,561,426	1,834,252	2,310,992	(212,298)	627,732	2,351,171	-
Benefit payments, including refunds of member contributions	(3,881,184)	(5,031,288)	(3,399,986)	(2,871,341)	(2,989,299)	(2,952,120)	(2,938,988)	(2,982,343)	(2,736,564)	-
Administrative expense	(53,285)	(24,922)	(109,020)	(14,215)	(2,401)	(53)	(2,999)	(19,522)	(56,305)	-
Other	-	-	-	(1,274)	10,396	4,426	495	-	20,340	-
Net change in plan fiduciary net position	$ (4,669,572)	$ 8,659,918	$ 2,388,960	$ 3,329,755	$ 3,657,617	$ 3,950,420	$ 1,145,901	$ 2,011,493	$ 2,686,377	$ -
Plan fiduciary net position - beginning	42,645,842	33,985,924	31,596,964	28,267,209	24,609,592	20,659,173	19,513,272	17,501,778	14,713,747	-
Plan fiduciary net position - ending (b)	**$ 37,976,270**	**$ 42,645,842**	**$ 33,985,924**	**$ 31,596,964**	**$ 28,267,209**	**$ 24,609,593**	**$ 20,659,173**	**$ 19,513,271**	**$ 17,400,123**	**$ -**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Employer's net pension liability - ending (a)-(b)	$ 32,231,698	$ 29,437,164	$ 45,209,808	$ 44,499,185	$ 44,793,153	$ 47,368,975	$ 49,337,355	$ 46,506,446	$ 47,420,586	$ -
Plan fiduciary net position as a percentage of the total pension liability	54.09%	59.16%	42.91%	41.52%	38.69%	34.19%	29.51%	29.56%	26.84%	N/A
Covered payroll	$ 2,891,790	$ 3,406,609	$ 3,851,373	$ 3,739,386	$ 3,264,883	$ 3,263,322	$ 789,366	$ 4,052,407	$ 4,003,316	N/A
Employer's net pension liability as a percentage of covered payroll	1114.59%	864.12%	1173.86%	1190.01%	1371.97%	1451.56%	1301.99%	1147.63%	1184.53%	N/A
Expected average remaining service years of all participants	2.00	2.00	2.00	3.00	2.88	3.11	3.40	3.53	N/A	N/A

Notes to Schedule:

Benefit changes: There were no changes for FY2022.

Changes of assumptions: The discount rate changed from 5.75% to 6.00%.

*The Plan Fiduciary Net Position as of July 1, 2021 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2021 as provided in the prior GASB report. A difference of $7,806 has been excluded as investment income for the measurement period ending June 30, 2022.

*After the June 30, 2020 GASB report was published, the asset reconciliation for the period July 1, 2019 through June 30, 2020 was updated. The differences for each of the line items between those recorded in the 2020 GASB report and the updated asset reconciliation were added to the associated line items for the fiscal year ending June 30, 2021 reconciliation.

*The Plan Fiduciary Net Position as of July 1, 2019 provided to Bolton by the City does not match the Plan Fiduciary Net Position as of June 30, 2019 as provided in the prior GASB report. The difference of $122,937 has been included as investment income for the measurement period ending June 30, 2020.

*Market value of assets as of July 1, 2014, includes $101,655, excluded in the market value of assets as of June 30, 2014, used for the actuarial valuation report for the fiscal year end June 30, 2014.

Schedule of Employer Contributions
Last 10 Fiscal Years

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 3,311,940	$ 4,140,318	$ 4,058,715	$ 4,159,706	$ 3,559,862	$ 3,614,997	$ 3,554,512	$ 3,237,826	$ 3,214,883	$ 3,199,800
Contributions in relation to the actuarially determined contribution										
Employer provided	2,260,282	3,239,524	3,245,762	3,376,877	3,531,425	3,341,690	3,097,531	3,201,899	1,936,235	1,902,760
State provided	1,119,489	1,118,403	1,055,693	999,956	992,904	964,251	924,399	895,690	876,650	936,589
Contribution deficiency (excess)	$ (67,831)	$ (217,609)	$ (242,740)	$ (217,127)	$ (964,467)	$ (690,944)	$ (467,418)	$ (859,763)	$ 401,998	$ 360,451
Covered payroll	$ 2,891,790	$ 3,406,609	$ 3,851,373	$ 3,739,386	$ 3,264,883	$ 3,263,322	$ 3,789,633	$ 4,052,407	$ 4,003,316	$ 4,015,107
Contributions as a percentage of covered employee payroll	116.87%	127.93%	111.69%	117.05%	138.58%	131.95%	106.13%	101.11%	70.26%	70.72%

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	Market Value
Inflation	2.50 percent
Salary increases	Rates vary by years of service
Investment rate of return	5.75%, 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	$ (428,694)	5	$ (85,739)	(85,739)	(85,739)	(85,739)	(85,738)				
2019	41,899	5		$ 8,380	8,380	8,380	8,380	8,379			
2020	450,250	5			$ 90,050	90,050	90,050	90,050	90,050		
2021	(7,219,165)	5				$ (1,443,833)	(1,443,833)	(1,443,833)	(1,443,833)	(1,443,833)	
2022	6,816,995	5					$ 1,363,399	1,363,399	1,363,399	1,363,399	1,363,399
Net increase (decrease) in pension expense							$ (67,742)	$ 17,995	$ 9,616	$ (80,434)	$ 1,363,399

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	$ -	$ 428,694	$ 428,694	$ -	$ -
2019	41,899	-	33,520	8,379	-
2020	450,250	-	270,150	180,100	-
2021	-	7,219,165	2,887,666	-	4,331,499
2022	6,816,995	-	1,363,399	5,453,596	-
				$ 5,642,075	**$ 4,331,499**

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.

			Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience																
Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Thereafter
Prior	-	-														-	-	-	-
2013	-	-																	
2014	-	-																	
2015	(694,230)	3.531554				$ (196,579)	(196,579)	(196,579)	(104,493)										
2016	(990,399)	3.400048					$ (291,290)	(291,290)	(291,290)	(116,529)									
2017	(241,686)	3.107111						$ (77,785)	(77,785)	(77,785)	(8,331)								
2018	(1,170,618)	2.881693							$ (406,226)	(406,226)	(358,166)								
2019	640,203	3.000000								$ 213,401	213,401	213,401							
2020	1,024,337	2.000000									$ 512,169	512,168							
2021	(1,152,566)	2.000000										$ (576,283)	(576,283)						
2022	(992,377)	2.000000											$ (496,189)	(496,188)					
Net increase (decrease) in pension expense													$ (1,072,472)	$ (496,188)	$ -	$ -	$ -	$ -	$ -

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

				Balances at June 30, 2022	
Year	Experience Losses (a)	Experience Gains (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	-	694,230	694,230	-	-
2016	-	990,399	990,399	-	-
2017	-	241,686	241,686	-	-
2018	-	1,170,618	1,170,618	-	-
2019	640,203	-	640,203	-	-
2020	1,024,337	-	1,024,337	-	-
2021	-	1,152,566	1,152,566	-	-
2022	-	992,377	496,189	-	496,188
				$ -	**$ 496,188**

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	-	3.531554																	
2016	3,114,434	3.400048					$ 915,997	915,997	915,997	366,443									
2017	-	3.107111																	
2018	-	2.881693																	
2019	-	3.000000																	
2020	-	2.000000																	
2021	(7,350,071)	2.000000										$ (3,675,036)	(3,675,035)						
2022	(2,113,375)	2.000000											$ (1,056,688)	(1,056,687)					
Net increase (decrease) in pension expense													$ (4,731,723)	$ (1,056,687)	$ -	$ -	$ -	$ -	$ -

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	3,114,434	-	3,114,434	-	-
2017	-	-	-	-	-
2018	-	-	-	-	-
2019	-	-	-	-	-
2020	-	-	-	-	-
2021	-	7,350,071	7,350,071	-	-
2022	-	2,113,375	1,056,688	-	1,056,687
				$ -	**$ 1,056,687**