

Via Electronic Mail

October 18, 2012

Mr. Mike Hanlon Office of the City Clerk City of Allentown 435 Hamilton Street Allentown, PA 18101

Re: City of Allentown Single Employer Pension Plan Projections as of January 1, 2012

Dear Mr. Hanlon,

As requested, we are providing the City of Allentown Single Employer Pension Plan (the Plan or Plans) projections over twenty years for the Police, Firemen, and O&E pension plans. This letter provides Plan projections based upon three interest and investment rate assumptions: 8%, 7%, and 6%. These projections include estimated actuarial liabilities, market value of assets, the actuarial value of assets, the funded ratio, the unfunded liabilities (based upon both asset measures), and the Minimum Municipal Obligation (MMO).

The projections are based upon the January 1, 2012 pension valuation data, plan provisions and assumptions, as outlined in the Actuarial Valuation Reports for each plan. All assumptions in the report are adopted by the City of Allentown Pension Board. projections in this document rely on future plan experience conforming to the underlying assumptions. As with all projections, there is a greater degree of uncertainty the longer the To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly and maybe materially. The only assumption change for the projections is the interest rate assumption used to calculate and project the actuarial liability and future returns on assets.

For the MMO calculations, we assumed all future gains and losses are amortized over 20 years, which is the maximum period allowed under Act 44 and Act 205 Section 202 for moderately distressed plans. If the Plans are no longer deemed to be moderately distressed (i.e. the aggregate funding ratio for all plans, including the PMRS plan, is 70% or higher), then this amortization period will be reduced to be based upon the lesser of the average future service of active participants and 20 years. However, for our projections, we assume the current amortization amounts remain on the current schedule.



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While we have assumed no explicit future losses in these projections, there are implicit losses due to the two-year timing delay between the valuation results and the payment of the amortized unfunded liabilities as well as losses embedded in the asset valuation methods and because 25% of the amortized bases is not being paid in 2012, 2013, and 2014.

While the Fire pension plan projections are based upon the data provided as of January 1, 2012; during 2012, it is our understanding that new firefighters have been hired and this payroll has increased. Also, the new firefighters hired as of January 1, 2012 and later will earn pension benefits under the terms and conditions outlined under the Fire Arbitration Agreement (please refer to Appendix B in the most recent Firemen's Pension Plan Actuarial Valuation Report), which is expected to reduce the normal cost as a percent of pay. As a result it can be anticipated that the future results will vary materially from these projections once these new entrants are included in the valuation process.

As of January 1, 2012, there were 18 DROP participants in the Police pension plan. Under the terms of this one-time DROP offer, the participants can receive a lump sum from their DROP account upon their final retirement date. The DROP account earns interest based upon market return of each account (i.e. there is no guaranteed rate of return for the benefits in the DROP account). All 18 DROP participants will need to retire by December 31, 2013. Our projections include an assumption that the lump-sum payments from the DROP accounts will be paid by this date.

For the change in the interest rate assumption to 7% and 6%, the outstanding unfunded amortization bases were re-amortized based upon the updated assumption and the remaining amortization period. Because the January 1, 2011 actuarial valuation results determine the 2013 and 2014 MMO, the interest rate assumption change first impacts the MMO in 2015. Furthermore; because there is a two-year delay in the payment of the amortization of the unfunded liabilities, amortized losses are still being reflected in the 20-year projected MMO calculation. Normal cost as a percent of pay is assumed to remain constant, but payroll is expected to increase based upon the salary scale assumption.

In preparing this letter, we relied on information (some oral and some written) supplied by the City of Allentown. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.

To the best of our knowledge, this letter and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we



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meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This letter was prepared for the City of Allentown City Council for the purposes described herein. This letter is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely, Cheiron

Karen Zangara, FSA, EA, MAAA

Consulting Actuary

Kenneth A. Kent, FCA, FSA, EA, MAAA

Principal Consulting Actuary

200G.701

Attachment



Allentown Single Employer Defined Benefit Plans 8% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Police Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)		AVA Unfunded Liability	MVA Unfunded Liability	ммо
2012	\$ 149.8	\$ 62.2	\$ 57.8	41%	\$ 87.6	\$ 92.0	\$ 7.3
2013	152.1	59.2	58.5	39%	92.9	93.6	8.5
2014	154.6	61.9	60.5	40%	92.7	94.1	8.5
2015	159.2	65.3	64.4	41%	93.9	94.8	12.6
2016	164.2	72.9	72.9	44%	91.3	91.3	12.6
2017	169.6	82.1	82.1	48%	87.5	87.5	13.6
2018	175.7	93.1	93.1	53%	82.6	82.6	13.7
2019	182.2	105.0	105.0	58%	77.2	77.2	13.8
2020	189.3	117.9	117.9	62%	71.4	71.4	13.9
2021	197.0	131.8	131.8	67%	65.2	65.2	13.3
2022	205.1	145.9	145.9	71%	59.2	59.2	13.4
2023	213.5	160.8	160.8	75%	52.7	52.7	12.4
2024	222.3	175.4	175.4	79%	46.9	46.9	12.5
2025	231.2	190.5	190.5	82%	40.7	40.7	10.6
2026	240.2	204.2	204.2	85%	36.0	36.0	10.7
2027	249.9	218.9	218.9	88%	31.0	31.0	10.5
2028	259.6	233.6	233.6	90%	26.0	26.0	10.6
2029	269.2	248.7	248.7	92%	20.5	20.5	8.6
2030	278.9	261.9	261.9	94%	17.0	17.0	8.8
2031	288.2	275.2	275.2	95%	13.0	13.0	7.6

City of Allentown Firemen's Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio	AVA Unfunded Liability	MVA Unfunded Liability	ммо
2012	\$ 105.2	\$ 43.1	\$ 40.1	41%	-	\$ 65.1	\$ 4.1
2013	106.8	40.2	39.7	38%		67.1	4.7
2014	108.6	41.0	40.0	38%	67.6	68.6	4.8
2015	110.7	41.1	40.4	37%	69.6	70.3	6.7
2016	113.0	42.8	42.8	38%	70.2	70.2	8.4
2017	115.5	47.3	47.3	41%	68.2	68.2	9.1
2018	118.4	52.7	52.7	45%	65.7	65.7	9.1
2019	121.5	58.7	58.7	48%	62.8	62.8	9.9
2020	124.9	65.9	65.9	53%	59.0	59.0	9.9
2021	128.5	73.5	73.5	57%	55.0	55.0	9.6
2022	132.2	81.2	81.2	61%	51.0	51.0	9.6
2023	136.2	89.5	89.5	66%	46.7	46.7	9.3
2024	140.4	97.8	97.8	70%	42.6	42.6	9.3
2025	144.8	106.7	106.7	74%	38.1	38.1	8.5
2026	149.4	115.2	115.2	77%	34.2	34.2	8.6
2027	154.1	124.0	124.0	80%	30.1	30.1	8.7
2028	158.9	133.4	133.4	84%	25.5	25.5	8.8
2029	163.9	143.4	143.4	87%	20.5	20.5	7.6
2030	169.2	152.6	152.6	90%	16.6	16.6	7.7
2031	174.7	162.4	162.4	93%	12.3	12.3	6.4



Allentown Single Employer Defined Benefit Plans 8% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Officers and Employees Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)		AVA Unfunded Liability	MVA Unfunded Liability	ммо
2012	\$ 19.5	\$ 15.1	\$ 14.0	77%	\$ 4.4	\$ 5.5	\$ 0.5
2013	18.3	13.0	13.0	71%	5.3	5.3	0.4
2014	17.2	12.2	11.8	71%	5.0	5.4	0.4
2015	16.0	10.9	10.6	68%	5.1	5.4	0.7
2016	14.9	9.8	9.8	66%	5.1	5.1	0.7
2017	13.8	9.0	9.0	65%	4.8	4.8	0.8
2018	12.7	8.3	8.3	66%	4.4	4.4	0.8
2019	11.6	7.7	7.7	66%	3.9	3.9	0.8
2020	10.6	7.2	7.2	68%	3.4	3.4	0.8
2021	9.7	6.8	6.8	71%	2.9	2.9	0.5
2022	8.8	6.2	6.2	71%	2.6	2.6	0.5
2023	7.9	5.7	5.7	72%	2.2	2.2	0.4
2024	7.1	5.1	5.1	72%	2.0	2.0	0.4
2025	6.4	4.6	4.6	72%	1.8	1.8	0.4
2026	5.7	4.2	4.2	73%	1.5	1.5	0.4
2027	5.1	3.8	3.8	74%	1.3	1.3	0.4
2028	4.5	3.5	3.5	77%	1.0	1.0	0.4
2029	4.0	3.2	3.2	81%	8.0	0.8	0.1
2030	3.5	2.8	2.8	81%	0.7	0.7	0.1
2031	3.1	2.5	2.5	81%	0.6	0.6	0.3

Aggregate City of Allentown Defined Benefit Plans

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)		AVA Unfunded Liability	MVA Unfunded Liability	ммо
2012	\$ 274.5	\$ 120.4	\$ 111.9	44%	_	\$ 162.6	\$ 11.9
2013	277.2	112.4	111.2	41%	164.8	166.0	13.6
2014	280.4	115.1	112.3	41%	165.3	168.1	13.7
2015	285.9	117.3	115.4	41%	168.6	170.5	20.0
2016	292.1	125.5	125.5	43%	166.6	166.6	21.7
2017	298.9	138.4	138.4	46%	160.5	160.5	23.5
2018	306.8	154.1	154.1	50%	152.7	152.7	23.6
2019	315.3	171.4	171.4	54%	143.9	143.9	24.5
2020	324.8	191.0	191.0	59%	133.8	133.8	24.6
2021	335.2	212.1	212.1	63%	123.1	123.1	23.4
2022	346.1	233.3	233.3	67%	112.8	112.8	23.5
2023	357.6	256.0	256.0	72%	101.6	101.6	22.1
2024	369.8	278.3	278.3	75%	91.5	91.5	22.2
2025	382.4	301.8	301.8	79%	80.6	80.6	19.5
2026	395.3	323.6	323.6	82%	71.7	71.7	19.7
2027	409.1	346.7	346.7	85%	62.4	62.4	19.6
2028	423.0	370.5	370.5	88%	52.5	52.5	19.8
2029	437.1	395.3	395.3	90%	41.8	41.8	16.3
2030	451.6	417.3	417.3	92%	34.3	34.3	16.6
2031	466.0	440.1	440.1	94%	25.9	25.9	14.3



Allentown Single Employer Defined Benefit Plans 7% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Police Pension Plan

	A at ami al	Actuarial	Market Value	Fundad	AVA	MVA	
Year	Actuarial Liability	Value of Assets (AVA)	of Assets (MVA)	Ratio	Unfunded Liability	Unfunded Liability	ммо
2012	\$ 169.2	\$ 62.2	\$ 57.8	37%	\$ 107.0	\$ 111.4	\$ 7.3
2012	171.8	φ 02.2 58.6	φ 57.9 57.9	34%	113.2	113.9	ψ 7.5 8.5
2013	171.8	60.6	59.2	35%	114.3	115.7	8.5
2014	180.0	63.3	62.4	35%	114.3	117.6	14.9
2016	185.6	72.4	72.4	39%	113.2	113.2	15.0
2017	191.7	83.3	83.3	43%	108.4	108.4	16.4
2018	198.4	96.3	96.3	49%	102.1	102.1	16.5
2019	205.6	110.4	110.4	54%	95.2	95.2	16.7
2020	213.4	125.6	125.6	59%	87.8	87.8	16.8
2021	221.8	141.8	141.8	64%	80.0	0.08	16.3
2022	230.7	158.3	158.3	69%	72.4	72.4	16.4
2023	239.8	175.7	175.7	73%	64.1	64.1	15.5
2024	249.4	192.9	192.9	77%	56.5	56.5	15.7
2025	259.1	210.8	210.8	81%	48.3	48.3	13.9
2026	268.9	227.3	227.3	85%	41.6	41.6	14.1
2027	279.4	245.0	245.0	88%	34.4	34.4	11.9
2028	289.9	260.9	260.9	90%	29.0	29.0	12.1
2029	300.5	277.1	277.1	92%	23.4	23.4	10.3
2030	310.9	291.5	291.5	94%	19.4	19.4	10.6
2030	321.2	306.0	306.0	95%	15.4	15.2	9.5

City of Allentown Firemen's Pension Plan

	A - + i - l	Actuarial	Market Value	Francis d	AVA	MVA	
Year	Actuarial Liability	Value of Assets (AVA)	of Assets (MVA)	Ratio	Unfunded Liability	Unfunded Liability	ммо
2012	\$ 117.3	\$ 43.1	\$ 40.1	37%	\$ 74.2	\$ 77.2	\$ 4.1
2013	119.1	39.8	39.3	33%	79.3	79.8	4.7
2014	121.1	40.3	39.3	33%	80.8	81.8	4.8
2015	123.3	40.0	39.3	32%	83.3	84.0	7.9
2016	125.8	42.6	42.6	34%	83.2	83.2	9.7
2017	128.6	47.9	47.9	37%	80.7	80.7	10.5
2018	131.6	54.5	54.5	41%	77.1	77.1	10.6
2019	134.9	61.6	61.6	46%	73.3	73.3	11.4
2020	138.5	70.0	70.0	51%	68.5	68.5	11.5
2021	142.3	78.9	78.9	55%	63.4	63.4	11.1
2022	146.2	87.9	87.9	60%	58.3	58.3	11.2
2023	150.4	97.4	97.4	65%	53.0	53.0	10.9
2024	154.8	107.1	107.1	69%	47.7	47.7	11.0
2025	159.4	117.4	117.4	74%	42.0	42.0	10.2
2026	164.1	127.3	127.3	78%	36.8	36.8	10.3
2027	169.0	137.7	137.7	82%	31.3	31.3	9.2
2028	173.9	147.4	147.4	85%	26.5	26.5	9.3
2029	179.1	157.6	157.6	88%	21.5	21.5	8.2
2030	184.5	167.1	167.1	91%	17.4	17.4	8.3
2031	190.1	177.1	177.1	93%	13.0	13.0	7.2



Allentown Single Employer Defined Benefit Plans 7% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Officers and Employees Pension Plan

	Actuarial	Actuarial Value of	Market Value of Assets	Funded	AVA Unfunded	MVA Unfunded	
Year	Liability	Assets (AVA)	(MVA)	Ratio	Liability	Liability	MMO
2012	\$ 20.7	\$ 15.1	\$ 14.0	73%	\$ 5.6	\$ 6.7	\$ 0.5
2013	19.5	12.9	12.8	66%	6.6	6.7	0.4
2014	18.2	11.9	11.6	65%	6.3	6.6	0.4
2015	17.0	10.5	10.2	62%	6.5	6.8	0.8
2016	15.7	9.4	9.4	60%	6.3	6.3	0.8
2017	14.5	8.6	8.6	59%	5.9	5.9	0.9
2018	13.4	7.9	7.9	59%	5.5	5.5	0.9
2019	12.3	7.3	7.3	60%	5.0	5.0	0.9
2020	11.2	6.9	6.9	61%	4.3	4.3	0.9
2021	10.2	6.5	6.5	64%	3.7	3.7	0.6
2022	9.2	5.9	5.9	64%	3.3	3.3	0.6
2023	8.3	5.5	5.5	66%	2.8	2.8	0.5
2024	7.5	5.0	5.0	66%	2.5	2.5	0.5
2025	6.7	4.5	4.5	67%	2.2	2.2	0.5
2026	6.0	4.1	4.1	69%	1.9	1.9	0.5
2027	5.3	3.9	3.9	72%	1.4	1.4	0.4
2028	4.7	3.5	3.5	75%	1.2	1.2	0.4
2029	4.2	3.3	3.3	79%	0.9	0.9	0.2
2030	3.7	2.9	2.9	78%	0.8	8.0	0.2
2031	3.3	2.6	2.6	79%	0.7	0.7	0.3

Aggregate City of Allentown Defined Benefit Plans

	A et enial	Actuarial	Market Value	Francis d	AVA	MVA	
Year	Actuarial Liability	Value of Assets (AVA)	of Assets (MVA)	Ratio	Unfunded Liability	Unfunded Liability	ммо
2012	\$ 307.2	\$ 120.4	\$ 111.9	39%	\$ 186.8	\$ 195.3	\$ 11.9
2013	310.4	111.3	110.0	36%	199.1	200.4	13.6
2014	314.2	112.8	110.1	36%	201.4	204.1	13.7
2015	320.3	113.8	111.9	36%	206.5	208.4	23.6
2016	327.1	124.4	124.4	38%	202.7	202.7	25.5
2017	334.8	139.8	139.8	42%	195.0	195.0	27.8
2018	343.4	158.7	158.7	46%	184.7	184.7	28.0
2019	352.8	179.3	179.3	51%	173.5	173.5	29.0
2020	363.1	202.5	202.5	56%	160.6	160.6	29.2
2021	374.3	227.2	227.2	61%	147.1	147.1	28.0
2022	386.1	252.1	252.1	65%	134.0	134.0	28.2
2023	398.5	278.6	278.6	70%	119.9	119.9	26.9
2024	411.7	305.0	305.0	74%	106.7	106.7	27.2
2025	425.2	332.7	332.7	78%	92.5	92.5	24.6
2026	439.0	358.7	358.7	82%	80.3	80.3	24.9
2027	453.7	386.6	386.6	85%	67.1	67.1	21.5
2028	468.5	411.8	411.8	88%	56.7	56.7	21.8
2029	483.8	438.0	438.0	91%	45.8	45.8	18.7
2030	499.1	461.5	461.5	92%	37.6	37.6	19.1
2031	514.6	485.7	485.7	94%	28.9	28.9	17.0



Allentown Single Employer Defined Benefit Plans 6% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Police Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio	AVA Unfunded Liability	MVA Unfunded Liability	MMO
2012	\$ 191.2	\$ 62.2	\$ 57.8	33%	\$ 129.0	\$ 133.4	\$ 7.3
2013	194.5	58.1	57.4	30%	136.4	137.1	8.5
2014	198.2	59.6	58.2	30%	138.6	140.0	8.5
2015	204.0	61.7	60.8	30%	142.3	143.2	17.5
2016	210.3	72.8	72.8	35%	137.5	137.5	17.7
2017	217.1	85.8	85.8	40%	131.3	131.3	19.5
2018	224.5	101.3	101.3	45%	123.2	123.2	19.6
2019	232.6	118.0	118.0	51%	114.6	114.6	19.9
2020	241.2	135.8	135.8	56%	105.4	105.4	20.1
2021	250.5	154.7	154.7	62%	95.8	95.8	19.6
2022	260.2	174.0	174.0	67%	86.2	86.2	19.8
2023	270.2	194.3	194.3	72%	75.9	75.9	19.0
2024	280.7	214.4	214.4	76%	66.3	66.3	19.2
2025	291.3	235.3	235.3	81%	56.0	56.0	17.6
2026	302.1	255.1	255.1	84%	47.0	47.0	17.8
2027	313.6	276.1	276.1	88%	37.5	37.5	13.7
2028	325.1	293.3	293.3	90%	31.8	31.8	14.0
2029	336.7	310.8	310.8	92%	25.9	25.9	12.4
2030	348.3	326.7	326.7	94%	21.6	21.6	12.7
2031	359.8	342.7	342.7	95%	17.1	17.1	11.8

City of Allentown Firemen's Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio	AVA Unfunded Liability	MVA Unfunded Liability	ММО
2012	\$ 130.2	\$ 43.1	\$ 40.1	33%	\$ 87.1	\$ 90.1	\$ 4.1
2013	132.2	39.6	39.1	30%	92.6	93.1	4.7
2014	134.3	39.8	38.8	30%	94.5	95.5	4.8
2015	136.7	39.3	38.6	29%	97.4	98.1	9.2
2016	139.4	42.9	42.9	31%	96.5	96.5	11.0
2017	142.3	49.3	49.3	35%	93.0	93.0	12.0
2018	145.5	57.1	57.1	39%	88.4	88.4	12.1
2019	149.0	65.5	65.5	44%	83.5	83.5	12.9
2020	152.7	75.2	75.2	49%	77.5	77.5	13.0
2021	156.6	85.4	85.4	55%	71.2	71.2	12.6
2022	160.7	95.7	95.7	60%	65.0	65.0	12.7
2023	165.1	106.6	106.6	65%	58.5	58.5	12.4
2024	169.6	117.7	117.7	69%	51.9	51.9	12.6
2025	174.3	129.3	129.3	74%	45.0	45.0	11.8
2026	179.2	140.7	140.7	79%	38.5	38.5	12.0
2027	184.2	152.5	152.5	83%	31.7	31.7	9.7
2028	189.3	162.4	162.4	86%	26.9	26.9	9.8
2029	194.6	172.8	172.8	89%	21.8	21.8	8.8
2030	200.1	182.5	182.5	91%	17.6	17.6	9.0
2031	205.8	192.6	192.6	94%	13.2	13.2	7.9



Allentown Single Employer Defined Benefit Plans 6% Interest and Return on Asset Assumption

All Dollar Amounts in Millions

City of Allentown Officers and Employees Pension Plan

Year	Actuarial Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio	AVA Unfunded Liability	MVA Unfunded Liability	ММО
2012	\$ 22.0	\$ 15.1	\$ 14.0	68%	\$ 6.9	\$ 8.0	\$ 0.5
2013	20.6	12.8	12.7	62%	7.8	7.9	0.4
2014	19.3	11.7	11.3	60%	7.6	0.8	0.4
2015	18.0	10.1	9.9	56%	7.9	8.1	0.9
2016	16.7	9.0	9.0	54%	7.7	7.7	0.9
2017	15.4	8.2	8.2	53%	7.2	7.2	1.0
2018	14.1	7.5	7.5	53%	6.6	6.6	1.0
2019	12.9	7.0	7.0	54%	5.9	5.9	1.0
2020	11.8	6.6	6.6	56%	5.2	5.2	1.0
2021	10.7	6.2	6.2	58%	4.5	4.5	8.0
2022	9.7	5.7	5.7	59%	4.0	4.0	8.0
2023	8.8	5.3	5.3	61%	3.5	3.5	0.6
2024	7.9	4.8	4.8	62%	3.1	3.1	0.6
2025	7.0	4.5	4.5	64%	2.5	2.5	0.6
2026	6.3	4.2	4.2	67%	2.1	2.1	0.6
2027	5.6	4.0	4.0	72%	1.6	1.6	0.4
2028	5.0	3.7	3.7	74%	1.3	1.3	0.4
2029	4.4	3.4	3.4	78%	1.0	1.0	0.2
2030	3.9	3.0	3.0	78%	0.9	0.9	0.2
2031	3.4	2.6	2.6	78%	0.8	0.8	0.3

Aggregate City of Allentown Defined Benefit Plans

Voor	Actuarial	Actuarial Value of	Market Value of Assets		AVA Unfunded	MVA Unfunded	ммо
Year	Liability	Assets (AVA)	(MVA)	Ratio	Liability	Liability	MMO
2012	\$ 343.4	\$ 120.4	\$ 111.9	35%	\$ 223.0	\$ 231.5	\$ 11.9
2013	347.3	110.5	109.2	32%	236.8	238.1	13.6
2014	351.8	111.1	108.3	32%	240.7	243.5	13.7
2015	358.7	111.1	109.3	31%	247.6	249.4	27.6
2016	366.4	124.7	124.7	34%	241.7	241.7	29.6
2017	374.8	143.3	143.3	38%	231.5	231.5	32.5
2018	384.1	165.9	165.9	43%	218.2	218.2	32.7
2019	394.5	190.5	190.5	48%	204.0	204.0	33.8
2020	405.7	217.6	217.6	54%	188.1	188.1	34.1
2021	417.8	246.3	246.3	59%	171.5	171.5	33.0
2022	430.6	275.4	275.4	64%	155.2	155.2	33.3
2023	444.1	306.2	306.2	69%	137.9	137.9	32.0
2024	458.2	336.9	336.9	74%	121.3	121.3	32.4
2025	472.6	369.1	369.1	78%	103.5	103.5	30.0
2026	487.6	400.0	400.0	82%	87.6	87.6	30.4
2027	503.4	432.6	432.6	86%	70.8	70.8	23.8
2028	519.4	459.4	459.4	88%	60.0	60.0	24.2
2029	535.7	487.0	487.0	91%	48.7	48.7	21.4
2030	552.3	512.2	512.2	93%	40.1	40.1	21.9
2031	569.0	537.9	537.9	95%	31.1	31.1	20.0

