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Actuarial Valuation Report as of January 1, 2017

Produced by Cheiron
February 2018

TABLE OF CONTENTS

Section *Page*

Appendices

CHEIRON

February 19, 2018

FELRA and UFCW Pension Fund Trustees
c/o Mr. William Jensen
Associated Administrators, LLC
4301 Garden City Drive, Suite 201
Landover, Maryland 20785

Dear Trustees:

At your request, we have performed the January 1, 2017 Actuarial Valuation of the FELRA and UFCW Pension Fund (the Fund). This report contains information on the Fund's assets and liabilities and also discloses contribution levels, including the minimum required amount as mandated by Federal law.

In the Foreword, we refer to the general approach employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions on which our findings are based. Those comments are the basis for our certification that this report is complete to the best of our knowledge and belief. The results of this report are only applicable to the 2017 plan year and rely on future plan experience conforming to the underlying assumptions. Future valuation reports may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

To the best of our knowledge, this report 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 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.

The purpose of this report is to present the annual actuarial valuation of the FELRA and UFCW Pension Fund. This report is for the use of the Fund and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such other users.

Sincerely,
Cheiron, Inc.

Gene Kalwarski, FSA, FCA, MAAA, EA
Principal Consulting Actuary

Kevin J. Woodrich, FSA, FCA, MAAA, EA
Principal Consulting Actuary

FOREWORD

Cheiron has performed the Actuarial Valuation of the FELRA and UFCW Pension Fund as of January 1, 2017. The purpose of this report is to:

1) Measure and disclose, as of the valuation date, the financial condition of the Fund; and
2) Provide specific information and documentation required by the Federal Government and the auditors of the Fund.

An actuarial valuation establishes and analyzes fund assets, liabilities and contributions on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of the Fund's investment performance, as well as an analysis of actuarial liability gains and losses.

Section I presents a summary of the valuation and compares this year's results to last year's results.

Section II contains exhibits relating to the valuation of assets.

Section III shows the various measures of liabilities.

Section IV shows the development of the minimum and maximum contributions.

Section V provides information required by the Fund's auditor.

The appendices to this report contain a summary of the Fund's membership at the valuation date, a summary of the major provisions of the Fund, and the actuarial methods and assumptions used in the valuation. There have been no changes to the Fund since the prior valuation.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by Associated Administrators LLC, Investment Performance Services, Inc., and Salter & Company, LLC. 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 No. 23.

The actuarial assumptions, analyzed individually, represent our best estimates for the future experience of the Fund. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the Fund could vary from our results.

SECTION I – SUMMARY

The table below sets out the principal results of this year's valuation and compares them to last year's results.

Table I-1
Summary of Principal Results

	January 1, 2016	January 1, 2017	Change
Participant Counts			
Actives* Tier I	1,071	985	(8.03%)
Tier II	16,483	16,290	(1.17%)
Total	17,554	17,275	(1.59%)
Terminated Vesteds	13,616	13,863	1.81%
In Pay Status	18,158	18,362	1.12%
Total	49,328	49,500	0.35%
Financial Information			
(1) Market Value of Assets (MVA)	$ 486,641,825	$ 408,705,177	(16.02%)
(2) Actuarial Value of Assets (AVA)	579,480,770	466,729,375	(19.46%)
(3) Total Present Value of Future Benefits	$ 1,774,213,754	$ 1,741,188,625	(1.86%)
(4) Actuarial Liability	$ 1,773,643,455	$ 1,740,354,952	(1.88%)
(5) Unfunded Actuarial Liability [(2) - (4)]	(1,194,162,685)	(1,273,625,577)	N/A
(6) Funding Ratio on AVA Basis [(2) ÷ (4)]	32.7%	26.8%	N/A
(7) Accrued Liability / PPA Liability	$ 1,771,604,263	$ 1,738,592,894	(1.86%)
(8) Unfunded Accrued Benefit [(2) - (7)]	(1,192,123,493)	(1,271,863,519)	N/A
(9) Funding Ratio on AVA Basis [(2) ÷ (7)]	32.7%	26.8%	N/A
(10) Funding Ratio on MVA Basis [(1) ÷ (7)]	27.5%	23.5%	N/A
(11) Present Value of Vested Benefits	$ 1,746,553,649	$ 1,714,367,418	(1.84%)
Contributions and Cash Flows			
Employer Contributions (Actual / *Estimated*)	$ 45,356,451	*$ 43,000,000*	(5.20%)
ERISA Minimum Required Contribution (before Credit Balance)	165,470,260	170,917,200	3.29%
ERISA Maximum Deductible Contribution	3,325,900,022	3,461,589,137	4.08%
ERISA Credit Balance at Start of Year	(48,053,233)	(176,470,796)	267.24%
Prior Year Benefit Payouts	$ 143,157,717	$ 146,238,867	2.15%
Prior Year Administrative Expenses	4,925,490	4,999,233	1.50%
Prior Year Total Investment Income (Net of Investment Expenses)	6,374,488	22,945,768	N/A

* Active counts include any new hires after January 1, 2013 since contributions are made on their behalf but no liability is due.

SECTION II – ASSETS

General Comments

- For calendar year 2016 the Market Value of Assets (MVA) earned $28.0 million returning 6.7% as compared to the prior year's assumption of 7.0%. This return is net of investment expenses. In dollars, the total investment loss on a market value basis was $1.3 million.

- For minimum funding purposes we use a smoothed value of assets referred to as the Actuarial Value of Assets (AVA). This method phases in investment gains and losses over five years (10 years for the 2008 loss). For calendar year 2016 the AVA earned negative 1.3% which resulted in an AVA asset loss of $42.5 million

- The Fund experienced a liability gain of $6.3 million (0.4% of Actuarial Liability). When combined with the AVA actuarial investment loss of $42.5 million, the Fund experienced a total net experience loss of $36.2 million which increased the unfunded liability by the same amount.

- The Fund's funding ratio (Actuarial Value of Assets as a percentage of Actuarial Liability) decreased from 32.7% as of January 1, 2016 to 26.8% as of January 1, 2017. Based on Market Value of Assets, the funding ratio decreased from 27.5% as of January 1, 2016 to 23.5% as of January 1, 2017.

- Despite $28.0 million in investment earnings the Fund's Market Value of Assets decreased $77.9 million due to contributions being $105.9 million less than benefit payments and administrative expenses. This negative cash flow position was the primary reason for the decrease in the funded status this past year.

- The Fund's tenth actuarial certification under the Pension Protection Act (PPA) was filed on March 31, 2017. The Fund was certified to be in Critical and Declining status.

- The Fund's Credit Balance is negative as of the end of the 2016 plan year. However, no excise taxes are applicable due to its certification status as Critical and Declining.

SECTION II – ASSETS

Assets at Market Value

Market values represent "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next.

Table II-1
Statement of Assets at Market Value as of January 1, 2017

Investments			
U.S. Government and Agencies	$	2,398,425	0.6%
Corporate Obligations		9,174,603	2.3%
Common and Preferred Stocks		32,324,269	8.3%
Common/Collective Trusts		79,553,423	20.3%
Limited Partnerships		117,058,341	29.9%
Mutual Funds		122,893,898	31.4%
Short-Term Investment Funds		3,290,315	0.8%
Subtotal	$	366,693,274	93.8%
Receivables			
Employer Contributions	$	8,557,852	2.2%
Interest and Dividends		220,725	0.1%
Employer Withdrawal Liability		3,736,524	1.0%
Prepaids and other receivables		174,222	0.0%
Subtotal	$	12,689,323	3.2%
Cash		12,804,743	3.3%
Total Assets	$	392,187,340	100.3%
Liabilities			
Accounts Payable	$	(1,017,413)	-0.3%
Due from Broker for Purchases		(51,432)	0.0%
Subtotal	$	(1,068,845)	-0.3%
Market Value of Assets - Auditor	**$**	**391,118,495**	100.0%
Expected Withdrawal Liability Payments		(3,736,524)	
Adjusted Market Value - Auditor	**$**	**387,381,971**	
Additional Receivable Contribution		21,323,206	
Market Value of Assets for Funding	**$**	**408,705,177**	

Changes in Market Value

The components of asset change are:

- Contributions
- Benefit payments
- Expenses
- Investment income (realized and unrealized)

The specific changes during 2016 are presented below:

Table II-2
Changes in Market Value

Value of Assets -- January 1, 2016	$	486,641,825
Employer Contributions	$	44,697,870
Withdrawal Liability Payments		658,581
Investment Return (Gross)		30,150,575
Benefit Payments		(146,238,867)
Administrative Expenses		(4,999,233)
Investment Expenses		(2,205,574)
Value of Assets -- January 1, 2017	$	408,705,177

SECTION II – ASSETS

Investment Performance

The following table calculates the actuarial investment gain/loss and the return for the plan year on a Market Value basis. The return is an appropriate measure for comparing the actual asset performance to the long-term 7% assumption.

Table II-3
Market Value Investment Gains / (Losses)

Item	Market Value
January 1, 2016 Value	$ 486,641,825
2016 Employer Contributions	45,356,451
2016 Benefit Payments	(146,238,867)
2016 Admin Expenses	(4,999,233)
Expected Investment Earnings (7%)	29,271,093
Expected Value December 31, 2016	410,031,269
Investment Gain / (Loss)	$ (1,326,092)
January 1, 2017 Value	408,705,177
Return	6.68%

Assets at Actuarial Value

For long-term planning, actuaries commonly use smoothing techniques to mitigate the short-term volatility exhibited by the capital markets. The Actuarial Value of Assets is calculated by excluding a portion of the prior four years of investment experience, using a sliding scale, over five years (with the exception of the 2008 loss which is recognized at a rate of 10% per year due to funding relief).

The expected return on market assets is determined using the Fund's actual cash flows and the actuarial rate of return. The actuarial value is constrained so that it cannot exceed 120% of the market value and cannot be less than 80% of the market value. The asset valuation method is described more fully in Appendix C.

Table II-4
Development of Actuarial Value of Assets as of January 1, 2017

Market Value of Assets as of December 31, 2016				$ 408,705,177
Plan Year	Initial Gain/(Loss)	Percent Recognized	Percent Deferred	Amount Deferred
2008	$ (333,600,618)	90%	10%	(33,360,062)
2013	28,035,020	80%	20%	5,607,004
2014	(21,015,412)	60%	40%	(8,406,165)
2015	(34,673,501)	40%	60%	(20,804,101)
2016	(1,326,092)	20%	80%	(1,060,874)
Total Gain/(Loss) Excluded				$ (58,024,198)
Preliminary Actuarial Value as of January 1, 2017				$ 466,729,375
Corridor for Actuarial Value				
80% of Market Value				$ 326,964,142
120% of Market Value				$ 490,446,212
Actuarial Value of Assets as of January 1, 2017				$ 466,729,375
Actuarial Value as a percent of Market Value of Assets as of January 1, 2017				114.2%

Asset Gains / (Losses) on Actuarial Value Basis

The following table calculates the actuarial investment gain/loss and the return for the plan year on an Actuarial Value basis. This actuarial gain/loss is one component of the Fund's overall experience gain/loss which is recognized for minimum funding requirements.

Table II-5
Actuarial Value Investment Gains / (Losses)

Item	
January 1, 2016 Value	$ 579,480,770
2016 Employer Contributions	45,356,451
2016 Benefit Payments	(146,238,867)
2016 Assumed Admin Expenses	(5,172,040)
Expected Investment Earnings (7%)	35,763,873
Expected Value December 31, 2016	509,190,187
Investment Gain / (Loss)	$ (42,460,812)
January 1, 2017 Value	466,729,375
Return	(1.31%)

SECTION III – LIABILITIES

In this section, we present detailed information on Fund liabilities including:

- Disclosure of Fund liabilities at January 1, 2016, and January 1, 2017; and
- Statement of changes in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which it is being used.

- **Present Value of Future Benefits:** Used for analyzing the financial outlook of the Fund, this represents the amount of money needed today, to fully pay off all future benefits of current participants of the Fund, assuming participants continue to accrue benefits (those that are eligible) and all actuarial assumptions are met.

- **Actuarial Liabilities:** Used for minimum funding standards, this liability is calculated by subtracting from the Present Value of Future Benefits above the present value of future Normal Costs under an acceptable funding method. For this Fund that method is the **Entry Age Normal Cost Method**.

- **Accrued Liabilities:** Used for communicating the current level of liabilities, this liability is the total amount needed to fully pay off all future obligations of the Fund, assuming no further accrual of benefits and all actuarial assumptions are met. The Accrued Liabilities must also be included in the Fund's financial statement for accounting disclosure purposes (FASB ASC Topic No. 960). However, the accounting disclosure must also include the present value of future administrative expenses. This sum is called the Present Value of Accumulated Benefits.

- **Vested Liabilities:** This liability represents that portion of the accrued liabilities which are vested.

- **Current Liabilities:** Used for Federal Government compliance purposes, the calculation of this liability is defined by federal regulations and is used to determine maximum allowable tax deductible contributions. This liability is based on an interest rate used by the PBGC to value insolvent plans.

None of the liabilities shown in this report is appropriate for settlement purposes.

The following table discloses each of these liabilities for the current valuation and the prior one. With respect to each disclosure, a subtraction of the appropriate value of plan assets yields, for each respective type, a net surplus or an unfunded liability.

SECTION III – LIABILITIES

Table III-1
Liabilities/Net Surplus (Unfunded)

	January 1, 2016	January 1, 2017
PRESENT VALUE OF FUTURE BENEFITS		
Active Participant Benefits	$ 284,662,020	$ 270,430,153
Retiree and Inactive Benefits	1,489,551,734	1,470,758,472
Total Present Value of Future Benefits	$ 1,774,213,754	$ 1,741,188,625
ACTUARIAL LIABILITY		
Total Present Value of Future Benefits	$ 1,774,213,754	$ 1,741,188,625
Less Present Value of Future Entry Age Normal Costs	570,299	833,673
Actuarial Liability	$ 1,773,643,455	$ 1,740,354,952
Actuarial Value of Assets	579,480,770	466,729,375
Net Surplus (Unfunded)	**$ (1,194,162,685)**	**$ (1,273,625,577)**
Assets as a Percentage of Actuarial Liability	32.7%	26.8%
ACCRUED LIABILITY / PPA LIABILITY		
Total Present Value of Future Benefits	$ 1,774,213,754	$ 1,741,188,625
Less Present Value of Future Benefit Accruals	2,609,491	2,595,731
Accrued Liability / PPA Liability	$ 1,771,604,263	$ 1,738,592,894
Actuarial Value of Assets	579,480,770	466,729,375
Net Surplus (Unfunded)	**$ (1,192,123,493)**	**$ (1,271,863,519)**
VESTED LIABILITY		
Total Present Value of Vested Benefits	$ 1,746,553,649	$ 1,714,367,418
Adjusted Market Value - Auditor	463,853,619	387,381,971
Net Surplus (Unfunded)	**$ (1,282,700,030)**	**$ (1,326,985,447)**
Assets as a Percentage of Vested Liability	26.6%	22.6%
CURRENT LIABILITY		
Current Liability	$ 2,765,508,661	$ 2,782,245,604
Market Value of Assets	486,641,825	408,705,177
Net Surplus (Unfunded)	**$ (2,278,866,836)**	**$ (2,373,540,427)**

Allocation of Liabilities by Type

The Fund's participants may qualify for a benefit on death, termination, and disability as well as on retirement. The value of the liabilities arising from each of these sources is shown in the following table.

Table III-2
Allocation of Liabilities by Type

Benefit Type	Retirement	Termination	Death	Disability	Total
Entry Age Normal Cost	$ 104,890	$ 65,282	$ 4,726	$ 8,487	$ 183,385
Entry Age Actuarial Liability					
Actives	$ 242,387,399	$ 11,243,618	$ 4,687,349	$ 11,278,114	$ 269,596,480
Terminated Vesteds	0	253,401,191	0	0	253,401,191
Retirees and Beneficiaries	1,128,843,505	0	63,914,171	24,599,605	1,217,357,281
Total	$ 1,371,230,904	$ 264,644,809	$ 68,601,520	$ 35,877,719	$ 1,740,354,952
RPA Current Liability Normal Cost	$ 775,212	$ 182,908	$ 7,622	$ 43,455	$ 1,009,197
RPA Current Liability					
Actives	$ 450,692,356	$ 37,818,731	$ 6,267,998	$ 23,624,135	$ 518,403,220
Terminated Vesteds	0	485,487,280	0	0	485,487,280
Retirees and Beneficiaries	1,647,462,395	0	89,488,335	41,404,374	1,778,355,104
Total	$ 2,098,154,751	$ 523,306,011	$ 95,756,333	$ 65,028,509	$ 2,782,245,604
Vested RPA Current Liability					
Actives	$ 345,229,633	$ 148,677,075	$ 5,848,691	$ 23,481,651	$ 523,237,050
Terminated Vesteds	0	485,487,280	0	0	485,487,280
Retirees and Beneficiaries	1,647,462,395	0	89,488,335	41,404,374	1,778,355,104
Total	$ 1,992,692,028	$ 634,164,355	$ 95,337,026	$ 64,886,025	$ 2,787,079,434

Changes in Liabilities

Each of the liabilities shown in the table below is subject to change at successive valuations as the experience of the Fund varies from that assumed in the valuation. The liabilities may change for any of several reasons, including:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments
- Interest on liabilities
- Benefits paid to retirees
- Participants leaving employment at rates different from expected
- Changes in actuarial assumptions
- Changes in actuarial methods

Table III-3
Change in Liabilities

	Actuarial Liability	Accrued Liability
Liabilities 1/1/2016	$ 1,773,643,455	$ 1,771,604,263
Liabilities 1/1/2017	$ 1,740,354,952	$ 1,738,592,894
Liability Increase (Decrease)	(33,288,503)	(33,011,369)
Change due to:		
Plan Amendments	$ 0	$ 0
Funding Method Change	0	0
Changes in Assumptions	0	0
Benefit Accruals	127,129	488,735
Increase for Interest	(27,106,719)	(27,224,150)
Other Sources	0	0
Experience (Gain)/Loss	(6,308,913)	(6,275,954)
Total Changes	$ (33,288,503)	$ (33,011,369)

SECTION IV – CONTRIBUTIONS

In this section, we present detailed information on Fund contributions from two perspectives:

- Actuarial contribution, based on the Entry Age Normal Cost Method; and
- Government Limits which could affect either of the above.

Actuarial Contributions

For this Fund, the funding method used is the **Entry Age Normal Cost Method**. The actuarial contribution which can also be considered to be the actuarial cost is determined in two parts.

The first part is the Entry Age Normal Cost. This is the level cost of providing the benefits promised by the Fund to each individual participant in service at the valuation date assuming that contributions are made over the period of the participant's working life.

The second part is a net amortization payment to pay off the unfunded actuarial liability. The unfunded actuarial liability is the difference between the actuarial assets of the Fund at the valuation date and the assets the Fund should hold as determined by the actuarial cost method. The amortization payment is determined by the amortization schedule established by the IRS minimum funding rules. Consequently, the actuarial contribution and the minimum required contribution are the same.

Government Limits

ERISA and the IRS tax code place various limits on the contributions made to qualified pension plans. The limits impact the minimum that must be paid, the maximum that can be deducted and the timing of contributions.

To ensure that minimum contributions are met, pension plans are required to retain an Enrolled Actuary to complete Schedule MB to Form 5500 on an annual basis. Because the bargained contributions have exceeded the minimum required contribution in years past, the Fund has built up a Credit Balance. The Credit Balance can be used to make up the difference between the minimum required contribution and the bargained contribution.

The actuarial contribution which can also be considered the actuarial cost for 2017 is shown below compared to the Government Limits and the employer contributions. The table also shows the per capita actuarial cost and employer contribution.

Table IV-1
Contributions for 2017

Actuarial Contribution	
Entry Age Normal Cost plus Admin. Expenses	$ 5,183,385
Amortization Payment	154,552,316
Interest to End of Year	11,181,499
Total	$ 170,917,200
Government Limits	
Maximum Deductible Contribution	$3,461,589,137
Minimum Contribution (before Credit Balance)	$ 170,917,200
Interest Adjusted Credit Balance	$ (188,823,752)
Minimum Contribution (after Credit Balance)	$ 359,740,952
Estimated Employer Contributions	*$ 43,000,000*
Count of Active Participants	17,275
Per Capita Actuarial Cost	$ 9,894
Per Capita Employer Contribution	*$ 2,489*

SECTION IV – CONTRIBUTIONS

The tables on the following pages show the development of the minimum and maximum contributions for 2017.

Table IV-2
Funding Standard Account for Plan Years Ending

	2016	2017
1. Charges For Plan Year		
a. Normal Cost plus Administrative Expenses	$ 5,127,129	$ 5,183,385
b. Amortization Charges	183,204,846	183,239,188
c. Interest on a. and b. to Year End	13,183,238	13,189,580
d. Additional Funding Charge	N/A	N/A
e. Interest Charge due to Late Quarterly Contributions	N/A	N/A
f. Total Charges	$ 201,515,213	$ 201,612,153
2. Credits For Plan Year		
a. Prior Year Credit Balance	$ (48,053,233)	$(176,470,796)
b. Employer Contributions *(estimate for 2017)*	45,356,451	*43,000,000*
c. Amortization Credits	28,686,872	28,686,872
d. Interest on a., b., and c. to Year End	(945,673)	(9,979,931)
e. Full Funding Limit Credit	0	0
f. Total Credits	$ 25,044,417	$(114,763,855)
3. Credit Balance at End of Year [2. - 1.] *(estimate for 2017)*	$(176,470,796)	$(316,376,008)

SECTION IV – CONTRIBUTIONS

Table IV-3
Calculation of the Maximum Deductible Contribution

1.	Regular Maximum Contribution		
a.	Normal Cost plus Administrative Expenses	$	5,183,385
b.	Net Charge to Amortize Unfunded Actuarial Liability over 10 years		169,472,551
c.	Interest on a. and b. to Year End		12,225,916
d.	Total	$	186,881,852
e.	Minimum Required Contribution at Year End		0
f.	Larger of d. and e.		186,881,852
g.	Full Funding Limit		2,105,638,792
h.	Maximum Deductible Contribution, less of f. and g.	$	186,881,852
2.	140% of Current Liability Calculation		
a.	Current Liability at Start of Year	$	2,782,245,604
b.	Present Value of Benefits Estimated to Accrue during Year		1,009,197
c.	Expected Current Liability Benefit Payments		153,913,827
d.	Net Interest on a., b. and c. at Current Liability Interest Rate (3.05%)		82,559,715
e.	Expected Current Liability at End of Year, [a. + b. – c. + d.]		2,711,900,689
f.	140% of e.		3,796,660,965
g.	Actuarial Value of Assets		466,729,375
h.	Expected Benefit Payments		153,690,417
i.	Expected Expenses		5,000,000
j.	Net Interest on g., h. and i. at Valuation Interest Rate (7.00%)		27,032,870
k.	Estimated Value of Assets, [g. – h. - i. + j.]		335,071,828
l.	Unfunded Current Liability at Year End, [f. – k.], not less than $0	$	3,461,589,137
3.	Maximum Deductible Contribution at Year End, greater of 1f. and 2l.	$	3,461,589,137

SECTION IV – CONTRIBUTIONS

Table IV-4
Development of Actuarial Gain / (Loss)

1.	Unfunded Actuarial Liability at Start of Year (not less than zero)	$ 1,194,162,685
2.	Normal Cost and Administrative Expenses at Start of Year	5,127,129
3.	Interest on 1. and 2. to End of Year	83,950,287
4.	Employer Contributions for Prior Year	45,356,451
5.	Interest on 4. to End of Year	409,972
6.	Change in Unfunded Actuarial Liability Due to Changes in Assumptions	0
7.	Change in Unfunded Actuarial Liability Due to Changes in Plan Design	0
8.	Change in Unfunded Actuarial Liability Due to Funding Method Change	0
9.	Expected Unfunded Actuarial Liability at End of Year	
	[1. + 2. + 3. – 4. – 5. + 6. + 7. + 8.]	$ 1,237,473,678
10.	Actual Unfunded Actuarial Liability at End of Year (not less than zero)	1,273,625,577
11.	Actuarial Gain / (Loss) [9. – 10.]	
	a. Actuarial Liability Gain / (Loss)	$ 6,308,913
	b. Actuarial Value of Assets Gain / (Loss)	$ (42,460,812)
	c. Total Actuarial Gain / (Loss) [9. – 10.]	$ (36,151,899)
12.	Amortization Factor for Actuarial Gain / (Loss)	9.7455
13.	Amortization Credit / (Charge) for Actuarial Gain / (Loss) [11c ÷ 12]	$ (3,709,611)

SECTION IV – CONTRIBUTIONS

Table IV-5
Schedule of Amortizations Required for Minimum Required Contribution as of January 1, 2017

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2017 Outstanding Balance	Remaining Amortization Years	Beginning of Year Amortization Amount
CHARGES						
1. Combined Charges	1/1/1985	$ 270,785,105	29	$ 27,429,909	2	$ 14,178,745
2. Assumption Change	1/1/1986	12,855,910	30	2,700,440	4	745,090
3. Plan Amendment	1/1/1987	6,109,000	30	1,615,923	5	368,326
4. Plan Amendment	1/1/1988	17,915,000	30	5,689,401	6	1,115,526
5. Plan Amendment	1/1/1989	7,929,000	30	2,924,060	7	507,074
6. Change Method	1/1/1989	133,216,000	29	42,759,063	6	8,383,805
7. Assumption Change	1/1/1990	39,781,000	30	16,622,149	8	2,601,565
8. Plan Amendment	1/1/1990	39,435,000	30	16,477,577	8	2,578,937
9. Plan Amendment	1/1/1991	2,876,000	30	1,336,190	9	191,670
10. Plan Amendment	1/1/1992	6,032,000	30	3,070,170	10	408,526
11. Assumption Change	1/1/1992	52,269,000	30	26,603,926	10	3,540,001
12. Plan Amendment	1/1/1993	94,753,000	30	52,205,986	11	6,506,569
13. Assumption Change	1/1/1994	56,054,000	30	33,048,583	12	3,888,675
14. Assumption Change	1/1/1996	18,104,924	30	11,944,260	14	1,276,417
15. Plan Amendment	7/1/1996	128,160,593	30	90,746,848	15	9,497,475
16. Plan Amendment	1/1/1997	1,109,834	30	767,387	15	78,743
18. Plan Amendment	1/1/1998	563,954	30	406,646	16	40,230
19. Plan Amendment	1/1/1999	62,490,169	30	46,786,965	17	4,478,658
20. Actuarial Loss	1/1/2001	128,020,114	15	35,868,689	4	9,896,678
21. Actuarial Loss	1/1/2002	147,313,065	15	51,858,669	5	11,820,418
22. Actuarial Loss	1/1/2003	234,893,247	15	99,062,760	6	19,423,319
23. Actuarial Loss	1/1/2004	30,409,963	15	14,861,749	7	2,577,239
24. Actuarial Loss	1/1/2005	11,178,830	15	6,177,662	8	966,878
25. Actuarial Loss	1/1/2006	27,723,307	15	18,412,681	9	2,641,213

SECTION IV – CONTRIBUTIONS

Table IV-5
Schedule of Amortizations Required for Minimum Required Contribution as of January 1, 2017

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2017 Outstanding Balance	Remaining Amortization Years	Beginning of Year Amortization Amount
CHARGES (CONTINUED)						
26. Assumption Change	1/1/2007	$ 39,448,609	30	$ 35,947,357	25	$ 2,882,861
27. Assumption Change	1/1/2008	31,841,997	15	23,074,550	11	2,875,842
28. Actuarial Loss	1/1/2009	189,464,345	20	144,949,177	12	17,055,504
29. Actuarial Loss	1/1/2010	45,333,520	15	30,323,177	8	4,745,939
30. Funding Method Change	1/1/2011	56,656,549	10	27,850,156	4	7,684,251
31. Actuarial Loss	1/1/2011	4,061,037	15	2,953,171	9	423,618
32. Actuarial Loss	1/1/2012	84,695,879	15	66,164,390	10	8,804,038
33. Assumption Change	1/1/2014	49,675,132	15	43,592,275	12	5,129,303
34. Actuarial Loss	1/1/2015	24,122,553	15	22,203,815	13	2,482,902
35. Assumption Change	1/1/2016	141,337,956	15	135,713,465	14	14,502,942
36. Actuarial Loss	1/1/2016	50,974,644	15	48,946,127	14	5,230,600
37. Actuarial Loss	1/1/2017	36,151,899	15	36,151,899	15	3,709,611
TOTAL CHARGES				**$ 1,227,247,252**		**$ 183,239,188**

SECTION IV – CONTRIBUTIONS

Table IV-5
Schedule of Amortizations Required for Minimum Required Contribution as of January 1, 2017

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2017 Outstanding Balance	Remaining Amortization Years	Beginning of Year Amortization Amount
CREDITS						
1. Actuarial Gain	1/1/2007	$ 14,663,533	15	$ 6,812,485	5	$ 1,552,805
2. Actuarial Gain	1/1/2008	25,687,200	15	13,818,986	6	2,709,500
3. Funding Method Change	1/1/2009	71,927,744	10	19,032,072	2	9,837,834
4. Funding Method Change	1/1/2010	38,172,608	10	14,598,388	3	5,198,822
5. Actuarial Gain	1/1/2013	18,356,328	15	15,258,118	11	1,901,659
6. Plan Amendment	1/1/2013	61,985,205	15	51,523,242	11	6,421,477
7. Actuarial Gain	1/1/2014	10,311,901	15	9,049,180	12	1,064,775
TOTAL CREDITS				**$ 130,092,471**		**$ 28,686,872**

SECTION IV – CONTRIBUTIONS

Table IV-6
Accumulated Reconciliation Account and Balance Test as of January 1, 2017

1. Reconciliation Account at Start of Year	$ 0
2. Net Outstanding Amortization Bases	$ 1,097,154,781
3. Credit Balance at Start of Year	$ (176,470,796)
4. Unfunded Actuarial Liability at Start of Year from Funding Equation [2. - 1. - 3.]	$ 1,273,625,577
5. Actuarial Liability at Start of Year	$ 1,740,354,952
6. Actuarial Value of Assets at Start of Year	$ 466,729,375
7. Unfunded Actuarial Liability at Start of Year from Liability Calculation [5. - 6.]	$ 1,273,625,577
The Fund passes the Balance Test because line 6. equals line 9.	

SECTION IV – CONTRIBUTIONS

Table IV-7
Development of the Full Funding Limitation for the Plan Year Beginning January 1, 2017

		Minimum	Maximum
1.	ERISA Actuarial Liability Calculation		
a.	Actuarial Liability	$ 1,740,354,952	$ 1,740,354,952
b.	Normal Cost plus Administrative Expenses	5,183,385	5,183,385
c.	Lesser of Market Value and Actuarial Value of Assets	408,705,177	408,705,177
d.	Credit Balance at Start of Year	(176,470,796)	N/A
e.	Net Interest on a., b., c., and d. at Funding Interest Rate (7.00%)	81,225,365	93,578,321
f.	Actuarial Liability Full Funding Limit, [a. + b. – c. + d.] x 1.07, limited to zero	$ 1,241,587,729	$1,430,411,481
2.	Full Funding Limit Override (RPA 1994)		
a.	RPA 1994 Current Liability at Start of Year	$ 2,782,245,604	$ 2,782,245,604
b.	Present Value of Benefits Estimated to Accrue during Year	1,009,197	1,009,197
c.	Expected Current Liability Benefit Payments	153,913,827	153,913,827
d.	Net Interest on a., b. and c. at Current Liability Interest Rate (3.05%)	82,559,715	82,559,715
e.	Expected Current Liability at End of Year, [a. + b. – c. + d.]	2,711,900,689	2,711,900,689
f.	90% of e.	2,440,710,620	2,440,710,620
g.	Actuarial Value of Assets	466,729,375	466,729,375
h.	Expected Benefit Payments	153,690,417	153,690,417
i.	Expected Expenses	5,000,000	5,000,000
j.	Net Interest on g., h. and i. at Valuation Interest Rate (7.00%)	27,032,870	27,032,870
k.	Estimated Value of Assets, [g. – h. - i. + j.]	335,071,828	335,071,828
l.	RPA 1994 Full Funding Limit Override [f. – k.], limited to zero	$ 2,105,638,792	$2,105,638,792
3.	Full Funding Limitation at End of Year, greater of 1f. and 2l.	$ 2,105,638,792	$2,105,638,792

SECTION V – FASB ASC TOPIC NO. 960 DISCLOSURE

Table V-1
Present Value of Accumulated Benefits as of January 1, 2017
in Accordance with FASB ASC Topic No. 960

	Amounts	Vested Counts
1. Actuarial Present Value of Benefits		
For Retirees and Beneficiaries	$ 1,217,357,281	18,362
Terminated Vesteds	253,401,191	13,863
Active Participants	265,231,827	11,388
Vested Benefits	$ 1,735,990,299	43,613
2. Non-vested Benefits	$ 2,602,595	5,887
3. Present Value of Expected Administrative Expenses[1]	$ 65,197,234	
4. Accumulated Benefits	$ 1,803,790,128	49,500
5. Market Value of Assets - Auditor	$ 391,118,495	
6. Funded Ratios		
Vested Benefits	23%	
Accumulated Benefits	22%	

Reconciliation of Present Value of Accumulated Benefits

1. Actuarial Present Value at Start of Prior Year (w/o Administrative Expenses)	$ 1,771,604,263
2. Increase (Decrease) over Prior Year due to:	
Benefit Accruals	$ 488,735
Benefit Payments	(146,238,867)
Increase for Interest	119,014,717
Experience (Gains)/Losses	(6,275,954)
Changes in Assumptions	0
Plan Amendments	0
Total	$ (33,011,369)
3. Actuarial Present Value at End of Prior Year (w/o Administrative Expenses)	$ 1,738,592,894
4. Present Value of Expected Administrative Expenses[1]	$ 65,197,234
5. Actuarial Present Value at End of Prior Year (w/ Administrative Expenses)	$ 1,803,790,128

[1] The present value of expected administrative expenses is estimated to be 3.75% of the Accrued Liability.

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by Associated Administrators LLC (AA). Cheiron did not audit any of the data. The data is as of January 1, 2017. Below is a list of assumptions Cheiron made in processing the data this year.

Active Status for Valuation Purposes

Only those participants who had an active status (A or AV) and last month worked after August were considered active employees for valuation purposes. The remaining participants with an A or AV status were valued as terminated vesteds if they had at least five years of vesting service; otherwise non-vested terminations.

Dates of Birth for Terminated Vested Employees

For terminated vested participants with unreasonable or missing dates of birth, we assumed they were the average age of their respective group based on Tier I or Tier II participation.

Accrued Benefits for Terminated Vested Employees

The accrued benefit for each terminated vested was estimated based on the amount of benefit service reported and the monthly accrual levels for Tier I or Tier II participation.

Full-Time/Part-Time Status

Full-time versus part-time status is not included in the data provided to Cheiron. For Tier I participants, this status is determined based on the most recent contribution rate for that participant. Tier II participants are assigned full-time versus part-time status based on the majority of their service for the 2016 plan year. If they do not have service in the 2016 plan year, earlier years are used.

APPENDIX A – MEMBERSHIP INFORMATION

The following is a list of data charts contained in this section:

- Age/Service Distribution for Active Participants earning future benefit accruals
- Age/Service Distribution for Active Participants not earning future benefit accruals (Giant and Safeway employees)
- Counts and Average Benefit Amount by Age for Retirees, Beneficiaries, and Disabled Participants
- Counts and Average Benefit Amount by Age for Deferred Vested Participants and Surviving Spouses entitled to future benefits

Table A-1
Active Participants as of January 1, 2017 Earning Future Benefit Accruals

	Completed Years of Credited Service as of January 1, 2017										
Age	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up	Total
Under 25	23	57	4	0	0	0	0	0	0	0	84
25-29	2	20	15	2	0	0	0	0	0	0	39
30-34	1	11	11	7	2	0	0	0	0	0	32
35-39	2	7	6	6	4	2	0	0	0	0	27
40-44	4	10	4	2	4	6	1	0	0	0	31
45-49	4	21	5	1	2	3	10	5	0	0	51
50-54	1	13	6	6	3	4	14	17	0	0	64
55-59	4	24	8	10	2	2	10	10	18	1	89
60-64	7	13	2	7	4	0	7	5	5	4	54
65-69	1	11	6	2	0	2	2	2	2	1	29
70 & Up	1	8	0	0	1	0	2	2	0	0	14
Total	50	195	67	43	22	19	46	41	25	6	**514**

Average Age = 45.2 Average Service = 11.6

APPENDIX A – MEMBERSHIP INFORMATION

Table A-2
Active Participants as of January 1, 2017 Not Earning Future Benefit Accruals

	Completed Years of Credited Service as of January 1, 2017										
Age	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up	Total
Under 25	646	1,265	95	0	0	0	0	0	0	0	2,006
25-29	192	725	646	47	0	0	0	0	0	0	1,610
30-34	123	310	397	390	38	0	0	0	0	0	1,258
35-39	87	254	278	296	273	21	0	0	0	0	1,209
40-44	73	241	229	242	277	247	39	0	0	0	1,348
45-49	79	271	277	271	255	245	413	51	0	0	1,862
50-54	88	322	293	297	320	163	405	412	26	0	2,326
55-59	85	288	336	337	269	179	357	291	246	23	2,411
60-64	42	207	202	223	190	151	237	137	94	121	1,604
65-69	21	93	121	135	105	64	110	36	26	57	768
70 & Up	15	41	58	90	51	26	40	17	3	18	359
Total	1,451	4,017	2,932	2,328	1,778	1,096	1,601	944	395	219	**16,761**

Average Age = 44.8 Average Service = 12.7

Includes 5,080 Giant and Safeway employees for whom contributions are made on their behalf but no liability is or will be due.

APPENDIX A – MEMBERSHIP INFORMATION

Table A-3
Inactive Participants as of January 1, 2017

Pensioners and Beneficiaries Receiving Benefits

	Disability Retirements		Normal, Early Deferred Vested Retirements		Surviving Spouses and Beneficiaries Receiving Benefits		Total	
Age	Number	Monthly Benefit	Number	Monthly Benefit	Number	Monthly Benefit	Number	Monthly Benefit
Under 55	83	$ 30,446	122	$ 123,084	53	$ 25,400	258	$ 178,930
55-59	122	67,629	640	660,654	79	29,653	841	757,936
60-64	163	91,115	1,954	1,595,209	156	62,376	2,273	1,748,700
65-69	2	1,514	3,730	2,574,507	292	116,020	4,024	2,692,041
70-74	0	0	3,619	2,470,880	357	141,548	3,976	2,612,428
75-79	0	0	2,962	1,870,803	347	139,022	3,309	2,009,825
80 & Over	0	0	3,133	1,643,400	548	173,806	3,681	1,817,206
Total	**370**	**$ 190,704**	**16,160**	**$10,938,537**	**1,832**	**$ 687,825**	**18,362**	**$11,817,066**

Deferred Vested Participants and Surviving Spouses Entitled to Future Benefits

Age	Number	Monthly Benefit
Under 45	3,887	$ 507,867
45-49	2,168	435,571
50-54	2,362	672,475
55-59	2,539	857,614
60-64	1,890	646,829
65 & Over	1,017	345,217
Total	**13,863**	**$ 3,465,573**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4
Participant Status Reconciliation

		Active	Terminated Vested	Retired	Disabled	Beneficiaries	Total
1.	January 1, 2016 valuation	**17,554**	**13,616**	**15,978**	**407**	**1,773**	**49,328**
2.	Additions						
	a. New hires	2,468					2,468
	b. New beneficiaries					191	191
	c. Data corrections		47	85	2		134
	d. Total	2,468	47	85	2	191	2,793
3.	Reductions						
	a. Terminated - not vested	(1,908)					(1,908)
	b. Deaths or no further benefit due		(26)	(545)	(10)	(132)	(713)
	c. Data corrections						0
	d. Total	(1,908)	(26)	(545)	(10)	(132)	(2,621)
4.	Changes in status						
	a. Rehired	123	(123)				0
	b. Terminated with vested benefit	(767)	767				0
	c. Retired	(189)	(396)	642	(57)		0
	d. Disabled	(6)	(22)		28		0
	e. QDRO						0
	f. Total Changes	(839)	226	642	(29)	0	0
5.	January 1, 2017 valuation	**17,275**	**13,863**	**16,160**	**370**	**1,832**	**49,500**

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

This summary reflects all amendments made to the Fund up to and including January 2017. In March 2008 and March 2012, the two largest employers entered into new contracts with increased contributions, the contribution rates under the 2008 and 2012 Bargaining Agreements have been reflected in this report. The rates for the majority of participants are set forth in this appendix.

1. Eligibility

Each employee with bargaining units represented by Locals 400, 27 or 1776 (formerly 1357), where the collective Bargaining Agreements call for contributions to this Fund on behalf of such employee, will become a participant upon receipt of the first such contribution on his behalf.

2. Normal Retirement Date

An employee's Normal Retirement Date is the last day of the month in which his 65th birthday occurs.

3. Past Service

Service prior to January 1, 1976 was granted according to the terms of the Fund as in effect from time to time prior to that date.

4. Future Service

On and after January 1, 1976, an employee for whom monthly contributions are made receives future service credit for each month for which a contribution is made on his behalf. An employee for whom hourly contributions are made receives future service credit for each plan year at the rate of one-quarter of a year for each 400 such hours for which contributions are made up to a full year credit for 1,600 or more such hours. In either case, an employee also receives future service benefit credit for any period during which he is reported as being in the military service of the United States and returns to covered employment within the period for protection of his statutory rights to re-employment.

5. Accrued Monthly Pension

An employee's Accrued Monthly Pension is determined according to the contribution rate applicable to him from time to time. The contribution rate for most of the participants in the Plan is set in the Collective Bargaining Agreement between FELRA and the participating unions.

The applicable contribution rates and benefit rates for Tier I and Tier II employees are shown on the next page.

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

	Tier I		Tier II	
	Full-Time	Part-Time	Full-Time	Part-Time
Contribution Rate[1]	$1,278.37/month	$473.32/month	$1.89/hour	$1.89/hour
Benefit Rate Per Year of Credited Service (Effective April 1, 2000)	$47	$32	$25	$15

[1] *Rates for Acme employees as seen in the 4th Quarter 2016 AMR*

For Tier I participants, the benefit rate for credited service in excess of 30 years is $54 per month per year of full-time credited service and $37 per month per year of part-time credited service.

Certain other "non-core" bargaining units participate at different contribution/benefit levels. These non-core employers make up a small percentage of Plan liabilities. For FELRA employees hired after the effective date of the applicable Collective Bargaining Agreement, other contribution rates and benefit levels may be applicable.

Participants employed by either Giant or Safeway will not earn any future benefit accrual for service earned on or after January 1, 2013.

6. Normal Retirement Benefit

An employee's Normal Retirement Benefit is his Accrued Monthly Pension determined as of his Normal Retirement Age (65).

7. Employment after Age 65

An employee whose employment continues beyond his Normal Retirement Age will continue to receive additional pension credit for that employment.

8. Early Retirement Benefit

An employee who has both attained age 55 and completed at least 15 years of Credited Service can retire prior to his Normal Retirement Date. Tier II participants are also eligible to retire provided the Participant has both attained age 62 and completed at least 10 years of Credited Service. His early retirement pension is equal to his Accrued Monthly Pension, reduced by one-half of one percent for each month in the period between the date his pension commences and his 60th birthday (65th in the case of employees having an hourly contribution basis). Certain other participants acquired through plan mergers are entitled to early retirement benefits under different age and service requirements.

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

9. Special Early Retirement

An employee (other than an employee having an hourly contribution basis) who has either (a) attained age 60 and completed at least five years of Credited Service, or (b) has completed at least 30 years of Credited Service regardless of age, may retire and receive his Accrued Monthly Pension without actuarial reduction.

10. Disability Retirement

An employee who becomes totally and permanently disabled (according to Social Security criteria) after he has completed at least ten years of Credited Service, is entitled to a Disability Retirement Pension. His Accrued Pension will be payable without actuarial reduction as soon as his disability has been established to the satisfaction of the Trustees and he has completed the six-month waiting period.

11. Vesting

If an employee who has completed five or more years of "Vesting Service" terminates covered employment other than by death or disability prior to the time he is eligible for an Early (or Normal) Retirement Benefit, he will be entitled to a Deferred Vested Pension beginning on his 60th birthday (65th in the case of employees having an hourly contribution basis), equal to his Accrued Monthly Pension up to the date his covered employment terminates. A former employee may elect to receive his pension payments on the first day of any month on or after his 55th birthday, in which case his pension amount will be reduced by one-half of one percent for each month in the period between the date his pension begins and his 60th birthday (65th in the case of employees having an hourly contribution basis). For this purpose, Vesting Service is equal to (a) the years of Credited Service granted prior to 1976, and (b) the sum of the years of Credited Service granted after 1975, except that one full year of Vesting Service is granted for each calendar year in which either five or more months of Credited Service were granted or 750 Regular Time Hours were credited; if an employee has less than 750 Regular Time Hours or five months of Credited Service in any plan year and transfers to (or is transferred from) non-covered service with a participating employer, such non-covered service will also be included as Vesting Service.

12. Pre-Retirement Spouse's Pension

Each employee who is vested under the Fund (other than as set out below) is provided with pre-retirement spouse's pension coverage, whereby if his death occurs before actual retirement, his spouse will receive a lifetime pension from the Fund. The spouse's pension will be payable starting with the later of (a) the earliest date the employee could have elected to retire under the Plan, or (b) the employee's death. The amount of such pension will be one-half of that which would have been payable to the employee if he had retired early on the date of the start of the spouse's pension and elected a Joint and 50 Percent Survivor option. The coverage is elective for former employees who became entitled to deferred vested pension prior to August 23, 1984 and is paid for by reduction of the pension otherwise payable to him.

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

13. Normal Form of Pension

The normal form of pension for an unmarried employee (or for a married employee who so elects) will be a lifetime pension. If his pension accrual was greater than $15 per month per year of service (or $10 for part-time employees), the pension is also payable for 60-months certain. The normal form of pension payable to a married employee who does not elect otherwise will be an actuarially reduced pension on the Joint and 50 Percent Survivor basis.

Upon the death of a pensioner, other than pensioners receiving Deferred Vested Pensions, a lump sum death benefit will be paid to the employee's designated beneficiary. The amount is $500, $1,000 or $2,500 depending on the contribution rate applicable to the participant and the full-time/part-time employment status.

14. Reciprocity

An employee covered by this Fund may transfer to (or from) the UFCW and Participating Employers' Pension Plan without loss of pension credits. Upon eventual retirement, each Fund will pay the benefit for service accrued under that Fund, according to the benefit rate in effect under that Fund, at the time of retirement. Reciprocity also has been authorized between this Fund and certain other collectively bargained plans in the retail food industry, under which payment of benefits from each Fund is made according to the benefit rate in effect at the end of his covered employment under each Fund.

Note: This summary is for the sole purpose of stating the principal Plan provisions on which the valuation is based. Entitlement to benefits under the Fund is determined under the terms and provisions of the Pension Plan document.

15. Changes in Plan Provisions

None

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Rates of Investment Return

Funding and disclosure purposes:
7.00% compounded annually

Current Liability under RPA 1994:
3.05% compounded annually

All investment returns are net of investment expenses.

The annual investment return of 7.00% takes into consideration the projected health of the Fund and the expected return (5.8%) and also the uncertainty of the benefit payment levels in the future. This valuation recognizes the full benefit payment amount assuming the Plan remains solvent. However, unless a large amount of monies are contributed, the Plan will likely be insolvent and the benefit payments will be reduced at such time to PBGC guaranteed levels.

2. Rates of Mortality

Funding and disclosure purposes:

Active:	RP-2000 Combined Healthy mortality table for males and females.
Healthy Inactive:	RP-2000 Healthy Annuitant mortality table set forward one year for males and no adjustment for females. The mortality table for active lives is used prior to age 49 for males and age 50 for females, but set forward one year for males.
Disabled:	RP-2000 Disabled Annuitant for ages prior to 65. The same mortality as Healthy Inactives for ages 65 and older.

Past experience has shown more deaths have occurred than assumed, which has yielded liability gains attributable to this experience. Therefore, the current assumption includes a margin for future mortality improvements. This will continue to be monitored on an annual basis and adjustments will be made when necessary.

Current Liability:

The separate 2017 Static Mortality Tables for annuitants and non-annuitants as prescribed under IRS Notice 2016-50 and Regulation §1.431(c)(6)-1.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

3. Rates of Turnover

Terminations of employment for reasons other than death or retirement are assumed to be in accordance with annual rates as shown below.

	Number Expected to Terminate Annually Per 1,000	
Service	Males	Females
0	400	400
1	220	220
2	180	180
3	150	150
4	130	130
5	120	120
6	110	110
7	105	105
8	90	90
9	90	90
10	90	90
11	80	80
12	80	80
13	80	80
14	70	70
15	70	70
16	70	70
17	50	50
18	50	50
19	50	50
20	40	40
21	30	30
22 and over	25	25

4. Rates of Retirement

Tier I rates of retirement depend on whether a participant has fewer than 30 years of service or more than 30 years of service.

	Number Expected to Retire Annually Per 1,000		
Age	Tier 1 Less than 30 years	Tier 1 Over 30 years	Tier 2
50	0	200	0
51	0	200	0
52	0	200	0
53	0	200	0
54	0	200	0
55	85	200	75
56	85	200	75
57	85	200	75
58	85	200	75
59	85	200	75
60	150	200	100
61	150	250	100
62	300	350	150
63	200	400	125
64	200	400	150
65	300	400	200
66	300	400	200
67	200	400	200
68	200	400	200
69	200	400	200
70 and over	1,000	1,000	1,000

Employees who leave employment with entitlement to a deferred vested pension are assumed to commence receipt of their pension when first eligible for unreduced benefits.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

5. Rates of Disability

Terminations of employment for disability are assumed to be equal to 50% of the Group Long-Term Disability Insurance Crude Rates of Disablement for males published in the Transactions of the Society of Actuaries, 1979.

Illustrative rates are shown below.

	Number Expected to Become Disabled Annually Per 1,000
Age	**Rate**
25	0.3
30	0.3
35	0.4
40	0.7
45	1.4
50	2.7

6. Marital Status and Elections

80% of participants are assumed to be married at death, and eligible for pre-retirement spouse benefits.

56% of participants are assumed to elect the joint and survivor option on retirement. The rest are assumed to elect the single life form.

Husbands are assumed three-years older than their wives.

7. Service Accrual

All employees are assumed to earn one year of service credit for each year of future employment.

8. Administrative Expenses

It is assumed that annual administrative expenses including PBGC premiums will be $5,000,000 payable at the beginning of the year, increasing by 3.0% for each future year.

For financial disclosure under FASB ASC 960 the present value of future administrative expense is assumed to be 3.75% of Accrued Liability.

9. Rationale for Demographic Assumptions

Assumptions are based on the latest experience study review performed in 2007. The results of that study are incorporated here by reference. The assumptions continue to be closely monitored and Cheiron is proposing that an experience study be performed in the near future.

10. Changes since the Previous Valuation

As required, the current liability interest rate and mortality tables were updated. The interest rate went from 3.28% to 3.05% and the mortality table was updated to the 2017 Static Mortality Tables for annuitants and non-annuitants (per IRS Notice 2016-50).

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Asset Valuation Method

The valuation assets are determined as the market value less (1) 80% of the investment gain/(loss) during the preceding year, less (2) 60% of the investment gain/(loss) during the second preceding year, less (3) 40% of the investment gain/(loss) during the third preceding year, less (4) 20% of the investment gain/(loss) during the fourth preceding year. However, the 2008 investment loss is recognized at a rate of 10% per plan year due to funding relief. For the purpose of this calculation, the gain/(loss)are defined as the difference between the actual and the expected return (based on the valuation interest rate) on the market value of assets during the year.

The actuarial value is taken to be the adjusted market value as described above, but subject to a 20 percent corridor limit around the actual market value; that is, the actuarial value is never greater than 120 percent of the market value (130 percent for 2009 and 2010 due to funding relief), nor less than 80 percent of market value.

2. Funding Method: Entry Age Normal Cost Method

Under the Entry Age Normal Cost method the individual Entry Age Normal Cost is determined for each participant by calculating the level annual contribution required to fund that individual's expected benefits based on the current Plan provisions over the participant's expected active working lifetime with the Fund at entry.

At the valuation date, the present value of future normal cost is calculated for each individual participant by multiplying the Entry Age Normal Cost by the present value of the participant's expected future active working lifetime with the Fund. The cost for each participant is then summed to yield the present value of future normal costs.

The excess of the present value of future benefits for all individuals at the valuation date over the present value of future normal costs is called the actuarial liability, or past service liability.

The excess, if any, of the actuarial liability over the actuarial value of assets is known as the unfunded accrued liability. If the actuarial value of assets exceeds the actuarial liability, the Fund may have a surplus.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

3. PRA 2010 Funding Relief

The Fund's Board of Trustees elected funding relief under § 431(b)(8) of the Code and § 304(b)(8) of ERISA, specifically:

- The "special asset valuation rule" in determining the actuarial value of Plan assets which allows the Plan to recognize the 2008 loss over 10 years, at 10% per year. Prior to the relief, the 2008 loss would have been recognized over 5 years, or 20% per year. This was first reflected with the January 1, 2010 actuarial value of assets.

- The "special asset valuation rule" in determining the actuarial value of Plan assets which allows the Fund to use 130% of the market value of assets as the ceiling for the 2009 and 2010 actuarial value of assets.

4. Changes in Actuarial Methods since Last Valuation

None