Classic Values, Innovative Advice

UNITE Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan

Actuarial Valuation Report as of January 1, 2019

Produced by Cheiron
December 2019

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Appendices

December 23, 2019

Trustees of the
UNITE Hotel and Restaurant Employees Local 25 and
Hotel Association of Washington, DC Pension Plan
c/o Anne-Marie Sims
Associated Administrators
911 Ridgebrook Road
Sparks, Maryland 21152

Dear Trustees:

At your request, we have performed the January 1, 2019, actuarial valuation of the UNITE Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan. This report contains information on the Plan's assets and liabilities and also discloses contribution levels, including the minimum required amount as mandated by Federal law.

Your attention is called to the introductory section in which 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 2019 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.

The purpose of this report is to present the annual actuarial valuation of the UNITE Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan. This report is for the use of the Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. 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.

Trustees of the UNITE Hotel and Restaurant Employees
Local 25 and Hotel Association of Washington, DC
Pension Plan
December 23, 2019

This actuarial report was prepared exclusively for the UNITE Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan for the purpose described herein. 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.

Please let us know if you have any questions.

Sincerely,
Cheiron

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

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Consulting Actuary

Fiona E. Liston, FSA, EA, MAAA
Principal Consulting Actuary

FOREWORD

Cheiron has performed the actuarial valuation of the UNITE Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan as of January 1, 2019. The purpose of this report is to:

1) **Measure and disclose**, as of the valuation date, the financial condition of the Plan;
2) **Provide specific information** and documentation required by the Federal Government and the auditors of the Plan;
3) **Review past and expected trends** in the financial conditions of the Plan; and
4) **compare** assets with the value of vested benefits to determine allocable plan withdrawal liability, if any.

An actuarial valuation analyzes Plan assets and establishes liabilities on a consistent basis, and traces the progress from one year to the next. It includes measurement of the Plan's investment performance as well as an analysis of actuarial liability gains and losses. This valuation report is organized as follows:

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

Section II presents risk factors to consider that may significantly affect the Plan's future financial condition.

Section III contains exhibits relating to the valuation of assets.

Section IV shows the various measures of liabilities.

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

Section VI shows the development of the Plan's unfunded vested benefits for withdrawal liability purposes.

Section VII provides information required by the Plan's auditor.

The appendices to this report contain a summary of the Plan's membership at the valuation date, a summary of the major provisions of the Plan, and the actuarial methods and assumptions used in the valuation.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by Associated Administrators, LLC and Novak Francella, 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 Standards of Practice No. 23 Data Quality.

The actuarial assumptions reflect our understanding of the likely future experience of the Plan and the assumptions analyzed individually represent our best estimate for the future experience. 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 Plan could vary from our results.

SUMMARY

Table I-1 sets out the principal results of this year's valuation and compares them to last year's results.

Table I-1
Hotel and Restaurant Employees Local 25 and Hotel Association of Washington, DC Pension Plan
Summary of Principal Results

	1/1/2018	1/1/2019	Change
Participant Counts			
Actives	5,898	5,659	(4.1%)
Terminated Vesteds[1]	2,022	2,077	2.7%
In Pay Status	2,312	2,452	6.1%
Total	10,232	10,188	(0.4%)
Financial Information			
(1) Market Value of Assets (MVA)	$ 222,583,144	$ 224,735,886	1.0%
(2) Actuarial Value of Assets (AVA)	220,788,770	238,614,239	8.1%
(3) Actuarial Liability	$ 314,347,125	$ 330,850,903	5.3%
(4) Unfunded Actuarial Liability / (Surplus) on AVA Basis [(3) - (2)]	93,558,355	92,236,664	(1.4%)
(5) Funding Ratio on AVA Basis [(2) ÷ (3)]	70.2%	72.1%	
(6) Unfunded Actuarial Liability / (Surplus) on MVA Basis [(3) - (1)]	91,763,981	106,115,017	15.6%
(7) Funding Ratio on MVA Basis [(1) ÷ (3)]	70.8%	67.9%	N/A
(8) Present Value of Vested Benefits for Withdrawal Liability Purposes	$ 304,556,378	$ 322,730,536	6.0%
(9) Vested Benefit Unfunded (Surplus) [(8) - (1)]	81,973,234	97,994,650	19.5%
(10) Vested Benefit Funding Ratio on MVA Basis [(1) ÷ (8)]	73.1%	69.6%	N/A
Contributions and Cash Flows			
ERISA Credit Balance (Beginning of Year)	$ 54,988,778	$ 52,390,420	(4.7%)
Employer Contributions[2]	24,652,944	*25,174,600*	2.1%
Minimum to Preserve Credit Balance	30,557,481	30,863,137	1.0%

[1] For 2018 and 2019, includes 16 and 20 terminated vesteds at least 85 years old whose liabilities are $0 since assumed probablilty of receipt is 0%.
[2] 2019 contributions are estimated and assumed to be made uniformly throughout the year.

General Comments

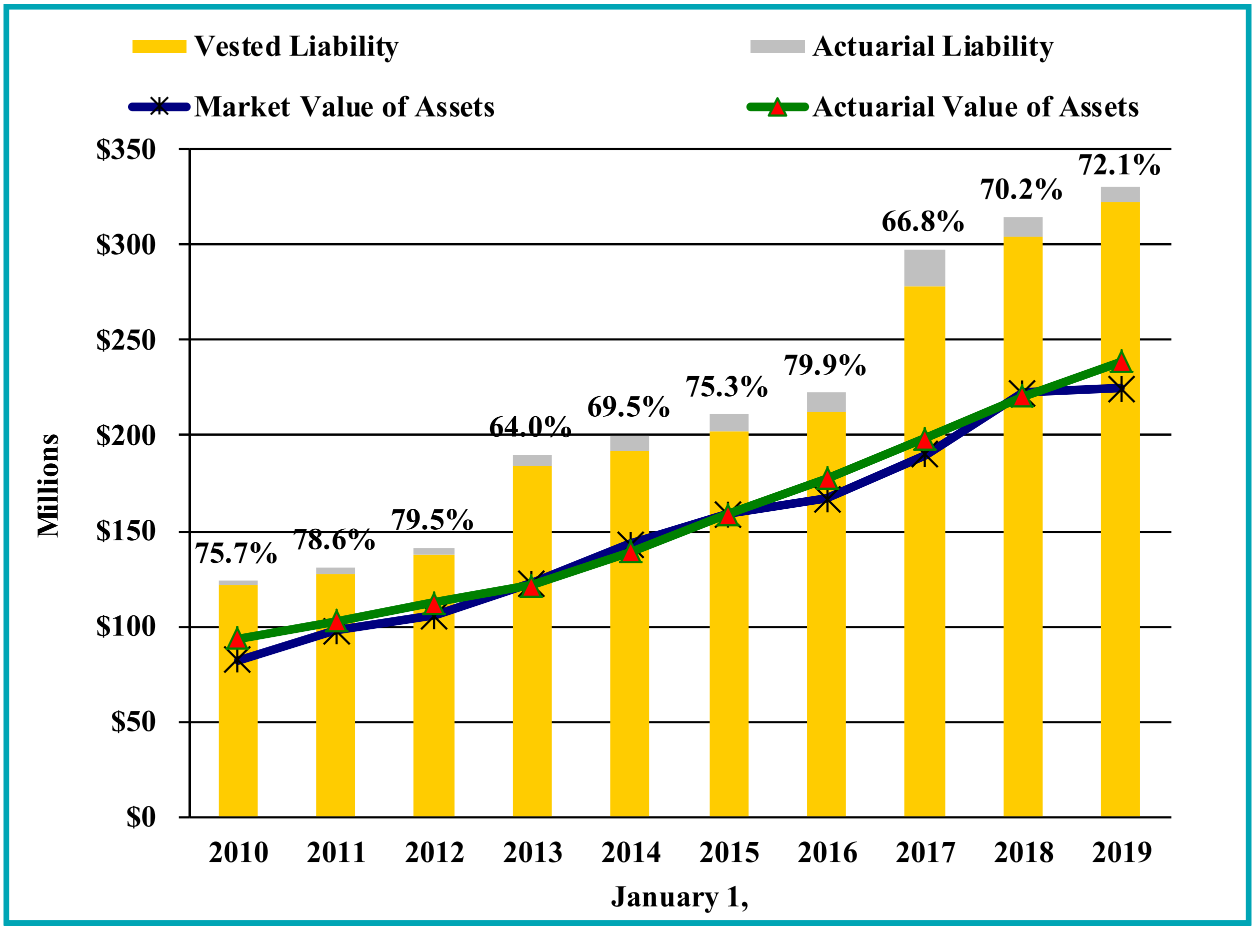
The following are general observations on the prior year experience and trends based on the January 1, 2019 valuation.

- The Market Value of Assets returned negative 2.79% compared to the prior year's assumed 6.75% return (a difference of 9.54%). In dollars, the total actuarial investment loss (the difference between actual and expected returns on a market value basis) was $21.4 million.
- For various purposes, including the determination of its annual Minimum Required Contribution, the Plan uses an Actuarial Value of Assets which smooth annual actuarial investment gains or losses over a period of five years. This means the $21.4 million loss described above will be phased in at a rate of $4.3 million per year over the next five years. The smoothed Actuarial Value of Assets is $238.6 million (106% of the market value of $224.7 million).
- Despite the unfavorable return on the Market Value of Assets, the return on the Actuarial Value of Assets was 4.16% due to continued recognition of a net investment gain from the past. This resulted in an actuarial investment loss of $5.6 million on this asset basis when compared with the 6.75% expected return.
- The Plan experienced a small liability loss of $0.8 million (0.22% of Actuarial Liability) during 2018.
- The Plan's funding ratio (Actuarial Value of Assets as a percentage of Actuarial Liability) increased from 70.2% as of January 1, 2018 to 72.1% as of January 1, 2019. The funding ratio based on Market Value of Assets also decreased from 70.8% to 67.9%.
- The Unfunded Vested Benefits used in assessing Withdrawal Liability increased from $82.0 million as of December 31, 2017 to $98.0 million as of December 31, 2018.
- On March 29, 2019, the Plan's twelfth actuarial certification under the Pension Protection Act was filed. Due to the Special Rule of Section 432(b)(5) of the Code and Section 305(b)(5) of ERISA, the Plan was certified to be NOT in endangered, seriously endangered, critical, or critical and declining status based on financial information provided as of January 1, 2019, and using the liabilities disclosed in the January 1, 2018 actuarial valuation projected forward to January 1, 2019.

The remainder of this section reviews Plan experience over the last ten years.

Historical Summary

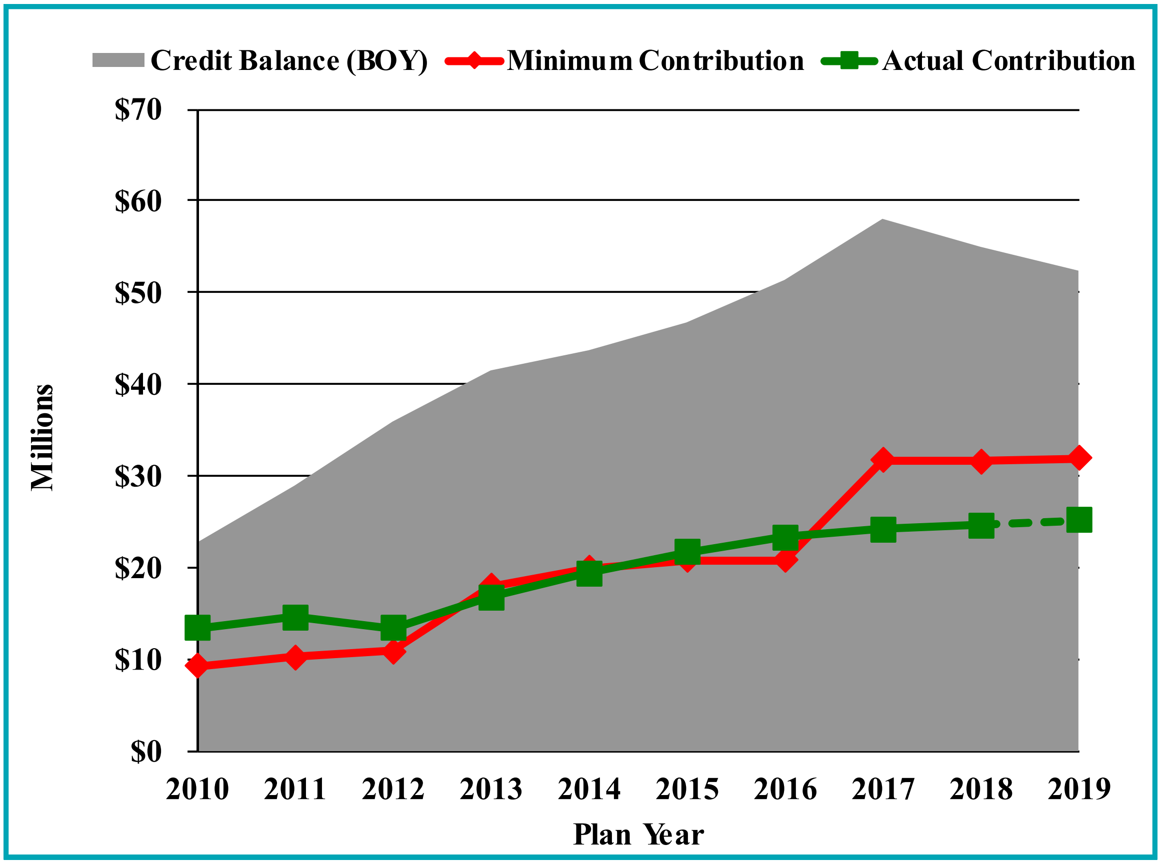
The chart below shows the Plan's funding ratio (Actuarial Value of Assets as a percent of Actuarial Liability over the last ten years. The large increase in liabilities from 2012 to 2013 was due to the benefit improvements adopted in April 2013, as well as the decrease in the discount rate from 7.5% to 7.0%. The large increase in liabilities from 2016 to 2017 was due to benefit improvements that were effective January 1, 2017, as well as assumption changes, including a decrease in the discount rate from 7.0% to 6.75%.



SECTION I – SUMMARY

The chart below shows the contributions paid to the Plan (green line) and the minimum contribution (red line) required under ERISA to maintain the Credit Balance (gray area). The sharp increases in the minimum contribution line for 2013 and 2017 were attributable to the benefit change and lowering the discount rate at those times.

Since the minimum contribution is more than the anticipated contributions for 2017 through 2019, a small portion of the Credit Balance must be used to cover this difference. However, projections of the Credit Balance do not anticipate that the Plan is in any danger of exhausting the Credit Balance that would trigger a minimum funding deficiency.



SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

The current and projected results in this report are based on a set of assumptions about future economic and demographic experience. In our opinion, these assumptions are our reasonable best estimate of future experience. It is important to realize that future experience may deviate significantly from the assumptions. These annual differences between actual experience and the expected experience based on these assumptions produce an actuarial gain or loss each year. Over time, the trend and magnitude of these actuarial gains or losses may warrant a change of a particular assumption. Annual differences between the actual experience and the assumptions or changes in expectations can generate significant volatility in future results. In this section, we identify the main drivers to the potential volatility of future results and illustrate the sensitivities of certain results to these drivers.

Identification of Risks

The primary drivers in the potential volatility of future results are:

- Investment returns;
- Contributory hours; and,
- Participant longevity and rates of retirement.

The current assumption for **investment returns** is 6.75% per year. This is a long-term expectation. This means that in any given year, investment returns will be greater than or less than the assumption. However, the geometric mean of the actual investment returns over time should be close to the assumption. Higher returns in a year will accelerate the funding of future benefit payments, while lower returns can create a demand for increased contributions or benefit changes to account for the loss of expected investment income.

The potential volatility of future investment returns is highly influenced by the economic conditions and the Trust's asset allocation. While portfolios with higher expected rates of return lead to lower liabilities and contribution requirements, they also come with higher amounts of volatility. If the assumption of future investment returns changes, the measurement of liability can be significantly affected. Even a 25 basis point change to the assumed annual rate of investment return can change the measurement of liabilities by almost 3%.

Contributions are generated from **contributory hours** and are used to pay for the cost of the benefit accruals earned during the year and current administrative expenses, as well as to improve the funding levels of the Trust. While the cost of benefit accruals will naturally fluctuate with the amount of covered hours worked by participants, the rate at which the Trust's funding status will improve can significantly change with the amount of contributory hours in future years. An increase in hours will accelerate the funding, while a decrease in hours may reduce or entirely stop the improvement to funding.

Participant longevity, or how long participants live, will determine how many monthly pension payments are needed to be paid out by the Trust. If participants live longer on average than expected, more assets will be needed to pay for benefits. If lifetimes are shorter than expected, less will be paid and more money will become available to pay for other participants' benefits.

While there are many other drivers in the volatility of future results, they are considered to not be as important to the ones listed above.

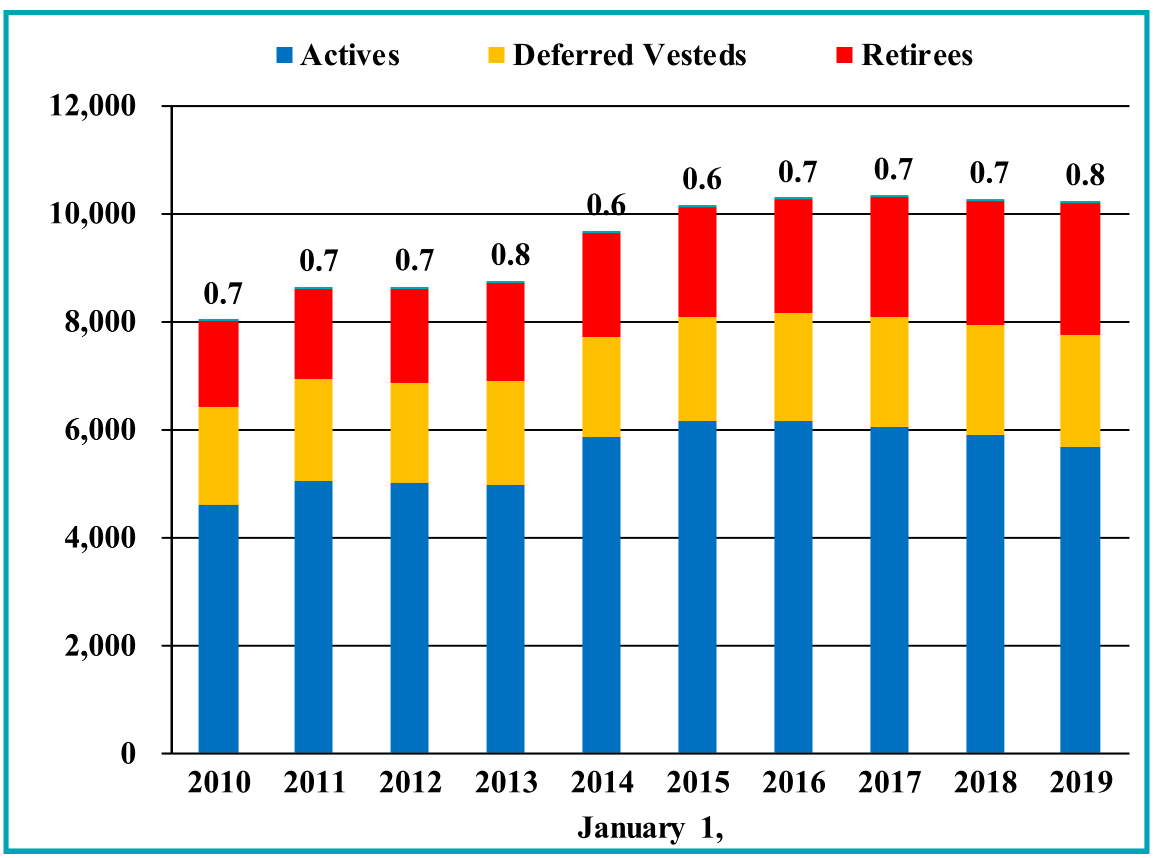
Plan Maturity

As plans mature, the level of volatility will increase. The cause of this dynamic is that more mature plans typically have higher asset and liability values relative to the amount of contributory hours for the Trust, so unexpected events (investment or demographic) will have larger effects on the sustainability of the Trust. Two key measures of maturity highlight this relationship: the support ratio and net cash flow. Higher and increasing values of these metrics indicate more risk and are a characteristic of maturing plans.

Support Ratio

The following chart shows the participants of the Plan in successive valuations. The numbers above the bars indicate the ratio of retired participants and vested terminated participants to active participants. When a plan has a factor of one or more, it has more than one inactive participant for every active.

As with many plans, the number of retirees and terminated vested members has been growing over the last ten years. The increase in actives between 2013 and 2014 was largely due to Gaylord participating in the Plan beginning Spring 2013. Despite the support ratio having grown in recent years to 0.8, this is still well below the majority of multi-employer pension plans.



SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

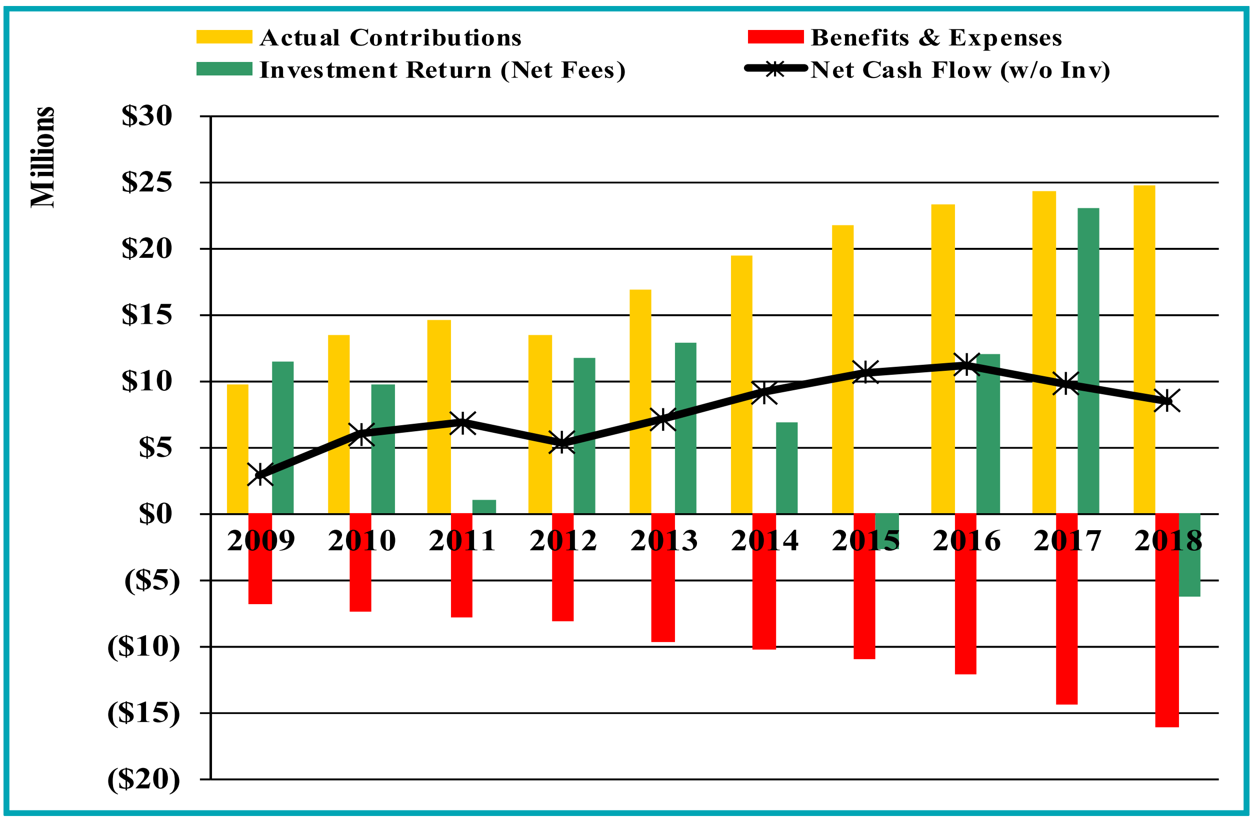
If the support ratio were to continue to increase, the amount of assets in the Trust per each active or contributory hour increases and the Trust matures. If a future market correction occurs, the problem is usually solved by either contribution increases and/or benefit cuts. Since these two solutions can typically only be done for actives, each active participant's share of the problem will increase as the Trust matures.

More assets do mean a better-funded pension plan, but it also means an increasing amount of investment risk. If contributory hours do not grow at the same pace that investment risk does, then each active participant's share of investment risk goes up.

This dynamic is taking place in this Trust, as it does in all pension plans. Consequently, the Board should consider possible ways to manage the amount of investment risk per active participant as opportunities present themselves.

Net Cash Flow

The chart below shows the Trust's net cash flow without investment return over the past 10 years.



For the period shown above, the Trust has had a positive net cash flow which is consistent with the pattern of the support ratios shown before. This is unusual among most Plans as it is common for a maturing pension fund to have a negative net cash flow. Having a positive net cash flow means that the Plan is not relying on investment earnings to pay for benefits and expenses because they can currently be covered by contributions. However, as the Plan continues to mature, this positive net cash flow position has tapered back accordingly.

Assessment of Risks

To demonstrate the sensitivity of the Plan to the risk factors previously identified we now focus on the effects of several alternative events focusing on their effect on the funded ratio. To measure the effects of these events, the projected year of the Trust reaching a PPA funded ratio of 100% is listed in the table below. A PPA funded ratio of 100% means to have $1 of assets for each $1 of liability. The Plan is currently 72.1% funded as of January 1, 2019, and is projected to reach 100% in 2028. As shown below, the projected year in which the Trust reaches 100% funded can dramatically change if expectations are not met.

The events shown below are not intended to represent expected scenarios but are used to demonstrate the effects of volatility caused by future possible events.

Table II-1
Risk Assessment

Investment Return Volatility		**Contributory Hours Volatility**	
Year of 100% PPA funded ratio assuming stable active population:	Year	Year of 100% PPA funded ratio assuming 6.75% returns:	Year
20.25% return for 2019	2025	10% growth in 2019	2027
13.5% return for 2019	2027	Stable Active Population	2028
Baseline, all years at 6.75%	2028	10% decline in 2019	2029
0.0% return for 2019	2030		
-6.75% return for 2019	2031		

Statutory Thresholds

Lowest 2019 return and PPA status is still Green for 2020:	Return -18.5%	Lowest Annual Return during 2019-28 to still be Green by 2029:	Return 3.0%

It is also important to note that demographic experience (longevity, retirement, career length, etc.) can also have a noticeable impact in the measurement of liabilities from year to year. For this Trust, demographic experience has produced less than a 1% change in liabilities for each of the last six years. This means that the volatility from the demographic experience seems to be significantly smaller than from investment returns for this Trust. In comparison, investment returns routinely create positive and negative deviations in the expected asset values of 5% or greater.

A more detailed assessment is always valuable to enhance the understanding of the risks identified above. While more detail would provide some additional value, we do not believe it is necessary to perform an in-depth analysis every year. We recommend the Trustees review the analysis provided above annually and consider a more detailed analysis periodically and when there is a substantial change in the financial position or maturity of the Trust.

SECTION III – 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 III-1
Statement of Assets at Market Value, December 31,

	2017	2018
Invested Assets		
Common Stock - ULLICO	$ 1,274,333	$ 1,461,690
Commingled Fund	4,550,221	4,863,662
Housing Investment Trust	4,104,709	4,111,195
Common Collective Trusts	49,399,263	104,786,141
Registered Investment Companies	121,119,784	62,982,745
Limited Partnerships	28,633,805	33,099,692
Short-Term Investments	9,399,874	9,302,487
Total Investments:	$ 218,481,989	$ 220,607,612
Other Assets		
Cash or Cash Equivalents	$ 1,407,640	$ 2,048,538
Accrued Interest and Dividends Receivable	161,559	17,048
Employer Contributions Receivable	2,542,709	2,061,780
Withdrawal Liability	0	0
Prepaid Expenses	54,977	55,622
Other Receivables	3,634	30
Accounts Payable	(69,364)	(54,744)
Total Non-Invested Assets:	$ 4,101,155	$ 4,128,274
Market Value of Assets from Auditor	**$ 222,583,144**	**$ 224,735,886**
Expected Withdrawal Liability	0	0
Market Value of Assets for Funding	**$ 222,583,144**	**$ 224,735,886**

Changes in Market Value

The components of asset change are:

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

The specific changes during 2018 are presented in Table III-2 below:

Table III-2
Changes in Market Values

Value of Assets January 1, 2018	$ 222,583,144
Employer Contributions	$ 24,647,944
Withdrawal Liability Payments	5,000
Investment Return (Gross)	(5,754,650)
Benefit Payments	(15,240,287)
Administrative Expenses	(938,626)
Investment Expenses	(566,639)
Value of Assets January 1, 2019	$ 224,735,886

SECTION III – ASSETS

Assets at Actuarial Value

Because of volatility in investment returns, the Plan uses a smoothed Actuarial Value of Assets for determining its minimum required contribution. The Actuarial Value of Assets is calculated by excluding a portion of the prior four years actuarial investment experience, using a sliding scale.

To determine each year's actuarial investment experience the expected return on market assets is determined using the Plan's cash flows and the actuarial rate of interest and is compared to the actual Market Value of Assets. The Actuarial Value of Assets is constrained so that it cannot exceed 120% of the Market Value of Assets and cannot be less than 80% of the Market Value of Assets.

The tables below show the development of the Actuarial Value of Assets.

Table III-3
Market Value Gain/(Loss)

Value of Assets January 1, 2018	$ 222,583,144
Employer Contributions and Withdrawal Liability Payments	24,652,944
Benefit Payments	(15,240,287)
Expected Administrative Expenses	(915,759)
Expected Return at 6.75%	15,057,101
Expected Value at January 1, 2019	$ 246,137,143
Actual Value at January 1, 2019	224,735,886
2018 Investment Gain/(Loss)	$ (21,401,257)

SECTION III – ASSETS

Table III-4
Development of Excluded Gain/(Loss)

	Total Gain/(Loss)	Excluded Portion
Exclude 80% of 2018 Gain/(Loss)	$ (21,401,257)	$ (17,121,006)
Exclude 60% of 2017 Gain/(Loss)	10,100,421	6,060,253
Exclude 40% of 2016 Gain/(Loss)	(26,556)	(10,622)
Exclude 20% of 2015 Gain/(Loss)	(14,034,888)	(2,806,978)
Total Excluded Gain/(Loss) for AVA Calculation		$ (13,878,353)

Table III-5
Actuarial Value of Assets

Market Value of Assets at January 1, 2019	$ 224,735,886
Total Gain/(Loss) excluded	(13,878,353)
Preliminary Actuarial Value of Assets January 1, 2019	$ 238,614,239
120% of MV, upper limit for actuarial value	269,683,063
80% of MV, lower limit for actuarial value	179,788,709
Actuarial Value of Assets January 1, 2019	$ 238,614,239

SECTION III – ASSETS

Actuarial Losses from Investment Performance

Table III-6 calculates the investment related actuarial gain/loss and the return for the Plan year on both a market value and actuarial value basis. The market value return is an appropriate measure for comparing the actual asset performance of negative 2.79% to the long-term 6.75% assumption.

The actuarial gain/loss on the actuarial value basis is one component of the Plan's experience gain/loss to be recognized in minimum funding and incorporates a significant level of smoothing. The return on this basis was 4.16% which is less than the 6.75% assumption and caused an actuarial investment loss for minimum funding purposes.

Table III-6
Asset Gain/(Loss)

Item	Market Value	Actuarial Value
January 1, 2018 Value	$ 222,583,144	$ 220,788,770
Employer Contributions and Withdrawal Liability Payments	24,652,944	24,652,944
Benefit Payments	(15,240,287)	(15,240,287)
Expected Administrative Expenses	(915,759)	(915,759)
Expected Investment Earnings (6.75%)	15,057,101	14,935,981
Expected Value as of December 31, 2018	$ 246,137,143	$ 244,221,649
January 1, 2019 Value	$ 224,735,886	$ 238,614,239
Investment Gain/(Loss)	(21,401,257)	(5,607,410)
Return	(2.79%)	4.16%

SECTION IV – LIABILITIES

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

- Disclosure of Plan liabilities at January 1, 2018, and January 1, 2019; and
- Statement of changes in these liabilities during the year.

Liabilities for withdrawal liability purposes are addressed in Section VI.

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 Plan, this represents the amount of money needed today to fully pay off all the future benefits of the Plan, assuming no new participants and the current participants continue to accrue benefits until retirement.

- **Actuarial Liability:** Used in determining minimum funding standards requirements, maximum tax-deductible contributions, and long-term funding targets. These amounts are determined using the Unit Credit Cost Method**.**

- **Accrued Liability:** Used for communicating the current levels of liabilities. This liability represents the total amount of money needed to fully pay off all future obligations of the Plan using funding assumptions and assuming no further accrual of benefits. These amounts are also determined using the Unit Credit Cost Method, so they are the same as the Actuarial Liability.

  These liabilities are required for determining the funded status under PPA. The law requires these liabilities be compared to the Actuarial Value of Assets to measure funded status. They can be used to establish comparative benchmarks with other plans.

  The Accrued Liabilities must also be included in the Plan's financial statement for accounting disclosure purposes (FASB ASC Topic No. 960). For that purpose, a provision for future administrative expenses is added and that sum is referred to as the Present Value of Accumulated Benefits.

- **Withdrawal Liability:** When an employer withdraws from the Plan, the amount of Withdrawal Liability is based on the Plan's Unfunded Vested Benefits as of the last day of the prior plan year. Vested Benefits are non-forfeitable benefits that a participant would be entitled to if they were to terminate coverage as of the end of the prior plan year. Non-forfeitable benefits do not include death or disability benefits unless they are related to the form of payment.

SECTION IV – LIABILITIES

- **Current Liability:** This liability is defined by the Internal Revenue Code. It is used to determine maximum allowable tax-deductible contributions.

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

Table IV-1 below 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 the Plan assets yields, for each respective type, a net surplus or an unfunded liability.

Table IV-1
Liabilities/Net Surplus (Unfunded)

	1/1/2018	1/1/2019
PRESENT VALUE OF FUTURE BENEFITS		
Active Participants	$ 244,960,197	$ 244,361,674
Retiree and Inactive Benefits	149,088,723	164,366,105
Total Present Value of Future Benefits	**$ 394,048,920**	**$ 408,727,779**
Market Value of Assets	222,583,144	224,735,886
Net Surplus (Unfunded)	**$ (171,465,776)**	**$ (183,991,893)**
ACTUARIAL LIABILITY		
Actuarial Liability	**$ 314,347,125**	**$ 330,850,903**
Actuarial Value of Assets	220,788,770	238,614,239
Net Surplus (Unfunded)	**$ (93,558,355)**	**$ (92,236,664)**
Funded Ratio	*70.2%*	*72.1%*
ACCRUED LIABILITY		
Accrued Liability	**$ 326,135,142**	**$ 342,486,023**
Market Value of Assets	222,583,144	224,735,886
Net Surplus (Unfunded)	**$ (103,551,998)**	**$ (117,750,137)**
Funded Ratio	*68.2%*	*65.6%*
WITHDRAWAL LIABILITY		
Vested Liability for Withdrawal Liability	**$ 304,556,378**	**$ 322,730,536**
Market Value of Assets	222,583,144	224,735,886
Net Surplus (Unfunded)	**$ (81,973,234)**	**$ (97,994,650)**
Funded Ratio	*73.1%*	*69.6%*
CURRENT LIABILITY (RPA 1994)		
Current Liability (2.98% / 3.06%)	**$ 560,073,701**	**$ 573,681,979**
Market Value of Assets	222,583,144	224,735,886
Net Surplus (Unfunded)	**$ (337,490,557)**	**$ (348,946,093)**
Funded Ratio	*39.7%*	*39.2%*

SECTION IV – LIABILITIES

Allocation of Liabilities by Type

The Plan'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 Table IV-2:

Table IV-2
Allocation of Liabilities by Type

Benefit Type	Retirement	Termination	Death	Disability	Total
Normal Cost	$ 7,245,662	$ 2,019,910	$ 134,228	$ 117,495	$ 9,517,295
Actuarial Liability					
Actives	$ 137,504,941	$ 24,905,163	$ 2,266,725	$ 1,807,969	$ 166,484,798
Terminated Vesteds	0	37,776,258	0	0	37,776,258
Retirees and Beneficiaries	121,634,094	0	0	4,955,753	126,589,847
Total	$ 259,139,035	$ 62,681,421	$ 2,266,725	$ 6,763,722	$ 330,850,903
Current Liability Normal Cost	$ 14,841,963	$ 5,779,958	$ 180,413	$ 282,604	$ 21,084,938
Current Liability					
Actives	$ 255,384,191	$ 63,531,874	$ 2,691,233	$ 3,913,223	$ 325,520,521
Terminated Vesteds	0	69,610,933	0	0	69,610,933
Retirees and Beneficiaries	170,443,885	0	0	8,106,640	178,550,525
Total	$ 425,828,076	$ 133,142,807	$ 2,691,233	$ 12,019,863	$ 573,681,979
Vested Current Liability					
Actives	$ 82,091,693	$ 228,336,054	$ 2,573,426	$ 3,544,675	$ 316,545,848
Terminated Vesteds	0	69,610,933	0	0	69,610,933
Retirees and Beneficiaries	170,443,885	0	0	8,106,640	178,550,525
Total	$ 252,535,578	$ 297,946,987	$ 2,573,426	$ 11,651,315	$ 564,707,306

Changes in Liabilities

Each of the liabilities shown in the prior table is subject to change at successive valuations as the experience of the Plan 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
- Corrections to participant data records

Table IV-3
Actuarial Liability (Gain)/Loss

	Present Value of Future Benefits	Actuarial/Accrued Liability
Liabilities 1/1/2018	$ 394,048,920	$ 314,347,125
Liabilities 1/1/2019	408,727,779	330,850,903
Liability Increase (Decrease)	14,678,859	16,503,778
Change due to:		
Plan Amendment	$ 0	$ 0
Assumption Change	0	0
Accrual of Benefits (with Expected Expenses)	NC	10,555,324
Benefit Payments and Expected Expenses	NC	(16,156,046)
Increase for Interest	NC	21,354,742
Other Sources	14,678,859	0
Actuarial (Gain)/Loss	NC	749,758
Total	**$ 14,678,859**	**$ 16,503,778**

NC = Not Calculated

SECTION V – CONTRIBUTIONS

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

- Actuarial contributions and
- Government Limitations which could affect the above.

Actuarial Contributions

For this Plan, the funding method used to determine the actuarial contribution is the Unit Credit Cost method. It is made up of two parts. The first part is the Unit Credit Normal Cost. This is the value of the benefits and expenses expected to be accrued over the coming year. It also includes estimated administrative expenses.

The second part is an amortization payment to pay off the Unfunded Actuarial Liability. The Unfunded Actuarial Liability is the difference between the Actuarial Liability of the Plan at the valuation date and the assets the Plan should hold as determined by the actuarial cost method.

The amortization payment is determined using the amortization schedule required by the IRS to determine the Minimum Required Contribution. Because of this, 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 required 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 Plan has built up a Credit Balance. The Credit Balance can be used in the future to make up any difference between the Minimum Required Contribution and the employer contribution.

SECTION V – CONTRIBUTIONS

The Minimum Required Contribution for 2019, which is an amount that will preserve the Credit Balance, is shown in Table V-1 compared to various Government Limits and the expected employer contribution. The estimated employer contribution for 2019 is based on an hourly rate of $2.35 prior to March 15, 2019, and $2.45 thereafter.

Table V-1
Contribution for 2019

Actuarial Contribution		
Normal Cost	$	9,517,295
Expenses		904,143
Amortization Payment		19,450,000
Interest to Mid-year		991,699
Total	$	30,863,137
Government Limits		
Maximum Deductible Contribution	$	597,758,232
Minimum Required Contribution (before Credit Balance)		30,863,137
Credit Balance		52,390,420
Minimum Required Contribution (after Credit Balance)		0
Estimated Employer Contributions	$	25,174,600
Count of Active Participants		5,659

SECTION V – CONTRIBUTIONS

The following tables show the IRS Funding Standard Account, as well as the development of the minimum and maximum contributions for 2019 and other supporting information.

Table V-2
Funding Standard Account for 2018 and 2019 Plan Years

	2018	2019
1. Charges For Plan Year		
a. Normal Cost plus Expenses	$ 10,555,323	$ 10,421,438
b. Amortization Charges	19,959,574	20,389,294
c. Interest on a. and b. to Year End	2,059,756	2,079,724
d. Total Charges	$ 32,574,653	$ 32,890,456
2. Credits For Plan Year		
a. Prior Year Credit Balance	$ 54,988,778	$ 52,390,420
b. Employer Contributions (actual 2018, projected 2019)	24,652,944	*25,174,600*
c. Amortization Credits	939,294	939,294
d. Interest on a., b., and c. to Year End	4,384,057	4,367,380
e. Full Funding Limit Credit	0	0
f. Total Credits	$ 84,965,073	$ 82,871,694
3. Credit Balance at End of Year [2. – 1.]	$ 52,390,420	$ 49,981,238

SECTION V – CONTRIBUTIONS

Table V-3
Calculation of the Maximum Deductible Contribution
For the Plan Year Starting January 1, 2019

1. "Fresh Start" Method		
a. Normal Cost plus Expenses	$	10,421,438
b. Net Charge to Amortize Unfunded Actuarial Liability over 10 years		12,160,258
c. Interest on a. and b.		1,524,264
d. Total	$	24,105,960
e. Minimum Required Contribution as of Year End		0
f. Greater of d. and e.	$	24,105,960
g. Full Funding Limitation as of Year End		299,945,543
h. Maximum Deductible Contribution, lesser of f. and g.	$	24,105,960
2. 140% of Current Liability Calculation		
a. RPA 1994 Current Liability at Start of Year	$	573,681,979
b. Present Value of Benefits Estimated to Accrue during Year		21,084,938
c. Expected RPA Benefit Payments		17,080,082
d. Net Interest on a., b. and c. at Current Liability Interest Rate (3.06%)		17,938,542
e. Expected Current Liability at End of Year, [a. + b. – c. + d.]		595,625,377
f. 140% of e.		833,875,528
g. Actuarial Value of Assets		238,614,239
h. Expected Funding Benefit Payments		17,062,376
i. Expected Expenses		904,143
j. Net Interest on g., h. and i. at Valuation Interest Rate		15,469,576
k. Estimated Value of Assets, [g. – h. – i. + j.]		236,117,296
k. Unfunded Current Liability at Year End, [f. - k.]	$	597,758,232
3. Maximum Deductible Contribution at Year End, greater of 1. and 2.	$	597,758,232

SECTION V – CONTRIBUTIONS

Table V-4
Development of Actuarial Gain/(Loss)
For the Year Ended December 31, 2018

1. Unfunded Actuarial Liability at Start of Year	$	93,558,355
2. Normal Cost plus Expenses at Start of Year		10,555,324
3. Interest on 1. and 2. to End of Year		7,027,673
4. Employer Contributions and Withdrawal Liability Payments for Year		24,652,944
5. Interest on 4. to End of Year		608,912
6. Increase in Unfunded Actuarial Liability Due to Changes in Assumptions		0
7. Increase in Unfunded Actuarial Liability Due to Changes in Plan Design		0
8. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. – 4. – 5. + 6. + 7.]	$	85,879,496
9. Actual Unfunded Actuarial Liability at End of Year, not less than zero	$	92,236,664
10. Actuarial Gain / (Loss)		
a. Investment Gain / (Loss)	$	(5,607,410)
b. Actuarial Liability Gain / (Loss)		(749,758)
c. Total Actuarial Gain / (Loss) [8. – 9.]	$	(6,357,168)
11. Amortization Factor for Actuarial Gain / (Loss)		9.8781
12. Amortization Credit / (Charge) for Actuarial Gain / (Loss)	$	(643,562)

SECTION V – CONTRIBUTIONS

Table V-5
Schedule of Amortizations Required for Minimum Required Contribution
As of January 1, 2019

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2019 Outstanding Balance	Remaining Amortization Years	Beginning of Year Amortization Amount
Charges						
1. Benefit Increase	1/1/1990	$ 1,753,060	30	$ 135,775	1	$ 135,775
2. Benefit Increase	1/1/1991	3,136,715	30	469,560	2	242,445
3. Benefit Increase	1/1/1992	4,090,440	30	887,998	3	315,530
4. Benefit Increase	1/1/1995	1,898,679	30	744,804	6	145,249
5. Benefit Increase	1/1/1996	5,891,493	30	2,608,794	7	449,517
6. Method Change	1/1/1998	1,000,489	30	533,935	9	75,955
7. Plan Amendment	1/1/1999	60,042	30	34,497	10	4,548
8. Assumption Change	1/1/2000	480,026	30	293,995	11	36,271
9. Plan Amendment	1/1/2000	7,522,673	30	4,607,254	11	568,413
10. Assumption Change	1/1/2001	3,607,767	30	2,337,183	12	271,989
11. Actuarial Loss	1/1/2005	6,764,692	15	702,327	1	702,327
12. Actuarial Loss	1/1/2006	2,935,903	15	588,579	2	303,898
13. Plan Amendment	1/1/2007	14,443,486	30	11,763,547	18	1,075,813
14. Actuarial Loss	1/1/2007	1,692,685	15	491,658	3	174,700
15. Actuarial Loss	1/1/2009	13,230,399	15	5,983,182	5	1,357,834
16. Actuarial Loss	1/1/2011	5,767,374	15	3,416,938	7	588,767
17. Assumption Change	1/1/2012	4,617,778	15	3,026,555	8	470,212
18. Actuarial Loss	1/1/2012	5,071,774	15	3,324,107	8	516,440
19. Actuarial Loss	1/1/2013	4,921,317	15	3,513,972	9	499,883
20. Assumption Change	1/1/2013	8,383,621	15	5,986,162	9	851,567
21. Plan Amendment	1/1/2013	33,690,641	15	24,056,154	9	3,422,130
22. Actuarial Loss	1/1/2015	1,243,894	15	1,022,347	11	126,130
23. Actuarial Loss	1/1/2016	3,875,186	15	3,373,732	12	392,616
24. Plan Amendment	1/1/2017	53,358,602	15	48,883,263	13	5,401,705
25. Assumption Change	1/1/2017	9,989,145	15	9,151,327	13	1,011,241
26. Actuarial Loss	1/1/2017	4,199,364	15	3,847,150	13	425,118
27. Actuarial Loss	1/1/2018	1,774,692	15	1,702,698	14	179,659
28. Actuarial Loss	1/1/2019	6,357,168	15	6,357,168	15	643,562
TOTAL CHARGES				**$ 149,844,661**		**$ 20,389,294**

SECTION V – CONTRIBUTIONS

Schedule Of Amortizations Required for Minimum Required Contribution
As of January 1, 2019

Type of Base	Date Established	Initial Amount	Initial Amortization Years	1/1/2019 Outstanding Balance	Remaining Amortization Years	Beginning of Year Amortization Amount
Credits						
1. Assumption Change	1/1/1992	$ 2,129,460	30	$ 462,284	3	$ 164,262
2. Funding Method Change	1/1/1998	392,131	30	209,267	9	29,769
4. Mortality Change	1/1/2003	521,650	30	371,120	14	39,159
5. Actuarial Gain	1/1/2008	873,553	15	326,913	4	89,901
6. Actuarial Gain	1/1/2010	3,581,997	15	1,880,004	6	366,630
7. Actuarial Gain	1/1/2014	1,039,960	15	800,541	10	105,541
8. Assumption Change	1/1/2015	1,420,441	15	1,167,448	11	144,032
TOTAL CREDITS				**$ 5,217,577**		**$ 939,294**
NET CHARGE				**$ 144,627,084**		**$ 19,450,000**
Less Credit Balance				52,390,420		
Unfunded Actuarial Liability				$ 92,236,664		
Actuarial Accrued Liability				$ 330,850,903		
Actuarial Value of Assets				238,614,239		
Unfunded Actuarial Liability				$ 92,236,664		

Table V-7
Development of Full Funding Limitation
For the Year Starting January 1, 2019

	Minimum	Maximum
1. Unit Credit Actuarial Liability Calculation		
a. Actuarial Liability	$ 330,850,903	$ 330,850,903
b. Normal Cost plus Expenses	10,421,438	10,421,438
c. Lesser of Market Value and Actuarial Value of Assets	224,735,886	224,735,886
d. Credit Balance at Start of Year	52,390,420	N/A
e. Actuarial Liability Full Funding Limit [a. + b. - c. + d.] x 1.0675	$ 180,329,439	$ 124,402,666
2. Full Funding Limit Override (RPA '94)		
a. RPA 1994 Current Liability at Start of Year	$ 573,681,979	$ 573,681,979
b. Present Value of Benefits Estimated to Accrue during Year	21,084,938	21,084,938
c. Expected RPA Benefit Payments	17,080,082	17,080,082
d. Net Interest on a., b. and c. at Current Liability Interest Rate	17,938,542	17,938,542
e. Expected Current Liability at End of Year, [a. + b. – c. + d.]	595,625,377	595,625,377
f. 90% of e.	536,062,839	536,062,839
g. Actuarial Value of Assets at Start of Year	238,614,239	238,614,239
h. Expected Funding Benefit Payments	17,062,376	17,062,376
i. Expected Expenses	904,143	904,143
j. Net Interest on g., h. and i. at Valuation Interest Rate	15,469,576	15,469,576
k. Estimated Value of Assets, [g. - h. - i. + j.]	236,117,296	236,117,296
l. RPA 1994 Full Funding Limit Override	$ 299,945,543	$ 299,945,543
3. Full Funding Limitation at End of Year, greater of 1. and 2.	$ 299,945,543	$ 299,945,543
4. Full Funding Limitation at Start of Year	$ 280,979,432	$ 280,979,432

SECTION VI – UNFUNDED VESTED BENEFITS (UVB) FOR WITHDRAWAL LIABLITY PURPOSES

The amount of Withdrawal Liability is based on the Plan's Unfunded Vested Benefits (UVB) at the time of withdrawal. The Unfunded Vested Benefits are equal to the value of Vested Benefits less the Market Value of Assets. Vested Benefits are those that the participant is entitled to if they were to terminate coverage under the Plan as of the measurement date.

The Unfunded Vested Benefits are determined using the actuarial methods and assumptions shown in Appendix C. This amount is reduced by any outstanding claims for withdrawal liability payments expected to be collected from employers who have previously withdrawn. For this valuation, the auditor reported that there are no future withdrawal liability payments anticipated to be collected from previously withdrawn employers in the future.

The method used to allocate UVB to a withdrawing employer is referred to as the Rolling Five Method.

Table VI-1 summarizes the calculation of the Unfunded Vested Benefits. It also provides a history of employer contributions for the previous five years which are used in allocating the Unfunded Vested Benefits to an employer. These contribution amounts reflect the contributions actually made during the calendar years. The contribution amounts shown have been reduced by any contributions made by employers who previously withdrew.

Table VI-1
Items Required to Calculate an Employer's Withdrawal Liability

a. Present Value of Vested Benefits at December 31, 2018	$ 322,730,536
b. Market Value of Assets	224,735,886
c. Unfunded Vested Benefits [a - b]	$ 97,994,650
d. Due from Withdrawn Employers	0
e. Net Unfunded Vested Benefits to Allocate [c - d]	$ 97,994,650
f. Total Employer Contributions for previous five Plan Years	
Calendar Year 2018	$ 24,647,944
Calendar Year 2017	24,208,454
Calendar Year 2016	23,029,709
Calendar Year 2015	21,545,770
Calendar Year 2014	19,296,485

SECTION VII – FASB ASC TOPIC NO. 960 DISCLOSURES

Table VII-1
Present Value of Accumulated Benefits as of January 1, 2019
In Accordance with FASB ASC Topic No. 960

		Amounts	Counts
1. Actuarial Present Value of Benefits			
For Retirees and Beneficiaries	$	126,589,848	2,452
Terminated Vesteds		37,776,258	2,077
Active Participants		162,027,855	4,197
Vested Benefits	$	326,393,961	8,726
2. Non-vested Benefits		4,456,942	1,462
3. Present Value of Expected Administrative Expenses		11,635,120	
4. Accumulated Benefits [(1) + (2) + (3)]	$	342,486,023	10,188
5. Market Value of Assets	$	224,735,886	
6. Funded Ratios			
Vested Benefits		69%	
Accumulated Benefits		66%	

Table VII-2
Reconciliation of Present Value of Accumulated Benefits

1. Actuarial Present Value at Start of Prior Year	$	314,347,125
2. Increase (decrease) over Prior Year due to:		
Benefit Accruals (with Expenses)		10,555,323
Benefit Payments and Expected Expenses		(16,156,046)
Increase for Interest		21,354,742
Experience (Gains)/Losses		749,759
Changes in assumptions		0
Plan Amendments		0
3. Actuarial Present Value at End of Prior Year (w/o Administrative Expenses)	$	330,850,903
4. Present Value of Expected Administrative Expenses		11,635,120
5. Actuarial Present Value at End of Prior Year	$	342,486,023

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided electronically by Associated Administrators, LLC (AA). Cheiron did not perform a formal audit on this data. However, we did perform checks of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23 *Data Quality*. The data was collected as of January 1, 2019. Below is a list of assumptions Cheiron made in using the data this year.

Date of Birth for Active Employees

There were 40 active participants who were missing dates of birth. For these participants, we have imputed a date of birth based on the missing participant's years of credited benefit service and an average hire age of 38.0.

Gender for Active Employees

There were 7 active participants who were missing gender codes. For these participants, we have assumed they were male if the last digit of their social security number was 0-4, otherwise female.

Date of Hire for Active Employees

Rather than use the date of hire provided in the raw data (which sometimes reflects a re-hire date for those who change employers), we developed an "effective" date of hire for each active record based on their reported years of service.

Date of Birth for Terminated Vesteds

There were 30 terminated vested participants who were missing dates of birth. For these participants, we have imputed a date of birth based on the average age of the remaining terminated vesteds of 55.0.

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

- Age/Service Distribution for Active Participants
- Counts and Average Benefit Amount by Age for Retirees, Beneficiaries, and Disabled Participants
- Counts and Average Benefit Amount by Age for Terminated Vested Participants

APPENDIX A – MEMBERSHIP INFORMATION

Data Reconciliation
From January 1, 2018 to January 1, 2019

	Active	Terminated Vesteds	Disabled	Retiree	Survivors	Totals
1. January 1, 2018 valuation	**5,898**	**2,022**	**80**	**2,072**	**160**	**10,232**
2. Additions						
a. New entrants/Show-Ups	347	1		8	15	371
3. Reductions						
a. Terminated - not vested	(324)					(324)
b. Deaths			(5)	(71)	(3)	(79)
c. Total	(324)		(5)	(71)	(3)	(403)
4. Changes in status						
a. Terminated - vested	(141)	141				
b. Returned to work	20	(20)				
c. Retired	(140)	(53)		193		
d. Disabled	(1)	(2)	3			
e. Data corrections		(12)	(1)	3	(2)	(12)
f. Total	(262)	54	2	196	(2)	(12)
5. January 1, 2019 valuation	**5,659**	**2,077**	**77**	**2,205**	**170**	**10,188**

Distribution of Active Members
By Age And Service as of January 1, 2019

	Completed Years of Credited Service										
AGE	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up	Total
Under 25	20	100	5	0	0	0	0	0	0	0	125
25-29	31	186	93	1	0	0	0	0	0	0	311
30-34	21	191	196	31	2	0	0	0	0	0	441
35-39	40	197	224	90	30	0	0	0	0	0	581
40-44	10	168	280	109	49	18	1	0	0	0	635
45-49	13	167	285	142	101	46	22	0	0	0	776
50-54	8	137	279	145	111	69	64	26	1	0	840
55-59	7	103	269	157	112	91	108	75	24	0	946
60-64	4	41	161	105	80	75	118	74	70	23	751
65-69	1	9	62	28	17	22	28	24	9	8	208
70 & Up	1	7	21	5	5	0	3	1	1	1	45
Total	156	1,306	1,875	813	507	321	344	200	105	32	5,659

Average Age = **48.4** Average Service = **11.2**

APPENDIX A – MEMBERSHIP INFORMATION

Age Distribution of Inactive Participants
Pensioners and Beneficiaries Receiving Benefits as of January 1, 2019

	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	1	$ 305	0	$ 0	13	$ 5,322	14	$ 5,627
55-59	13	8,464	1	267	4	512	18	9,243
60-64	21	12,605	69	33,589	14	4,172	104	50,366
65-69	26	13,001	617	382,287	27	5,908	670	401,196
70-74	16	7,602	591	297,594	28	7,375	635	312,571
75-79	0	0	444	213,646	28	6,372	472	220,018
80 & Over	0	0	483	192,657	56	10,360	539	203,017
Total	77	$ 41,977	2,205	$ 1,120,040	170	$ 40,021	**2,452**	**$ 1,202,038**

Participants Entitled to Future Benefits
as of January 1, 2019

	Terminated Vesteds	
Age	Number	Monthly Benefit Payable at Normal Retirement Date[1]
Under 45	323	$ 61,180
45-49	240	49,610
50-54	371	85,547
55-59	454	110,721
60-64	442	125,655
65 & Over	247	73,741
Total	**2,077**	**$ 506,454**

[1] *Adjusted to reflect assumed probability of receipt.*

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

1. Eligibility

All employees covered by a collective bargaining agreement between an employer and the Union and engaged in employment requiring pension fund contributions.

2. Normal Retirement Date

Beginning on January 1, 1976, the normal retirement date is the date when the participant is age 65 or older and has 5 or more years credited vesting service.

3. Contributions

The entire Plan cost is paid for by the participating employers. Effective March 15, 2019, the contribution rate for most employers increased from $2.35 to $2.45 per hour worked by covered employees.

4. Hour of Service

An hour of service is credited to a participant for an hour or its equivalent for which he is entitled to wages (within certain limits). Such hours of service are credited to the plan year in which they are earned (except when a period of not more than 31 days overlaps two plan years, the employer may uniformly credit the hours to one of the plan years).

5. Credited Benefit Service

Credited benefit service is the sum of past credited service and future credited benefit service.

- Past Credit Service
  A participant may receive past credited service if payments to the Pension Fund were made on his behalf for 500 or more hours from October 1, 1960 to December 31, 1961. The years of past credited service is found by subtracting from 1961 the earlier of the date the employee:
  - Joined the union, or
  - Began employment with a participating employer up to a maximum of 20 years.

- Future Credit Benefit Service
  - A participant may receive future credited benefit service for employment after September 30, 1960.

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

Beginning in 1993, future credited benefit service is earned in each calendar year a participant works 400 or more hours as shown below:

Reported Hours Worked During Calendar Year	Years of Future Credited Benefit Service
1,000 or more	1
400 to 999	½
0 to 400	0

6. Credited Vesting Service

The sum of past credit service (see past credited benefit service above) and future credited vesting service. A participant may receive future credited vesting service for employment after September 30, 1960. For 1976 and thereafter, a year of future credited vesting service is earned in each calendar year in which a participant earns 750 or more hours of service.

7. Normal Retirement Benefit

Effective January 1, 2017, the monthly normal retirement benefit is $41.00 multiplied by the participant's credited benefit service.

8. Early Retirement

At the employee's option, after he has both attained age 62 and has at least 5 years of credited vesting service, his accrued normal retirement pension is reduced by one-half of one percent for each month by which his retirement precedes his 65th birthday.

9. Disability Retirement

A participant who becomes totally and permanently disabled is eligible for a disability retirement benefit with payments beginning immediately if he satisfies the following conditions:

- He has 5 years of future credited benefit service (if his disability was incurred on the property of any employer and is classified as occupational, then 5 years total credited benefit service).
- He was employed by an Association member in the two calendar quarters immediately preceding his disability.

10. Deferred Vested Pension Benefit

A participant who incurs a break in service may be eligible for a deferred vested benefit with benefits deferred to his normal retirement date when he has 5 or more years credited vesting service.

APPENDIX B – SUMMARY OF MAJOR PLAN PROVISIONS

11. Pre–Retirement Death Benefit

A death benefit will be paid to the designated beneficiary of a participant who dies after age 62 with 5 years credited vesting service as follows:

- If the participant was not married for a period of one year or longer immediately preceding his death, the amount paid will be the greater of:
  - The sum of 36 monthly payments of the retirement benefit the employee would have received had he retired on the day preceding his death, or
  - $2,000.

- If the participant was married for one year or longer immediately preceding his death, his spouse will receive a monthly pension equal to the pension that the participant would have received if the participant had retired on the day preceding his death and elected the joint and 50% survivor option (see Pension Benefit Forms). In no event will the total death benefit paid be less than the amount paid as stated above.

- If the participant was not eligible for early or normal retirement (but was married for one year or longer) immediately preceding his death, his spouse will receive the monthly deferred vested benefit the participant would have received. The benefit is reduced for early retirement to the earliest retirement age and for a joint and 50% survivor option.

12. Normal Form of Pension

Pension benefits are payable for the participant's life (or until recovery if recovery occurs before age 65 in the case of disability retirement) and cease at death.

13. Changes to Plan Provisions Since Last Valuation

None

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Rates of Investment Return

Funding and disclosure purposes:
6.75% compounded annually
Current Liability under RPA 1994:
3.06% compounded annually
All investment returns are net of investment expenses.

2. Rates of Mortality

(a) Funding:

Healthy Lives - 102% and 107% of the RP-2014 Healthy Annuitant Mortality Table for males and females, respectively, adjusted to 2006 with Blue Collar Adjustments, projected using the MP-2016 generational mortality improvements to 2017 and then 0.75% per year (ages < 86) thereafter.

Disabled Lives - 100% of the RP-2014 Disabled Retiree Mortality Table adjusted to 2006 with Blue Collar Adjustments, projected using the MP-2016 generational mortality improvements to 2017 and then 0.75% per year (ages < 86) ultimate scale thereafter.

(b) RPA '94 Current Liability:
The separate 2019 Static Mortality Tables for annuitants and non-annuitants as prescribed under IRS Notice 2018-02 and Regulation §1.431(c)(6)-1.

3. Rates of Retirement

Rates of retirement are assumed to be in accordance with annual rates as shown below for illustrative ages.

Age	Rate of Retirement
62	0.100
63	0.075
64	0.200
65	0.500
66	0.400
67	0.400
68	0.300
69	0.300
70	1.000

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

4. Rates of Turnover

Rates of termination of employment for reasons other than death, disability or retirement are assumed to be in accordance with annual rates as shown below for illustrative ages.

Years of Service	Withdrawal Rate
0	.275
1	.200
2	.150
3	.100
4	.100
5	.075
6-10	.050
11-29	.035
30+	.025

5. Disability

Rates of disability are assumed to be in accordance with annual rates as shown below for illustrative ages.

Age	Disability Rate
20	.000100
25	.000100
30	.000100
35	.000133
40	.000200
45	.000300
50	.000500
55	.000933
60	.001600
61	.001800
62	.001967
63	.002133
64	.002300
65	.000000

6. Pre-Retirement Spouse's Benefit

It was assumed that 80 percent of the male employees and 80 percent of the female employees would be married at the time of death and, assuming service and age requirements were met, would, therefore, be eligible for the pre-retirement spouse's benefit. It was assumed that surviving spouses would begin to receive benefits when first eligible.

7. Hours Worked

It was assumed each employee will work the same amount of hours each year into the future that the employee worked during the calendar year preceding the valuation date.

8. Terminated Vested Participants

Terminated Vested participants are assumed to have the following probabilities of receipt of their benefits.

Attained Age	Probability of Receipt
Under 75	100%
75 – 79	75%
80 – 84	50%
85 and older	0%

9. Administrative Expenses

9.5% of Normal Cost payable at the beginning of the year.

For determining the present value of accumulated benefits under FASB ASC 960, the expense assumption is assumed to be $91.87 per participant for the current plan year and increasing 1% per year for inflation.

10. Rationale for Economic and Demographic Assumptions

Assumptions are based on the latest experience study review performed concurrently with the January 1, 2017 valuation and covering the period January 1, 2012 through December 31, 2016. The results of that study are incorporated here by reference.

The Plan's investment manager was projecting an annual return of 7.4% at the time of the experience study with an underlying inflation assumption of 2.6%. Given that investment-related fees had averaged 16 basis points, the 6.75 % assumption is reasonable.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

11. Changes in Assumptions Since Last Valuation

As required, the current liability interest rate and mortality tables were updated. The interest rate went from 2.98% to 3.06% (per IRS Notice 2011-7), and the mortality table was updated to the 2019 Static Mortality Tables for annuitants and non-annuitants (per IRS Notice 2018-02) and Regulation §1.431(c)(6)-1.

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 actuarial 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) for the fourth preceding year. For the purpose of this calculation, the actuarial gain/(loss) is 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 market value, nor less than 80 percent of market value.

2. Funding Method: Unit Credit Cost Method

The cost method for the valuation of liabilities used for this valuation is the Unit Credit Cost method. This is one of a family of valuation methods known as an accrued benefits method. The chief characteristic of an accrued benefits method is that the funding pattern follows the pattern of benefit accrual. Under the Unit Credit Cost method, the normal cost is determined as that portion of each Participant's benefit attributable to service expected to be earned in the upcoming plan year. The actuarial liability, which is determined for each Participant as of each valuation date, represents the actuarial present value of the Participant's current accrued benefit as of the valuation date.

One of the significant effects of this funding method is that, depending on the demographics of the population, the Unit Credit Cost method tends to produce lower costs in the early years. There is a possibility that as the population ages, the annual cost could increase over time.

3. Changes in Methods

None