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, 2016

**Produced by Cheiron**

**December 2016**

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December 9, 2016

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, 2016 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 2016 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 use of this report is not an intended user and is considered a third party.

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.

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

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

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

cc: Coralie Milligan, FSA, EA, MAAA

## FORWARD

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, 2016. 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) **determine** whether negotiated contributions support the current level of benefits and whether they fall within the acceptable range of contributions under the Plan for the 2016 plan year; and
4) **compare** assets with the value of vested benefits to determine allocable plan withdrawal liability, if any.

An actuarial valuation establishes and analyzes Plan assets, liabilities and contributions 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.

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

**Section VI** 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 #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.

Finally, in preparing this report, we have conformed to generally accepted actuarial principles and practices which are consistent with the Code of Professional Conduct, and applicable Actuarial Standards set out by the Actuarial Standards Board.

## SECTION I – 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**

| | 1/1/2015 | 1/1/2016 | Change |
|---|---|---|---|
| **Participant Counts** | | | |
| Actives | 6,144 | 6,157 | 0.2% |
| Terminated Vesteds[1] | 1,917 | 1,983 | 3.4% |
| In Pay Status | 2,055 | 2,107 | 2.5% |
| Total | 10,116 | 10,247 | 1.3% |
| **Financial Information** | | | |
| (1) Market Value of Assets (MVA) | $ 158,704,280 | $ 166,689,966 | 5.0% |
| (2) Actuarial Value of Assets (AVA) | 158,695,690 | 177,487,860 | 11.8% |
| (3) Actuarial Liability | $ 210,832,823 | $ 222,151,480 | 5.4% |
| (4) Unfunded Actuarial Liability / (Surplus) on AVA Basis [(3) - (2)] | 52,137,133 | 44,663,620 | (14.3%) |
| (5) Funding Ratio on AVA Basis [(2) ÷ (3)] | 75.3% | 79.9% | |
| (6) Unfunded Actuarial Liability / (Surplus) on MVA Basis [(3) - (1)] | 52,128,543 | 55,461,514 | 6.4% |
| (7) Funding Ratio on MVA Basis [(1) ÷ (3)] | 75.3% | 75.0% | N/A |
| (8) Present Value of Vested Benefits for Withdrawal Liability Purposes | $ 202,572,877 | $ 212,865,975 | 5.1% |
| (9) Vested Benefit Unfunded (Surplus) [(8) - (1)] | 43,868,597 | 46,176,009 | 5.3% |
| (10) Vested Benefit Funding Ratio on MVA Basis [(1) ÷ (8)] | 78.3% | 78.3% | N/A |
| **Contributions and Cash Flows** | | | |
| ERISA Credit Balance (Beginning of Year) | $ 46,734,963 | $ 51,369,745 | 9.9% |
| Employer Contributions[2] | 21,675,569 | *23,388,000* | 7.9% |
| Minimum to Preserve Credit Balance | 20,167,556 | 20,175,374 | 0.0% |

[1] For 2015 and 2016, includes 9 and 14 terminated vesteds at least 85 years old whose liabilities are $0 since assumed probablilty of receipt is 0%.
[2] 2016 contributions are estimated and assumed to be made uniformly throughout the year.

**SECTION I – SUMMARY**

## General Comments

The following are general observations on the prior year experience and trends based on the January 1, 2016 valuation.

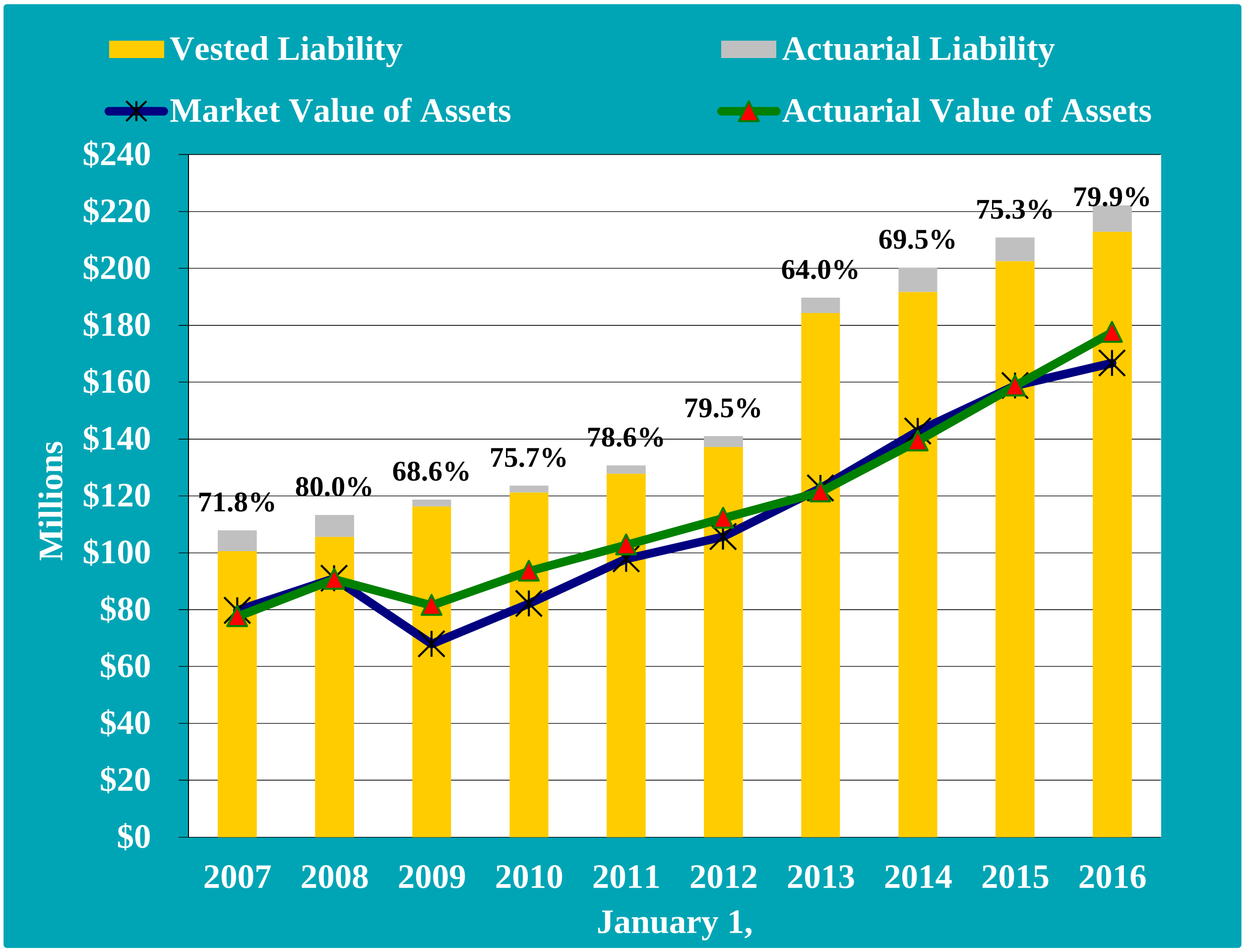
- The Market Value of Assets returned (1.6%) compared to the assumed 7.00% return (a difference of 8.6%). In dollars, the total actuarial investment loss (difference between actual and expected returns on a market value basis) was $14.0 million.
- We do not use the Market Value of Assets in our minimum funding calculations, but instead use a smoothed Actuarial Value of Assets. The smoothing method adopted by the Plan phases in investment gains and losses over five years. This means the $14.0 million loss described above will be phased in at a rate of $2.8 million per year over the next five years. The smoothed Actuarial Value of Assets is $177.5 million (106% of the market value of $166.7 million).
- The return on the Actuarial Value of Assets was 5.0%, resulting in a recognized actuarial investment loss of $3.2 million on this asset basis. The Actuarial Value of Assets is $10.8 million greater than the Market Value of Assets, which represents the amount of past net gains and losses that have yet to be recognized due to the five-year smoothing period.
- The Plan experienced a small liability loss of $0.6 million (0.29% of Actuarial Liability) during 2015.
- The Plan's funding ratio (Actuarial Value of Assets as a percentage of Actuarial Liability) increased from 75.3% as of January 1, 2015 to 79.9% as of January 1, 2016. The funding ratio based on Market Value of Assets also decreased from 75.3% to 75.0%.
- On March 18, 2016, the Plan's ninth actuarial certification under the Pension Protection Act was filed. 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, 2016 and using the liabilities disclosed in the January 1, 2015 actuarial valuation projected forward to January 1, 2016.

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

**SECTION I – SUMMARY**

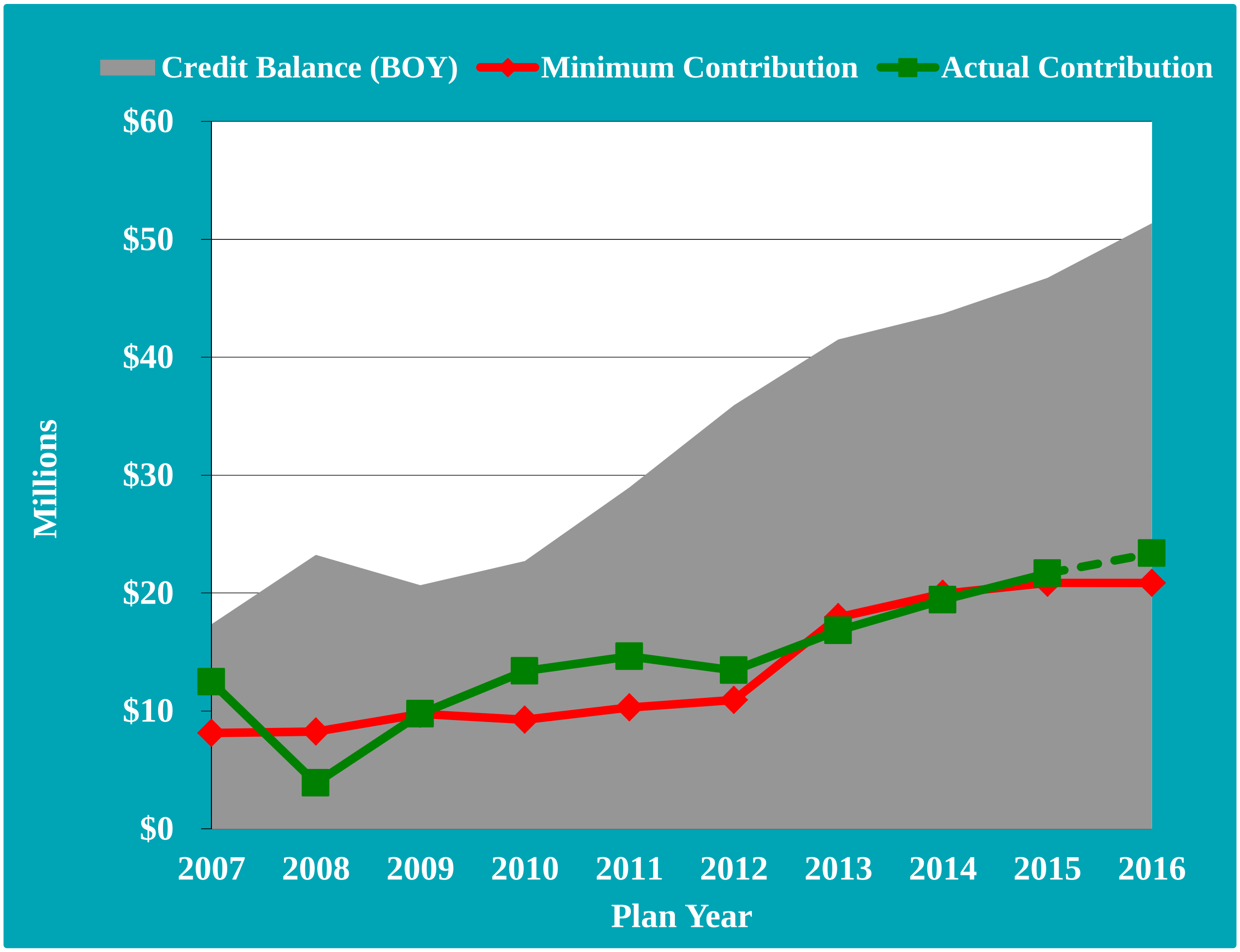
## Historical Summary

The Plan's funding ratio (Actuarial Value of Assets as a percent of Actuarial Liability) increased from 75.3% as of January 1, 2015 to its current level of 79.9%. This increase was attributable to contributions combined with the recognition of past investment gains. 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 used to value liabilities from 7.5% to 7.0%.



## SECTION I – SUMMARY

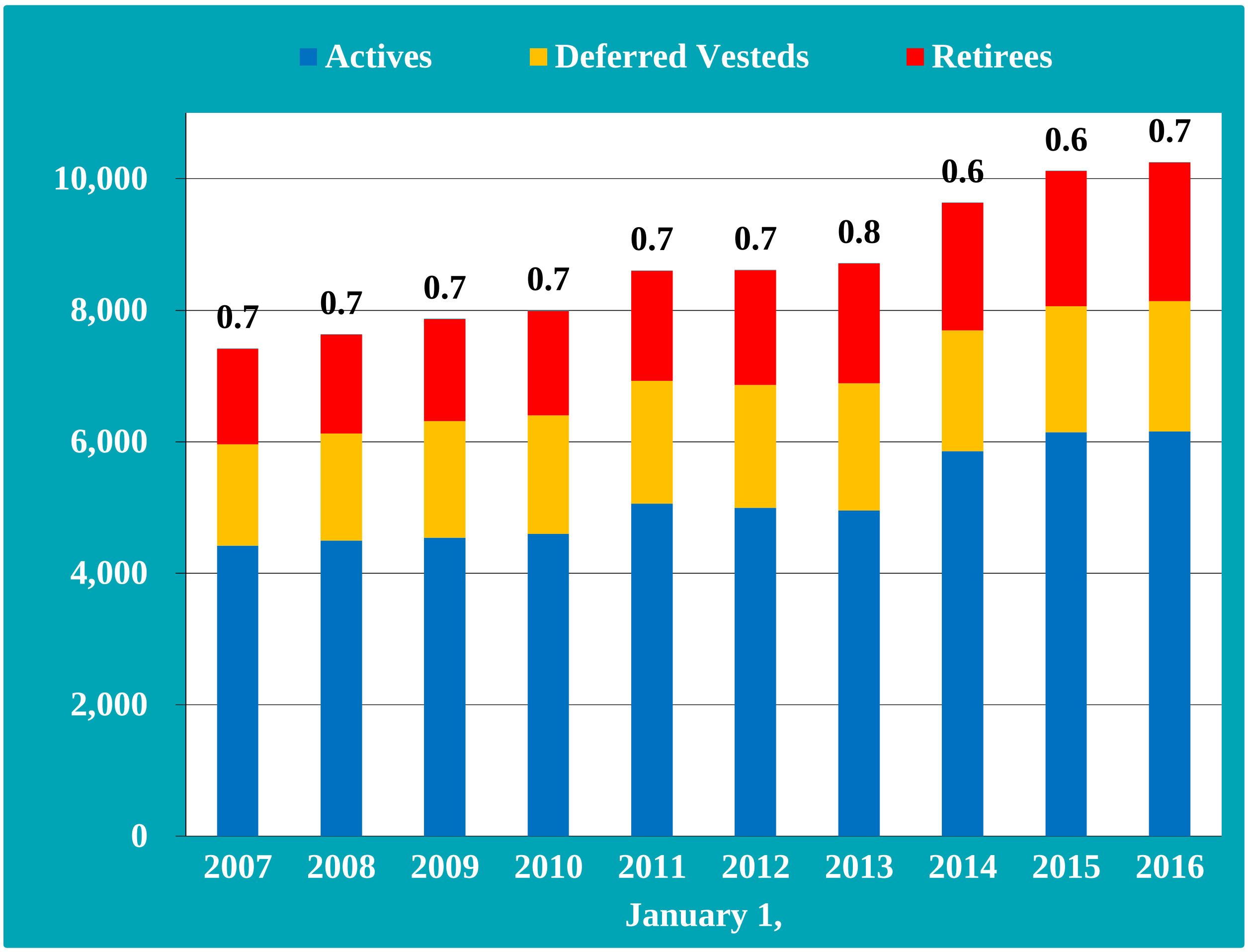
The chart below shows the contributions paid to the Plan (green line) and the minimum contribution (red line) that would be required under ERISA to maintain the Credit Balance (gray area). The sharp increase in the minimum contribution line for 2013 was attributable to the benefit change and lowering the discount rate.



## SECTION I – SUMMARY

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 Fund 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. But unlike other multi-employer plans, the number of actives has also been growing. The increase in actives between 2013 and 2014 was largely due to Gaylord participating in the Plan beginning Spring 2013.



**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, December 31,**

| | 2014 | 2015 |
|---|---|---|
| **Invested Assets** | | |
| Common Corporate Stocks | $ 985,557 | $ 965,427 |
| Housing Investment Trust | 3,674,507 | 3,716,143 |
| Common Collective Trusts | 50,439,260 | 45,170,604 |
| Registered Investment Companies | 73,790,228 | 92,557,087 |
| Limited Partnerships | 7,429,857 | 8,504,090 |
| Money Market Funds | 19,723,535 | 12,850,349 |
| Total Investments: | $ 156,042,944 | $ 163,763,700 |
| **Other Assets** | | |
| Cash or Cash Equivalents | $ 954,746 | $ 873,676 |
| Accrued Interest and Dividends Receivable | 16,225 | 52,607 |
| Employer Contributions Receivable | 1,700,838 | 1,899,268 |
| Withdrawal Liability | 0 | 294,001 |
| Prepaid Expenses | 42,296 | 43,692 |
| Other Receivables | 0 | 144,665 |
| Accounts Payable | (52,769) | (87,642) |
| Total Non-Invested Assets: | $ 2,661,336 | $ 3,220,267 |
| **Market Value of Assets from Auditor** | **$ 158,704,280** | **$ 166,983,967** |
| Expected Withdrawal Liability | 0 | 294,001 |
| **Market Value of Assets for Funding** | **$ 158,704,280** | **$ 166,689,966** |

**SECTION II – ASSETS**

## Changes in Market Value

The components of asset change are:

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

The specific changes during 2015 are presented in Table II-2 below:

**Table II-2**
**Changes in Market Values**

| | |
|---|---|
| Value of Assets January 1, 2015 | $ 158,704,280 |
| Employer Contributions and Withdrawal Liability Payments | $ 21,675,569 |
| Investment Return (Gross) | (2,332,236) |
| Benefit Payments | (10,239,035) |
| Administrative Expenses | (796,038) |
| Investment Expenses | (322,574) |
| Value of Assets January 1, 2016 | $ 166,689,966 |

**SECTION II – ASSETS**

## Assets at Actuarial Value

Because of volatility in investments 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 of investment experience, using a sliding scale. 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 to determine each year's investment experience. 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 II-3**
**Market Value Gain/(Loss)**

| | |
|---|---|
| Value of Assets January 1, 2015 | $ 158,704,280 |
| Employer Contributions and Withdrawal Liability Payments | 21,675,569 |
| Benefit Payments | (10,239,035) |
| Expected Administrative Expenses | (669,291) |
| Expected Return at 7.00% | 11,253,331 |
| Expected Value at January 1, 2016 | $ 180,724,854 |
| Actual Value at January 1, 2016 | 166,689,966 |
| 2015 Investment Gain/(Loss) | $ (14,034,888) |

**Table II-4**
**Development of Excluded Gain/(Loss)**

| | Total Gain/(Loss) | Excluded Portion |
|---|---|---|
| Exclude 80% of 2015 Gain/(Loss) | $ (14,034,888) | $ (11,227,910) |
| Exclude 60% of 2014 Gain/(Loss) | (3,280,368) | (1,968,221) |
| Exclude 40% of 2013 Gain/(Loss) | 4,152,009 | 1,660,804 |
| Exclude 20% of 2012 Gain/(Loss) | 3,687,165 | 737,433 |
| Total Excluded Gain/(Loss) for AVA Calculation | | $ (10,797,894) |

**Table II-5**
**Actuarial Value of Assets**

| | |
|---|---|
| Market Value of Assets at January 1, 2016 | $ 166,689,966 |
| Total Gain/(Loss) excluded | (10,797,894) |
| Preliminary Actuarial Value of Assets January 1, 2016 | $ 177,487,860 |
| 120% of MV, upper limit for actuarial value | 200,027,959 |
| 80% of MV, lower limit for actuarial value | 133,351,973 |
| Actuarial Value of Assets January 1, 2016 | $ 177,487,860 |

## Actuarial Losses from Investment Performance

Table II-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 (1.6%) to the long-term 7.0% 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 5.0% which is less than the 7.0% assumption and therefore, gives way to an investment loss for funding purposes.

**Table II-6**
**Asset Gain/(Loss)**

| Item | Market Value | Actuarial Value |
|---|---|---|
| January 1, 2015 Value | $ 158,704,280 | $ 158,695,690 |
| Employer Contributions and Withdrawal Liability Payments | 21,675,569 | 21,675,569 |
| Benefit Payments | (10,239,035) | (10,239,035) |
| Expected Administrative Expenses | (669,291) | (669,291) |
| Expected Investment Earnings (7.00%) | 11,253,331 | 11,252,730 |
| Expected Value as of December 31, 2015 | $ 180,724,854 | $ 180,715,663 |
| January 1, 2016 Value | $ 166,689,966 | $ 177,487,860 |
| Investment Gain/(Loss) | (14,034,888) | (3,227,803) |
| Return | (1.6%) | 5.0% |

## SECTION III – LIABILITIES

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

- Disclosure of Plan liabilities at January 1, 2015 and January 1, 2016; and
- Statement of changes in these liabilities during the year.

Liabilities for withdrawal liability purposes are addressed in Section V.

## Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **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 Liabilities:** 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 Liabilities:** 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 Liabilities.

  These liabilities are used 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.

  These liabilities are also required for accounting purposes (FASB ASC Topic No. 960) though for that purpose they are called the Present Value of Accumulated Benefits (PVAB).

- **Withdrawal Liabilities:** When an employer withdraws from the Plan, the amount of Withdrawal Liability is based on the Plan's Unfunded Vested Benefits. 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.

- **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.

## SECTION III – LIABILITIES

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

Table III-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 III-1**
**Liabilities/Net Surplus (Unfunded)**

| | 1/1/2015 | 1/1/2016 |
|---|---|---|
| PRESENT VALUE OF FUTURE BENEFITS | | |
| Active Participants | $ 147,639,646 | $ 154,126,314 |
| Reitree and Inactive Benefits | 110,013,710 | 115,035,631 |
| **Total Present Value of Future Benefits** | **$ 257,653,356** | **$ 269,161,945** |
| Market Value of Assets | 158,704,280 | 166,689,966 |
| **Net Surplus (Unfunded)** | **$ (98,949,076)** | **$ (102,471,979)** |
| ACTUARIAL LIABILITY | | |
| **Actuarial Liability** | **$ 210,832,823** | **$ 222,151,480** |
| Actuarial Value of Assets | 158,695,690 | 177,487,860 |
| **Net Surplus (Unfunded)** | **$ (52,137,133)** | **$ (44,663,620)** |
| *Funded Ratio* | *75.3%* | *79.9%* |
| ACCRUED LIABILITY | | |
| **Accrued Liability** | **$ 210,832,823** | **$ 222,151,480** |
| Market Value of Assets | 158,704,280 | 166,689,966 |
| **Net Surplus (Unfunded)** | **$ (52,128,543)** | **$ (55,461,514)** |
| *Funded Ratio* | *75.3%* | *75.0%* |
| WITHDRAWAL LIABILITY | | |
| **Vested Liability for Withdrawal Liability** | **$ 202,572,877** | **$ 212,865,975** |
| Market Value of Assets | 158,704,280 | 166,689,966 |
| **Net Surplus (Unfunded)** | **$ (43,868,597)** | **$ (46,176,009)** |
| *Funded Ratio* | *78.3%* | *78.3%* |
| CURRENT LIABILITY (RPA 1994) | | |
| **Current Liability (3.51% / 3.28%)** | **$ 346,385,890** | **$ 376,619,654** |
| Actuarial Value of Assets | 158,695,690 | 177,487,860 |
| **Net Surplus (Unfunded)** | **$ (187,690,200)** | **$ (199,131,794)** |
| *Funded Ratio* | *45.8%* | *47.1%* |

## 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 III-2:

**Table III-2**
**Allocation of Liabilities by Type**

| Benefit Type | Retirement | Termination | Death | Disability | Total |
|---|---|---|---|---|---|
| Normal Cost | $ 4,322,870 | $ 1,642,835 | $ 86,892 | $ 201,393 | $ 6,253,990 |
| Actuarial Liability | | | | | |
| Actives | $ 84,606,333 | $ 17,602,526 | $ 1,514,841 | $ 3,392,149 | $ 107,115,849 |
| Terminated Vesteds | 0 | 29,870,254 | 0 | 0 | 29,870,254 |
| Retirees and Beneficiaries | 81,319,776 | 0 | 0 | 3,845,601 | 85,165,377 |
| Total | $ 165,926,109 | $ 47,472,780 | $ 1,514,841 | $ 7,237,750 | $ 222,151,480 |
| Current Liability Normal Cost | $ 8,575,067 | $ 4,629,495 | $ 104,826 | $ 487,488 | $ 13,796,876 |
| Current Liability | | | | | |
| Actives | $ 153,627,530 | $ 43,944,790 | $ 1,587,017 | $ 7,310,323 | $ 206,469,660 |
| Terminated Vesteds | 0 | 54,604,115 | 0 | 0 | 54,604,115 |
| Retirees and Beneficiaries | 109,232,678 | 0 | 0 | 6,313,201 | 115,545,879 |
| Total | $ 262,860,208 | $ 98,548,905 | $ 1,587,017 | $ 13,623,524 | $ 376,619,654 |
| Vested Current Liability | | | | | |
| Actives | $ 46,204,846 | $ 141,445,251 | $ 1,516,898 | $ 6,760,205 | $ 195,927,200 |
| Terminated Vesteds | 0 | 54,604,115 | 0 | 0 | 54,604,115 |
| Retirees and Beneficiaries | 109,232,678 | 0 | 0 | 6,313,201 | 115,545,879 |
| Total | $ 155,437,524 | $ 196,049,366 | $ 1,516,898 | $ 13,073,406 | $ 366,077,194 |

## 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 III-3**
**Actuarial Liability (Gain)/Loss**

| | Present Value of Future Benefits | Actuarial/Accrued Liability |
|---|---|---|
| Liabilities 1/1/2015 | $ 257,653,356 | $ 210,832,823 |
| Liabilities 1/1/2016 | 269,161,945 | 222,151,480 |
| Liability Increase (Decrease) | 11,508,589 | 11,318,657 |
| | | |
| Change due to: | | |
| Plan Amendment | $ 0 | $ 0 |
| Assumption Change | 0 | 0 |
| Accrual of Benefits (with Expected Expenses) | NC | 6,753,756 |
| Benefit Payments and Expected Expenses | NC | (10,908,326) |
| Increase for Interest | NC | 14,825,844 |
| Other Sources | 11,508,589 | 0 |
| Actuarial (Gain)/Loss | NC | 647,383 |
| **Total** | **$ 11,508,589** | **$ 11,318,657** |

NC = Not Calculated

# SECTION IV – 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 Contribution

For this Plan, the actuarial contribution is developed using the Unit Credit Cost method. The actuarial contribution which can also be considered as the actuarial cost is determined in 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.

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 Limitations

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.

The Minimum Required Contribution for 2016, which is an amount that will preserve the Credit Balance, is shown in Table IV-1 compared to various Government Limitations and the expected employer contribution. The table shows an estimated contribution for 2016 based on an hourly rate of $1.95 prior to March 15, 2016, and $2.10 thereafter.

## SECTION IV – CONTRIBUTIONS

**Table IV-1**
**Contribution for 2016**

| | | |
|---|---|---|
| **Actuarial Contribution** | | |
| Normal Cost | $ | 6,253,990 |
| Expenses | | 687,939 |
| Amortization Payment | | 12,562,341 |
| Interest to Mid-year | | 671,104 |
| **Total** | $ | 20,175,374 |
| **Government Limitations** | | |
| Maximum Deductible Contribution | $ | 370,761,029 |
| Minimum Required Contribution (before Credit Balance) | | 20,175,374 |
| Credit Balance | | 51,369,745 |
| Minimum Required Contribution (after Credit Balance) | | 0 |
| Estimated Employer Contributions | $ | 23,388,000 |
| Count of Active Participants | | 6,157 |

The tables on the following pages show the IRS Funding Standard Account, as well as development of the minimum and maximum contributions for 2016 and other supporting information.

## SECTION IV – CONTRIBUTIONS

**Table IV-2**
**Funding Standard Account for 2015 and 2016 Plan Years**

| | 2015 | 2016 |
|---|---|---|
| 1. Charges For Plan Year | | |
| a. Normal Cost plus Expenses | $ 6,753,756 | $ 6,941,929 |
| b. Amortization Charges | 14,236,884 | 13,589,754 |
| c. Interest on a. and b. to Year End | 1,469,345 | 1,437,218 |
| d. Total Charges | $ 22,459,985 | $ 21,968,901 |
| 2. Credits For Plan Year | | |
| a. Prior Year Credit Balance | $ 46,734,963 | $ 51,369,745 |
| b. Employer Contributions (actual 2015, projected 2016) | 21,675,569 | *23,388,000* |
| c. Amortization Credits | 1,493,928 | 1,027,413 |
| d. Interest on a., b., and c. to Year End | 3,925,270 | 4,401,154 |
| e. Full Funding Limit Credit | 0 | 0 |
| f. Total Credits | $ 73,829,730 | $ 80,186,312 |
| 3. Credit Balance at End of Year [2. – 1.] | $ 51,369,745 | $ 58,217,411 |

## SECTION IV – CONTRIBUTIONS

**Table IV-3**
**Calculation of the Maximum Deductible Contribution**
**For the Plan Year Starting January 1, 2016**

| | | |
|---|---|---|
| 1. "Fresh Start" Method | | |
| a. Normal Cost plus Expenses | $ | 6,941,929 |
| b. Net Charge to Amortize Unfunded Actuarial Liability over 10 years | | 5,943,079 |
| c. Interest on a. and b. | | 901,951 |
| d. Total | $ | 13,786,959 |
| e. Minimum Required Contribution as of Year End | | 0 |
| f. Greater of d. and e. | $ | 13,786,959 |
| g. Full Funding Limitation as of Year End | | 175,141,710 |
| h. Maximum Deductible Contribution, lesser of f. and g. | $ | 13,786,959 |
| 2. 140% of Current Liability Calculation | | |
| a. RPA 1994 Current Liability at Start of Year | $ | 376,619,654 |
| b. Present Value of Benefits Estimated to Accrue during Year | | 13,796,876 |
| c. Expected Benefit Payments | | 11,790,195 |
| d. Net Interest on a., b. and c. at Current Liability Interest Rate (3.28%) | | 12,612,303 |
| e. Expected Current Liability at End of Year, [a. + b. – c. + d.] | | 391,238,638 |
| f. 140% of e. | | 547,734,093 |
| g. Actuarial Value of Assets | | 177,487,860 |
| h. Expected Expenses | | 687,939 |
| i. Net Interest on c., g. and h. at Valuation Interest Rate | | 11,963,338 |
| j. Estimated Value of Assets, [g. – c. – h. + i.] | | 176,973,064 |
| k. Unfunded Current Liability at Year End, [f. - j.] | $ | 370,761,029 |
| 3. Maximum Deductible Contribution at Year End, greater of 1. and 2. | $ | 370,761,029 |

## SECTION IV – CONTRIBUTIONS

**Table IV-4**
**Development of Actuarial Gain/(Loss)**
**For the Year Ended December 31, 2015**

| | | |
|---|---|---|
| 1. Unfunded Actuarial Liability at Start of Year | $ | 52,137,133 |
| 2. Normal Cost plus Expenses at Start of Year | | 6,753,756 |
| 3. Interest on 1. and 2. to End of Year | | 4,122,362 |
| 4. Employer Contributions for Year | | 21,675,569 |
| 5. Interest on 4. to End of Year | | 549,248 |
| 6. Decrease 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.] | $ | 40,788,434 |
| 9. Actual Unfunded Actuarial Liability at End of Year, not less than zero | $ | 44,663,620 |
| 10. Actuarial Gain / (Loss) | | |
| a. Investment Gain / (Loss) | $ | (3,227,803) |
| b. Actuarial Liability Gain / (Loss) | | (647,383) |
| c. Total Actuarial Gain / (Loss) [8. – 9.] | $ | (3,875,186) |
| 11. Amortization Factor for Actuarial Gain / (Loss) | | 9.7455 |
| 12. Amortization Credit / (Charge) for Actuarial Gain / (Loss) | $ | (397,640) |

## SECTION IV – CONTRIBUTIONS

**Table IV-5**
**Schedule of Amortizations Required for Minimum Required Contribution**
**As of January 1, 2016**

| Type of Base | Date Established | Initial Amount | Initial Amortization Years | 1/1/2016 Outstanding Balance | Remaining Amortization Years | Beginning of Year Amortization Amount |
|---|---|---|---|---|---|---|
| **Charges** | | | | | | |
| 1. Benefit Increase | 1/1/1979 | $ 190,477 | 40 | $ 38,629 | 3 | $ 13,757 |
| 2. Benefit Increase | 1/1/1988 | 3,319,569 | 30 | 499,489 | 2 | 258,190 |
| 3. Benefit Increase | 1/1/1990 | 1,753,060 | 30 | 493,195 | 4 | 136,079 |
| 4. Benefit Increase | 1/1/1991 | 3,136,715 | 30 | 1,067,190 | 5 | 243,250 |
| 5. Benefit Increase | 1/1/1992 | 4,090,440 | 30 | 1,616,311 | 6 | 316,911 |
| 6. Benefit Increase | 1/1/1995 | 1,898,679 | 30 | 1,020,065 | 9 | 146,324 |
| 7. Benefit Increase | 1/1/1996 | 5,891,493 | 30 | 3,406,468 | 10 | 453,275 |
| 8. Method Change | 1/1/1998 | 1,000,489 | 30 | 652,107 | 12 | 76,730 |
| 9. Plan Amendment | 1/1/1999 | 60,042 | 30 | 41,122 | 13 | 4,598 |
| 10. Assumption Change | 1/1/2000 | 480,026 | 30 | 343,470 | 14 | 36,705 |
| 11. Plan Amendment | 1/1/2000 | 7,522,673 | 30 | 5,382,600 | 14 | 575,208 |
| 12. Assumption Change | 1/1/2001 | 3,607,767 | 30 | 2,684,570 | 15 | 275,469 |
| 13. Actuarial Loss | 1/1/2003 | 2,589,622 | 15 | 523,394 | 2 | 270,547 |
| 14. Actuarial Loss | 1/1/2004 | 1,921,401 | 15 | 562,523 | 3 | 200,327 |
| 15. Actuarial Loss | 1/1/2005 | 6,764,692 | 15 | 2,551,154 | 4 | 703,899 |
| 16. Actuarial Loss | 1/1/2006 | 2,935,903 | 15 | 1,337,690 | 5 | 304,907 |
| 17. Plan Amendment | 1/1/2007 | 14,443,486 | 30 | 12,689,352 | 21 | 1,094,474 |
| 18. Actuarial Loss | 1/1/2007 | 1,692,685 | 15 | 894,902 | 6 | 175,464 |
| 19. Actuarial Loss | 1/1/2009 | 13,230,399 | 15 | 8,731,276 | 8 | 1,366,549 |
| 20. Actuarial Loss | 1/1/2011 | 5,767,374 | 15 | 4,461,715 | 10 | 593,690 |
| 21. Assumption Change | 1/1/2012 | 4,617,778 | 15 | 3,807,851 | 11 | 474,582 |
| 22. Actuarial Loss | 1/1/2012 | 5,071,774 | 15 | 4,182,217 | 11 | 521,241 |
| 23. Actuarial Loss | 1/1/2013 | 4,921,317 | 15 | 4,291,704 | 12 | 504,985 |
| 24. Assumption Change | 1/1/2013 | 8,383,621 | 15 | 7,311,054 | 12 | 860,258 |
| 25. Plan Amendment | 1/1/2013 | 33,690,641 | 15 | 29,380,403 | 12 | 3,457,057 |
| 26. Actuarial Loss | 1/1/2015 | 1,243,894 | 15 | 1,194,394 | 14 | 127,638 |
| 27. Actuarial Loss | 1/1/2016 | 3,875,186 | 15 | 3,875,186 | 15 | 397,640 |
| **TOTAL CHARGES** | | | | **$ 103,040,031** | | **$ 13,589,754** |

## SECTION IV – CONTRIBUTIONS

**Table IV-6**
**Schedule Of Amortizations Required for Minimum Required Contribution**
**As of January 1, 2016**

| | Type of Base | Date Established | Initial Amount | Initial Amortization Years | 1/1/2016 Outstanding Balance | Remaining Amortization Years | Beginning of Year Amortization Amount |
|---|---|---|---|---|---|---|---|
| **Credits** | | | | | | | |
| 1. | Assumption Change | 1/1/1992 | $ 2,129,460 | 30 | $ 841,438 | 6 | $ 164,981 |
| 2. | Funding Method Change | 1/1/1998 | 392,131 | 30 | 255,582 | 12 | 30,073 |
| 3. | Actuarial Gain | 1/1/2002 | 768,327 | 15 | 80,438 | 1 | 80,438 |
| 4. | Mortality Change | 1/1/2003 | 521,650 | 30 | 414,967 | 17 | 39,723 |
| 5. | Actuarial Gain | 1/1/2008 | 873,553 | 15 | 521,225 | 7 | 90,388 |
| 6. | Actuarial Gain | 1/1/2010 | 3,581,997 | 15 | 2,574,808 | 9 | 369,344 |
| 7. | Actuarial Gain | 1/1/2014 | 1,039,960 | 15 | 954,293 | 13 | 106,712 |
| 8. | Assumption Change | 1/1/2015 | 1,420,441 | 15 | 1,363,915 | 14 | 145,754 |
| | **TOTAL CREDITS** | | | | **$ 7,006,666** | | **$ 1,027,413** |
| | **NET CHARGE** | | | | **$ 96,033,365** | | **$ 12,562,341** |
| | Less Credit Balance | | | | 51,369,745 | | |
| | Expected Unfunded Actuarial Liability | | | | $ 44,663,620 | | |
| | Actuarial Accrued Liability | | | | $ 222,151,480 | | |
| | Actuarial Value of Assets | | | | 177,487,860 | | |
| | Unfunded Actuarial Liability | | | | $ 44,663,620 | | |

## SECTION IV – CONTRIBUTIONS

**Table IV-7**
**Development of Full Funding Limitation**
**For the Year Starting January 1, 2016**

| | Minimum | Maximum |
|---|---|---|
| 1. Unit Credit Actuarial Liability Calculation | | |
| a. Actuarial Liability | $ 222,151,480 | $ 222,151,480 |
| b. Normal Cost plus Expenses | 6,941,929 | 6,941,929 |
| c. Lesser of Market Value and Actuarial Value of Assets | 166,689,966 | 166,689,966 |
| d. Credit Balance at Start of Year | 51,369,745 | N/A |
| e. Actuarial Liability Full Funding Limit [a. + b. - c. + d.] x 1.07 | $ 121,737,311 | $ 66,771,684 |
| 2. Full Funding Limit Override (RPA '94) | | |
| a. RPA 1994 Current Liability at Start of Year | $ 376,619,654 | $ 376,619,654 |
| b. Present Value of Benefits Estimated to Accrue during Year | 13,796,876 | 13,796,876 |
| c. Expected Benefit Payments | 11,790,195 | 11,790,195 |
| d. Net Interest on a., b. and c. at Current Liability Interest Rate | 12,612,303 | 12,612,303 |
| e. Expected Current Liability at End of Year, [a. + b. – c. + d.] | 391,238,638 | 391,238,638 |
| f. 90% of e. | 352,114,774 | 352,114,774 |
| g. Actuarial Value of Assets at Start of Year | 177,487,860 | 177,487,860 |
| h. Expected Expenses | 687,939 | 687,939 |
| i. Net Interest on c., g. and h. at Valuation Interest Rate | 11,963,338 | 11,963,338 |
| j. Estimated Value of Assets, [g. - c. - h. + i.] | 176,973,064 | 176,973,064 |
| k. RPA 1994 Full Funding Limit Override | $ 175,141,710 | $ 175,141,710 |
| 3. Full Funding Limitation at End of Year, greater of 1. and 2. | $ 175,141,710 | $ 175,141,710 |
| 4. Full Funding Limitation at Start of Year | $ 163,683,841 | $ 163,683,841 |

## SECTION V – 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 withdrawal liability payments of $294,001 are 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 V-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 V-1**
**Items Required to Calculate an Employer's Withdrawal Liability**

| | |
|---|---|
| a. Present Value of Vested Benefits at January 1, 2016 | $ 212,865,975 |
| b. Market Value of Assets | 166,689,966 |
| c. Unfunded Vested Benefits [a - b] | $ 46,176,009 |
| d. Due from Withdrawn Employers | 294,001 |
| e. Net Unfunded Vested Benefits to Allocate [c - d] | $ 45,882,008 |
| f. Total Employer Contributions for previous five Plan Years | |
| Calendar Year 2015 | $ 21,545,770 |
| Calendar Year 2014 | 19,296,485 |
| Calendar Year 2013 | 16,715,042 |
| Calendar Year 2012 | 13,356,229 |
| Calendar Year 2011 | 13,246,817 |

## SECTION VI – FASB ASC TOPIC NO. 960 DISCLOSURES

**Table VI-1**
**Present Value of Accumulated Benefits as of January 1, 2016**
**In Accordance with FASB ASC Topic No. 960**

| | | Amounts | Vested Counts |
|---|---|---|---|
| 1. Actuarial Present Value of Benefits | | | |
| For Retirees and Beneficiaries | $ | 85,165,377 | 2,107 |
| Terminated Vesteds | | 29,870,254 | 1,983 |
| Active Participants | | 102,161,204 | 3,577 |
| Vested Benefits | $ | 217,196,835 | 7,667 |
| 2. Non-vested Benefits | $ | 4,954,645 | 2,580 |
| 3. Accumulated Benefits [(1) + (2)] | $ | 222,151,480 | 10,247 |
| 4. Market Value of Assets | $ | 166,689,966 | |
| 5. Funded Ratios | | | |
| Vested Benefits | | 77% | |
| Accumulated Benefits | | 75% | |

**Table VI-2**
**Reconciliation of Present Value of Accumulated Benefits**

| | | |
|---|---|---|
| 1. Actuarial Present Value at Start of Prior Year | $ | 210,832,823 |
| 2. Increase (decrease) over Prior Year due to: | | |
| Benefit Accruals (with Expenses) | | 6,753,756 |
| Benefit Payments and Expected Expenses | | (10,908,326) |
| Increase for Interest | | 14,825,844 |
| Experience (Gains)/Losses | | 647,383 |
| Changes in assumptions | | 0 |
| Plan Amendments | | 0 |
| 3. Actuarial Present Value at End of Prior Year | $ | 222,151,480 |

**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 #23 *Data Quality*. The data was collected as of January 1, 2016. Below is a list of assumptions Cheiron made in using the data this year.

## Date of Birth for Active Employees

There were 32 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 37.2.

## 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 0-6, 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 33 terminated vesteds 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 59.0.

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, 2015 to January 1, 2016**

| | Active | Terminated Vesteds | Disabled | Retiree | Survivors | Totals |
|---|---|---|---|---|---|---|
| 1. January 1, 2015 valuation | **6,144** | **1,917** | **75** | **1,831** | **149** | **10,116** |
| 2. Additions | | | | | | |
| a. New entrants | 568 | | | | 19 | 587 |
| 3. Reductions | | | | | | |
| a. Terminated - not vested | (362) | | | | | (362) |
| b. Deaths | | (1) | (1) | (74) | (21) | (97) |
| c. Total | (362) | (1) | (1) | (74) | (21) | (459) |
| 4. Changes in status | | | | | | |
| a. Terminated - vested | (151) | 151 | | | | |
| b. Returned to work | 26 | (26) | | | | |
| c. Retired | (67) | (60) | | 127 | | |
| d. Disabled | (1) | (1) | 4 | (2) | | |
| e. Data corrections | | 3 | (2) | 5 | (3) | 3 |
| f. Total | (193) | 67 | 2 | 130 | (3) | 3 |
| 5. January 1, 2016 valuation | **6,157** | **1,983** | **76** | **1,887** | **144** | **10,247** |

**AGE/SERVICE DISTRIBUTION OF ACTIVE PARTICIPANTS**

| | 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 | 52 | 160 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 213 |
| 25-29 | 53 | 363 | 44 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 462 |
| 30-34 | 51 | 311 | 115 | 40 | 2 | 0 | 0 | 0 | 0 | 0 | 519 |
| 35-39 | 40 | 329 | 177 | 74 | 18 | 0 | 0 | 0 | 0 | 0 | 638 |
| 40-44 | 49 | 266 | 190 | 108 | 50 | 20 | 1 | 0 | 0 | 0 | 684 |
| 45-49 | 32 | 295 | 207 | 144 | 99 | 68 | 19 | 0 | 0 | 0 | 864 |
| 50-54 | 22 | 269 | 214 | 145 | 101 | 95 | 91 | 19 | 2 | 0 | 958 |
| 55-59 | 17 | 186 | 191 | 109 | 93 | 98 | 124 | 85 | 32 | 1 | 936 |
| 60-64 | 2 | 78 | 106 | 80 | 77 | 82 | 97 | 75 | 48 | 13 | 658 |
| 65-69 | 0 | 36 | 45 | 26 | 14 | 14 | 23 | 16 | 10 | 7 | 191 |
| 70 & Up | 3 | 6 | 11 | 5 | 4 | 1 | 1 | 1 | 2 | 0 | 34 |
| Total | 321 | 2,299 | 1,301 | 733 | 458 | 378 | 356 | 196 | 94 | 21 | **6,157** |

Average Age = 46.9 Average Service = 9.8

## APPENDIX A – MEMBERSHIP INFORMATION

**Age Distribution of Inactive Participants**
**Pensioners and Beneficiaries Receiving Benefits as of January 1, 2016**

| | 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 | 2 | $ 582 | 1 | $ 1,020 | 12 | $ 3,797 | 15 | $ 5,400 |
| 55-59 | 13 | 6,044 | 2 | 674 | 6 | 1,115 | 21 | 7,833 |
| 60-64 | 35 | 16,319 | 51 | 20,070 | 14 | 2,806 | 100 | 39,195 |
| 65-69 | 17 | 7,086 | 550 | 261,811 | 23 | 5,087 | 590 | 273,983 |
| 70-74 | 9 | 3,622 | 482 | 202,371 | 21 | 2,662 | 512 | 208,655 |
| 75-79 | 0 | 0 | 378 | 147,394 | 26 | 4,469 | 404 | 151,862 |
| 80 & Over | 0 | 0 | 423 | 135,278 | 42 | 6,422 | 465 | 141,699 |
| Total | 76 | $ 33,653 | 1,887 | $ 768,618 | 144 | $ 26,358 | **2,107** | **$ 828,629** |

**Participants Entitled to Future Benefits**
**as of January 1, 2016**

| | Terminated Vesteds | |
|---|---|---|
| **Age** | **Number** | **Monthly Benefit Payable at Normal Retirement Date[1]** |
| Under 45 | 304 | $ 48,737 |
| 45-49 | 278 | 53,117 |
| 50-54 | 378 | 78,193 |
| 55-59 | 475 | 112,873 |
| 60-64 | 353 | 89,513 |
| 65 & Over | 195 | 52,213 |
| **Total** | **1,983** | **$ 434,646** |

[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, 2016, the contribution rate for most employers increased from $1.95 to $2.10 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, 2013, the monthly normal retirement benefit is $30.00 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:
7.00% compounded annually
Current Liability under RPA 1994:
3.28% compounded annually
All investment returns are net of investment expenses.

### 2. Rates of Mortality

(a) Funding:
Healthy Lives - RP-2000 Combined Mortality with Blue Collar adjustments projected with Scale AA to 2022.
Disabled Lives - RP-2000 Disabled Mortality projected with Scale AA to 2022.

(b) RPA ’94 Current Liability:
The separate 2016 Static Mortality Tables for annuitants and non-annuitants as prescribed under IRS Notice 2008-85 and Regulation §1.431(c)(6)-1.

Margin for Future Mortality Improvement - Mortality experience for the period 2006-2010 was most closely approximated by the RP-2000 table projected with Scale AA to 2008 (the mid-point of the period), therefore, the projection to 2022 should provide for continued improvement.

### 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 | .1500 |
| 63 | .1000 |
| 64 | .1500 |
| 65 | .6500 |
| 66 | .3500 |
| 67 | .2000 |
| 68 | .1750 |
| 69 | .1500 |
| 70 | 1.0000 |

## APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

### 4. Rates of Turnover

Termination of employment for reasons other than death, disability or retirement are assumed to be in accordance with annual rates as shown on the following page for illustrative ages.

| Years of Service | Withdrawal Rate |
|---|---|
| 0 | .3500 |
| 1 | .2500 |
| 2 | .1500 |
| 3 | .1250 |
| 4 | .1250 |
| 5-10 | .1000 |
| 11-19 | .0500 |
| 20+ | .0250 |

### 5. Disability

Disability rates are 50% percent of the experience during the years 1946-1950 as presented on page 93 of Transactions, Society of Actuaries, 1952 Reports on Mortality and Morbidity Experience. Illustrative rates of disablement are shown below:

| Age | Disability Rate |
|---|---|
| 20 | .0003 |
| 25 | .0003 |
| 30 | .0003 |
| 35 | .0004 |
| 40 | .0006 |
| 45 | .0009 |
| 50 | .0015 |
| 55 | .0028 |
| 60 | .0048 |
| 61 | .0054 |
| 62 | .0059 |
| 63 | .0064 |
| 64 | .0069 |
| 65 | .0000 |

## APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

### 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.

## APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

### 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

11% of normal cost payable at the beginning of the year.

### 10. Rationale for Assumptions

Assumptions are based on the latest experience study review performed in 2012 and covering the period January 1, 2006 through December 31, 2011. The results of that study are incorporated here by reference. Furthermore, the Plan's investment manager was projecting an annual return of 7.2% at the time of the experience study. Given that investment related fees had averaged 15 basis points, the 7.0% assumption is reasonable.

### 11. Changes in Assumptions Since Last Valuation

As required, the current liability interest rate and mortality tables were updated. The interest rate went from 3.51% to 3.28% (per IRS Notice 2011-7), and the mortality table was updated to the 2016 Static Mortality Tables for annuitants and non-annuitants (per IRS Notice 2015-53) 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 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