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Western States Office & Professional Employees Plan

Actuarial Valuation

As of January 1, 2018

November 2018

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Actuarial Certification

November 13, 2018

Board of Trustees
Western States Office & Professional Employees Plan

Dear Trustees:

Rael & Letson has prepared this report exclusively for the use of the Board of Trustees of the Western States Office & Professional Employees Plan ("Plan"). All supporting information pertaining to the findings presented in this report is described or contained within this report and the findings should not be relied upon for any other purpose than as stated herein. This report may only be provided to other parties in its entirety.

This report has been prepared as of January 1, 2018 to report on the health of the Plan, including reporting the:

1. Plan's funded status
2. Plan's funding requirements under the Employee Retirement Income Security Act of 1974 (ERISA)
3. Plan experience for the 2017 Plan Year
4. Unfunded vested benefits for withdrawal liability purposes
5. FASB ASC 960 required information for auditors
6. Information required for governmental agencies

We have relied on information supplied by the auditor with respect to contributions and assets and by the Plan Administrator with respect to participant data. We have not verified and customarily would not verify such information, but we have no reason to doubt its substantial accuracy.

These results are applicable for the Plan Year ending December 31, 2018. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (for instance, the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. Due to the limited scope of the assignment, we did not perform analysis of the potential range of such future measurements.

Actuarial Certification *(Continued)*

In preparation of this report and the actuarial findings contained herein, we certify that:

1. We have completed this actuarial valuation of the Plan as of January 1, 2018 in accordance with generally accepted actuarial principles and practices, including Actuarial Standards of Practice (ASOP) Nos. 4, 23, 27, 35, 41, 44, and 51.
2. There has been no conflict of interest between any relevant parties; no findings for which we, the actuaries, do not assume responsibility; and no deviation from ASOP Nos. 4, 23, 27, 35, 41, 44, and 51.
3. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate and, in our opinion, the individual assumptions used: (a) are reasonably related to the experience of the Plan and to reasonable expectations; and (b) represent our best estimate of anticipated experience under the Plan.

Subsequent to the January 1, 2018 measurement date for the results presented in this actuarial valuation report, the Plan received approval to suspend benefits pursuant to the Multiemployer Pension Reform Act of 2014 ("MPRA"). Accrued benefits earned through September 30, 2018 were reduced by 30% for all participants (subject to the legislative restrictions set forth in the MPRA rules) effective October 1, 2018. The impact of these benefit suspensions has not been reflected in the results presented in this report.

We, Paul Graf, Brian Harper, and Winnie Ngan, are actuaries for Rael & Letson. We are members of the American Academy of Actuaries and each meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Certified by: Paul M Graf ______ ASA, EA, MAAA
Paul Graf
Enrolled Actuary No. 17-05627

Reviewed by: B. A. Harper ______ EA, MAAA
Brian Harper
Enrolled Actuary No. 17-06435

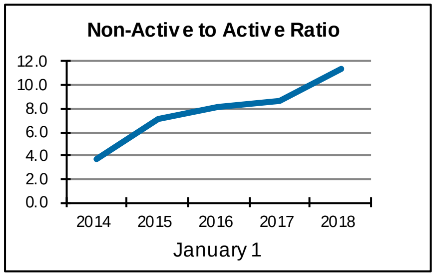
Prepared by: Winnie Ngan ______ ASA, MAAA
Winnie Ngan

cc: Kim Gould
Joe Reinhart, Esq.
Alex Miller

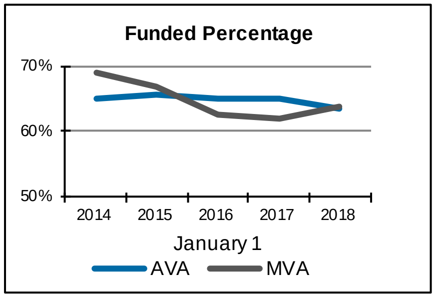
Valuation Highlights

A summary of the key valuation highlights for the Western States Office & Professional Employees Plan follows:

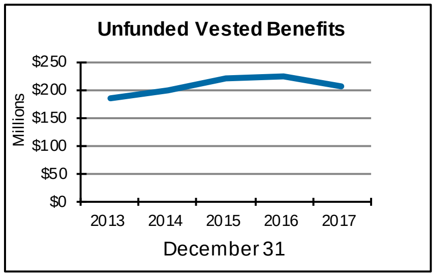
Participant Data



Financial Information



Unfunded Vested Benefits



	January 1, 2017	January 1, 2018	Change
Actives	809	626	(183)
Non-Vested Inactives[1]	359	376	17
Vested Inactives	2,827	2,798	(29)
In Pay Status[2]	3,845	3,970	125
Total Participants	7,840	7,770	(70)
Market Value of Assets (MVA)	$ 326,919,954	$ 335,048,313	$ 8,128,359
Return on MVA (Prior Year)	6.44 %	13.04 %	6.60 %
Actuarial Value of Assets (AVA)[3]	$ 342,812,133	$ 333,355,231	$ (9,456,902)
Return on AVA (Prior Year)	6.84 %	7.02 %	0.18 %
Actuarial Accrued Liability[3]	$ 527,455,968	$ 525,324,100	$ (2,131,868)
Unfunded Accrued Liability (MVA)	200,536,014	190,275,787	(10,260,227)
Unfunded Accrued Liability (AVA)	184,643,835	191,968,869	7,325,034
MVA Funded Percentage	62.0 %	63.8 %	1.8 %
AVA Funded Percentage	65.0 %	63.5 %	(1.5)%
Contributions (Prior Year)	$ 11,250,910	$ 9,588,489	$ (1,662,421)
Benefit Payments (Prior Year)	39,153,722	40,137,025	983,303
Expenses (Prior Year)[4]	N/A	1,847,596	1,847,596
Present Value of Vested Benefits	$ 550,975,753	$ 540,855,185	$ (10,120,569)
Unfunded Vested Benefits[5]	224,055,799	205,806,872	(18,248,928)
Zone Certification Status	Critical and Declining	Critical and Declining	
Zone Status Funded Percentage	65.0 %	63.5 %	(1.5)%
Credit Balance	$ 35,343,447	$ 16,828,984	$ (18,514,463)

1 These are non-vested inactive participants who have not incurred a permanent break-in-service.

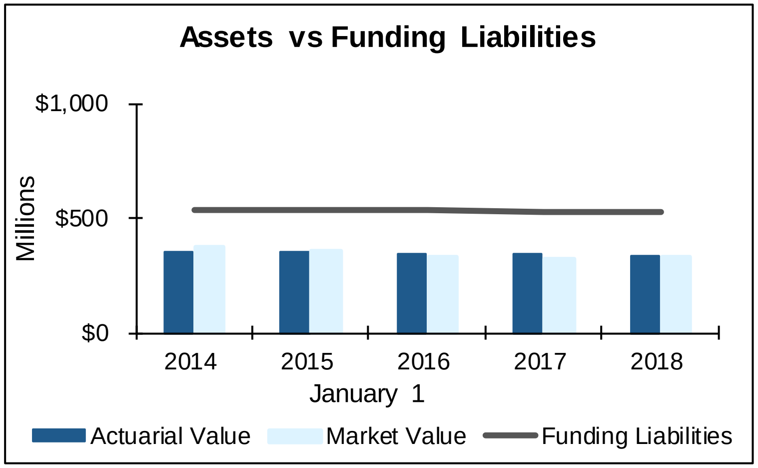
2 Includes 18 Alternate Payees as of January 1, 2017 and 20 Alternate Payees as of January 1, 2018.

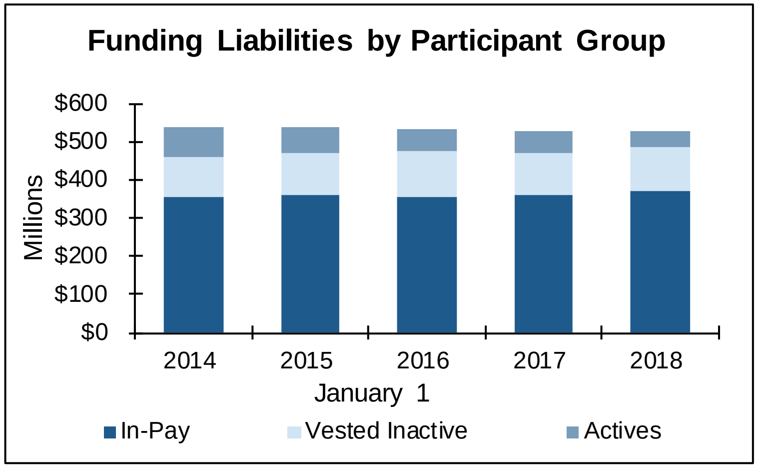
3 2017 Plan Year asset loss of $1.2 million and liability loss of $0.4 million as of January 1, 2018.

4 Prior to January 1, 2017, the assumed investment return was net of investment and operating expenses, therefore operating expenses are shown as N/A for 2016.

5 Unfunded Vested Benefits are based on the Market Value of Assets and include the present value of adjustable benefits under PBGC Technical Update 10-3.

Section I – Assets and Liabilities





ASSETS		
A. Cash and Cash Equivalents	$	4,764,358
B. Marketable Securities		330,172,090
C. Net Receivables, Payables and Prepaid Expenses		111,865
D. Market Value of Assets (A + B + C)	**$**	**335,048,313**
E. Actuarial Adjustment (Appendix D)		(1,693,082)
F. Total Assets at Actuarial Value (D + E)	**$**	**333,355,231**
LIABILITIES		
Funding		
G. Actives	$	37,589,223
H. Vested Inactives		116,854,992
I. In Pay Status		370,879,885
J. Actuarial Accrued Liability (G + H + I)	$	525,324,100
K. Unfunded Accrued Liability (J - F)	**$**	**191,968,869**
PPA (Statutory)		
L. Actives	$	37,589,223
M. Vested Inactives		116,854,992
N. In Pay Status		370,879,885
O. Actuarial Accrued Liability (L + M + N)	$	525,324,100
P. Zone Status Funded Percentage (F / O)		**63.5 %**

Section I – Assets and Liabilities *(Continued)*

The financial status of the Plan provides us with the means of measuring the actuarial position of the Plan as of January 1, 2018.

ASSETS

The total Market Value of Assets as of January 1, 2018 is $335,048,313. Information regarding assets was taken from the final audit report provided by Vavrinek, Trine, Day & Co., LLP.

We have utilized an asset valuation method that recognizes net investment income on Trust assets that is more or less than 7.25% per year over a five-year period. The value of Trust assets based on this method is $333,355,231, which represents 99.5% of the Market Value of Assets. This method is intended to dampen the volatility associated with year-to-year changes in the market value of Trust assets, while at the same time systematically recognizing overall investment performance over the long term. The derivation of the Actuarial Value of Assets is shown in Appendix E.

Contributions receivable from Employers for hours worked in the 2017 Plan Year but received after December 31, 2017 are included with net receivables.

LIABILITIES

The liabilities of the Plan are calculated for each individual participant based on data provided by the Plan Administrator and assumptions that are outlined in Appendix A. The $370,879,885 liability for those in pay status represents the estimated amount required as of the valuation date to pay their benefits as they come due in the future. The remaining liability is split between participants who are inactive and those who are continuing to earn benefits under the Plan. The Actuarial Accrued Liability is the sum of the liability amounts for each group and is equal to $525,324,100.

Section I – Assets and Liabilities *(Continued)*

UNFUNDED ACCRUED LIABILITIES

The liabilities of the Plan exceed the Actuarial Value of Assets by $191,968,869. This amount is known as the Unfunded Accrued Liability, which is amortized by the excess of contributions received over the cost of each future year's accumulation of benefits and operating expenses. If the Market Value of Assets is used, the Unfunded Accrued Liability is equal to $190,275,787.

As shown in Section III, the current excess of contributions over benefit accruals and operating expenses is about $9.8 million and is not sufficient to pay down the Unfunded Accrued Liability assuming payment of all outstanding withdrawal liability on both an Actuarial Value of Assets basis and a Market Value of Assets basis assuming all future actuarial assumptions are realized.

The Fund submitted an application to the United States Department of the Treasury to implement benefit suspensions as permitted under the Multiemployer Pension Reform Act. Following approval from the Treasury and a participant vote, benefit reductions of 30% on benefits earned through September 30, 2018 were implemented effective October 1, 2018.

The reduction in plan liabilities associated with the MPRA benefit suspensions will first be reflected in the January 1, 2019 actuarial valuation.

Section II – Actuarial Experience

ACTUARIAL VALUATION

An actuarial valuation is a snapshot of asset and liability measures of the pension fund. It is used to estimate the amount of funds needed to help assure the future payment of retirement, termination, disability and death benefits to Plan participants based on Plan benefits in effect on the valuation date. The liability is based on the actual service rendered by these participants prior to the valuation date and on a set of actuarial assumptions and methods. These assumptions have been selected by the Actuary while the methods have been adopted by the Trustees upon the recommendation of the Actuary. Both are described in Appendix A.

GAIN/(LOSS)

To the extent that actual experience during the plan year is different from what was expected based on the set of actuarial assumptions outlined in Appendix A, gains or losses are realized.

An asset gain or loss results if the Actuarial Value of Assets returns more or less than the assumed rate of return. Actual operating expenses that are more or less than that assumed are also included as gains or losses in the asset gain or loss amount.

Liability gains or losses occur when actual demographic experience is different from that assumed by the demographic assumptions. The total liability gain or loss consists of gains or losses attributable to mortality, termination, retirement and disability assumptions. In addition, unforeseen data changes that may occur from year to year are part of the miscellaneous component.

Section II – Actuarial Experience *(Continued)*

Development of Gain/(Loss)

The net actuarial gain or loss includes all actuarial experience from assets and liabilities, but excludes changes in asset method, assumptions or Plan provisions effective on January 1, 2018. The following exhibit develops the net actuarial gain or loss for the 2017 Plan Year:

NET ACTUARIAL GAIN/(LOSS)		
A. Unfunded Accrued Liability on January 1, 2017	$	184,643,835
B. Normal Cost (Including Operating Expenses)		2,108,688
C. Contributions for 2017		(9,588,489)
D. Interest on A, B and C		13,191,975
E. Expected Unfunded Accrued Liability on January 1, 2018 (A + B + C + D)	$	190,356,009
F. Actual Unfunded Accrued Liability on January 1, 2018		191,968,869
G. Net Actuarial Gain/(Loss) (E - F)	$	(1,612,860)

Summary of Gain/(Loss) by Source

The total net actuarial gain or loss for the 2017 Plan Year is allocated among asset and liability components as shown below:

		Gain/(Loss)
Asset Experience		
Investment	$	(740,290)
Operating Expenses		(463,821)
Total Asset Loss	$	(1,204,111)
Liability Experience		
Mortality		306,647
Termination		(997,214)
Retirement		682,402
Disability		(64,923)
Miscellaneous		(335,661)
Total Liability Loss	$	(408,749)
Net Actuarial Experience Loss	**$**	**(1,612,860)**

Section II – Actuarial Experience *(Continued)*

ASSET EXPERIENCE

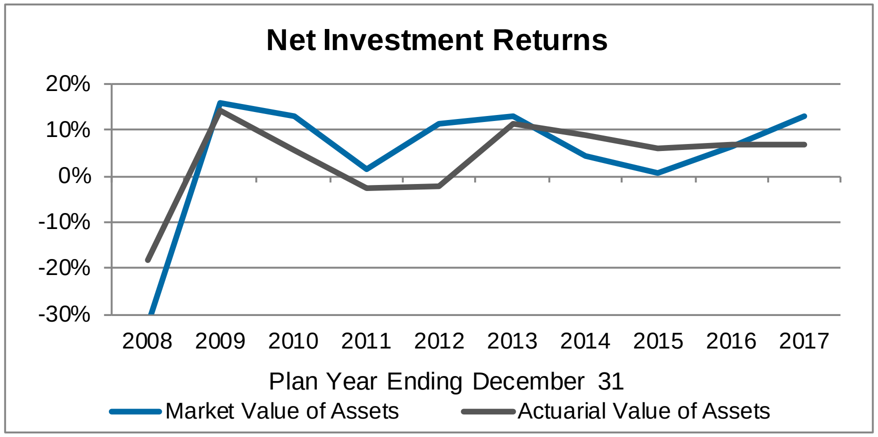
Net Investment Return

The assumed rate of return on investments is 7.25% compounded annually, net of investment expenses. The net investment return on the Actuarial Value of Assets (AVA) during the 2017 Plan Year was 7.02% and resulted in an asset **loss** of **$740,290**. Appendix E shows the details of the actual net investment income calculation.

	Dollar Amount	Return on AVA
A. Gross Investment Income	$ 24,575,400	7.52 %
B. Investment Expenses	(1,636,170)	(0.50)%
C. Net Investment Income (A + B)	$ 22,939,230	7.02 %
D. Expected Net Investment Income	23,679,520	7.25 %
E. Investment Loss (C - D)	**$ (740,290)**	**(0.23)%**

Plan Year Ending December 31	Net Investment Return	
	Actuarial Value	Market Value
2013	11.24 %	12.97 %
2014	9.07 %	4.47 %
2015	6.22 %	0.63 %
2016	6.84 %	6.44 %
2017	7.02 %	13.04 %
5-Year Average[1]	8.06 %	7.40 %
10-Year Average[1]	3.33 %	3.72 %

[1] Geometric average return.



Section II – Actuarial Experience *(Continued)*

Operating Expenses

The assumed operating expenses are $1,400,000, payable mid-year. The actual operating expenses for the year were $1,847,596, resulting in a **loss** on expenses of **$463,821**, with interest to the end of the 2017 Plan Year.

Plan Year	Gain/(Loss)
2017	$ (463,821)
1-Year Total	**$ (463,821)**

Liability Experience

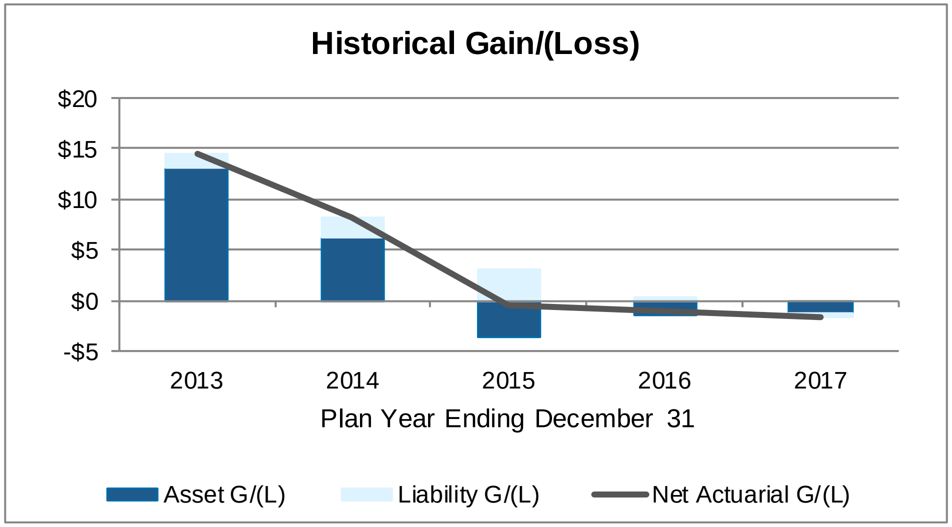
The key demographic assumptions in the valuation are mortality for active and inactive participants and termination, retirement and disability for active participants. Liability gains and losses that are allocated to mortality, termination, retirement and disability components usually reflect more than one related demographic assumption, such as the form of benefit elected and the spouse age difference. These items as well as further details and historical information on the Plan's liability experience are included in Appendix D.

Section II – Actuarial Experience *(Continued)*

Historical Gain/(Loss)

Fluctuations in experience for all assumptions are to be expected from year to year. It is the net result over a period of time that must be viewed to determine the validity of the assumptions used. A summary of the asset, liability and net actuarial gain/loss amounts over the last five years are shown.

Plan Year	Asset Gain/(Loss)	Liability Gain/(Loss)	Net Actuarial Gain/(Loss)
2013	$ 13,070,644	$ 1,493,808	$ 14,564,452
2014	6,155,370	2,119,632	8,275,002
2015	(3,503,794)	2,997,178	(506,616)
2016	(1,353,294)	331,775	(1,021,519)
2017	(1,204,111)	(408,749)	(1,612,860)
5-Year Total	$ 13,164,815	$ 6,533,644	$ 19,698,459



Section III – Employer Contributions and Costs

PROJECTION FOR 2018 PLAN YEAR

Employer contributions and costs for the 2018 Plan Year are based on expected contributions, including base, surcharge, and supplemental contributions as well as expected withdrawal liability payments, and actual hours worked during 2017 adjusted for known withdrawals to date.

The difference between the Employer contributions and the cost of benefits is the excess (if any) that can be used to pay down the Unfunded Accrued Liability.

		Dollars per Covered Hour
A. Employer Contributions for Active Participants	$ 5,135,000	$ 5.14
B. Withdrawal Liability Payments	6,820,000	N/A
C. Normal Cost for Benefit Accruals	763,000	0.76
D. Estimated Operational Expenses	1,400,000	N/A
E. Available for Funding[1] (A + B - C - D)	$ 9,792,000	

[1] Mid-year.

The projected Employer contributions exceed the estimated cost of benefits to be earned plus operating expenses during 2018 by about $9.8 million, but the interest on the current Unfunded Accrued Liability at 7.25% is $13.9 million. Based on asset and liability measures on the valuation date, this excess of about $9.8 million is not sufficient to pay down the Unfunded Accrued Liability on both an Actuarial Value of Assets basis and a Market Value of Assets basis assuming all future actuarial assumptions are realized.

	Actuarial Value Basis	Market Value Basis
Unfunded Accrued Liability	$ 191,968,869	$ 190,275,787
Amount Available for Funding[3]	9,461,035	9,461,035
Period to Pay off UAL	Cannot Pay Off	Cannot Pay Off

[3] Beginning of year.

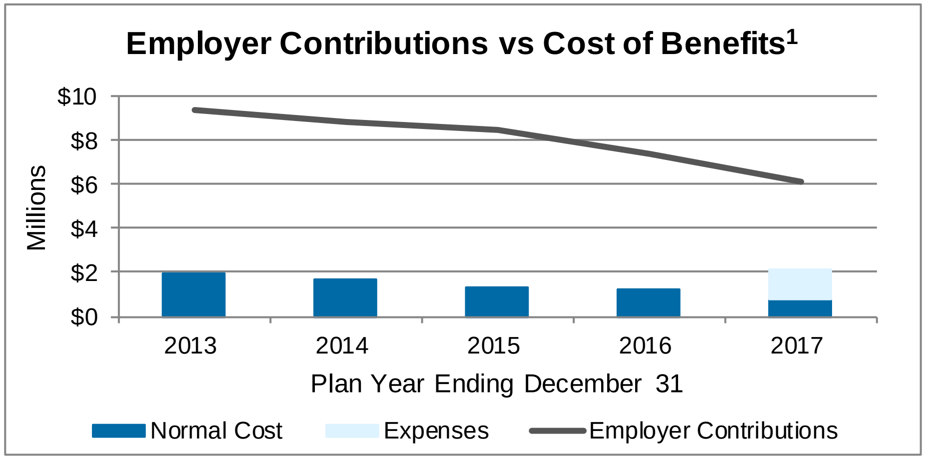
Section III – Employer Contributions and Costs *(Continued)*

The Trustees originally adopted a Rehabilitation Plan on October 16, 2009, which was updated in 2012 to include reasonable measures to forestall possible insolvency. The Plan was first certified in critical and declining status for the 2016 Plan Year and as of January 1, 2018, the PPA Certification indicated that the Plan was projected to become insolvent during the 2036 Plan Year.

In order to avoid plan insolvency, the Fund submitted an application to the United States Department of the Treasury to implement benefit suspensions as permitted under the Multiemployer Pension Reform Act. On August 3, 2018 the Treasury approved the Fund's application for suspension of benefits. Participant voting to approve the benefit suspensions ended on September 7, 2018 and benefit reductions of 30% on benefits earned through September 30, 2018 took effect on October 1, 2018.

HISTORICAL

Over time, Employer contributions have exceeded the cost of benefits, however, the excess contributions have not been sufficient to reduce the Unfunded Accrued Liability.



[1] Contributions do not include withdrawal liability payments.

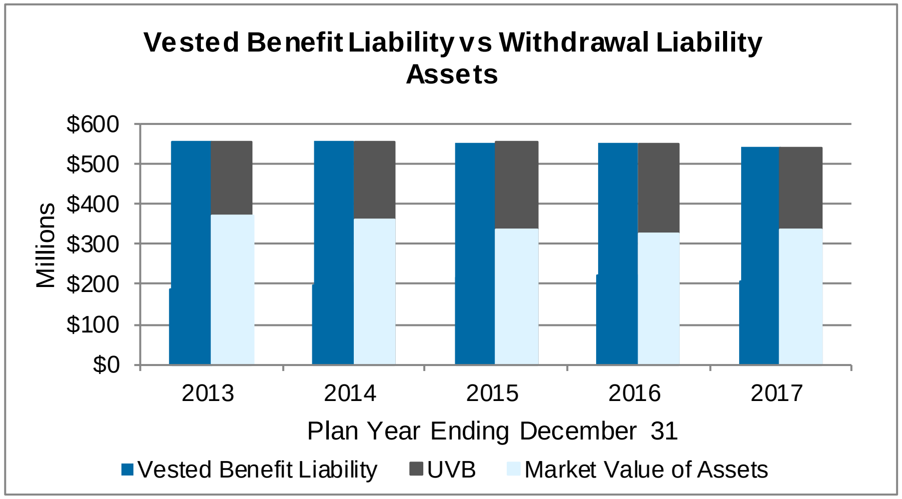
Section IV – Withdrawal Liability

Withdrawal liability assessments, if any, are based on the amount of "Unfunded Vested Benefits" (UVB) and an Employer's contribution history. For this purpose, benefits in which a participant is not immediately vested are excluded from the determination of vested benefits (disability and death benefits other than the Qualified Pre-retirement Survivor Annuity (QPSA) are not included). Based on Board of Trustee input, the Plan uses a market based approach to determine the Plan's Unfunded Vested Benefits. This approach is described in Appendix B. Assets are based on the Market Value of Assets for withdrawal liability purposes.

The simplified method (under PBGC Technical Update 10-3) was adopted to comply with the Pension Protection Act's requirement for Red Zone plans to disregard any reduction in adjustable benefits when determining the UVB for withdrawal liability – this includes early retirement subsidies, including those for the Rule of 80, and the 60-month guarantee in life annuity. Please refer to Appendix K for a development of the Vested Benefit Liabilities. The resulting UVB as of December 31, 2017 is as follows:

		December 31, 2017
A. Vested Benefit Liabilities Earned to Date	$	540,855,185
B. Market Value of Assets		335,048,313
C. Unfunded Vested Benefits (A - B, not less than $0)	$	205,806,872

A positive Unfunded Vested Benefits value means that Employers who withdraw in the 2018 Plan Year may be subject to a withdrawal liability assessment.



Section V – Risk Assessment

The Plan's future financial condition will be based on actual future experience that arises in each future year. The actuarial assumptions, both economic and demographic as outlined in Appendix A, are selected to anticipate the experience for the Plan. There is a range of potential acceptable assumptions that could be used. We have not analyzed that range of acceptable assumptions but have selected the assumptions that we feel best represent the expected experience of the Plan for the purpose at hand. The risk to the Plan is that there is uncertainty of future results due to actual future experience deviating from expected experience. These deviations can cause asset/liability mismatch risk, or the potential that changes in asset values are not matched by changes in the value of liabilities. This mismatch can create funding risk for employers and participants. Funding risk is comprised of the following key risk factors:

- **Investment risk** is the potential that investment returns will be different from expected. The interest discount rate of the Plan has been set according to our long-term outlook on what the Plan might receive based on the current investment policy. The Plan faces investment risk when the assets return less than the assumed rate. The more mature the Plan is, the higher the investment risk will be.
- **Longevity and other demographic risk** is the potential that demographic experience will be different from expected experience based on the assumptions outlined in Appendix A. Gains and losses over a period of time can be analyzed to see how well actual experience is following expected experience. Section II and Appendix D can be reviewed for current and historical demographic experience in order to help guide future expectations. Of utmost importance demographically is longevity risk, which is the potential that mortality is different from expected. If participants live longer than what is expected through the mortality assumption, the liabilities will be understated and the future funding of the Plan will be lower than expected.
- **Contribution risk** is the potential that contributions received are different from contributions expected to be received, including contributions required under collective bargaining agreements, Funding Improvement/Rehabilitation Plans and withdrawal liability assessments. Contributions can also be impacted by unexpected changes in hours or the number of active participants for whom contributions are due to the Plan. The hours and number of active participants over the last 20 years can be reviewed under Appendix F to help understand the role of contribution risk historically and to help evaluate this risk prospectively.

Section V – Risk Assessment *(Continued)*

All plans will face longevity and other demographic risk to some extent. These risks can be analyzed by looking at the historical gains or losses due to the corresponding assumptions in the context of the business cycle(s) that were present. Refer to Section II and Appendix D for additional details. As the traditional multiemployer defined benefit plan matures (more inactive participants and fewer actives), there is higher investment and contribution risk to the plan. In this traditional multiemployer plan design, planning for these risks is vital in managing funding risk for the stakeholders. The primary risks above can be analyzed by looking at statistics related to the Plan's level of maturity.

PLAN MATURITY AND RISK MEASUREMENTS

	January 1, 2017	January 1, 2018	Change
Non-Active to Active Ratio	8.22	10.78	2.56
Retired Life Actuarial Accrued Liability to Total Actuarial Accrued Liability Ratio	0.68	0.71	0.02
Net Cash Flow as a % of MVA	(8.5)%	(9.7)%	(1.2)%
One -Year Contribution Increase to Fund 1% Market Return Shortfall	$ 3.2 million	$ 3.1 million	$ (0.1)
MVA Funded Percentage	62.0%	63.8%	1.8 %
Current Liability Funded Percentage	39.8%	39.3%	(0.5)%

Based on the Plan Maturity and Risk Measurements shown above, the Plan is considered to be very mature. As such, the Plan is more reliant on investment income to pay pension benefits than on contributions for active hours worked. Thus, the Plan is more likely to experience funding issues if investment returns fall short of the 7.25% assumed return.

Section VI – Other Plan Information

CHANGES IN PLAN PROVISIONS, VALUATION METHODOLOGY, AND ASSUMPTIONS

The current liability interest and mortality assumptions were updated as prescribed by IRS regulations. Refer to Appendix A for a description of these changes.

No other changes to Plan provisions, valuation methodology, and assumptions have been made since the prior valuation as of January 1, 2017.

Section VII – Appendices

Appendix A	**Actuarial Methods and Assumptions**
Appendix B	**Summary of Principal Plan Provisions**
Appendix C	**Participant Information**
Appendix D	**Liability Experience**
Appendix E	**Asset Information**
Appendix F	**Historical Information**
Appendix G	**Funding Standard Account (for Schedule MB)**
Appendix H	**Additional Schedule MB Information**
Appendix I	**Maximum Deductible Contribution**
Appendix J	**Auditor Information (FASB ASC 960)**
Appendix K	**Determination of Vested Benefit Liabilities for Withdrawal Liability Purposes**
Appendix L	**Funding Standard Account (No Amortization Extension)**

Appendix A – Actuarial Methods and Assumptions

METHODOLOGY:	
Asset Valuation Method	Assets are valued according to a method which recognizes 20% of each year's excess (or deficiency) of actual investment return on the Market Value of Assets over the expected return on the Market Value of Assets in the year the excess (or deficiency) occurs. An additional 20% of the excess (or deficiency) is recognized in each of the succeeding four years until it is totally recognized. In no event will the Actuarial Value of Assets be less than 80% or more than 120% of the Market Value of Assets.
Actuarial Cost Method	**Unit Credit Cost Method** Under this method, we determine the present value of all benefits earned through the valuation date. An individual's normal cost is the present value of the benefit expected to be earned in the valuation year. The total accrued liability is the sum of the individual present values for all participants. The Unfunded Accrued Liability is the difference between the accrued liability and the assets of the Trust. If the assets exceed the accrued liability, the Plan is in a surplus position. This method requires that each year's contributions be applied first to the normal cost, and the balance of the contributions applied to amortize the Unfunded Accrued Liability. The normal cost is adjusted at the close of the plan year to reflect the actual level of contributions received during that plan year.
Withdrawal Liability Basis	The present value of accrued vested benefits for withdrawal liability determination uses an interest rate of 7.25% along with all other valuation assumptions. The simplified method issued by the Pension Benefit Guaranty Corporation is used to account for the protected benefits that were reduced in accordance with the Plan's critical status and subsequent Rehabilitation Plan. Assets for this purpose are based on the Market Value of Assets.

Appendix A – Actuarial Methods and Assumptions *(Continued)*

ASSUMPTIONS:	
Interest Discount Rate	7.25% for funding and FASB ASC 960, 7.25% for withdrawal liability, and 2.98% for current liability.
Assumed Rate of Return on Investments	7.25% compounded annually, net of investment expenses.
Derivation of Net Investment Return and Discount Rate for FASB ASC 960 Accounting	The expected return assumptions are established based on a long run outlook and are based on past experience, future expectations and professional judgment. We have modeled the assumptions based on average long-term future expected returns and their respective capital market assumptions as provided by several investment professionals. Based on the inputs of the Plan's specific target asset allocation, we have established the reasonability of the Plan's assumption.
Operating Expenses	A total annual amount of $1,400,000 paid in monthly installments ($1,352,681 at beginning of year).
Justification for Demographic Assumptions	The mortality, termination, retirement and disability assumptions are reviewed with each valuation to ensure they are reasonable and represent the actuary's best estimate of the long-term expectations for the Plan. Past experience and anticipated future experience based on industry-specific knowledge and professional judgment are used to verify the reasonability of each of these assumptions.
Mortality	Healthy Lives: RP-2014 Blue Collar Mortality Table for males and females, adjusted backward to 2006 using MP-2014, then projected forward from 2006 with Fully Generational Mortality Improvement under MP-2016. Disabled Lives: RP-2014 Disabled Retiree Mortality Table for males and females, adjusted backward to 2006 using MP-2014, then projected forward from 2006 with Fully Generational Mortality Improvement under MP-2016. Current Liability: 2018 static mortality tables provided in IRC Regulations Section 1.430(h)(3)-1(e), as prescribed by IRS Notice 2017-60. (Prior to January 1, 2018: RP-2000 Mortality Tables (static, separate for annuitants and non-annuitants), projected forward to the valuation year plus seven years for annuitants and 15 years for non-annuitants, as prescribed by IRS regulations.)
Mortality Improvement	The mortality assumption has been updated to reflect full generational mortality improvements using the MP-2016 scaling factors.
Termination Rates	Table T-7 (Less 51 GAT) of The Actuary's Pension Handbook. Non-Vested Participants are assumed to earn one year of vesting credit annually until vested.

Appendix A – Actuarial Methods and Assumptions *(Continued)*

ASSUMPTIONS:	
Retirement Rates	Active participants are assumed to retire based on the following rate table: **Age** — **Rate of Retirement** 55 — 20% 56 — 15% 57-59 — 12% 60 — 15% 61 — 20% 62 — 40% 63-70 — 35% 71+ — 100% Vested inactive participants are assumed to retire based on the following rate table: **Age** — **Rate of Retirement** 55 — 15% 56-61 — 5% 62 — 18% 63-64 — 3% 65+ — 100%
Disability Rates	1952 Society of Actuaries Table, Period 2, Benefit 5.
Form of Benefit	For those not yet in pay status, 55% of participants are assumed to elect a Life Annuity and 45% of participants are assumed to elect a 50% Joint and Survivor Annuity.
Marital Status	80% of non-retired male participants and 75% of non-retired female participants are assumed to be married. Females are assumed to be one year younger than their spouses.
Active Participant	Worked at least 200 hours in covered employment.
Future Employment	Each active participant is assumed to work the same amount of hours worked in the prior plan year.

Appendix A – Actuarial Methods and Assumptions *(Continued)*

ASSUMPTIONS:	
Missing Data	If not specified, participants are assumed to be male and the same age as the average of participants with the same status code.

CHANGES SINCE PRIOR VALUATION	The current liability interest rate was changed from 3.05% to 2.98% due to a change in the allowable interest rate range, and the current liability mortality table was updated as required. Accruing and supplemental/surcharge contributions for 5 employers known to have withdrawn during 2018 have been removed from future expected contributions and costs, and quarterly withdrawal liability payments have been added to future expected contributions.

Appendix B – Summary of Principal Plan Provisions

The Western States Office & Professional Employees Plan became effective 1959 as a result of collective bargaining between the contributing Employers and the Union. The Plan was last restated as of January 1, 2017. The principal provisions of the Plan as of January 1, 2018 are summarized below.

NORMAL RETIREMENT	
Eligibility	Age 65 and vested. Special eligibility if age 65 with 2 years of Vesting Credit (one immediately prior to retirement) and at least a $10.00 Total Service Benefit.
Monthly Benefit	Service after 2009: 0.75% of Benefit Accruing Employer Contributions. 2004 - 2009: 1.8% of Employer Contributions. 2003 Service: 2.2% of Employer Contributions up to $6,240, plus 1.8% of excess. 2001 - 2002 Service: 3.2% of Employer Contributions up to $6,240 each year; plus 1.8% of excess. 1997 - 2000 Service: 3.65% of Employer Contributions up to $6,240 each year, plus 1.8% of excess. Prior to 1997: 3.65% of Employer Contributions. Past Service: $8.20 per year of past service (maximum 15 years).
EARLY RETIREMENT	
Eligibility	Age 55 and vested.
Monthly Benefit	Normal Retirement Benefit actuarially reduced from age 62 for benefits earned before January 1, 2010 and from age 65 for benefits earned on or after January 1, 2010.
POSTPONED RETIREMENT	
Eligibility	After Normal Retirement Age.
Monthly Benefit	Normal Retirement Benefit increased 6% per year (½% per month) past age 62 for benefits earned before January 1, 2010 and past age 65 for benefits earned on or after January 1, 2010. Effective for annuity starting dates on or after September 1, 2015, participants who continue working for a contributing employer will receive the greater of (a) or (b) below: (a) Normal Retirement Benefit increased ½ of 1% for each full month retirement is postponed. (b) Accrued benefit as of the participant's postponed retirement date.

Appendix B – Summary of Principal Plan Provisions *(Continued)*

DISABILITY RETIREMENT (Effective January 1, 2010)	
Eligibility	Vested with at least 200 hours in year prior to onset of Total and Permanent Disability.
Monthly Benefit	50% of Normal Retirement Benefit payable until age 55.
PRE-RETIREMENT DEATH BENEFIT (Effective January 1, 2010)	
Eligibility	Vested at time of death.
Monthly Benefit	Married: 50% Spousal Joint and Survivor Annuity (reduced for Early Retirement and for joint lives). All Others: Lump sum payment of $500 per year of service (maximum of $5,000 total).
FORMS OF ANNUITY PAYMENTS	
Normal Form	For Married Participants: An actuarially reduced benefit payable as a 50% Spousal Joint and Survivor Annuity. For Unmarried Participants: A life annuity.
Optional Forms	Straight Life Annuity 50%, 66-2/3% or 100% Spousal Joint and Survivor Annuity 50%, 66-2/3% or 100% Spousal Joint and Survivor Annuity with Pop-up 50%, 66-2/3% or 100% Non-Spousal Joint and Survivor Annuity Lump Sum if present value of accrued benefit ≤ $5,000
OTHER	
Vesting Service	A Participant will receive one year of Vesting Credit if 200 or more hours are worked in a plan year.
Break in Service Rules	A one-year break in service is incurred if a Participant works less than 200 hours in a plan year.

CHANGES SINCE PRIOR VALUATION	None.

Appendix C – Participant Information

PARTICIPANT STATISTICS	January 1, 2017	January 1, 2018	Change	Percent Change
Actives:				
Number	809	626	(183)	(22.6)%
Averages:				
Age	48.6	47.7	(0.9)	(1.9)%
Years of Credited Service	12.5	11.6	(0.9)	(7.2)%
Hours	1,628	1,649	21	1.3 %
Non-Vested Inactives				
Number	359	376	17	4.7 %
Averages:				
Age	41.4	41.6	0.2	0.5 %
Years of Credited Service	2.1	2.1	0.0	0.0 %
Accrued Benefit	$ 51	$ 48	$ (3)	(5.9)%
Vested Inactives:				
Number	2,827	2,798	(29)	(1.0)%
Averages:				
Age	52.2	52.6	0.4	0.8 %
Years of Credited Service	11.8	12.0	0.2	1.7 %
Vested Accrued Benefit	$ 562	$ 580	$ 18	3.2 %
In Pay Status:				
Number:				
Healthy Retirees	3,512	3,622	110	3.1 %
Disabled Retirees	107	101	(6)	(5.6)%
Beneficiaries[1]	226	247	21	9.3 %
Total	3,845	3,970	125	3.3 %
Averages:				
Age	72.3	72.3	0.0	0.0 %
Monthly Benefit	$ 860	$ 858	$ (2)	(0.2)%

[1] Includes 18 Alternate Payees as of January 1, 2017 and 20 Alternate Payees as of January 1, 2018.

Appendix C – Participant Information *(Continued)*

PARTICIPANT RECONCILIATION					
	Actives	Non-Vested Inactives	Vested Inactives	In Pay Status	Total
Total as of January 1, 2017	**809**	**359**	**2,827**	**3,845**	**7,840**
New Entrants	83	0	0	0	83
Vested Terminations	(152)	0	152	0	0
Non-Vested Terminations	(76)	76	0	0	0
Returned to Work	3	0	(3)	0	0
Healthy Retirements[1]	(41)	(2)	(171)	214	0
Disabled Retirements	0	0	0	0	0
Deaths in Year	0	0	(8)	(114)	(122)
New Beneficiaries	0	0	0	26	26
New Alternate Payees	0	0	0	2	2
Lump Sum	0	0	(1)	0	(1)
Permanent Break in Service	0	(55)	0	0	(55)
Data Corrections	0	(2)	2	(3)	(3)
Net Change	(183)	17	(29)	125	(70)
Total as of January 1, 2018	**626**	**376**	**2,798**	**3,970**	**7,770**

[1] Includes 2 new retirements from non-vested inactives due to data correction.

Appendix C – Participant Information *(Continued)*

DISTRIBUTION OF NON-RETIRED PARTICIPANTS						
	Actives			Inactives		
Age Group	Non-Vested	Vested	Total Actives	Non-Vested	Vested	Total Inactives
Under 25	13	1	14	4	0	4
25 - 29	25	7	32	44	6	50
30 - 34	23	28	51	82	57	139
35 - 39	49	44	93	68	143	211
40 - 44	23	43	66	41	258	299
45 - 49	13	62	75	40	474	514
50 - 54	17	65	82	27	604	631
55 - 59	10	79	89	41	646	687
60 - 64	10	68	78	18	476	494
65 - 69	4	35	39	8	112	120
70 and Over	0	7	7	3	22	25
Total	187	439	626	376	2,798	3,174
Average Age	39.9	51.1	47.7	41.6	52.6	51.3
Average Accrued Benefit	$ 63	$ 1,107	$ 795	$ 48	$ 580	$ 517

Appendix C – Participant Information *(Continued)*

DISTRIBUTION OF IN PAY STATUS							
Age Group	Continuing Healthy Retirees	New Healthy Retirees	Continuing Disabled Retirees	New Disabled Retirees	Continuing Beneficiaries[1]	New Beneficiaries[1]	Grand Total
Under 50	1	0	5	0	9	3	18
50 - 54	0	0	4	0	8	1	13
55 - 59	78	64	13	0	9	3	167
60 - 64	340	100	21	0	23	3	487
65 - 69	834	44	26	0	20	3	927
70 - 74	888	6	15	0	34	3	946
75 - 79	567	0	4	0	36	5	612
80 - 84	342	0	4	0	37	4	387
85 and Over	358	0	9	0	43	3	413
Total	3,408	214	101	0	219	28	3,970
Average Age	73.1	61.7	66.6	0.0	73.8	68.7	72.3
Average Monthly Benefit	$ 885	$ 832	$ 949	$ 0	$ 450	$ 607	$ 858

1 Includes 18 continuing Alternate Payees and 2 new Alternate Payees.

Appendix D – Liability Experience

Liability gains or losses are realized when actual demographic experience is different from what is assumed by the demographic assumptions outlined in Appendix A. The most important demographic assumptions are retirement, termination, disability, and mortality. These are the assumptions used to estimate when an active participant is going to leave active status, and how long a participant will remain in the Plan and receive a benefit. The retirement, termination and disability components also include a range of other assumptions, such as form of benefit election and spouse age difference. The miscellaneous gain or loss amounts include unforeseen data changes that might occur each year, like date of birth corrections, adjustment for past service or other adjustments to participant data that was not expected. It also includes new entrants and changes in hours and/or contribution rates that impact the amount of benefit active participants earn during the year.

Plan Year	Retirement Gain/(Loss)	Termination Gain/(Loss)	Disability Gain/(Loss)	Mortality Gain/(Loss)	Miscellaneous Gain/(Loss)
2013	$ 1,943,164	$ 52,665	$ (136,510)	$ (21,395)	$ (344,116)
2014	2,462,900	(509,163)	(94,877)	665,209	(404,437)
2015	1,615,254	(227,227)	(95,159)	1,762,830	(58,520)
2016	1,647,552	175,220	(92,794)	(1,248,878)	(149,325)
2017[1]	682,402	(997,214)	(64,923)	306,647	(335,661)
5-Year Total	**$ 8,351,272**	**$ (1,505,719)**	**$ (484,263)**	**$ 1,464,413**	**$ (1,292,059)**

1 Mortality and Retirement assumptions were updated in 2017 to better reflect future anticipated experience.

Appendix E – Asset Information

SUMMARY OF MARKET VALUE OF ASSETS		
Assets as of December 31, 2017	**Market Value**	**Percent of Total**
Cash (Interest bearing and non-interest bearing)	$ 4,764,358	1.4%
Partnership/joint venture interests	53,874,920	16.1%
Value of interest in common/collective trusts	195,226,355	58.3%
Value of interest in 103-12 Investment Entities	56,846,279	17.0%
Value of interest in registered investment companies (i.g., mutual funds)	15,728,739	4.7%
Other Assets	8,495,797	2.5%
Net Receivables, Payables and Prepaid Expenses	111,865	0.0%
Total Assets	$ 335,048,313	100.0%

Appendix E – Asset Information *(Continued)*

SUMMARY OF RECEIPTS AND DISBURSEMENTS				
	Market Value 2016	Market Value 2017	Actuarial Value 2016	Actuarial Value 2017
Assets (Beginning of Year)	$ 334,210,200	$ 326,919,954	$ 347,859,875	$ 342,812,133
Receipts During Year				
Contributions[1]	$ 11,250,910	$ 9,588,489	$ 11,250,910	$ 9,588,489
Investment Income (Net of Investment Expenses)[2]	20,612,566	40,524,491	22,855,070	22,939,230
Subtotal Receipts	$ 31,863,476	$ 50,112,980	$ 34,105,980	$ 32,527,719
Disbursements During Year				
Benefit Payments	$ (39,153,722)	$ (40,137,025)	$ (39,153,722)	$ (40,137,025)
Operating Expenses[3]	N/A	(1,847,596)	N/A	(1,847,596)
Subtotal Disbursements	$ (39,153,722)	$ (41,984,621)	$ (39,153,722)	$ (41,984,621)
Assets (End of Year)	$ 326,919,954	$ 335,048,313	$ 342,812,133	$ 333,355,231
Return on Assets	6.44 %	13.04 %	6.84 %	7.02 %

1 2016 contributions include $4,318,217 of benefit accruing contributions, $43,983 of surcharges, $3,016,465 of supplemental contributions, and $3,872,245 of withdrawal liability payments, and 2017 contributions include $3,383,971 of benefit accruing contributions, $8,598 of surcharges, $2,706,688 of supplemental contributions, and $3,489,232 of withdrawal liability payments.

2 2016 investment income is net of both operating and investment expenses.

3 For 2016, operating expenses are shown as N/A because the investment income shown above is net of both operating and investment expenses.

Appendix E – Asset Information *(Continued)*

DETERMINATION OF NET INVESTMENT INCOME		
1. Expected Net Investment Income		
A. Market Value of Assets	$	326,919,954
B. Contributions		9,588,489
C. Benefit Payments		(40,137,025)
D. Operating Expenses		(1,847,596)
E. Expected Net Investment Income (A + 1/2 B + 1/2 C + 1/2 D) x 7.25%	$	22,527,337
2. Market Value Earnings		
A. Interest and Dividends	$	1,300,811
B. Realized and Unrealized Gains/(Losses)		40,818,176
C. Investment Expenses		(1,636,170)
D. Other Income		41,674
E. Total Market Value Earnings (A + B + C + D)	$	40,524,491
3. Excess/(Deficit) of Market Value Earnings Over Expected Net Investment Income (2E - 1E)		17,997,154
4. Current Year Recognition of Excess/(Deficit) Earnings (Calculated on Next Page)		411,893
5. Net Investment Income (1E + 4)		22,939,230
6. Recognition of Assets in Excess of the Corridor		0
7. Total Net Investment Income (5 + 6)	$	22,939,230

Appendix E – Asset Information *(Continued)*

DETERMINATION OF ACTUARIAL VALUE OF ASSETS				
		Amount of Excess/(Deficit) Earnings Recognized or to be Recognized		
Plan Year Ended December 31	Excess / (Deficit) Earnings	Prior Years	Current Year	Future Years
2017	$ 17,997,154	$ 0	$ 3,599,431	$ 14,397,723
2016	(2,606,197)	(521,239)	(521,239)	(1,563,719)
2015	(22,884,177)	(9,153,670)	(4,576,835)	(9,153,672)
2014	(9,936,255)	(5,961,754)	(1,987,251)	(1,987,250)
2013	19,488,943	15,591,156	3,897,787	0
Total	$ 2,059,468	$ (45,507)	$ 411,893	$ 1,693,082

A. Market Value of Assets as of January 1, 2018	$ 335,048,313
B. Amount of Excess/(Deficit) Earnings to be Recognized in Future Years	1,693,082
C. Preliminary Actuarial Value of Assets as of January 1, 2018 (A - B)	$ 333,355,231
D. Recognition of Assets in Excess of the 20% Corridor	0
E. Actuarial Value of Assets as of January 1, 2018 (C + D)	$ 333,355,231

Appendix F – Historical Information

HISTORICAL PARTICIPANT POPULATION								
As of January 1	(A) Actives	(B) Non-Vested Inactives	(C) Vested Inactives	(D) Retirees	(E) Disableds	(F) Beneficiaries	(G) QDROs	(C+D+E+F) / (A) Non-Active to Active Ratio [1]
1999	2,902	0	2,232	2,067	0	73	0	1.51
2000	2,908	0	2,272	2,166	0	83	0	1.55
2001	2,891	0	2,325	2,259	0	91	0	1.62
2002	2,740	0	2,419	2,351	0	98	0	1.78
2003 [2]	2,189	0	2,733	2,461	0	101	0	2.42
2004	2,075	0	2,617	2,561	65	105	0	2.58
2005	1,612	0	2,802	2,691	78	112	0	3.53
2006	2,458	0	2,745	2,770	83	129	0	2.33
2007	2,408	0	2,684	2,849	91	136	0	2.39
2008	2,278	0	2,635	2,909	102	133	0	2.54
2009 [3]	2,277	0	2,571	2,953	80	140	0	2.52
2010	2,050	0	2,589	3,199	79	158	14	2.94
2011	1,936	0	2,598	3,244	48	143	15	3.12
2012	1,887	0	2,577	3,245	46	154	15	3.19
2013 [4]	1,806	0	2,555	3,277	42	171	16	3.35
2014	1,718	340	2,546	3,374	39	174	16	3.57
2015	1,000	406	2,957	3,470	35	183	16	6.65
2016	868	376	2,939	3,502	31	194	17	7.68
2017	809	359	2,827	3,512	107	208	18	8.22
2018	626	376	2,798	3,622	101	227	20	10.78

1 Ratio excludes non-vested inactives and QDROs.
2 Disabled pensioners included with retirees prior to January 1, 2004.
3 QDROs included with beneficiaries prior to January 1, 2010.
4 Non-Vested Inactives were not valued prior to January 1, 2014.

Appendix F – Historical Information *(Continued)*

HISTORICAL EMPLOYMENT INFORMATION						
As of January 1	Total Hours (Prior Year)		Active Participants		Average Hours	
	Number	% Change	Number	% Change	Number	% Change
2006	4,545,605	N/A	2,458	N/A	1,849	N/A
2007	4,476,696	(1.5)%	2,408	(2.0)%	1,859	0.5 %
2008	4,219,030	(5.8)%	2,278	(5.4)%	1,852	(0.4)%
2009	4,167,497	(1.2)%	2,277	(0.0)%	1,830	(1.2)%
2010	3,854,000	(7.5)%	2,050	(10.0)%	1,880	2.7 %
2011	3,647,424	(5.4)%	1,936	(5.6)%	1,884	0.2 %
2012	3,513,594	(3.7)%	1,887	(2.5)%	1,862	(1.2)%
2013	3,304,980	(5.9)%	1,806	(4.3)%	1,830	(1.7)%
2014	3,176,582	(3.9)%	1,718	(4.9)%	1,849	1.0 %
2015	1,736,000	(45.4)%	1,000	(41.8)%	1,736	(6.1)%
2016	1,545,908	(11.0)%	868	(13.2)%	1,781	2.6 %
2017	1,317,052	(14.8)%	809	(6.8)%	1,628	(8.6)%
2018	1,032,369	(21.6)%	626	(22.6)%	1,649	1.3 %

Appendix F – Historical Information *(Continued)*

HISTORICAL EMPLOYER CONTRIBUTIONS AND COSTS					
As of January 1	Accruing Contributions (Prior Year)	Non-Accruing Contributions (Prior Year)	Total Contributions (Prior Year)	Actual Normal Cost (Prior Year)[1]	Expenses Included in Normal Cost (Prior Year)
1999	$ 8,936,246	$ 0	$ 8,936,246	$ 9,692,258	$ 0
2000	9,249,078	0	9,249,078	9,828,377	0
2001	9,366,427	0	9,366,427	9,014,497	0
2002	9,660,131	0	9,660,131	10,254,925	0
2003	9,277,458	0	9,277,458	7,977,857	0
2004	7,854,003	0	7,854,003	6,981,686	0
2005	6,935,726	0	6,935,726	5,294,028	0
2006	7,357,903	0	7,357,903	5,616,275	0
2007	7,399,605	0	7,399,605	5,719,601	0
2008	7,678,247	0	7,678,247	6,083,355	0
2009	8,277,807	0	8,277,807	7,843,659	0
2010	7,842,903	161,882	8,004,785	7,397,015	0
2011	7,676,687	812,322	8,489,009	2,023,454	0
2012	7,297,989	1,324,397	8,622,386	1,949,714	0
2013	6,980,563	2,816,485	9,797,048	1,879,940	0
2014	6,485,023	4,559,318	11,044,341	1,942,949	0
2015	5,064,945	5,346,493	10,411,438	1,693,396	0
2016	4,883,040	6,928,912	11,811,952	1,337,905	0
2017	4,318,217	6,932,693	11,250,910	1,228,069	0
2018	3,383,971	6,204,518	9,588,489	2,108,688	1,352,681

[1] Expenses are included with the normal cost effective January 1, 2017 (the investment return assumption is net of investment expenses only). Prior to 2017, expenses were assumed to be covered by investment income (the investment return assumption was net of investment and operating expenses).

Appendix F – Historical Information *(Continued)*

HISTORICAL EMPLOYER CONTRIBUTION DETAIL					
As of January 1	Accruing Contributions (Prior Year)	Supplemental Contributions (Prior Year)	Surcharge Contributions (Prior Year)	Withdrawal Liability Payments (Prior Year)	Total Contributions (Prior Year)[1]
1999	$ 8,936,246	$ 0	$ 0	$ 0	$ 8,936,246
2000	9,249,078	0	0	0	9,249,078
2001	9,366,427	0	0	0	9,366,427
2002	9,660,131	0	0	0	9,660,131
2003	9,277,458	0	0	0	9,277,458
2004	7,854,003	0	0	0	7,854,003
2005	6,935,726	0	0	0	6,935,726
2006	7,357,903	0	0	0	7,357,903
2007	7,399,605	0	0	0	7,399,605
2008	7,678,247	0	0	0	7,678,247
2009	8,277,807	0	0	0	8,277,807
2010	7,842,903	0	161,882	0	8,004,785
2011	7,676,687	0	812,322	0	8,489,009
2012	7,297,989	884,461	433,924	6,012	8,622,386
2013	6,980,563	1,513,165	365,908	937,412	9,797,048
2014	6,485,023	2,656,274	228,709	1,674,335	11,044,341
2015	5,064,945	3,673,084	103,387	1,570,022	10,411,438
2016	4,883,040	3,509,909	81,811	3,337,192	11,811,952
2017	4,318,217	3,016,465	43,983	3,872,245	11,250,910
2018	3,383,971	2,706,688	8,598	3,489,232	9,588,489

1 Includes withdrawal liability payments.

Appendix F – Historical Information *(Continued)*

HISTORICAL ASSETS					
As of January 1	Market Value of Assets (MVA)		Actuarial Value of Assets (AVA)		Ratio of AVA to MVA
	Value	Return (Prior Year)	Value	Return (Prior Year)	
1999	$ 433,251,624	13.90 %	$ 358,259,979	13.76 %	82.7 %
2000	451,555,025	6.08 %	410,864,722	16.15 %	91.0 %
2001	452,504,583	2.33 %	448,529,397	11.49 %	99.1 %
2002	435,922,795	(1.19)%	473,193,208	8.08 %	108.5 %
2003	396,536,797	(6.60)%	475,844,156	3.00 %	120.0 %
2004	445,004,175	16.55 %	471,284,566	2.41 %	105.9 %
2005	467,709,398	9.66 %	468,827,191	3.70 %	100.2 %
2006	482,601,045	7.82 %	471,631,523	5.16 %	97.7 %
2007	514,062,081	11.44 %	485,209,973	7.83 %	94.4 %
2008	511,627,264	4.62 %	507,372,247	10.04 %	99.2 %
2009	326,573,213	(32.15)%	391,887,856	(18.37)%	120.0 %
2010	350,729,611	15.95 %	420,875,533	14.48 %	120.0 %
2011	366,575,098	13.23 %	415,436,594	5.71 %	113.3 %
2012	343,278,474	1.50 %	375,837,641	(2.74)%	109.5 %
2013	353,805,803	11.53 %	341,155,304	(1.99)%	96.4 %
2014	371,333,873	12.97 %	351,347,913	11.24 %	94.6 %
2015	359,268,671	4.47 %	353,925,354	9.07 %	98.5 %
2016	334,210,200	0.63 %	347,859,875	6.22 %	104.1 %
2017	326,919,954	6.44 %	342,812,133	6.84 %	104.9 %
2018	335,048,313	13.04 %	333,355,231	7.02 %	99.5 %

Appendix F – Historical Information *(Continued)*

HISTORICAL CASHFLOW					
As of January 1	(A) Contributions (Prior Year)	(B) Benefit Payments (Prior Year)	(C) Expenses (Prior Year)[1]	(D) Market Value of Assets (MVA)	(A - B - C)/(D) Cashflow as a % of MVA
1999	$ 8,936,246	$ 15,248,117	$ 0	$ 433,251,624	(1.5)%
2000	9,249,078	17,053,007	0	451,555,025	(1.7)%
2001	9,366,427	18,819,097	0	452,504,583	(2.1)%
2002	9,660,131	20,927,583	0	435,922,795	(2.6)%
2003	9,277,458	20,835,583	0	396,536,797	(2.9)%
2004	7,854,003	24,206,237	0	445,004,175	(3.7)%
2005	6,935,726	26,487,895	0	467,709,398	(4.2)%
2006	7,357,903	28,371,211	0	482,601,045	(4.4)%
2007	7,399,605	29,919,215	0	514,062,081	(4.4)%
2008	7,678,247	32,970,957	0	511,627,264	(4.9)%
2009	8,277,807	32,853,989	0	326,573,213	(7.5)%
2010	8,004,785	34,155,460	0	350,729,611	(7.5)%
2011	8,489,009	37,136,630	0	366,575,098	(7.8)%
2012	8,622,386	37,224,104	0	343,278,474	(8.3)%
2013	9,797,048	37,280,366	0	353,805,803	(7.8)%
2014	11,044,341	37,690,222	0	371,333,873	(7.2)%
2015	10,411,438	38,445,844	0	359,268,671	(7.8)%
2016	11,811,952	39,045,991	0	334,210,200	(8.1)%
2017	11,250,910	39,153,722	0	326,919,954	(8.5)%
2018	9,588,489	40,137,025	1,847,596	335,048,313	(9.7)%

1 Effective January 1, 2017, the investment return assumption is net of investment expenses only. Prior to 2017, expenses were assumed to be covered by investment income (the investment return assumption was net of investment and operating expenses).

Appendix F – Historical Information *(Continued)*

HISTORICAL FUNDED STATUS							
	(A)	(B)	(A) - (B)	(B) / (A)	(C)	(A) - (C)	(C) / (A)
As of January 1	Funding Actuarial Accrued Liability[1]	Market Value of Assets (MVA)	MVA Unfunded Accrued Liability/ (Actuarial Surplus)	MVA Funded Percentage	Actuarial Value of Assets (AVA)	AVA Unfunded Accrued Liability/ (Actuarial Surplus)	AVA Funded Percentage
1999	$ 337,930,892	$ 433,251,624	$ (95,320,732)	128.2 %	$ 358,259,979	$ (20,329,087)	106.0 %
2000	378,680,373	451,555,025	(72,874,652)	119.2 %	410,864,722	(32,184,349)	108.5 %
2001	444,640,171	452,504,583	(7,864,412)	101.8 %	448,529,397	(3,889,226)	100.9 %
2002	475,408,506	435,922,795	39,485,711	91.7 %	473,193,208	2,215,298	99.5 %
2003	492,279,140	396,536,797	95,742,343	80.6 %	475,844,156	16,434,984	96.7 %
2004	509,372,505	445,004,175	64,368,330	87.4 %	471,284,566	38,087,939	92.5 %
2005	522,638,089	467,709,398	54,928,691	89.5 %	468,827,191	53,810,898	89.7 %
2006	535,687,366	482,601,045	53,086,321	90.1 %	471,631,523	64,055,843	88.0 %
2007	551,165,594	514,062,081	37,103,513	93.3 %	485,209,973	65,955,621	88.0 %
2008	561,884,044	511,627,264	50,256,780	91.1 %	507,372,247	54,511,797	90.3 %
2009	552,544,039	326,573,213	225,970,826	59.1 %	391,887,856	160,656,183	70.9 %
2010	533,426,348	350,729,611	182,696,737	65.8 %	420,875,533	112,550,815	78.9 %
2011	535,120,828	366,575,098	168,545,730	68.5 %	415,436,594	119,684,234	77.6 %
2012	536,525,258	343,278,474	193,246,784	64.0 %	375,837,641	160,687,617	70.1 %
2013	538,389,644	353,805,803	184,583,841	65.7 %	341,155,304	197,234,340	63.4 %
2014	538,956,405	371,333,873	167,622,532	68.9 %	351,347,913	187,608,492	65.2 %
2015	537,887,774	359,268,671	178,619,103	66.8 %	353,925,354	183,962,420	65.8 %
2016	534,860,955	334,210,200	200,650,755	62.5 %	347,859,875	187,001,080	65.0 %
2017	527,455,968	326,919,954	200,536,014	62.0 %	342,812,133	184,643,835	65.0 %
2018	525,324,100	335,048,313	190,275,787	63.8 %	333,355,231	191,968,869	63.5 %

1 Prior to 2009, the Funding Actuarial Accrued Liability was determined based on the Entry Age Normal Cost Method. Beginning in 2009, the Unit Credit Cost Method is used.

Appendix F – Historical Information *(Continued)*

HISTORICAL ZONE CERTIFICATION[1]				
As of January 1	(A) PPA Actuarial Accrued Liability	(B) Actuarial Value of Assets	(B) / (A) Zone Status Funded Percentage	Zone Status
2008	561,884,044	507,372,247	90.30 %	Safe
2009	552,544,039	391,887,856	70.92 %	Critical
2010	533,426,348	420,875,533	78.90 %	Critical
2011	535,120,828	415,436,594	77.63 %	Critical
2012	536,525,258	375,837,641	70.05 %	Critical
2013	538,389,644	341,155,304	63.37 %	Critical
2014	538,956,405	351,347,913	65.19 %	Critical
2015	537,887,774	353,925,354	65.80 %	Critical
2016	534,860,955	347,859,875	65.04 %	Critical and Declining
2017	527,455,968	342,812,133	64.99 %	Critical and Declining
2018	525,324,100	333,355,231	63.46 %	Critical and Declining

[1] The PPA Actuarial Accrued Liability, Actuarial Value of Assets and Zone Status Funded Percentage are based on the final valuation results for the corresponding plan year.

Appendix G – Funding Standard Account (for Schedule MB)

FUNDING STANDARD ACCOUNT[1]	2017	2018 (Estimated)[3]
1. Charges		
A. Funding Deficiency	$ 0	$ 0
B. Normal Cost (Beginning of Year)	2,108,688	2,090,000
C. Amortization Charges	36,045,202	35,923,394
D. Interest on A, B and C	2,766,157	2,755,971
E. Subtotal Charges (A + B + C + D)	$ 40,920,047	$ 40,769,365
2. Credits		
A. Credit Balance on January 1	$ 35,343,447	$ 16,828,984
B. Employer Contributions for Year[2]	9,588,489	11,955,000
C. Amortization Credits	9,237,401	9,237,401
D. Interest on A, B and C	3,579,694	2,323,182
E. Subtotal Credits (A + B + C + D)	$ 57,749,031	$ 40,344,567
3. Credit Balance / (Funding Deficiency) on December 31 (2E - 1D)	**$ 16,828,984**	**$ (424,798)**
4. Minimum Required Contribution (Before Credit Balance)	$ 31,012,934	$ 30,862,252
5. Minimum Required Contribution (After Credit Balance)	$ 0	$ 12,813,167
6. ERISA FFL (Accrued Liability FFL)	$ 255,242,290	$ 226,177,952
7. "RPA '94" Override (90% Current Liability FFL)	$ 401,689,896	$ 440,525,995

1 Incorporates a 5-year amortization extension of the applicable charge bases effective January 1, 2009.

2 2018 estimated contributions reflect one quarterly payment for the 2017 withdrawn Employers.

Appendix G – Funding Standard Account (for Schedule MB) *(Continued)*

FULL FUNDING LIMITS

		2017		2018 (Estimated)
1. ERISA FFL				
A. Interest Rate		7.25 %		7.25 %
B. Liability	$	527,455,968	$	525,324,100
C. Normal Cost (without expenses)		756,007		738,000
D. Expected Benefit Payments		(40,137,025)		(42,430,014)
E. Interest on B, C and D		36,840,401		36,601,414
F. Expected Liability (B + C + D + E)	$	**524,915,351**	$	**520,233,500**
G. Min of AVA and MVA		326,919,954		333,355,231
H. Credit Balance		35,343,447		16,828,984
I. Adjusted Assets		291,576,507		316,526,247
J. Expected Benefit Payments		(40,137,025)		(42,430,014)
K. Expected Operating Expenses		(1,352,681)		(1,352,681)
L. Interest on I, J, and K		19,586,260		21,311,996
M. Expected Assets (I + J + K + L))	$	**269,673,061**	$	**294,055,548**
N. ERISA FFL (F - M)	$	**255,242,290**	$	**226,177,952**
2. RPA '94 FFL				
A. Interest Rate		3.05 %		2.98 %
B. Liability	$	821,081,746	$	852,189,392
C. Normal Cost (without expenses)		1,590,494		1,674,000
D. Expected Benefit Payments		(40,137,025)		(42,502,936)
E. Interest on B, C and D		24,479,414		24,811,835
F. Expected Liability (B + C + D + E)	$	807,014,629	$	836,172,291
G. Funding Limit Factor		90 %		90 %
H. Funding Limit Liability (F * G)	$	**726,313,166**	$	**752,555,062**
I. AVA	$	342,812,133	$	333,355,231
J. Expected Benefit Payments		(40,137,025)		(42,502,936)
K. Expected Operating Expenses		(1,352,681)		(1,352,681)
L. Interest on I, J, and K		23,300,843		22,529,453
M. Expected Assets (I + J + K + L))	$	**324,623,270**	$	**312,029,067**
N. RPA '94 FFL (H - M)	$	**401,689,896**	$	**440,525,995**

Appendix G – Funding Standard Account (for Schedule MB) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2018)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Initial Liability	1/1/1976	45.00	3.00	$ 13,447,933	$ 1,822,090	$ 650,335
Actuarial Assumption	1/1/1978	43.00	3.00	1,960,033	269,673	96,252
Plan Amendment	1/1/1980	45.00	7.00	395,897	129,615	22,619
Plan Amendment	1/1/1981	45.00	8.00	3,609,259	1,341,857	211,562
Plan Amendment	1/1/1984	35.00	1.00	3,740,561	168,600	168,600
Plan Amendment	1/1/1985	35.00	2.00	3,177,239	301,455	156,003
Plan Amendment	1/1/1986	35.00	3.00	3,832,226	562,976	200,933
Plan Amendment	1/1/1987	35.00	4.00	4,466,400	891,123	246,686
Plan Amendment	1/1/1988	35.00	5.00	7,521,437	1,892,824	433,319
Plan Amendment	1/1/1989	35.00	6.00	6,238,198	1,887,849	372,143
Plan Amendment	1/1/1990	35.00	7.00	1,991,358	700,596	122,268
Plan Amendment+Act Assump	1/1/1991	35.00	8.00	3,867,632	1,543,450	243,346
Plan Amendment	1/1/1992	35.00	9.00	2,315,769	1,028,711	148,790
Plan Amendment	1/1/1993	35.00	10.00	8,009,694	3,902,259	524,040
Plan Amendment+Act Assump	1/1/1994	35.00	11.00	5,816,782	3,071,022	386,626
Plan Amendment	1/1/1995	35.00	12.00	3,954,934	2,240,612	266,543
Actuarial Assumption	1/1/1996	35.00	13.00	2,334,000	1,407,322	159,236
Plan Amendment	1/1/1996	35.00	13.00	19,722,004	11,891,648	1,345,523
Plan Amendment	1/1/1997	35.00	14.00	12,051,000	7,680,179	831,144
Plan Amendment	1/1/1998	35.00	15.00	12,834,000	8,594,142	893,747
Actuarial Assumption	1/1/1998	35.00	15.00	5,651,596	3,784,521	393,572
Actuarial Assumption	1/1/1999	35.00	16.00	500,000	350,028	35,122
Plan Amendment	1/1/1999	35.00	16.00	21,615,699	15,131,868	1,518,376
Plan Amendment	1/1/2000	35.00	17.00	7,937,933	5,783,581	561,942
Actuarial Assumption	1/1/2000	35.00	17.00	4,389,753	3,198,373	310,759

Appendix G – Funding Standard Account (for Schedule MB) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2018) (CONTINUED)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Plan Amendment	1/1/2001	35.00	18.00	$ 12,746,807	$ 9,629,042	$ 908,708
Plan Amendment	1/1/2002	35.00	19.00	2,268,072	1,770,351	162,714
Plan Amendment	1/1/2003	35.00	20.00	2,964,980	2,384,196	213,933
Experience Loss	1/1/2003	20.00	5.00	12,151,612	4,130,225	945,524
Experience Loss	1/1/2004	20.00	6.00	23,109,456	9,441,111	1,861,090
Experience Loss	1/1/2005	20.00	7.00	12,406,469	5,892,392	1,028,346
Plan Amendment	1/1/2005	35.00	22.00	1,000,895	847,631	72,938
Actuarial Assumption	1/1/2005	35.00	22.00	1,063,519	900,658	77,502
Experience Loss	1/1/2006	20.00	8.00	6,485,444	3,493,930	550,865
Plan Amendment	1/1/2006	35.00	23.00	1,459,383	1,264,153	106,809
Plan Amendment	1/1/2007	35.00	24.00	1,475,698	1,305,003	108,429
Plan Amendment	1/1/2008	20.00	10.00	1,383,243	909,753	122,173
Experience Loss	1/1/2009	20.00	11.00	123,105,349	87,741,197	11,046,176
Experience Loss	1/1/2011	15.00	8.00	5,600,066	3,693,815	582,379
Experience Loss	1/1/2012	15.00	9.00	39,179,040	28,170,068	4,074,425
Experience Loss	1/1/2013	15.00	10.00	33,032,826	25,580,604	3,435,249
Experience Loss	1/1/2016	15.00	13.00	506,616	465,630	52,686
Experience Loss	1/1/2017	15.00	14.00	1,021,519	981,644	106,233
Experience Loss	1/1/2018	15.00	15.00	1,612,860	1,612,860	167,729
Total Charges					**$ 269,790,637**	**$ 35,923,394**

Appendix G – Funding Standard Account (for Schedule MB) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2018) (CONTINUED)						
	Amortization Period			Balances		
Credits	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Experience Gain	1/1/2010	15.00	7.00	$ (27,345,881)	$ (16,295,104)	$ (2,843,835)
Plan Amendment	1/1/2010	15.00	7.00	(32,045,400)	(19,095,490)	(3,332,562)
Experience Gain	1/1/2014	15.00	11.00	(14,564,452)	(12,030,906)	(1,514,630)
Experience Gain	1/1/2015	15.00	12.00	(8,275,002)	(7,234,014)	(860,559)
Assumption Change	1/1/2017	15.00	14.00	(6,594,691)	(6,337,270)	(685,815)
Total Credits					**$ (60,992,784)**	**$ (9,237,401)**

Appendix H – Additional Schedule MB Information

DISTRIBUTION OF ACTIVE PARTICIPANTS BY AGE AND CREDITED SERVICE (FOR 2018 SCHEDULE MB)											
	Years Of Credited Service										
Age Group	< 1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Total
Under 25	0	13	1	0	0	0	0	0	0	0	14
25 - 29	0	25	7	0	0	0	0	0	0	0	32
30 - 34	0	23	21	7	0	0	0	0	0	0	51
35 - 39	0	49	19	18	7	0	0	0	0	0	93
40 - 44	0	23	13	12	14	4	0	0	0	0	66
45 - 49	0	13	13	16	15	12	6	0	0	0	75
50 - 54	0	17	10	15	18	7	9	6	0	0	82
55 - 59	0	10	10	15	18	16	10	8	2	0	89
60 - 64	0	10	15	12	12	8	13	4	2	2	78
65 - 69	0	4	6	8	6	7	4	2	2	0	39
70 and Over	0	0	1	2	2	1	0	0	1	0	7
Total	0	187	116	105	92	55	42	20	7	2	626

Appendix H – Additional Schedule MB Information *(Continued)*

CURRENT LIABILITY (FOR 2018 SCHEDULE MB)	Counts	January 1, 2018
A. Retirees and Beneficiaries	3,970	$ 537,462,626
B. Vested Inactive Participants	2,798	242,303,060
C. Active Participants		
1. Non-Vested	187	$ 1,284,671
2. Vested	439	71,139,035
3. Sub-total (1 + 2)	626	$ 72,423,706
D. Total Current Liability (A + B + C3)		$ 852,189,392
E. Market Value of Assets		335,048,313
F. Funded Percentage Using Market Value of Assets (E / D)		39.32 %
G. Expected Increase in Current Liability		$ 1,674,462
H. Expected Release from Current Liability[1]		42,502,936
I. Expected Disbursements[1]		42,502,936
J. Current Liability Interest Rate		2.98 %

[1] Actual disbursements during the 2018 Plan Year will be used in the 2018 Schedule MB.

Appendix H – Additional Schedule MB Information *(Continued)*

PROJECTION OF EXPECTED BENEFIT PAYMENTS (FOR 2018 SCHEDULE MB)	
Plan Year	**Expected Annual Benefit Payment**
2018[1]	$ 42,430,014
2019	42,895,461
2020	43,175,028
2021	43,645,926
2022	44,094,818
2023	44,302,545
2024	44,504,128
2025	44,379,250
2026	44,167,309
2027	44,000,290

1 Actual benefit payments for the 2018 Plan Year as provided by Vavrinek, Trine, Day & Co. LLP will be used in the 2018 Schedule MB.

Appendix I – Maximum Deductible Contribution

MAXIMUM DEDUCTIBLE CONTRIBUTION		
	Plan Year Ending December 31, 2018	
A. Normal Cost	$	2,090,000
B. 10-Year Amortization of Unfunded Accrued Liability		25,779,726
C. Interest to End of Plan Year		2,020,555
D. Preliminary Max (A + B + C)	$	29,890,281
E. Full Funding Limitation		
1. ERISA	$	208,128,867
2. RPA Full Funding Limit Override		440,525,995
3. Greater of E1 or E2		440,525,995
F. Regular Maximum Deductible Contribution (lesser of D and E3)		29,890,281
G. Minimum Required Contribution, End of Year		12,813,167
H. 140% of Current Liability Basis		
1. Current Liability, Projected to End of Year	$	836,172,291
2. Actuarial Value of Assets Projected to End of Year		312,029,067
3. Excess of 140% of Current Liability over Actuarial Value of Assets at End of Year (140% x H1 - H2)	$	858,612,140
I. Maximum Deductible Contribution (greater of F, G and H3)	**$**	**858,612,140**

Appendix I – Maximum Deductible Contribution *(Continued)*

FULL FUNDING LIMITS

		Plan Year Ending December 31, 2018
1. ERISA FFL		
A. Interest Rate		7.25 %
B. Liability	$	525,324,100
C. Normal Cost (without expenses)		738,000
D. Expected Benefit Payments		(42,430,014)
E. Interest on B, C and D		36,601,414
F. Expected Liability (B + C + D + E)	$	**520,233,500**
G. Min of AVA and MVA		333,355,231
H. Credit Balance		N/A
I. Adjusted Assets		333,355,231
J. Expected Benefit Payments		(42,430,014)
K. Expected Operating Expenses		(1,352,681)
L. Interest on I, J, and K		22,532,097
M. Expected Assets (I + J + K + L))	$	**312,104,633**
N. ERISA FFL (F - M)	$	**208,128,867**
2. RPA '94 FFL		
A. Interest Rate		2.98 %
B. Liability	$	852,189,392
C. Normal Cost (without expenses)		1,674,000
D. Expected Benefit Payments		(42,502,936)
E. Interest on B, C and D		24,811,835
F. Expected Liability (B + C + D + E)	$	836,172,291
G. Funding Limit Factor		90 %
H. Funding Limit Liability (F * G)	$	**752,555,062**
I. AVA	$	333,355,231
J. Expected Benefit Payments		(42,502,936)
K. Expected Operating Expenses		(1,352,681)
L. Interest on I, J, and K		22,529,453
M. Expected Assets (I + J + K + L))	$	**312,029,067**
N. RPA '94 FFL (H - M)	$	**440,525,995**

Appendix J – Auditor Information (FASB ASC 960)

RECONCILIATION OF ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS				
		2016		2017
Actuarial Present Value of Accumulated Plan Benefits at Beginning of Year (January 1)	$	534,860,955	$	534,050,659
Increase/(Decrease) during the Year Attributable to:				
Benefits Accumulated and Actuarial Experience	$	985,329	$	741,451
Plan Amendments		0		0
Actuarial Assumption Changes[1]		0		(6,594,691)
Increase for Interest		37,358,097		37,263,706
Benefits Paid		(39,153,722)		(40,137,025)
Net Increase/(Decrease)	$	(810,296)	$	(8,726,559)
Actuarial Present Value of Accumulated Plan Benefits at End of Year (December 31)	$	534,050,659	$	525,324,100

ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS				
		2016		2017
Actuarial Present Value of Accrued Benefits				
Vested Benefits				
Participants Currently Receiving Benefits	$	360,262,305	$	370,879,885
Other Participants		173,056,751		153,777,448
Total Vested Benefits	$	533,319,056	$	524,657,333
Non-Vested Benefits		731,603		666,767
Actuarial Present Value of Accumulated Plan Benefits at End of Year (December 31)	$	534,050,659	$	525,324,100

[1] Assumption changes were effective on January 1, 2017.

Appendix K – Withdrawal Liability Information

DETERMINATION OF VESTED BENEFIT LIABILITIES FOR WITHDRAWAL LIABILITY PURPOSES		
	December 31, 2016	**December 31, 2017**
1. Vested Benefit Liabilities Earned to Date	$ 533,319,056	$ 524,657,333
2. PBGC 10-3 Base[1]	17,656,697	16,197,852
3. Vested Benefit Liabilities (1 + 2)	$ 550,975,753	$ 540,855,185

[1] PBGC Technical Update 10-3 describes the simplified method for plans in the Red Zone to disregard certain adjustable benefits in determining withdrawal liability. This involves the establishment of a base equal to the reduction in these adjustable benefits, which is then amortized over 15 years. The PBGC 10-3 base is the outstanding balance as of the applicable date.

Appendix K – Withdrawal Liability Information *(Continued)*

PBGC 10-3 BASES		
	Outstanding Balance as of	
Base Established as of	December 31, 2016	December 31, 2017
December 31, 2013	17,656,697	16,197,852
Total	$ 17,656,697	$ 16,197,852

Appendix L – Funding Standard Account (No Amortization Extension)

FUNDING STANDARD ACCOUNT (No Amortization Extension)[1]	2017	2018 (Estimated)[2]
1. Charges		
A. Funding Deficiency	$ 19,213,990	$ 44,477,960
B. Normal Cost (Beginning of Year)	2,108,688	2,090,000
C. Amortization Charges	38,650,417	36,975,294
D. Interest on A, B and C	4,348,049	6,056,886
E. Subtotal Charges (A + B + C +D)	64,321,144	89,600,140
2. Credits		
A. Funding Deficiency on January 1	$ 0	$ 0
B. Employer Contributions for Year[2]	9,588,489	11,955,000
C. Amortization Credits	9,237,401	9,237,401
D. Interest on A, B and C	1,017,294	1,103,080
E. Subtotal Credits (A + B + C + D)	$ 19,843,184	$ 22,295,481
3. Funding Deficiency on December 31 (2E - 1E)	**$ (44,477,960)**	**$ (67,304,659)**
4. Minimum Required Contribution (Before Credit Balance)	$ 54,414,031	$ 79,693,027
5. Minimum Required Contribution (After Credit Balance)	$ 54,414,031	$ 79,693,027
6. ERISA FFL (Accrued Liability FFL)	$ 255,242,290	$ 226,177,952
7. "RPA '94" Override (90% Current Liability FFL)	$ 401,689,896	$ 440,525,995

[1] This is the Funding Standard Account used to determine if the Plan falls into the Red Zone.

[2] 2018 estimated contributions reflect a partial year of withdrawal liability payments for the 2017 withdrawn Employers.

Appendix L – Funding Standard Account (No Amortization Extension) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2018)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Plan Amendment	1/1/1980	40.00	2.00	$ 395,897	$ 54,838	$ 28,380
Plan Amendment	1/1/1981	40.00	3.00	3,609,259	725,737	259,026
Plan Amendment	1/1/1989	30.00	1.00	6,238,198	480,553	480,553
Plan Amendment	1/1/1990	30.00	2.00	1,991,358	296,433	153,404
Plan Amendment+Act Assump	1/1/1991	30.00	3.00	3,867,632	834,766	297,941
Plan Amendment	1/1/1992	30.00	4.00	2,315,769	644,426	178,395
Plan Amendment	1/1/1993	30.00	5.00	8,009,694	2,695,268	617,024
Plan Amendment+Act Assump	1/1/1994	30.00	6.00	5,816,782	2,273,135	448,093
Plan Amendment	1/1/1995	30.00	7.00	3,954,934	1,745,734	304,667
Actuarial Assumption	1/1/1996	30.00	8.00	2,334,000	1,140,400	179,799
Plan Amendment	1/1/1996	30.00	8.00	19,722,004	9,636,211	1,519,277
Plan Amendment	1/1/1997	30.00	9.00	12,051,000	6,418,460	928,344
Plan Amendment	1/1/1998	30.00	10.00	12,834,000	7,362,087	988,662
Actuarial Assumption	1/1/1998	30.00	10.00	5,651,596	3,241,969	435,369
Actuarial Assumption	1/1/1999	30.00	11.00	500,000	305,952	38,517
Plan Amendment	1/1/1999	30.00	11.00	21,615,699	13,226,549	1,665,157
Plan Amendment	1/1/2000	30.00	12.00	7,937,933	5,140,348	611,495
Actuarial Assumption	1/1/2000	30.00	12.00	4,389,753	2,842,658	338,162
Plan Amendment	1/1/2001	30.00	13.00	12,746,807	8,678,372	981,945
Plan Amendment	1/1/2002	30.00	14.00	2,268,072	1,614,504	174,720
Plan Amendment	1/1/2003	30.00	15.00	2,964,980	2,196,318	228,407
Experience Loss	1/1/2004	15.00	1.00	23,109,456	2,403,264	2,403,264
Experience Loss	1/1/2005	15.00	2.00	12,406,469	2,493,209	1,290,211
Plan Amendment	1/1/2005	30.00	17.00	1,000,895	793,555	77,104
Actuarial Assumption	1/1/2005	30.00	17.00	1,063,519	843,205	81,928

Appendix L – Funding Standard Account (No Amortization Extension) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2018) (CONTINUED)

Charges	Amortization Period			Balances		
	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Experience Loss	1/1/2006	15.00	3.00	$ 6,485,444	$ 1,889,663	$ 674,454
Plan Amendment	1/1/2006	30.00	18.00	1,459,383	1,191,276	112,423
Plan Amendment	1/1/2007	30.00	19.00	1,475,698	1,236,841	113,680
Plan Amendment	1/1/2008	15.00	5.00	1,383,243	628,369	143,850
Experience Loss	1/1/2009	15.00	6.00	123,105,349	64,944,970	12,802,342
Experience Loss	1/1/2011	15.00	8.00	5,600,066	3,693,814	582,379
Experience Loss	1/1/2012	15.00	9.00	39,179,040	28,170,074	4,074,425
Experience Loss	1/1/2013	15.00	10.00	33,032,826	25,580,601	3,435,249
Experience Loss	1/1/2016	15.00	13.00	506,616	465,630	52,686
Experience Loss	1/1/2017	15.00	14.00	1,021,519	981,644	106,233
Experience Loss	1/1/2018	15.00	15.00	1,612,860	1,612,860	167,729
Total Charges					**$ 208,483,693**	**$ 36,975,294**

Appendix L – Funding Standard Account (No Amortization Extension) *(Continued)*

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2018) (CONTINUED)						
	Amortization Period			Balances		
Credits	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Experience Gain	1/1/2010	15.00	7.00	$ (27,345,881)	$ (16,295,104)	$ (2,843,835)
Plan Amendment	1/1/2010	15.00	7.00	(32,045,400)	(19,095,490)	(3,332,562)
Experience Gain	1/1/2014	15.00	11.00	(14,564,452)	(12,030,906)	(1,514,630)
Experience Gain	1/1/2015	15.00	12.00	(8,275,002)	(7,234,014)	(860,559)
Assumption Change	1/1/2017	15.00	14.00	(6,594,691)	(6,337,270)	(685,815)
Total Credits					**$ (60,992,784)**	**$ (9,237,401)**