Rael & Letson
2800 Campus Drive, Suite 150
San Mateo, California 94403
650-341-3311 Tel
206-445-1840 Fax
www.rael-letson.com

Western States Office & Professional Employees Plan

Actuarial Valuation

As of January 1, 2019

October 2019

Table of Contents

Actuarial Certification

October 24, 2019

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, 2019 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 2018 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, 2019. 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)*

We are not aware of any events, subsequent to January 1, 2019, that would have a material effect on the actuarial findings presented in this report.

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, 2019 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.

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 A Graf ASA, EA, MAAA
Paul Graf
Enrolled Actuary No. 17-05627

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

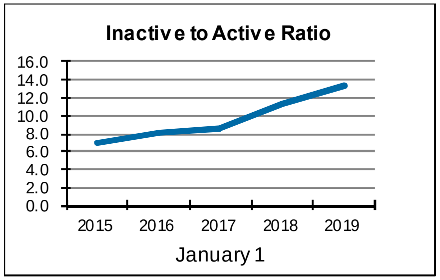
Prepared by: Winnie Ngan ASA, EA, MAAA
Winnie Ngan
Enrolled Actuary No. 17-08699

cc: Kim Gould
Joe Reinhart, Esq.
Alex Miller

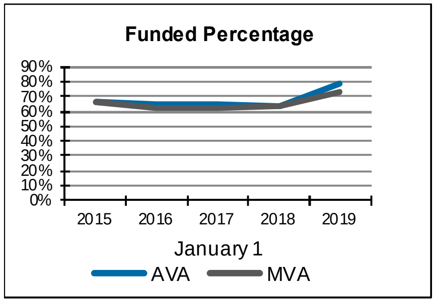
Valuation Highlights

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

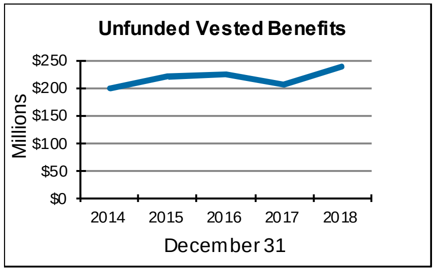
Participant Data



Financial Information



Unfunded Vested Benefits



	January 1, 2018	January 1, 2019	Change
Actives	626	524	(102)
Non-Vested Inactives[1]	376	262	(114)
Vested Inactives	2,798	2,762	(36)
In Pay Status[2]	3,970	3,998	28
Total Participants	7,770	7,546	(224)
Market Value of Assets (MVA)	$ 335,048,313	$ 297,066,081	$ (37,982,232)
Return on MVA (Prior Year)	13.04 %	(2.98)%	(16.02)%
Actuarial Value of Assets (AVA)[3]	$ 333,355,231	$ 318,132,109	$ (15,223,122)
Return on AVA (Prior Year)	7.02 %	4.14 %	(2.88)%
Actuarial Accrued Liability[3]	$ 525,324,100	$ 403,274,236	$ (122,049,864)
Unfunded Accrued Liability[4] (MVA)	190,275,787	106,208,155	(84,067,632)
Unfunded Accrued Liability[4] (AVA)	191,968,869	85,142,127	(106,826,742)
MVA Funded Percentage	63.8 %	73.7 %	9.9 %
AVA Funded Percentage	63.5 %	78.9 %	15.4 %
Contributions (Prior Year)	$ 9,588,489	$ 12,226,845	$ 2,638,356
Benefit Payments (Prior Year)	40,137,025	39,023,959	(1,113,066)
Expenses (Prior Year)	1,847,596	1,639,055	(208,541)
Present Value of Vested Benefits	$ 540,855,185	$ 535,042,460	$ (5,812,725)
Unfunded Vested Benefits[5]	205,806,872	237,976,379	32,169,507
Zone Certification Status	Critical and Declining	Critical	
PPA Funded Percentage[6]	63.5 %	78.9 %	15.4 %
Credit Balance	$ 16,828,984	$ (103,083)	$ (16,932,067)

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

2 Includes 20 Alternate Payees as of January 1, 2018 and 20 Alternate Payees as of January 1, 2019.

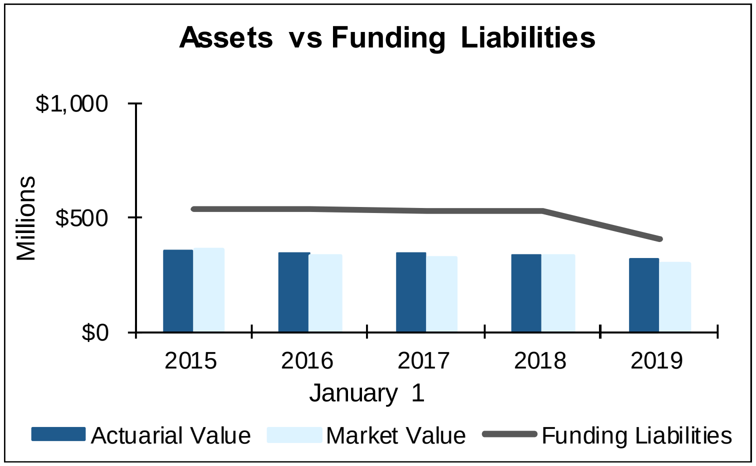
3 2018 Plan Year experience includes an asset loss of $10.2 million and a liability gain of $2.8 million as of January 1, 2019.

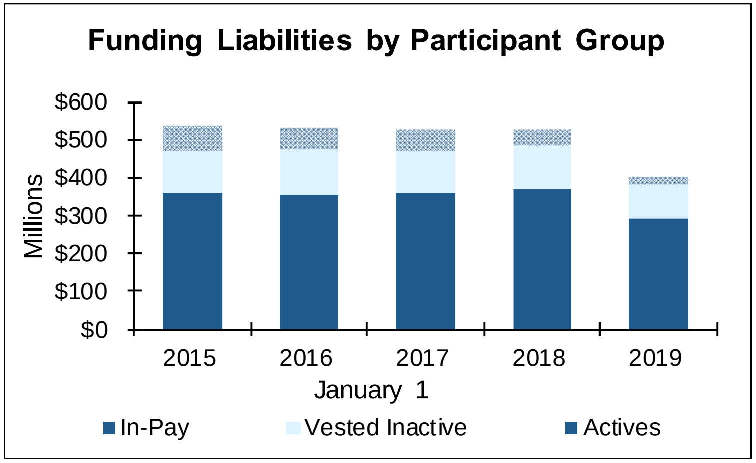
4 Unfunded Accrued Liability. The Actuarial Accrued Liability reflects the MPRA benefit reduction as of January 1, 2019.

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

6 PPA is the Pension Protection Act of 2006 – it requires the use of the AVA and liabilities calculated using the Unit Credit Cost Method.

Section I – Assets and Liabilities





ASSETS		
A. Cash and Cash Equivalents	$	5,468,464
B. Marketable Securities		291,313,004
C. Net Receivables, Payables and Prepaid Expenses		284,613
D. Market Value of Assets (A + B + C)	**$**	**297,066,081**
E. Actuarial Adjustment (Appendix E)		21,066,028
F. Total Assets at Actuarial Value (D + E)	**$**	**318,132,109**
LIABILITIES		
Funding		
G. Actives	$	23,240,526
I. Vested Inactives		88,514,301
J. In Pay Status		291,519,409
K. Actuarial Accrued Liability (G + H + I + J)	$	403,274,236
L. Unfunded Accrued Liability (K - F)	**$**	**85,142,127**
PPA (Statutory)		
M. Actives	$	23,240,526
O. Vested Inactives		88,514,301
P. In Pay Status		291,519,409
Q. Actuarial Accrued Liability (M + N + O + P)	$	403,274,236
R. PPA Funded Percentage (F / Q)		**78.9 %**

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, 2019.

ASSETS

The total Market Value of Assets as of January 1, 2019 is $297,066,081. Information regarding assets was taken from the draft audit report provided by Eide Bailey, LLP. Results are not expected to change with the final audit.

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 $318,132,109, which represents 107.1% 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 2018 Plan Year but received after December 31, 2018 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 $291,519,409 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 $403,274,236.

Section I – Assets and Liabilities *(Continued)*

UNFUNDED ACCRUED LIABILITIES

The liabilities of the Plan exceed the Actuarial Value of Assets by $85,142,127. 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 $106,208,155.

As shown in Section III, the current excess of contributions over benefit accruals and operating expenses is about $9.0 million as of the beginning of year and is sufficient to pay down the Unfunded Accrued Liability assuming payment of all outstanding withdrawal liability on both an Actuarial Value of Assets basis (16 years) and a Market Value of Assets basis (25 years) 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 (MPRA). Following approval from the Treasury and a participant vote, benefit reductions of 30% on all accrued benefits earned through September 30, 2018, subject to the MPRA restrictions on benefit suspensions for older participants, disabled participants, and those with small benefits were implemented effective October 1, 2018.

The reduction in plan liabilities associated with the MPRA benefit suspensions is 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, 2019. The following exhibit develops the net actuarial gain or loss for the 2018 Plan Year:

NET ACTUARIAL GAIN/(LOSS)		
A. Unfunded Accrued Liability on January 1, 2018	$	191,968,869
B. Normal Cost (Including Operating Expenses)		2,052,689
C. Contributions for 2018		(12,226,845)
D. Interest on A, B and C		13,623,340
E. Plan Amendment		(117,661,915)
F. Expected Unfunded Accrued Liability on January 1, 2019 (A + B + C + D + E)	$	77,756,138
G. Actual Unfunded Accrued Liability on January 1, 2019		85,142,127
H. Net Actuarial Gain/(Loss) (F - G)	$	(7,385,989)

Summary of Gain/(Loss) by Source

The total net actuarial gain or loss for the 2018 Plan Year is allocated among asset and liability components as shown below:

		Gain/(Loss)
Asset Experience		
Investment	$	(9,924,395)
Operating Expenses		(247,721)
Total Asset Loss	$	(10,172,116)
Liability Experience		
Mortality		1,032,363
Termination		(22,276)
Retirement		1,878,099
Disability		(47,065)
Miscellaneous		(54,994)
Total Liability Gain	$	2,786,127
Net Actuarial Experience Loss	**$**	**(7,385,989)**

Section II – Actuarial Experience *(Continued)*

ASSET EXPERIENCE

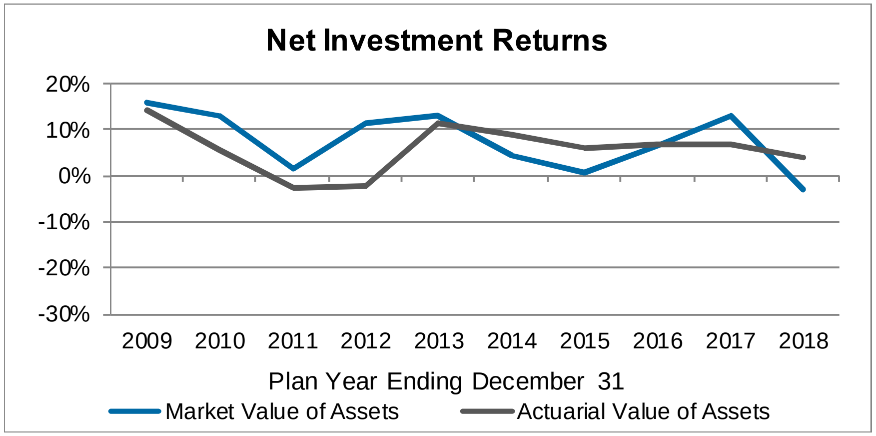
Net Investment Return

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 2018 Plan Year was 4.14% and resulted in an asset **loss** of **$9,924,395**. Appendix E shows the details of the actual net investment income calculation.

	Dollar Amount	Return on AVA
A. Gross Investment Income	$ 14,844,181	4.65 %
B. Investment Expenses	(1,631,134)	(0.51)%
C. Net Investment Income (A + B)	$ 13,213,047	4.14 %
D. Expected Net Investment Income	23,137,442	7.25 %
E. Investment Loss (C - D)	**$ (9,924,395)**	**(3.11)%**

Plan Year Ending December 31	Net Investment Return	
	Actuarial Value	Market Value
2014	9.07 %	4.47 %
2015	6.22 %	0.63 %
2016	6.84 %	6.44 %
2017	7.02 %	13.04 %
2018	4.14 %	(2.98)%
5-Year Average[1]	6.65 %	4.18 %
10-Year Average[1]	5.88 %	7.50 %

[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 $1,639,055, resulting in a **loss** on expenses of **$247,721**, with interest to the end of the 2018 Plan Year.

Plan Year	Gain/(Loss)
2017	(463,821)
2018	(247,721)
5-Year Total	**$ (711,542)**

Liability Experience

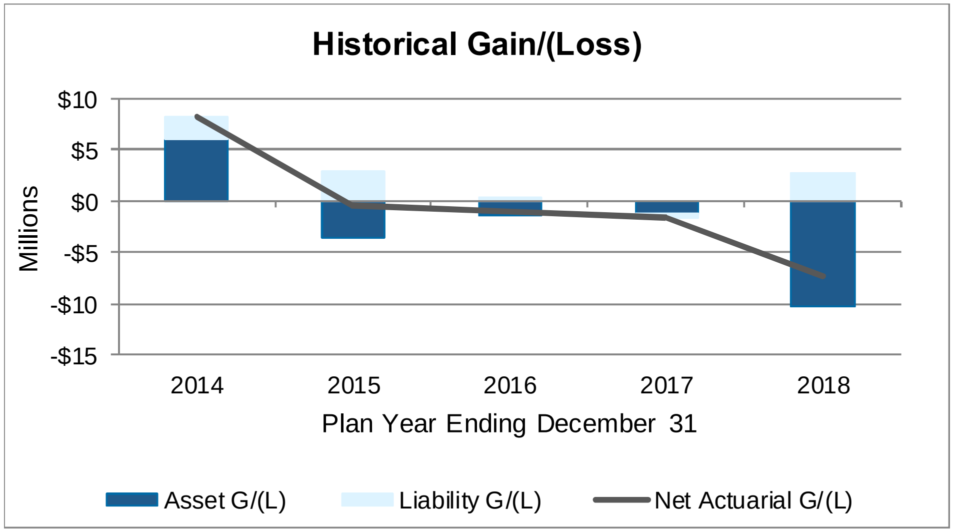
The key demographic assumptions in the valuation are mortality for active and inactive participants and termination, retirement and disability for active participants. Liability gains and losses that are allocated to mortality, termination, retirement and disability components usually reflect more than 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 is shown below.

Plan Year	Asset Gain/(Loss)	Liability Gain/(Loss)	Net Actuarial Gain/(Loss)
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)
2018	(10,172,116)	2,786,127	(7,385,989)
5-Year Total	$ (10,077,945)	$ 7,825,963	$ (2,251,982)



Section III – Employer Contributions and Costs

PROJECTION FOR 2019 PLAN YEAR

Employer contributions and costs for the 2019 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 2018 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	$ 4,795,000	$ 5.99
B. Withdrawal Liability Payments	5,952,000	N/A
C. Normal Cost for Benefit Accruals	746,000	0.93
D. Estimated Operational Expenses	1,000,000	N/A
E. Available for Funding[1] (A + B - C - D)	$ 9,001,000	

[1] Mid-year.

The projected Employer contributions exceed the estimated cost of benefits to be earned plus operating expenses during 2019 by about $8.7 million as of the beginning of year. Based on asset and liability measures on the valuation date, this excess is sufficient to pay down the Unfunded Accrued Liability assuming payment of all outstanding withdrawal liability on both an Actuarial Value of Assets basis (16 years) and a Market Value of Assets basis (25 years) assuming all future actuarial assumptions are realized.

	Actuarial Value Basis	Market Value Basis
Unfunded Accrued Liability	$ 85,142,127	$ 106,208,155
Amount Available for Funding[1]	8,696,770	8,696,770
Period to Pay off UAL	16 Years	25 Years

[1] Beginning of year.

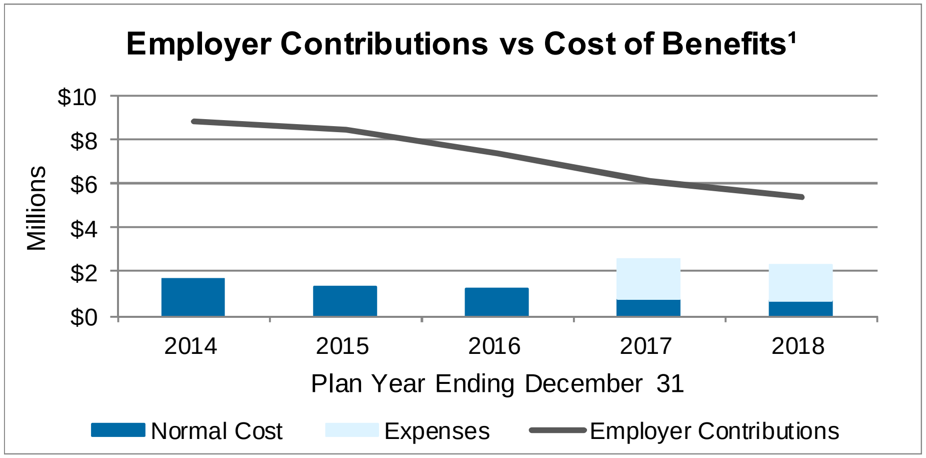
Section III – Employer Contributions and Costs *(Continued)*

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.

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. As of January 1, 2019, the PPA Certification indicated that the Plan was projected to become solvent and the Plan is certified in critical status for the 2019 Plan Year.

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.

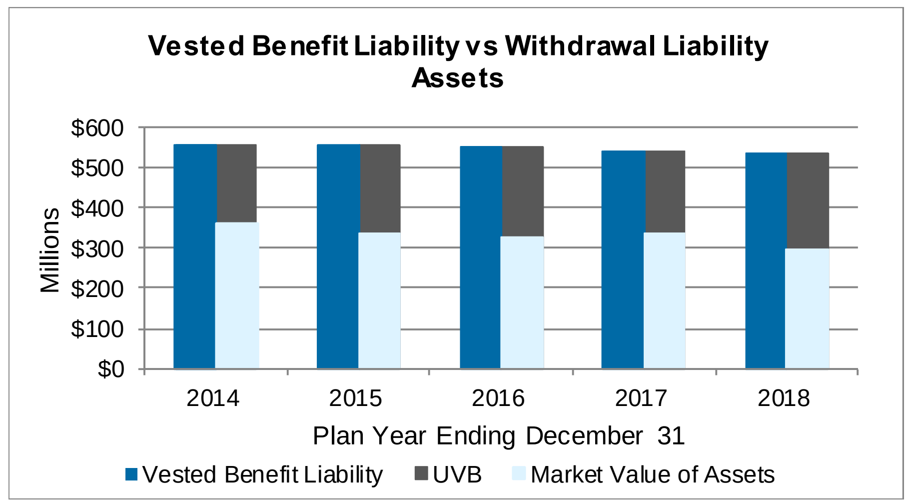
Section IV – Withdrawal Liability

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. This approach is also used to disregard the benefit suspensions under MPRA, which includes benefit suspensions of 30% on benefits earned through September 30, 2018. Please refer to Appendix K for a development of the Vested Benefit Liabilities. The resulting UVB as of December 31, 2018 is as follows:

	December 31, 2018
A. Vested Benefit Liabilities Earned to Date	$ 535,042,460
B. Market Value of Assets	297,066,081
C. Unfunded Vested Benefits (A - B, not less than $0)	$ 237,976,379

A positive Unfunded Vested Benefits value means that Employers who withdraw in the 2019 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 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 the 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 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 primarily comprised of the following key risk factors:

- **Investment return risk**
- **Longevity and other demographic risks**
- **Contribution risk**

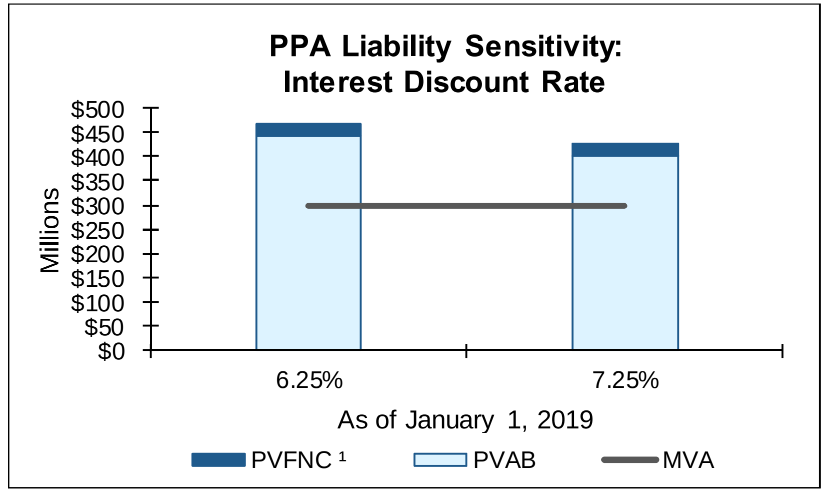
All plans will face longevity and other demographic risks to some extent. These risks can be analyzed by looking at the historical gains or losses due to the corresponding assumptions in the context of the business cycle(s) that were present. Refer to Section II and Appendix D for additional details. 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 risks for stakeholders. The primary risks above can be analyzed by looking at sensitivity analysis and statistics related to the Plan's level of maturity. Historical information related to the Plan's risks is shown in Appendix F. In addition, projections or risk studies can provide a further look at the Plan's risk analysis.

Section V – Risk Assessment *(Continued)*

INVESTMENT RETURN RISK

Investment return risk is the potential that investment returns will be different from expected. The Plan faces investment risk when the assets return less than the assumed rate of return. 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. Generally, the more mature a plan is, the more reliant it is on investment returns and thus may be more vulnerable to investment return risk.

The following graph illustrates how sensitive the Plan's liabilities are to a 1.00% decrease in the interest discount rate currently used to value liabilities. The graph compares assets and liabilities valued at the corresponding interest discount rates (6.25% and 7.25%). The liabilities shown are the present value of future benefits broken down into the present value of accrued benefits (PVAB) and the present value of future normal costs and operating expenses (PVFNC), which is the present value of benefits expected to be earned in the future plus operating expenses. Note that investment returns will vary year by year, but they are currently expected to average 7.25% over the long term. The impact of variable investment returns (especially through projections) is outside the scope of this report.



1 Includes operating expenses of $966,200 as of the beginning of year, plus 1.50% inflation in each future plan year.

If the current hours and contribution levels remain the same going forward and the assumed rate of return and interest discount rate are 6.25%, it would take about 59 more years to pay off the Unfunded Accrued Liability (UAL) on a Market Value basis if all other actuarial assumptions are realized in the future.

If the current hours level remains the same going forward and the assumed rate of return and interest discount rate decrease by 1% from 7.25% to 6.25%, corrective action equivalent to a $4.84 increase per hour would be needed to pay for the increase in liabilities over the next 15 years if all other actuarial assumptions are realized.

Section V – Risk Assessment *(Continued)*

LONGEVITY AND OTHER DEMOGRAPHIC RISKS

Longevity and other demographic risks are the potential that mortality and other 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 follows expected experience. Section II and Appendix D can be reviewed for current and historical demographic experience to help guide future expectations.

Of utmost importance demographically is longevity risk. If participants live longer than what is expected through the mortality assumption, the liabilities will be understated and the future funding levels of the Plan will be lower than expected. Retirement risk can sometimes be significant as well. For example, if demographic experience results in a 3% increase in the Plan's liability due to such issues as increased early retirements and fewer deaths than expected, corrective action equivalent to $1.57 per hour would be needed to cover the added cost over the next 15 years assuming no change in expected hours and all other actuarial assumptions are realized.

CONTRIBUTION RISK

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. The Plan would also face contribution risk if the current contribution level does not cover the cost of benefits being earned or would result in a current or projected credit balance deficiency. 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 15 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)*

The chart below illustrates how the Plan's hours level can impact the number of years required to pay down the Unfunded Accrued Liability on a Market Value basis (UAL (MVA)) assuming the same level of hours are worked in each future year, the average hourly contribution rate remains the same and all other actuarial assumptions are realized:

Years to Fully Fund on a Market Value Basis Based on Hours Worked			
	20% Drop in Hours	Current Hours Assumption	20% Increase in Hours
Expected Hours	640,478	800,598	960,718
Expected Contributions[1]	$ 3,836,000	$ 4,795,000	$ 5,754,000
Expected Withdrawal Liability Payments[2]	5,952,295	5,952,295	5,952,295
Expected Normal Cost	1,597,000	1,746,000	1,895,000
Expected Available for Funding as of Mid-year	$ 8,191,295	$ 9,001,295	$ 9,811,295
UAL (MVA)	$ 106,208,155	$ 106,208,155	$ 106,208,155
Years to Fully Fund[2]	34 Years	25 Years	21 Years

1 Expected contributions are based on an hourly contribution rate of $5.99.

2 Withdrawal liability payments are subject to a 20 year payment limit, which can potentially extend the time period to pay off the unfunded liability.

Section V – Risk Assessment *(Continued)*

PLAN MATURITY AND RISK MEASUREMENTS

There are several statistics that can help in assessing a plan's ability to recover from financial challenges and its long-term sustainability. The information that follows shows some of these key measurements for the Plan along with their definitions and concluding remarks about the Plan's ability to address risk.

PLAN MATURITY AND RISK MEASUREMENTS[1]			
	January 1, 2018	January 1, 2019	Change
Inactive to Active Ratio[1]	10.78	12.86	2.08
In Pay Status Actuarial Accrued Liability to Total Actuarial Accrued Liability Ratio	0.71	0.72	0.01
Net Cash Flow as a % of MVA	(9.7)%	(9.6)%	0.1 %
Contribution Increase to Fund 1% Market Return Shortfall Over One Year	$ 3.4 million ($3.35 / hour)	$ 3.0 million ($3.71 / hour)	10.7 %
Contribution Increase to Fund 10% Market Return Shortfall Over 15 Years	$3.48 / hour	$3.86 / hour	10.9 %
MVA Funded Percentage	63.8 %	73.7 %	9.9 %
Current Liability Funded Percentage	39.3 %	46.9 %	7.6 %

1 Excludes non-vested inactives and Alternate Payees.

- Inactive to Active Ratio is the number of retirees, beneficiaries and vested inactive participants each active participant "supports." The higher the ratio, the more mature the plan.

- In Pay Status Actuarial Accrued Liability to Total Actuarial Accrued Liability is the ratio of the liability associated with retirees and beneficiaries currently receiving a benefit to the Plan's total liability. The higher the ratio, the more mature the plan.

- Net Cash Flow as a % of MVA is the Plan's cash inflows in the form of contributions less the Plan's cash outflows in the form of benefit payments and operating expenses as a percent of the Market Value of Assets. The percentage represents the "opposite" investment return needed to maintain level assets (i.e., negative cash flow, positive return needed). The lower the percentage, the more mature the plan.

Section V – Risk Assessment *(Continued)*

- Contribution Increase to Fund 1% Market Return Shortfall over One Year is the additional contribution that would be required to offset a 1% shortfall in the Plan's investment return for the year. Also shown is the corresponding immediate increase in the average hourly contribution rate needed to fund the 1% shortfall based on the hours expected to be worked that year. Note, future benefit reductions could also be used to address a shortfall.

- Contribution Increase to Fund 10% Market Return Shortfall over 15 Years is the immediate increase in the average hourly contribution rate that would be required to fund a 10% shortfall in the Plan's investment return for the year over a 15-year period. This assumes the hours expected to be worked in that year are also worked in each of the subsequent 14 years, the contribution rate remains the same and all other future actuarial assumptions are realized. Again, future benefit reductions could also be used to address a shortfall.

- MVA Funded Percentage is the Market Value of Assets divided by the Plan's liabilities, determined using valuation assumptions. In general, plans should have a long-term goal to achieve at least 100% funding and remain fully funded.

- Current Liability Funded Percentage is the Market Value of Assets divided by the Plan's liabilities, determined using a risk-free interest rate and mandated mortality assumption. This information is reported on the Form 5500 Schedule MB and may be used as a rough estimate of the Plan's funding on a liquidation basis.

Based on the Plan Maturity and Risk Measurements shown above, the Plan is considered to be very mature. The Plan has cash outflows that significantly exceed cash inflows and the inactive participants significantly outnumber the active participants indicating the Plan is considerably more reliant on investment income to pay pension benefits than on contributions for active hours worked. Thus, if investment returns fall short of the 7.25% assumed return, even significant contribution increases and/or cuts to future accruals may not be enough to recover without future investment gains. The Plan is heavily dependent on its investment returns for future solvency.

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.

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. The suspension of benefits decreased liabilities by $117.7 million.

The operating expense assumption was updated from $1,400,000, payable mid-year (or $1,352,681 as of the beginning of the year) to $1,000,000 payable mid-year ($966,200 as of the beginning of the year).

No other changes to Plan provisions, valuation methodology, and assumptions have been made since the prior valuation as of January 1, 2018.

Section VII – Appendices

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 and the Plan's benefit suspensions under MPRA. 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 3.06% 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-term 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 Planõs specific target asset allocation, we have established the reasonability of the Planõs assumption.
Operating Expenses	A total annual amount of $1,000,000 paid in monthly installments ($966,200 at beginning of year). (Prior to January 1, 2019: $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 actuaryõs 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: 2019 static mortality tables provided in IRC Regulations Section 1.430(h)(3)-1(e), as prescribed by IRS Notice 2018-02.
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 male spouses.
Active Participant	Worked at least 200 hours in covered employment.

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

ASSUMPTIONS:	
Future Employment	Each active participant is assumed to work the same amount of hours worked in the prior plan year.
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.

OTHER INFORMATION	Accruing and supplemental/surcharge contributions for 2 employers known to have withdrawn during 2019 have been removed from future expected contributions and costs, and quarterly withdrawal liability payments have been added to future expected contributions.

CHANGES SINCE PRIOR VALUATION	The current liability interest rate was changed from 2.98% to 3.06% due to a change in the allowable interest rate range, and the current liability mortality table was updated as required. The operating expense assumption was updated from $1,400,000 payable monthly ($1,352,681 payable at the beginning of the year) to $1,000,000 payable monthly ($966,200 payable at the beginning of the year).

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, and last amended effective October 1, 2018. The principal provisions of the Plan as of January 1, 2019 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.

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

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.
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).

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

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 Ò$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	Effective October 1, 2018, benefit reductions of 30% on benefits earned through September 30, 2018 for all participants except those who retired under disability and who are over age 80. There is a phase-in reduction for participants aged 75 ï 80.

Appendix C – Participant Information

PARTICIPANT STATISTICS	January 1, 2018	January 1, 2019	Change	Percent Change
Actives:				
Number	626	524	(102)	(16.3)%
Averages:				
Age	47.7	48.2	0.5	1.0 %
Years of Credited Service	11.6	11.8	0.2	1.7 %
Hours	1,649	1,658	9	0.5 %
Non-Vested Inactives				
Number	376	262	(114)	(30.3)%
Averages:				
Age	41.6	41.1	(0.5)	(1.2)%
Years of Credited Service	2.1	2.1	0.0	0.0 %
Accrued Benefit[2]	$ 48	$ 43	$ (5)	(10.4)%
Vested Inactives:				
Number	2,798	2,762	(36)	(1.3)%
Averages:				
Age	52.6	53.0	0.4	0.8 %
Years of Credited Service	12.0	11.9	(0.1)	(0.8)%
Vested Accrued Benefit[2]	$ 580	$ 426	$ (154)	(26.6)%
In Pay Status:				
Number:				
Healthy Retirees	3,622	3,652	30	0.8 %
Disabled Retirees	101	96	(5)	(5.0)%
Beneficiaries[1]	247	250	3	1.2 %
Total	3,970	3,998	28	0.7 %
Averages:				
Age	72.3	72.6	0.3	0.4 %
Monthly Benefit[2]	$ 858	$ 692	$ (166)	(19.3)%

1 Includes 20 Alternate Payees as of January 1, 2019 and 20 Alternate Payees as of January 1, 2019.

2 MPRA benefit reduction has been reflected in the monthly benefit as of January 1, 2019.

Appendix C – Participant Information *(Continued)*

PARTICIPANT RECONCILIATION	Actives	Non-Vested Inactives	Vested Inactives	In Pay Status	Total
Total as of January 1, 2018	**626**	**376**	**2,798**	**3,970**	**7,770**
New Entrants	68	0	0	0	68
Vested Terminations	(95)	0	95	0	0
Non-Vested Terminations	(63)	67	0	0	4
Returned to Work	1	0	(1)	0	0
Healthy Retirements	(13)	0	(126)	139	0
Disabled Retirements	0	0	0	0	0
Deaths in Year	(1)	0	(8)	(130)	(139)
Benefit Period Expired	0	0	0	0	0
New Beneficiaries	0	0	0	16	16
New Alternate Payees	0	0	0	2	2
Lump Sum	0	0	(1)	0	(1)
Permanent Break in Service	0	(175)	0	0	(175)
Data Corrections	1	(6)	5	1	1
Net Change	(102)	(114)	(36)	28	(224)
Total as of January 1, 2019	**524**	**262**	**2,762**	**3,998**	**7,546**

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	14	1	15	3	0	3
25 - 29	24	3	27	41	4	45
30 - 34	26	13	39	58	53	111
35 - 39	28	37	65	39	138	177
40 - 44	24	33	57	23	241	264
45 - 49	9	49	58	31	440	471
50 - 54	26	50	76	20	610	630
55 - 59	11	68	79	19	614	633
60 - 64	8	53	61	17	509	526
65 - 69	5	39	44	8	133	141
70 and Over	0	3	3	2	20	22
Unknown	0	0	0	1	0	1
Total	175	349	524	262	2,762	3,024
Average Age	40.5	52.1	48.2	41.1	53.0	52.0
Average Accrued Benefit[1]	$ 53	$ 818	$ 563	$ 43	$ 426	$ 393

[1] MPRA benefit reduction has been reflected in the average accrued benefit.

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	12	3	21
50 - 54	0	0	3	0	8	0	11
55 - 59	97	27	10	0	7	2	143
60 - 64	348	64	18	0	25	0	455
65 - 69	830	41	29	0	26	5	931
70 - 74	911	8	13	0	32	3	967
75 - 79	597	1	8	0	38	3	647
80 - 84	369	1	3	0	36	1	410
85 and Over	357	0	7	0	48	1	413
Total	3,510	142	96	0	232	18	3,998
Average Age	73.1	63.2	66.9	0.0	73.6	64.8	72.6
Average Monthly Benefit	$ 709	$ 522	$ 980	$ 0	$ 439	$ 435	$ 692

[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 benefits active participants earn during the year.

Plan Year	Retirement Gain/(Loss)	Termination Gain/(Loss)	Disability Gain/(Loss)	Mortality Gain/(Loss)	Miscellaneous Gain/(Loss)
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)
2018	1,878,099	(22,276)	(47,065)	1,032,363	(54,994)
5-Year Total	**$ 8,286,207**	**$ (1,580,660)**	**$ (394,818)**	**$ 2,518,171**	**$ (1,002,937)**

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, 2018	Market Value	Percent of Total
Cash (Interest bearing and non-interest bearing)	$ 5,468,464	1.8%
Partnership/joint venture interests	35,524,443	12.0%
Value of interest in common/collective trusts	181,573,993	61.2%
Value of interest in 103-12 Investment Entities	48,772,636	16.4%
Value of interest in registered investment companies (i.g., mutual funds)	17,037,563	5.7%
Other Assets	8,404,369	2.8%
Net Receivables, Payables and Prepaid Expenses	284,613	0.1%
Total Assets	$ 297,066,081	100.0%

Appendix E – Asset Information *(Continued)*

SUMMARY OF RECEIPTS AND DISBURSEMENTS	Market Value 2017	Market Value 2018	Actuarial Value 2017	Actuarial Value 2018
Assets (Beginning of Year)	$ 326,919,954	$ 335,048,313	$ 342,812,133	$ 333,355,231
Receipts During Year				
Contributions[1]	$ 9,588,489	$ 12,226,845	$ 9,588,489	$ 12,226,845
Investment Income (Net of Investment Expenses)	40,524,491	(9,546,063)	22,939,230	13,213,047
Subtotal Receipts	$ 50,112,980	$ 2,680,782	$ 32,527,719	$ 25,439,892
Disbursements During Year				
Benefit Payments	$ (40,137,025)	$ (39,023,959)	$ (40,137,025)	$ (39,023,959)
Operating Expenses	(1,847,596)	(1,639,055)	(1,847,596)	(1,639,055)
Subtotal Disbursements	$ (41,984,621)	$ (40,663,014)	$ (41,984,621)	$ (40,663,014)
Assets (End of Year)	$ 335,048,313	$ 297,066,081	$ 333,355,231	$ 318,132,109
Return on Assets	13.04 %	(2.98)%	7.02 %	4.14 %

[1] 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, and 2018 contributions include $2,949,919 of benefit accruing contributions, $2,400,383 of supplemental contributions, and $6,876,543 of withdrawal liability payments.

Appendix E – Asset Information *(Continued)*

DETERMINATION OF NET INVESTMENT INCOME		
1. Expected Net Investment Income		
A. Market Value of Assets	$	335,048,313
B. Contributions		12,226,845
C. Benefit Payments		(39,023,959)
D. Operating Expenses		(1,639,055)
E. Expected Net Investment Income (A + 1/2 B + 1/2 C + 1/2 D) x 7.25%	$	23,260,191
2. Market Value Earnings		
A. Interest and Dividends	$	1,039,552
B. Realized and Unrealized Gains/(Losses)		(8,962,455)
C. Investment Expenses		(1,631,134)
D. Other Income		7,974
E. Total Market Value Earnings (A + B + C + D)	$	(9,546,063)
3. Excess/(Deficit) of Market Value Earnings Over Expected Net Investment Income (2E - 1E)		(32,806,254)
4. Current Year Recognition of Excess/(Deficit) Earnings (Calculated on Next Page)		(10,047,144)
5. Net Investment Income (1E + 4)		13,213,047
6. Recognition of Assets in Excess of the Corridor		0
7. Total Net Investment Income (5 + 6)	$	13,213,047

Appendix E – Asset Information *(Continued)*

DETERMINATION OF ACTUARIAL VALUE OF ASSETS

Plan Year Ended December 31	Excess / (Deficit) Earnings	Amount of Excess/(Deficit) Earnings Recognized or to be Recognized		
		Prior Years	Current Year	Future Years
2018	$ (32,806,254)	$ 0	$ (6,561,251)	$ (26,245,003)
2017	17,997,154	3,599,431	3,599,431	10,798,292
2016	(2,606,197)	(1,042,478)	(521,239)	(1,042,480)
2015	(22,884,177)	(13,730,505)	(4,576,835)	(4,576,837)
2014	(9,936,255)	(7,949,005)	(1,987,250)	0
Total	$ (50,235,729)	$ (19,122,557)	$ (10,047,144)	$ (21,066,028)

A.	Market Value of Assets as of January 1, 2019	$ 297,066,081
B.	Amount of Excess/(Deficit) Earnings to be Recognized in Future Years	(21,066,028)
C.	Preliminary Actuarial Value of Assets as of January 1, 2019 (A - B)	$ 318,132,109
D.	Recognition of Assets in Excess of the 20% Corridor	0
E.	Actuarial Value of Assets as of January 1, 2019 (C + D)	$ 318,132,109

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) Inactive to Active Ratio[1]
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	2,189	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	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	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
2019	524	262	2,762	3,652	96	230	20	12.86

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)		Total Active Hours (Prior Year)		Active Participants	
	Number	% Change	Number	% Change	Number	% Change
2006	4,592,134	23.0 %	4,545,605	22.7 %	2,458	52.5 %
2007	4,527,976	(1.4)%	4,476,696	(1.5)%	2,408	(2.0)%
2008	4,282,490	(5.4)%	4,219,030	(5.8)%	2,278	(5.4)%
2009	4,203,802	(1.8)%	4,167,497	(1.2)%	2,277	(0.0)%
2010	4,063,879	(3.3)%	3,854,000	(7.5)%	2,050	(10.0)%
2011	3,671,591	(9.7)%	3,647,424	(5.4)%	1,936	(5.6)%
2012	3,555,598	(3.2)%	3,513,594	(3.7)%	1,887	(2.5)%
2013	3,358,483	(5.5)%	3,304,980	(5.9)%	1,806	(4.3)%
2014	3,231,057	(3.8)%	3,176,582	(3.9)%	1,718	(4.9)%
2015	1,776,431	(45.0)%	1,736,000	(45.4)%	1,000	(41.8)%
2016	1,575,730	(11.3)%	1,545,908	(11.0)%	868	(13.2)%
2017	1,358,925	(13.8)%	1,317,052	(14.8)%	809	(6.8)%
2018	1,087,061	(20.0)%	1,032,369	(21.6)%	626	(22.6)%
2019	894,247	(17.7)%	868,660	(15.9)%	524	(16.3)%

Appendix F – Historical Information *(Continued)*

HISTORICAL EMPLOYER CONTRIBUTIONS AND COSTS					
As of January 1	Accruing Contributions (Prior Year)	Non-Accruing Contributions (Prior Year)[1]	Total Contributions (Prior Year)	Actual Normal Cost (Prior Year)[2]	Expenses Included in Normal Cost (Prior Year)
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
2019	2,949,919	9,276,926	12,226,845	2,052,689	1,352,681

1 Non-accruing contributions include Critical Status surcharge contributions, Rehabilitation Plan supplemental contributions, and Withdrawal Liability payments.

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]
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
2019	2,949,919	2,400,383	0	6,876,543	12,226,845

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	Value	Return	
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 %
2019	297,066,081	(2.98)%	318,132,109	4.14 %	107.1 %

Appendix F – Historical Information *(Continued)*

HISTORICAL CASHFLOW					
	(A)	(B)	(C)	(D)	(A - B - C)/(D)
As of January 1	Contributions (Prior Year)	Benefit Payments (Prior Year)	Expenses (Prior Year)[1]	Market Value of Assets (MVA)	Cashflow as a % of MVA
2000	$ 9,249,078	$ 17,053,007	$ N/A	$ 451,555,025	(1.7)%
2001	9,366,427	18,819,097	N/A	452,504,583	(2.1)%
2002	9,660,131	20,927,583	N/A	435,922,795	(2.6)%
2003	9,277,458	20,835,583	N/A	396,536,797	(2.9)%
2004	7,854,003	24,206,237	N/A	445,004,175	(3.7)%
2005	6,935,726	26,487,895	N/A	467,709,398	(4.2)%
2006	7,357,903	28,371,211	N/A	482,601,045	(4.4)%
2007	7,399,605	29,919,215	N/A	514,062,081	(4.4)%
2008	7,678,247	32,970,957	N/A	511,627,264	(4.9)%
2009	8,277,807	32,853,989	N/A	326,573,213	(7.5)%
2010	8,004,785	34,155,460	N/A	350,729,611	(7.5)%
2011	8,489,009	37,136,630	N/A	366,575,098	(7.8)%
2012	8,622,386	37,224,104	N/A	343,278,474	(8.3)%
2013	9,797,048	37,280,366	N/A	353,805,803	(7.8)%
2014	11,044,341	37,690,222	N/A	371,333,873	(7.2)%
2015	10,411,438	38,445,844	N/A	359,268,671	(7.8)%
2016	11,811,952	39,045,991	N/A	334,210,200	(8.1)%
2017	11,250,910	39,153,722	N/A	326,919,954	(8.5)%
2018	9,588,489	40,137,025	1,847,596	335,048,313	(9.7)%
2019	12,226,845	39,023,959	1,639,055	297,066,081	(9.6)%

[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

As of January 1	(A) Funding Actuarial Accrued Liability[1]	(B) Market Value of Assets (MVA)	(A) - (B) MVA Unfunded Accrued Liability/ (Actuarial Surplus)	(B) / (A) MVA Funded Percentage	(C) Actuarial Value of Assets (AVA)	(A) - (C) AVA Unfunded Accrued Liability/ (Actuarial Surplus)	(C) / (A) AVA Funded Percentage
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 %
2019 [2]	403,274,236	297,066,081	106,208,155	73.7 %	318,132,109	85,142,127	78.9 %

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.

2 Effective October 1, 2018, benefit reductions of 30% on benefits earned through September 30, 2018 for all participants except those who retired under disability and who are over age 80. There is a phase-in reduction for participants aged 75 – 80.

Appendix F – Historical Information *(Continued)*

HISTORICAL ZONE CERTIFICATION[1]				
	(A)	(B)	(B) / (A)	
As of January 1	PPA Actuarial Accrued Liability	Actuarial Value of Assets	PPA Funded Percentage	Zone Status
2009	552,544,039	391,887,856	70.9 %	N/A
2010	533,426,348	420,875,533	78.9 %	Critical
2011	535,120,828	415,436,594	77.6 %	Critical
2012	536,525,258	375,837,641	70.1 %	Critical
2013	538,389,644	341,155,304	63.4 %	Critical
2014	538,956,405	351,347,913	65.2 %	Critical
2015	537,887,774	353,925,354	65.8 %	Critical
2016	534,860,955	347,859,875	65.0 %	Critical and Declining
2017	527,455,968	342,812,133	65.0 %	Critical and Declining
2018	525,324,100	333,355,231	63.5 %	Critical and Declining
2019	403,274,236	318,132,109	78.9 %	Critical

1 The PPA Actuarial Accrued Liability, Actuarial Value of Assets and PPA 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]		
	2018	2019 (Estimated)
1. Charges		
A. Funding Deficiency on January 1	$ 0	$ 103,083
B. Normal Cost (Beginning of Year)	2,052,689	1,687,000
C. Amortization Charges	35,923,394	36,522,894
D. Interest on A, B and C	2,753,266	2,777,691
E. Subtotal Charges (A + B + C + D)	$ 40,729,349	$ 41,090,668
2. Credits		
A. Credit Balance on January 1	$ 16,828,984	$ 0
B. Employer Contributions for Year[2]	12,226,845	10,747,000
C. Amortization Credits	9,237,401	21,473,653
D. Interest on A, B and C	2,333,036	1,946,419
E. Subtotal Credits (A + B + C + D)	$ 40,626,266	$ 34,167,072
3. Funding Deficiency on December 31 (2E - 1E)	**$ (103,083)**	**$ (6,923,596)**
4. Minimum Required Contribution (Before Credit Balance)	$ 30,822,236	$ 18,060,175
5. Minimum Required Contribution (After Credit Balance)	12,773,151	18,060,175
6. ERISA FFL (Accrued Liability FFL)	$ 226,137,206	$ 115,717,769
7. "RPA '94" Override (90% Current Liability FFL)	440,019,882	252,606,847

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

2 2019 estimated contributions reflect a partial year of withdrawal payments for the 2018 withdrawn Employers.

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

FULL FUNDING LIMITS				
		2018		2019 (Estimated)
1. ERISA FFL				
A. Interest Rate		7.25 %		7.25 %
B. Liability	$	525,324,100	$	403,274,236
C. Normal Cost (without expenses)		700,008		721,000
D. Actual/Expected Benefit Payments		(39,023,959)		(34,375,142)
E. Interest on B, C and D		36,722,129		28,043,556
F. Expected Liability (B + C + D + E)	$	**523,722,278**	$	**397,663,650**
G. Min of AVA and MVA		333,355,231		297,066,081
H. Credit Balance		16,828,984		0
I. Adjusted Assets		316,526,247		297,066,081
J. Actual/Expected Benefit Payments		(39,023,959)		(34,375,142)
K. Expected Operating Expenses		(1,352,681)		(966,200)
L. Interest on I, J, and K		21,435,465		20,221,142
M. Expected Assets (I + J + K + L)	$	**297,585,072**	$	**281,945,881**
N. ERISA FFL (F - M)	$	**226,137,206**	$	**115,717,769**
2. RPA '94 FFL				
A. Interest Rate		2.98 %		3.06 %
B. Liability	$	852,189,392	$	632,991,111
C. Normal Cost (without expenses)		1,589,025		1,537,000
D. Actual/Expected Benefit Payments		(39,023,959)		(34,430,766)
E. Interest on B, C and D		24,861,140		18,889,769
F. Expected Liability (B + C + D + E)	$	839,615,598	$	618,987,114
G. Funding Limit Factor		90 %		90 %
H. Funding Limit Liability (F * G)	$	**755,654,039**	$	**557,088,403**
I. AVA	$	333,355,231	$	318,132,109
J. Actual/Expected Benefit Payments		(39,023,959)		(34,430,766)
K. Expected Operating Expenses		(1,352,681)		(966,200)
L. Interest on I, J, and K		22,655,566		21,746,413
M. Expected Assets (I + J + K + L)	$	**315,634,157**	$	**304,481,556**
N. RPA '94 FFL (H - M)	$	**440,019,882**	$	**252,606,847**

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2019)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Initial Liability	1/1/1976	45.00	2.00	$ 13,447,933	$ 1,256,707	$ 650,335
Actuarial Assumption	1/1/1978	43.00	2.00	1,960,033	185,994	96,252
Plan Amendment	1/1/1980	45.00	6.00	395,897	114,753	22,619
Plan Amendment	1/1/1981	45.00	7.00	3,609,259	1,212,241	211,562
Plan Amendment	1/1/1985	35.00	1.00	3,177,239	155,997	155,997
Plan Amendment	1/1/1986	35.00	2.00	3,832,226	388,291	200,933
Plan Amendment	1/1/1987	35.00	3.00	4,466,400	691,159	246,686
Plan Amendment	1/1/1988	35.00	4.00	7,521,437	1,565,319	433,319
Plan Amendment	1/1/1989	35.00	5.00	6,238,198	1,625,595	372,143
Plan Amendment	1/1/1990	35.00	6.00	1,991,358	620,257	122,268
Plan Amendment+Act Assump	1/1/1991	35.00	7.00	3,867,632	1,394,362	243,346
Plan Amendment	1/1/1992	35.00	8.00	2,315,769	943,715	148,790
Plan Amendment	1/1/1993	35.00	9.00	8,009,694	3,623,140	524,040
Plan Amendment+Act Assump	1/1/1994	35.00	10.00	5,816,782	2,879,015	386,626
Plan Amendment	1/1/1995	35.00	11.00	3,954,934	2,117,189	266,543
Actuarial Assumption	1/1/1996	35.00	12.00	2,334,000	1,338,572	159,236
Plan Amendment	1/1/1996	35.00	12.00	19,722,004	11,310,719	1,345,523
Plan Amendment	1/1/1997	35.00	13.00	12,051,000	7,345,590	831,144
Plan Amendment	1/1/1998	35.00	14.00	12,834,000	8,258,674	893,747
Actuarial Assumption	1/1/1998	35.00	14.00	5,651,596	3,636,793	393,572
Actuarial Assumption	1/1/1999	35.00	15.00	500,000	337,737	35,122
Plan Amendment	1/1/1999	35.00	15.00	21,615,699	14,600,470	1,518,376
Plan Amendment	1/1/2000	35.00	16.00	7,937,933	5,600,208	561,942
Actuarial Assumption	1/1/2000	35.00	16.00	4,389,753	3,096,966	310,759
Plan Amendment	1/1/2001	35.00	17.00	12,746,807	9,352,558	908,708

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2019) (CONTINUED)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Plan Amendment	1/1/2002	35.00	18.00	$ 2,268,072	$ 1,724,191	$ 162,714
Plan Amendment	1/1/2003	35.00	19.00	2,964,980	2,327,607	213,933
Experience Loss	1/1/2003	20.00	4.00	12,151,612	3,415,592	945,524
Experience Loss	1/1/2004	20.00	5.00	23,109,456	8,129,573	1,861,090
Experience Loss	1/1/2005	20.00	6.00	12,406,469	5,216,689	1,028,346
Plan Amendment	1/1/2005	35.00	21.00	1,000,895	830,858	72,938
Actuarial Assumption	1/1/2005	35.00	21.00	1,063,519	882,835	77,502
Experience Loss	1/1/2006	20.00	7.00	6,485,444	3,156,437	550,865
Plan Amendment	1/1/2006	35.00	22.00	1,459,383	1,241,251	106,809
Plan Amendment	1/1/2007	35.00	23.00	1,475,698	1,283,326	108,429
Plan Amendment	1/1/2008	20.00	9.00	1,383,243	844,680	122,173
Experience Loss	1/1/2009	20.00	10.00	123,105,349	82,255,410	11,046,176
Experience Loss	1/1/2011	15.00	7.00	5,600,066	3,337,015	582,379
Experience Loss	1/1/2012	15.00	8.00	39,179,040	25,842,577	4,074,425
Experience Loss	1/1/2013	15.00	9.00	33,032,826	23,750,892	3,435,249
Experience Loss	1/1/2016	15.00	12.00	506,616	442,882	52,686
Experience Loss	1/1/2017	15.00	13.00	1,021,519	938,878	106,233
Experience Loss	1/1/2018	15.00	14.00	1,612,860	1,549,903	167,729
Experience Loss	1/1/2019	15.00	15.00	7,385,989	7,385,989	768,106
Total Charges					**$ 258,208,606**	**$ 36,522,894**

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (As of January 1, 2019) (CONTINUED)						
	Amortization Period			Balances		
Credits	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Experience Gain	1/1/2010	15.00	6.00	$ (27,345,881)	$ (14,426,486)	$ (2,843,835)
Plan Amendment	1/1/2010	15.00	6.00	(32,045,400)	(16,905,740)	(3,332,562)
Experience Gain	1/1/2014	15.00	10.00	(14,564,452)	(11,278,706)	(1,514,630)
Experience Gain	1/1/2015	15.00	11.00	(8,275,002)	(6,835,530)	(860,559)
Assumption Change	1/1/2017	15.00	13.00	(6,594,691)	(6,061,185)	(685,815)
Plan Amendment	1/1/2019	15.00	15.00	(117,661,915)	(117,661,915)	(12,236,252)
Total Credits					**$ (173,169,562)**	**$ (21,473,653)**

Appendix H – Additional Schedule MB Information

DISTRIBUTION OF ACTIVE PARTICIPANTS BY AGE AND CREDITED SERVICE (FOR 2019 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	14	1	0	0	0	0	0	0	0	15
25 - 29	0	24	3	0	0	0	0	0	0	0	27
30 - 34	0	26	8	5	0	0	0	0	0	0	39
35 - 39	0	28	15	17	5	0	0	0	0	0	65
40 - 44	0	24	10	12	7	4	0	0	0	0	57
45 - 49	0	9	11	11	11	13	1	2	0	0	58
50 - 54	0	26	9	11	11	7	6	5	1	0	76
55 - 59	0	11	6	15	15	12	8	10	2	0	79
60 - 64	0	8	10	11	8	6	12	2	2	2	61
65 - 69	0	5	5	10	3	8	4	4	4	1	44
70 and Over	0	0	0	1	1	0	0	0	1	0	3
Total	0	175	78	93	61	50	31	23	10	3	524

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

CURRENT LIABILITY (FOR 2019 SCHEDULE MB)	Counts	January 1, 2019
A. Retirees and Beneficiaries	3,998	$ 412,290,759
B. Vested Inactive Participants	2,762	177,188,904
C. Active Participants		
1. Non-Vested[1]	175	$ 1,656,036
2. Vested	349	41,855,412
3. Sub-total (1 + 2)	524	$ 43,511,448
D. Total Current Liability (A + B + C3)		$ 632,991,111
E. Market Value of Assets		297,066,081
F. Funded Percentage Using Market Value of Assets (E / D)		46.93 %
G. Expected Increase in Current Liability		$ 1,537,270
H. Expected Release from Current Liability[2]		34,430,766
I. Expected Disbursements[2]		34,430,766
J. Current Liability Interest Rate		3.06 %

1 Actual disbursements during the 2019 Plan Year will be used in the 2019 Schedule MB.

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

PROJECTION OF EXPECTED BENEFIT PAYMENTS (FOR 2019 SCHEDULE MB)	
Plan Year	**Expected Annual Benefit Payments**
2019[1]	$ 34,375,142
2020	34,449,154
2021	34,609,913
2022	34,772,719
2023	34,723,008
2024	34,704,406
2025	34,460,063
2026	34,132,268
2027	33,839,489
2028	33,335,286

1 Actual benefit payments for the 2019 Plan Year as provided by Eide Bailey, LLP will be used in the 2019 Schedule MB.

Appendix I – Maximum Deductible Contribution

MAXIMUM DEDUCTIBLE CONTRIBUTION		
		Plan Year Ending December 31, 2019
A. Normal Cost	$	1,687,000
B. 10-Year Amortization of Unfunded Accrued Liability		11,433,837
C. Interest to End of Plan Year		951,261
D. Preliminary Max (A + B + C)	$	14,072,098
E. Full Funding Limitation		
1. ERISA	$	115,717,769
2. RPA Full Funding Limit Override		252,606,847
3. Greater of E1 or E2		252,606,847
F. Regular Maximum Deductible Contribution (lesser of D and E3)		14,072,098
G. Minimum Required Contribution, End of Year		18,060,175
H. 140% of Current Liability Basis		
1. Current Liability, Projected to End of Year	$	618,987,114
2. Actuarial Value of Assets Projected to End of Year		304,481,556
3. Excess of 140% of Current Liability over Actuarial Value of Assets at End of Year (140% x H1 - H2)	$	562,100,404
I. Maximum Deductible Contribution (greater of F, G and H3)	**$**	**562,100,404**

Appendix I – Maximum Deductible Contribution *(Continued)*

FULL FUNDING LIMITS	Plan Year Ending December 31, 2019
1. ERISA FFL	
A. Interest Rate	7.25 %
B. Liability	$ 403,274,236
C. Normal Cost (without expenses)	721,000
D. Expected Benefit Payments	(34,375,142)
E. Interest on B, C and D	28,043,556
F. Expected Liability (B + C + D + E)	**$ 397,663,650**
G. Min of AVA and MVA	297,066,081
H. Credit Balance	N/A
I. Adjusted Assets	297,066,081
J. Expected Benefit Payments	(34,375,142)
K. Expected Operating Expenses	(966,200)
L. Interest on I, J, and K	20,221,142
M. Expected Assets (I + J + K + L))	**$ 281,945,881**
N. ERISA FFL (F - M)	**$ 115,717,769**
2. RPA '94 FFL	
A. Interest Rate	3.06 %
B. Liability	$ 632,991,111
C. Normal Cost (without expenses)	1,537,000
D. Expected Benefit Payments	(34,430,766)
E. Interest on B, C and D	18,889,769
F. Expected Liability (B + C + D + E)	$ 618,987,114
G. Funding Limit Factor	90 %
H. Funding Limit Liability (F * G)	**$ 557,088,403**
I. AVA	$ 318,132,109
J. Expected Benefit Payments	(34,430,766)
K. Expected Operating Expenses	(966,200)
L. Interest on I, J, and K	21,746,413
M. Expected Assets (I + J + K + L))	**$ 304,481,556**
N. RPA '94 FFL (H - M)	**$ 252,606,847**

Appendix J – Auditor Information (FASB ASC 960)

RECONCILIATION OF ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS[1]	2017	2018
Actuarial Present Value of Accumulated Plan Benefits at Beginning of Year (January 1)	$ 534,050,659	$ 545,334,445
Increase/(Decrease) during the Year Attributable to:		
Benefits Accumulated and Actuarial Experience	$ 741,451	$ 6,742,841
Plan Amendments	0	(117,661,915)
Actuarial Assumption Changes	13,415,654	0
Increase for Interest	37,263,706	29,532,224
Benefits Paid[2]	(40,137,025)	(40,663,014)
Net Increase/(Decrease)	$ 11,283,786	$ (122,049,864)
Actuarial Present Value of Accumulated Plan Benefits at End of Year (December 31)	$ 545,334,445	$ 423,284,581

ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS[1]	2017	2018
Actuarial Present Value of Accrued Benefits		
Vested Benefits		
Participants Currently Receiving Benefits	$ 385,007,229	$ 305,984,513
Other Participants	159,635,051	116,557,051
Total Vested Benefits	$ 544,642,280	$ 422,541,564
Non-Vested Benefits	692,165	743,017
Actuarial Present Value of Accumulated Plan Benefits at End of Year (December 31)	$ 545,334,445	$ 423,284,581

1 In compliance with ASC 960, the Actuarial Present Value of Accumulated Plan Benefits have been updated to reflect the present value of assumed operating expenses as of December 31, 2017 and December 31, 2018. The present value has been proportionately allocated to each participant liability group: $20,010,345 ($1,400,000 per year, $1,352,681 payable as of the beginning of year) as of December 31, 2017; and $20,010,345 ($1,400,000 per year, $1,352,681 payable as of the beginning of year) as of December 31, 2018.

2 Expenses are included with the benefit payment as of December 31, 2018.

Appendix K – Withdrawal Liability Information

DETERMINATION OF VESTED BENEFIT LIABILITIES FOR WITHDRAWAL LIABILITY PURPOSES		
	December 31, 2017	**December 31, 2018**
1. Vested Benefit Liabilities Earned to Date	$ 524,657,333	$ 402,566,345
2. PBGC 10-3 Base[1]	16,197,852	132,476,115
3. Vested Benefit Liabilities (1 + 2)	$ 540,855,185	$ 535,042,460

[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, 2017	December 31, 2018
December 31, 2018	$	$ 117,842,876
December 31, 2013	$ 16,197,852	$ 14,633,239
Total	$ 16,197,852	$ 132,476,115

Appendix L – Funding Standard Account (No Amortization Extension)

FUNDING STANDARD ACCOUNT (No Amortization Extension)[1]				
	2018		2019 (Estimated)[2]	
1. Charges				
A. Funding Deficiency on January 1	$	44,477,960	$	66,982,943
B. Normal Cost (Beginning of Year)		2,052,689		1,687,000
C. Amortization Charges		36,975,294		34,859,578
D. Interest on A, B and C		6,054,181		7,505,890
E. Subtotal Charges (A + B + C +D)		89,560,124		111,035,411
2. Credits				
A. Credit Balance on January 1	$	0	$	0
B. Employer Contributions for Year[2]		12,226,845		10,747,000
C. Amortization Credits		9,237,401		21,473,653
D. Interest on A, B and C		1,112,935		1,946,419
E. Subtotal Credits (A + B + C + D)	$	22,577,181	$	34,167,072
3. Funding Deficiency on December 31 (2E - 1E)	**$**	**(66,982,943)**	**$**	**(76,868,339)**
4. Minimum Required Contribution (Before Credit Balance)	$	79,653,011	$	88,004,918
5. Minimum Required Contribution (After Credit Balance)		79,653,011		88,004,918
6. ERISA FFL (Accrued Liability FFL)	$	226,137,206	$	115,717,769
7. "RPA '94" Override (90% Current Liability FFL)		440,019,882		252,606,847

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

2 2019 estimated contributions reflect a partial year of withdrawal payments for the 2018 withdrawn Employers.

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

FULL FUNDING LIMITS (No Amortization Extension)	2018	2019 (Estimated)
1. ERISA FFL		
A. Interest Rate	7.25 %	7.25 %
B. Liability	$ 525,324,100	$ 403,274,236
C. Normal Cost (without expenses)	700,008	721,000
D. Actual/Expected Benefit Payments	(39,023,959)	(34,375,142)
E. Interest on B, C and D	36,722,129	28,043,556
F. Expected Liability (B + C + D + E)	**$ 523,722,278**	**$ 397,663,650**
G. Min of AVA and MVA	333,355,231	297,066,081
H. Credit Balance	0	0
I. Adjusted Assets	333,355,231	297,066,081
J. Actual/Expected Benefit Payments	(39,023,959)	(34,375,142)
K. Expected Operating Expenses	(1,352,681)	(966,200)
L. Interest on I, J, and K	22,655,566	20,221,142
M. Expected Assets (I + J + K + L))	**$ 315,634,157**	**$ 281,945,881**
N. ERISA FFL (F - M)	**$ 208,088,121**	**$ 115,717,769**
2. RPA '94 FFL		
A. Interest Rate	2.98 %	3.06 %
B. Liability	$ 852,189,392	$ 632,991,111
C. Normal Cost (without expenses)	1,589,025	1,537,000
D. Actual/Expected Benefit Payments	(39,023,959)	(34,430,766)
E. Interest on B, C and D	24,861,140	18,889,769
F. Expected Liability (B + C + D + E)	$ 839,615,598	$ 618,987,114
G. Funding Limit Factor	90 %	90 %
H. Funding Limit Liability (F * G)	**$ 755,654,039**	**$ 557,088,403**
I. AVA	$ 333,355,231	$ 318,132,109
J. Actual/Expected Benefit Payments	(39,023,959)	(34,430,766)
K. Expected Operating Expenses	(1,352,681)	(966,200)
L. Interest on I, J, and K	22,655,566	21,746,413
M. Expected Assets (I + J + K + L))	**$ 315,634,157**	**$ 304,481,556**
N. RPA '94 FFL (H - M)	**$ 440,019,882**	**$ 252,606,847**

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2019)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Plan Amendment	1/1/1980	40.00	1.00	$ 395,897	$ 28,376	$ 28,376
Plan Amendment	1/1/1981	40.00	2.00	3,609,259	500,548	259,026
Plan Amendment	1/1/1990	30.00	1.00	1,991,358	153,399	153,399
Plan Amendment+Act Assump	1/1/1991	30.00	2.00	3,867,632	575,745	297,941
Plan Amendment	1/1/1992	30.00	3.00	2,315,769	499,818	178,395
Plan Amendment	1/1/1993	30.00	4.00	8,009,694	2,228,917	617,024
Plan Amendment+Act Assump	1/1/1994	30.00	5.00	5,816,782	1,957,358	448,093
Plan Amendment	1/1/1995	30.00	6.00	3,954,934	1,545,544	304,667
Actuarial Assumption	1/1/1996	30.00	7.00	2,334,000	1,030,245	179,799
Plan Amendment	1/1/1996	30.00	7.00	19,722,004	8,705,411	1,519,277
Plan Amendment	1/1/1997	30.00	8.00	12,051,000	5,888,149	928,344
Plan Amendment	1/1/1998	30.00	9.00	12,834,000	6,835,498	988,662
Actuarial Assumption	1/1/1998	30.00	9.00	5,651,596	3,010,079	435,369
Actuarial Assumption	1/1/1999	30.00	10.00	500,000	286,824	38,517
Plan Amendment	1/1/1999	30.00	10.00	21,615,699	12,399,592	1,665,157
Plan Amendment	1/1/2000	30.00	11.00	7,937,933	4,857,195	611,495
Actuarial Assumption	1/1/2000	30.00	11.00	4,389,753	2,686,072	338,162
Plan Amendment	1/1/2001	30.00	12.00	12,746,807	8,254,418	981,945
Plan Amendment	1/1/2002	30.00	13.00	2,268,072	1,544,168	174,720
Plan Amendment	1/1/2003	30.00	14.00	2,964,980	2,110,585	228,407
Experience Loss	1/1/2005	15.00	1.00	12,406,469	1,290,215	1,290,215
Plan Amendment	1/1/2005	30.00	16.00	1,000,895	768,394	77,104
Actuarial Assumption	1/1/2005	30.00	16.00	1,063,519	816,470	81,928
Experience Loss	1/1/2006	15.00	2.00	6,485,444	1,303,312	674,454
Plan Amendment	1/1/2006	30.00	17.00	1,459,383	1,157,070	112,423

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2019) (CONTINUED)						
	Amortization Period			Balances		
Charges	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Plan Amendment	1/1/2007	30.00	18.00	$ 1,475,698	$ 1,204,590	$ 113,680
Plan Amendment	1/1/2008	15.00	4.00	1,383,243	519,647	143,850
Experience Loss	1/1/2009	15.00	5.00	123,105,349	55,922,968	12,802,342
Experience Loss	1/1/2011	15.00	7.00	5,600,066	3,337,014	582,379
Experience Loss	1/1/2012	15.00	8.00	39,179,040	25,842,583	4,074,425
Experience Loss	1/1/2013	15.00	9.00	33,032,826	23,750,890	3,435,249
Experience Loss	1/1/2016	15.00	12.00	506,616	442,882	52,686
Experience Loss	1/1/2017	15.00	13.00	1,021,519	938,878	106,233
Experience Loss	1/1/2018	15.00	14.00	1,612,860	1,549,903	167,729
Experience Loss	1/1/2019	15.00	15.00	7,385,989	7,385,989	768,106
Total Charges					**$ 191,328,746**	**$ 34,859,578**

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

FUNDING STANDARD ACCOUNT AMORTIZATION BASES (No Amortization Extension) (As of January 1, 2019) (CONTINUED)						
	Amortization Period			Balances		
Credits	Date Established	Initial Period	Remaining Period	Initial	Remaining	Beginning-of-Year Payment
Experience Gain	1/1/2010	15.00	6.00	$ (27,345,881)	$ (14,426,486)	$ (2,843,835)
Plan Amendment	1/1/2010	15.00	6.00	(32,045,400)	(16,905,740)	(3,332,562)
Experience Gain	1/1/2014	15.00	10.00	(14,564,452)	(11,278,706)	(1,514,630)
Experience Gain	1/1/2015	15.00	11.00	(8,275,002)	(6,835,530)	(860,559)
Assumption Change	1/1/2017	15.00	13.00	(6,594,691)	(6,061,185)	(685,815)
Plan Amendment	1/1/2019	15.00	15.00	(117,661,915)	(117,661,915)	(12,236,252)
Total Credits					**$ (173,169,562)**	**$ (21,473,653)**

Rael &
Letson