



Pension Plan of Kent County, Delaware

January 1, 2018
Actuarial Valuation Report

Kent County Levy Court

Actuarial Valuation as of January 1, 2018

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At the request of the plan sponsor, this report summarizes the Pension Plan of Kent County, Delaware as of January 1, 2018. The purpose of this report is to communicate the following results of the valuation:

- Funded Status; and
- Actuarially Determined Contribution.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the employer. Asset information has been provided to us by the trustee. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- 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 (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

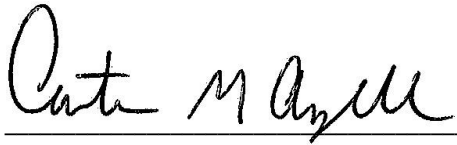
We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report.

To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart



Carter M. Angell, FSA, EA, MAAA



Kevin Carey, ASA

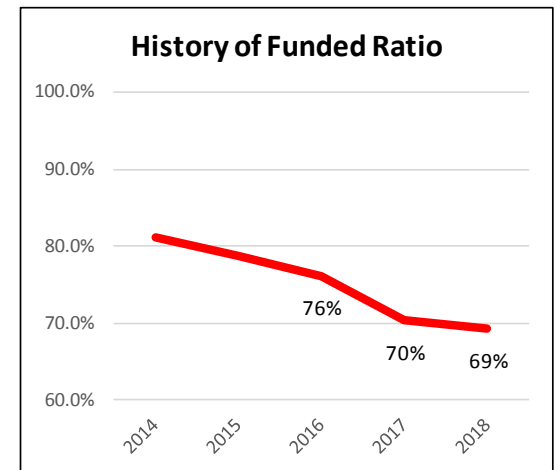
March 16, 2018

Date

Summary Results

The actuarial valuation’s primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability is based on an entry age level percentage of pay method.

Valuation Date	January 1, 2017	January 1, 2018
Funded Status Measures		
Entry Age Accrued Liability	\$52,233,204	\$56,506,230
Actuarial Value of Assets	36,698,385	39,077,674
Unfunded Accrued Liability	\$15,534,819	\$17,428,556
Funded Percentage (AVA)	70.3%	69.2%
Funded percentage (MVA)	66.9%	71.5%
Cost Measures		
Recommended Employer Contribution	\$2,544,116	\$2,811,213
Expected Employee Contribution	199,044	213,369
Total County Contribution	\$2,743,160	\$3,024,582
Total County Contribution (as a percentage of payroll)	19.0%	20.7%
Asset Performance		
Market Value of Assets (MVA)	\$34,942,834	\$40,396,997
Actuarial Value of Assets (AVA)	\$36,698,385	\$39,077,674
Actuarial Value/Market Value	105.0%	96.7%
Participant Information		
Active Participants	288	291
Terminated Vested Participants	100	102
Retirees, Beneficiaries, and Disabled Participants	204	212
Total	592	605
Expected Payroll	\$14,428,663	\$14,633,137



Changes Since Prior Valuation and Key Notes

We updated plan provisions to reflect immediate retirement eligibility for Diana Golt upon termination from employment. This change increased the Accrued Liability, Normal Cost, and Recommended Employer Contribution.

There have been no other changes to the plan provisions since the last valuation.

To better reflect anticipated plan experience, the administrative expense load added to the Normal Cost was changed from \$35,000 in 2017 to \$55,000 in 2018.

To better reflect anticipated plan experience, the interest rate used to discount liabilities was changed from 7.75% per annum (net of investment expenses) to 7.50% per annum (net of investment expenses). This change resulted in an increase in the Accrued Liability, Normal Cost, and Recommended Employer Contribution.

To better reflect anticipated plan experience, the mortality improvement scale was changed to the assumptions from the 2017 Social Security Administration Trustee's Report. The base RP-2014 Total and Disabled tables remain the same. This change caused a decrease in the Accrued Liability, Normal Cost, and Recommended Employer Contribution.

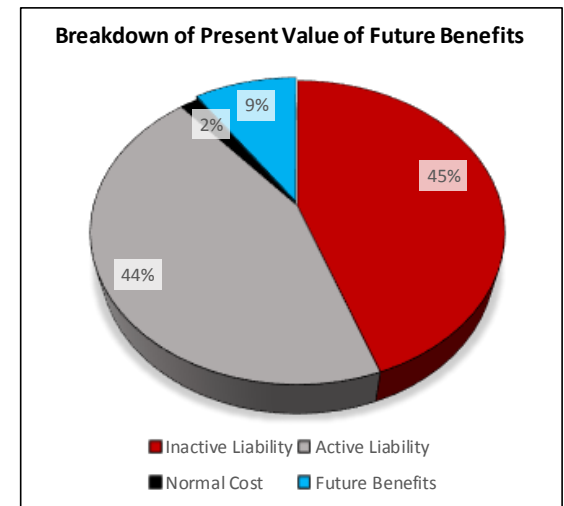
Present Value of Future Benefits

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

January 1, 2018

Present Value of Future Benefits

Active participants	
Retirement	\$32,236,799
Disability	707,487
Death	115,757
Termination	2,251,152
Refund of contributions	0
Total active	\$35,311,195
Inactive participants	
Retired participants	\$22,990,607
Beneficiaries	1,162,830
Disabled participants	254,073
Terminated vested participants	3,913,055
Total inactive	\$28,320,565
Total	\$63,631,760
Present value of future payrolls	\$107,903,863



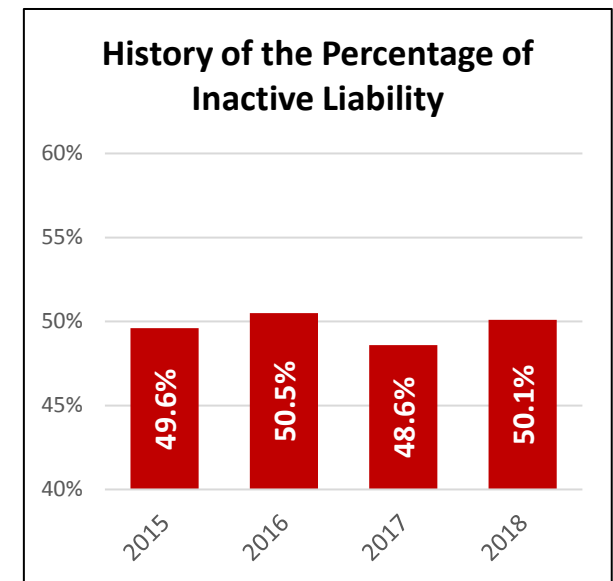
Funding Liability – Entry Age Level Percent of Pay

The Funding Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions.

January 1, 2018

Entry Age Normal Percent of Pay Liabilities

Active participants	
Retirement	\$26,276,262
Disability	425,439
Death	86,539
Termination	1,397,425
Refund of contributions	0
Total Active	\$28,185,665
Inactive participants	
Retired participants	\$22,990,607
Beneficiaries	1,162,830
Disabled participants	254,073
Terminated vested participants	3,913,055
Total Inactive	\$28,320,565
Total	\$56,506,230
Total Normal Cost	\$1,085,268
Employee Normal Cost	213,369
Employer Normal Cost	\$871,899



Asset Information

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

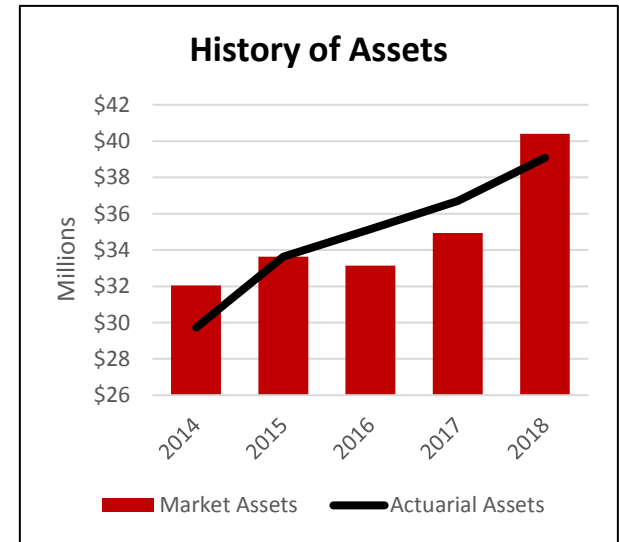
January 1, 2018

Market Value Reconciliation

Market value of assets, beginning of prior year	\$34,942,834
Contributions	
Employer contributions	1,979,945
Member contributions	186,515
Non-employer contributing entity	0
Total	2,166,460
Investment income	5,830,044
Benefit payments	(2,488,271)
Administrative expenses	(54,070)
Market value of asset, beginning of current year	\$40,396,997
Return on Market Value	16.8%
Market value of assets available for pension benefits	\$40,396,997

Actuarial value of assets

Value at beginning of current year	\$39,077,674
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Asset Information (continued) – 5-Year Asset Smoothing

Actuarial Value of Assets are used to develop funded percentages and contribution requirements.

	January 1, 2018
1. Expected market value of assets	
(a) Market value of assets, beginning of prior year	\$34,942,834
(b) Contributions	2,166,460
(c) Benefit payments	(2,488,271)
(d) Administrative expenses	(54,070)
(e) Expected return	2,691,643
(f) Expected market value of assets, beginning of current year	\$37,258,596
2. Market value of assets, beginning of current year	\$40,396,997
3. Actual return on market value	\$5,830,044
4. Amount subject to phase in [(3)-(1e)]	\$3,138,401
5. Phase in of asset gain/(loss)	
(a) Current year (80% x \$3,138,401)	\$2,510,721
(b) First prior year (60% x \$(315,464))	(189,278)
(c) Second prior year (40% x \$(2,505,300))	(1,002,120)
(d) Third prior year (20% x \$0)	0
(e) Total phase-in	\$1,319,323
6. Preliminary actuarial value of assets, beginning of current year [(2)-(5e)]	\$39,077,674
7. 80% Market value of assets	\$32,317,598
8. 120% Market value of assets	\$48,476,396
9. Adjustment to actuarial value of assets due to 20% corridor	\$0
10. Final actuarial value of assets (6) - (9)	\$39,077,674
11. Return on actuarial value of assets	7.6%

Reconciliation of Gain/Loss

January 1, 2018

Liability (gain)/loss

Actuarial liability, beginning of prior year	\$52,233,204
Normal cost	1,022,745
Benefit payments	(2,488,271)
Expected Interest	4,030,916
Change in actuarial assumptions	<u>1,456,423</u>
Expected actuarial liability, beginning of current year	\$56,255,017
Actual actuarial liability	\$56,506,230
Liability (gain)/loss	\$251,213

Asset (gain)/loss

Actuarial value of assets, beginning of prior year	\$36,698,385
Contributions	2,166,460
Benefit payments	(2,488,271)
Administrative Expenses	(54,070)
Expected investment return	<u>2,829,559</u>
Expected actuarial value of assets, beginning of current year	\$39,152,063
Actual actuarial value of assets, beginning of current year	\$39,077,674
Asset (gain)/loss	\$74,389

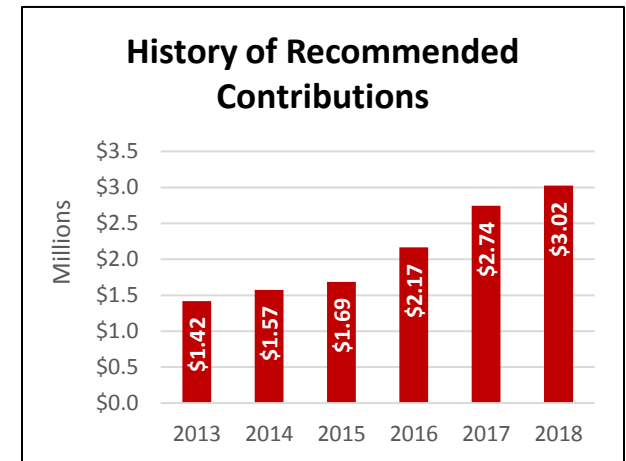
Total (gain)/loss

\$325,602

Development of Actuarially Determined Contribution

The actuarially determined contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws.

Valuation Date	January 1, 2018
Funded Position	
1. Entry age accrued liability	\$56,506,230
2. Actuarial value of assets	\$39,077,674
3. Unfunded actuarial accrued liability (UAAL)	\$17,428,556
Employer Contributions	
1. Normal Cost	
(a) Employer normal cost	\$871,899
(b) Expected employee contributions	213,369
(c) Total normal cost	\$1,085,268
2. Expected Administrative Expenses	55,000
3. Amortization of UAAL	1,623,085
4. Applicable interest	261,229
5. Total recommended contribution at valuation date	\$3,024,582
6. Expected employee contributions	\$213,369
7. Expected employer contributions	\$2,811,213
8. Expected payroll	\$14,633,137
9. Expected employer contribution as a percentage of expected payroll (7) / (8)	19.2%



The accrued liability exceeds the actuarial value of assets as of January 1, 2018. The unfunded liability has been amortized over a 20-year closed period at 7.50% interest.

The total recommended contribution includes \$213,369 in expected employee contributions.

The total recommended contribution includes interest to account for actual timing of when the contribution is expected to be made.

Demographic Information

The foundation of a reliable actuarial report is the participant information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

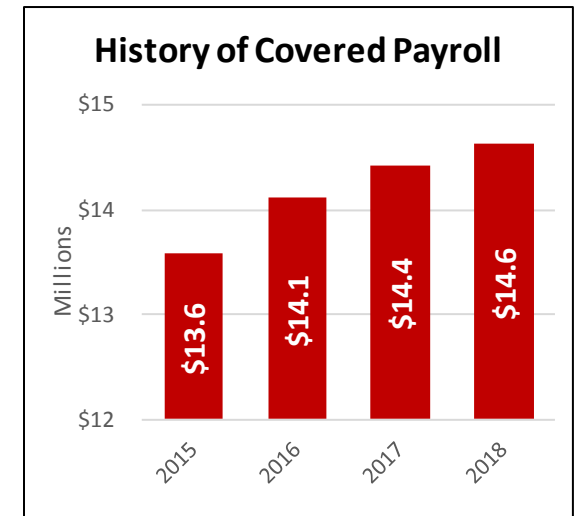
January 1, 2018

Participant Counts

Active Participants	291
Retired Participants	181
Beneficiaries	29
Disabled Participants	2
Terminated Vested Participants	102
Total Participants	605

Active Participant Demographics

Average Age	49.0
Average Service	11.9
Average Compensation	\$50,286
Total Expected Payroll	\$14,633,137



Demographic Information (continued)

January 1, 2018

Retiree Statistics

Average Age	72.3
Average Monthly Benefit	\$1,129

Beneficiary Statistics

Average Age	70.5
Average Monthly Benefit	\$388

Disabled Participants Statistics

Average Age	48.9
Average Monthly Benefit	\$1,697

Terminated Vested Participants Statistics

Average Age	50.6
Average Monthly Benefit	\$563

Terminated Participants Due a Return of Employee Contributions Statistics

Average Age	36.1
Total Employee Contributions Payable	\$4,290

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Survivor	Totals
Prior Year	288	100	2	175	27	592
Active						
To Terminated Vested	(6)	6	0	0	0	0
To Disabled	(1)	0	1	0	0	0
To Retired	(8)	0	0	8	0	0
To Lump Sum Cash-Out	(10)	0	0	0	0	(10)
To Death with beneficiary	(1)	0	0	0	1	0
Terminated Vested						
To Retired	0	(5)	0	5	0	0
Disabled						
To Terminated Vested	0	1	(1)	0	0	0
Retired						
To Death no beneficiary	0	0	0	(5)	0	(5)
To Death with beneficiary	0	0	0	(2)	2	0
Survivor						
To Death	0	0	0	0	(1)	(1)
Additions	29	0	0	0	0	29
Departures	0	0	0	0	0	0
Current Year	291	102	2	181	29	605

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total	Average Pay
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up		
Under 25	2	1	0	0	0	0	0	0	0	0	3	\$42,014
25 to 29	1	17	2	0	0	0	0	0	0	0	20	\$43,641
30 to 34	6	4	8	5	0	0	0	0	0	0	23	\$43,378
35 to 39	7	5	5	5	5	0	0	0	0	0	27	\$46,447
40 to 44	2	6	5	3	9	4	0	0	0	0	29	\$54,613
45 to 49	2	4	2	9	5	6	3	0	0	0	31	\$56,360
50 to 54	4	4	7	10	9	3	8	4	0	0	49	\$49,044
55 to 59	5	9	8	14	7	9	2	3	2	0	59	\$50,999
60 to 64	0	5	5	8	12	1	3	1	0	0	35	\$51,497
65 to 69	0	0	3	3	3	2	0	1	0	0	12	\$61,280
70 & up	0	1	0	0	1	1	0	0	0	0	3	\$33,898
Total	29	56	45	57	51	26	16	9	2	0	291	\$50,286

Plan Effective Date

The plan was established June 18, 1957. The plan was last amended May 28, 2013.

Plan Status

The plan is open to new participants and all participants are eligible to accrue additional benefits.

Eligibility for Participation

An employee who receives a regular salary directly from Kent County will be a covered employee. The following people shall also be considered covered employees:

- Elected officials of Kent County;
- Board of Assessment members; and
- Part-time employees working more than 1,000 hours per calendar year

The following employees shall not be considered covered employees and are not eligible for the plan:

- The Mortgage Commissioner;
- Summer Youth Employment Program (or successor) employees;
- Part-time (less than 1,000 hours per year), temporary, contracted, or seasonal employees; and
- Former City of Dover paramedics having contributions made to the City pension plan by the County. Covered employment will begin when the contributions to the City pension plan cease, if the former City of Dover paramedic remains employed by the County

Accrued Benefit

The monthly pension payable to covered employees hired on or before December 21, 2010 shall be 2% of the Average Monthly Base Salary of the highest three consecutive years (36 consecutive months) of salary with Kent County multiplied by the number of years served in covered employment with Kent County. For covered employees hired after December 21, 2010, the multiplier shall be 1.85% instead of 2%.

Benefits

Normal Retirement

Eligibility Age 62 and 5 years of service for those hired on or before June 29, 2010; or
Age 62 and 8 years of service for those hired after June 29, 2010

Benefit Accrued Benefit

Early Retirement

Eligibility Age 55 and 20 years of service; or
Age 60 and 15 years of service; or
Any age and 30 years of service

Benefit Accrued Benefit

Late Retirement

Eligibility Participation continues after normal retirement date

Benefit Accrued Benefit

Disability

Eligibility A Covered Employee who shall become disabled while in Covered Employment and covered under County-provided long-term disability Insurance

Benefit Covered employee will be considered as remaining in Covered Employment until they retire or the cessation of disability insurance, if earlier, for benefit accrual purposes

Death before Retirement

Eligibility Covered employee with vested accrued benefit

Benefit For married employees: 50% of the Accrued Benefit the covered employee would have received had they terminated employment on the date of death and survived to the earliest retirement age

For single employees: Survivor portion of the 50% Joint and Survivor Annuity if the covered employee terminated employment on the date of death and survived to the earliest retirement age

Termination Benefit

Eligibility	5 years of service if hired on or before June 29, 2010, 8 years of service if hired after June 29, 2010
Benefit	Accrued retirement benefit payable at participant's normal retirement date

Average Monthly Base Salary

Highest 36 consecutive months of base wage pay rate compensation approved by the County government for the position held and paid over a one-year Period, excluding pay for overtime, longevity, shift differential, accrued time payouts, bonuses, or any other special pay other than base wage pay rate compensation. Payroll deductions shall not reduce the annual compensation or salary amount. Amount will be limited by 401(a)(17) of the Code.

Credited Service

Years of service will be granted based on elapsed time for covered employees working more than 1,000 hours in a calendar year.

If a covered employees had similar employment with New Castle County, Sussex County, or the State of Delaware prior to June 27, 1986, such years of service shall be recognized and included for pension benefits, provided that such covered employee was employed by Kent County on or before June 27, 1986

Employee Contributions

Effective July 1, 2009, employees hired on or before December 21, 2010 shall contribute 1% of base salary payable over the normal pay periods

Effective December 21, 2010, employees hired after December 21, 2010 shall contribute 3% of base salary over \$6,000, payable over the normal pay periods

Payment Forms

Normal Form

Life Annuity

Optional Forms

50%, 75%, or 100% Joint and Survivor Annuity, 5 or 10-Year Certain and Life Annuity, Lump Sum (if less than \$3,500)

Actuarial Equivalence

Optional forms of payment will be converted from a life annuity using the applicable mortality table and the applicable interest rate for the month of December preceding the Plan Year in which the payment begins, as specified by the Secretary of the Treasury per Section 417(e)(3)

Plan Provisions Not Included

We are not aware of any plan provisions not included in the valuation

Adjustments Made for Subsequent Events

We are not aware of any events following the measurement date and prior to the date of this report that would materially impact the results of this report

Except where otherwise indicated, the following assumptions were selected by the plan sponsor with the concurrence of the actuary. Prescribed assumptions are based on the requirements of the relevant law, the Internal Revenue Code, and applicable regulation. The actuary was not able to evaluate the prescribed assumptions for reasonableness for the purpose of the measurement.

Valuation Date

January 1, 2018

Participant and Asset Information Collected as of

January 1, 2018

Cost Method (CO)

Entry Age Cost Method – Percent of pay

Amortization Method (CO)

20 year closed amortization of Unfunded Accrued Liability (Fresh Start at 1/1/2017)

Asset Valuation Method

Gains or losses on the Market Value of Assets are recognized over five years, subject to a 20% corridor around the Market Value of Assets

Interest Rates (CO)

7.50%, net of investment expenses

This assumption has been set by the plan sponsor in conjunction with their asset advisor. Detailed evaluation of this assumption was outside the scope of our engagement.

Annual Pay Increases (FE)

Sample rates:

Age	Rate
20	5.50%
25	4.50%
35	3.50%
45	3.25%
55+	3.00%

The annual pay increases are based on a study of actual experience for the plan from January 1, 2011 – January 1, 2016.

Expense and/or Contingency Loading (FE)

The Normal Cost is increased by \$55,000 to cover anticipated administrative expenses paid from the trust during the 2018 plan year.

Mortality Rates (FE)

Healthy Lives RP-2014 Total Mortality Table with fully generational improvements projected from 2006 based on assumptions from the 2017 Social Security Administration Trustee's Report

Disabled Lives RP-2014 Disabled Mortality Table with fully generational improvements projected from 2006 based on assumptions from the 2017 Social Security Administration Trustee's Report

As the plan is not large enough to have credible experience, mortality assumptions are set to reflect general population trends.

Retirement Rates (FE)

Age	Rate
55-57	10%
58-59	0%
60	25%
61	10%
62	20%
63-64	15%
65-69	50%
70+	100%

The retirement rates are based on a study of actual experience for the plan from January 1, 2011 – January 1, 2016.

Disability Rates (FE)

Sample rates:

Age	Rate
25	0.077%
30	0.091%
35	0.116%
40	0.203%
45	0.358%
50	0.617%
55	1.075%
60	1.397%
65+	0.000%

As the plan is not large enough to have credible experience, disability rates are determined based on the results of broad population studies.

Withdrawal Rates (FE)

Rates based on age and service, select and ultimate table:

Age	Service					
	Under 1	1-2	2-3	3-4	4-5	5+
20	12.00%	15.00%	18.00%	15.00%	10.00%	8.00%
25	12.00%	15.00%	18.00%	15.00%	10.00%	8.00%
30	12.00%	15.00%	15.00%	15.00%	9.50%	7.00%
35	12.00%	12.00%	15.00%	12.00%	7.50%	6.00%
40	12.00%	11.50%	12.00%	10.00%	7.50%	5.50%
45	12.00%	10.00%	12.00%	10.00%	5.00%	3.00%
50	12.00%	6.50%	10.00%	5.00%	5.00%	3.00%
55	12.00%	4.00%	5.00%	4.00%	4.00%	2.00%
60	12.00%	1.50%	2.00%	1.50%	1.50%	1.50%

The withdrawal rates are based on a study of actual experience for the plan from January 1, 2011 – January 1, 2016.

Marital Status and Ages (FE)

100% of Participants are assumed to be married with wives assumed to be 3 years younger than husbands.

Payment Form Election (FE)

Life Annuity	100%
Lump Sum	0%

Cost of Living Adjustment (CO)

None assumed.

FE indicates an assumption representing an estimate of future experience

MD indicates an assumption representing observations of estimates inherent in market data

CO indicates an assumption representing a combination of an estimate of future experience and observations of market data

The actuarial report also shows the necessary items required for plan reporting and any state requirements.

- ✓ Schedule of Amortizations

Schedule of Amortizations

January 1, 2018

<u>Date Established</u>	<u>Remaining Period Years</u>	<u>Outstanding Balance</u>	<u>Annual Payment*</u>
1/1/2017	19	\$15,185,834	\$1,418,440
1/1/2018	20	<u>2,242,722</u>	<u>204,645</u>
	Total	\$17,428,556	\$1,623,085

*Annual Payment for the amortization base established as of 1/1/2017 was changed to an amount sufficient to pay down the outstanding balance over the remaining period years using the new discount rate of 7.50%.