ACTUARIAL ASSUMPTIONS AND METHODS

1. Actuarial Cost Method

- Entry Age Normal Cost Method

2. Decrements

- **Pre-Retirement Mortality**

  Female: PubG.H-2010 Headcount Weighted Safety Employee Set Forward 1 year; projected generationally using projection scale MP-2018
  Male: PubG.H-2010 Headcount Weighted Safety Below Median Employee Set Forward 1 year; projected generationally using projection scale MP-2018

- **Post-Retirement Healthy Mortality**

  Female: PubG.H-2010 Headcount Weighted Safety Healthy Retiree Set Forward 1 year; projected generationally using projection scale MP-2018
  Male: PubG.H-2010 Headcount Weighted Safety Below Median Healthy Retiree Set Forward 1 year; projected generationally using projection scale MP-2018

- **Post-Retirement Disabled Mortality**

  Pub-2010 80% Headcount Weighted General Disabled Retiree; 20% Headcount Weighted Safety Disabled Retiree; projected generationally using projection scale MP-2018

- **Disability**

  Representative values of the assumed annual rates of disability among members in active service are as follows:

Age	Ordinary Disability Rate	Service Disability Rate	Age	Ordinary Disability Rate	Service Disability Rate
20	.0004	.0003	40	.0018	.0014
25	.0006	.0005	45	.0032	.0026
30	.0009	.0007	49	.0050	.0040
35	.0012	.0010			

- **Retirement**

Members are assumed to retire at the earlier of 55 years old with 10 years of service or when they attain 22 years.

- **Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

Age	Rate	Age	Rate
20	10.30%	35	1.82%
25	7.30%	40	0.99%
30	4.15%	45	0.48%

3. **Interest Rates**

- Used for Calculating All Liabilities (including GASB 67/68 liabilities)
  8.00 % per annum

4. **Salary Increases**

- **Individual Compensation**

Representative values of the assumed annual rates of future salary increase are as follows (average assumed annual rate is 5.6%):

Age	Rate	Age	Rate
20	10.67%	40	5.10%
25	8.80%	45	5.03%
30	6.25%	50	5.06%
35	5.30%	55	5.12%

- **Aggregate Compensation**

For amortization bases established prior to October 1, 2017, the aggregate compensation used to compute the accrued liability contribution rate was assumed to increase at a rate of 3½% per year. For amortization bases established on or after October 1, 2017, the aggregate compensation used to compute the accrued liability contribution rate was assumed to increase at 0%.

5. Marriage Assumptions

- **Percent Married**
  75% of members are assumed married.

- **Age Difference Between Spouses**
  Male spouses are assumed to be three years older than female spouses.

6. Expenses

The normal contribution rate is increased by anticipated non-investment expenses. The anticipated expenses for the current year are equal to the prior year's non-investment expenses.

7. Assets

The actuarial value of assets is equal to the market value of assets adjusted to reflect a five-year phase-in of the difference between the expected return on market value of assets and the actual investment return on market value of assets. The actuarial value of assets cannot be less than 90% of market value nor greater than 110% of the market value.

8. Supplemental Distribution (13th Check)

Estimated present value of future Supplemental Distributions based on 1,000 scenarios of asset returns and the projected liabilities for the closed member group eligible for Supplemental Distributions.

ACTUARIAL ASSUMPTION AND METHOD CHANGES

The following assumptions have been changed during the last few plan years:

1. Effective October 1, 1997:
   The post-retirement mortality table was changed to the 1983 Group Annuity Mortality Table.

2. Effective October 1, 1999:
   a) The actuarial value of assets reflects a "fresh start" at market value, beginning a new five-year phase-in of gains and losses.
   b) The actuarial cost method was changed from frozen entry age to entry age.

3. Effective October 1, 2006:
   a) The retirement decrement was changed to the earlier of age 55 or attainment of 22 years of service. This assumption has been changed to better reflect anticipated retirement behavior as a result of the change in plan provisions effective October 1, 2006.
   b) The percentage of active members assumed married was changed from 95% to 75%. This assumption was changed after a review of the marital status of recent retirees and current active members.
   c) On October 1, 2006, the Actuarial Value of Assets was changed to be equal to the Market Value of Assets, adjusted to reflect a five-year phase-in of the difference between the expected return on Actuarial Value of Assets and the actual investment return. The new method was applied retroactively so that five years of excess returns are smoothed in 2006. The prior Actuarial Value of Assets was equal to the Market Value of Assets adjusted to reflect a five-year phase-in of the net investment gain or loss.
   d) It is assumed that members who enter the DROP on or after October 1, 2006 will participate in the DROP for eight years. Therefore, the COLA payment to these members will be deferred eight years.

4. Effective October 1, 2010:
   a) Age and service-based retirement rates were added for members with less than ten years of service as of September 30, 2011.

5. Effective October 1, 2012:
   a) Age and service-based retirement rates were updated to reflect the passage of Ordinance No. O-2013-18.

6. Effective October 1, 2015:
    a) Retirement rates were revised to evaluate the impact of the change in eligibility for normal retirement for members not vested on September 30, 2011 as a result of Ordinance Change effective September 2015.
    b) A pre-funding method was adopted for anticipated Supplemental Distribution payments. To estimate the future Supplemental Distributions, 1,000 100-year scenarios of returns were randomly generated based on the plan's capital market assumptions and asset allocations. Based on these return scenarios and the plan's projected liabilities for the closed employee group eligible for the supplemental distributions and the plan's projected assets, an estimate of distributions and the present value of these distributions under each scenario is determined. The median present value of the 1,000 scenarios is used to estimate the increase in the plan's unfunded liability to fund all future supplemental distributions. This process will be replicated in future actuarial valuations to determine any unfunded liability associated with future supplemental distributions.
    c) The amortization period for all future changes in the unfunded liability will be a closed 20-year period.

7. Effective October 1, 2016:
    a) The mortality assumption was updated to comply with Florida Statute 112.63(1)(f).

8. Effective October 1, 2017:
    a) The payroll growth assumption for amortization bases established on or after October 1, 2017 was reduced to 0%.

9. Effective October 1, 2018:
    a) Retirement rates were revised to reflect the change in eligibility for retirement and entry into the DROP and RPRB programs.

10. Effective October 1, 2019:
    a) The mortality assumption was updated based on Florida Statute 112.63(1)(f). The mortality tables were updated based on the assumptions adopted by the Florida Retirement System for use in the July 1, 2019 actuarial valuation.