

# Municipal Employees' Retirement System State of Rhode Island Tiogue Fire & Lighting

GASB Statement No. 68 Employer Reporting  
Accounting Schedules

For the Measurement Period Ending June 30, 2017  
To Be Used for June 30, 2018 Reporting Purposes



July, 2018

Dear MERS Employer:

This report and the information provided herein contain certain information for the sponsor of the agent retirement plan: Tiogue Fire & Lighting, MERS unit #1528 (the Plan) administered by the Employees' Retirement System of Rhode Island (ERSRI). The accounting schedules submitted in this report are required under the Governmental Accounting Standards Board (GASB) Statement No. 68 "Employer Reporting for Pension Plans."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 68. These calculations have been made on a basis that is consistent with our understanding of this Statement.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. Our calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 68 may produce significantly different results. This report may be provided to parties other than the plan sponsors only in its entirety and only with their permission.

This report is based upon information, furnished to us by ERSRI, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency but was not otherwise audited.

This report compliments the actuarial valuation report as of June 30, 2016, and the recently published June 30, 2017 report, provided for plan funding purposes. All of these reports are provided to the Retirement System and should be considered together as a complete report for the Retirement System's fiscal year ending June 30, 2017. Please see the actuarial valuation report as of June 30, 2016, dated December 20, 2016, and the actuarial report as of June 30, 2017, dated December 22, 2017, for additional discussion of the actuarial valuation that was used in the roll-forward, including the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, benefit provisions, and additional disclosure.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Plan. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

The signing actuaries are independent of the plan sponsor. Joseph Newton, Brad Stewart, and Paul Wood are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,



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# Table of Contents

|                  | <u>Page</u>   |
|------------------|---|
| <b>Section A</b> | Executive Summary   |
|                  | Executive Summary..... 1  |
|                  | Discussion..... 2   |
| <b>Section B</b> | Financial Statements  |
|                  | Statement of Pension Expense ..... 7  |
|                  | Statement of Outflows and Inflows Arising from Current Period ..... 8                   |
|                  | Statement of Outflows and Inflows Arising from Current and Prior Periods ..... 9        |
|                  | Schedule of Changes in Net Pension Liability and Related Ratios Current Period ..... 10 |
|                  | Schedule of Changes in Net Pension Liability and Related Ratios Multiyear ..... 11      |
|                  | Schedule of Contributions Multiyear ..... 12  |
|                  | Notes to Schedule of Contributions..... 13  |
|                  | Sensitivity of Net Pension Liability to the Single Discount Rate Assumption ..... 14    |
| <b>Section C</b> | Glossary of Terms..... 16   |

# SECTION A



## EXECUTIVE SUMMARY

# Executive Summary

## For the Measurement Period Ending June 30, 2017 To Be Used for Report June 30, 2018

|   | <b>2018</b>   |
|---|---------------|
| Actuarial Valuation Date                              | June 30, 2016 |
| Measurement Date of the Net Pension Liability/(Asset) | June 30, 2017 |
| Employer's Fiscal Year Ending Date (Reporting Date)   | June 30, 2018 |

### Membership

|                                |      |
|--------------------------------|------|
| Number of                      |      |
| - Retirees and Beneficiaries   | 1    |
| - Inactive, Nonretired Members | 0    |
| - Active Members               | 0    |
| - Total                        | 1    |
| Covered Payroll                | \$ - |

### Net Pension Liability/(Asset)

|   |             |
|---|-------------|
| Total Pension Liability   | \$ 26,525   |
| Plan Fiduciary Net Position   | 47,851      |
| Net Pension Liability/(Asset)   | \$ (21,326) |
| Plan Fiduciary Net Position as a Percentage<br>of Total Pension Liability | 180.40 %    |
| Net Pension Liability/(Asset) as a Percentage<br>of Covered Payroll       | NA          |

### Development of the Single Discount Rate

|   |        |
|---|--------|
| Single Discount Rate  | 7.00 % |
| Long-Term Expected Rate of Investment Return  | 7.00 % |
| Long-Term Municipal Bond Rate*  | 3.56 % |
| Last year ending June 30 in the 2018 to 2117 projection period<br>for which projected benefit payments are fully funded | NA     |

**Total Pension Expense/(Income)** \$ 438

### Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expense/(Income)

|   | Deferred Outflows<br>of Resources | Deferred Inflows<br>of Resources |
|---|-----------------------------------|----------------------------------|
| Difference between expected and actual experience                                   | \$ -                              | \$ -                             |
| Changes in assumptions  | -                                 | -                                |
| Net difference between projected and actual earnings<br>on pension plan investments | 3,087                             | 2,071                            |
| Total   | \$ 3,087                          | \$ 2,071                         |

*\*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in the Fidelity "20-Year Municipal GO AA Index" as of June 30, 2017.*

# Discussion

## Accounting Standard

For state and local government employers (as well as certain non-employers) that contribute to a defined benefit (DB) pension plan administered through a trust or equivalent arrangement, Governmental Accounting Standards Board (GASB) Statement No. 68 establishes standards for pension accounting and financial reporting. Under GASB Statement No. 68, the employer must account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information is not included in this report if it is not actuarial in nature, such as the notes to the financial statements regarding accounting policies and investments. As a result, the retirement system and/or plan sponsor is responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

## Financial Statements

GASB Statement No. 68 requires state and local government employers that contribute to defined benefit pension plans to recognize the net pension liability and the pension expense on their financial statements, along with the related deferred outflows of resources and deferred inflows of resources. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to Tiogue Fire & Lighting subsequent to the measurement date of June 30, 2017.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

## Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to pensions.

In addition, GASB Statement No. 68 requires the notes of the financial statements for the employers to include certain additional information, including:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- for the current year, sources of changes in the net pension liability;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the Single Discount Rate;
- certain information about mortality assumptions and the dates of experience studies;
- the date of the valuation used to determine the total pension liability;
- information about changes of assumptions or other inputs and benefit terms;
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements;
- the total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes; and
- a description of the system that administers the pension plan.



## Required Supplementary Information

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

While the first two tables may be built prospectively as the information becomes available, sufficient information is currently available for the third table.

## Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2016 and a measurement date of June 30, 2017. The liabilities are rolled forward one-year using standard actuarial methods. This measurement date is within one year of the plan sponsor's fiscal year end June 30, 2018 and may be used for June 30, 2018 reporting purposes.

Expense and deferred outflow calculations are shown starting with the year ending June 30, 2017, but can be used for the plan sponsor's June 30, 2018 financial reporting.

Paragraph 57 of GASB Statement No. 68 indicates that contributions to the pension plan subsequent to the measurement date of the Net Pension Liability/(Asset) and prior to the end of the employer's reporting period should be reported by the employer as a deferred outflow of resources related to pensions. The information contained in this report does not incorporate any contributions made to the Plan subsequent to June 30, 2017; the employer will need to add those contributions into the Deferred Outflows, if applicable.

## Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on the Fidelity "20-Year Municipal GO AA Index" as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.56% (based on the weekly rate closest to but not later than the measurement date of the “state & local bonds” rate from Federal Reserve statistical release (H.15)). The analysis shows that the plan’s fiduciary net position is projected to be sufficient to pay all covered benefits, and the resulting Single Discount Rate is 7.00%.

### **Effective Date and Transition**

GASB Statement No. 68 is effective for an employer’s fiscal years beginning after June 15, 2014; however, earlier application is encouraged by the GASB.

**SECTION B**



**FINANCIAL STATEMENTS**

## Pension Expense Under GASB Statement No. 68 Employer Fiscal Year Ended June 30, 2018

### A. Pension Expense/(Income)

|   |           |            |
|---|-----------|------------|
| 1. Service Cost   | \$        | -          |
| 2. Interest on the Total Pension Liability                                  |           | 1,820      |
| 3. Current-Period Benefit Changes   |           | -          |
| 4. Employee Contributions (made negative for addition here)                 |           | -          |
| 5. Projected Earnings on Plan Investments (made negative for addition here) |           | (3,303)    |
| 6. Pension Plan Administrative Expense                                      |           | 48         |
| 7. Other Changes in Plan Fiduciary Net Position                             |           | -          |
| 8. Recognition of Outflow (Inflow) of Resources due to Liabilities          |           | 1,685      |
| 9. Recognition of Outflow (Inflow) of Resources due to Assets               |           | 188        |
| <b>10. Total Pension Expense</b>  | <b>\$</b> | <b>438</b> |

# Statement of Outflows and Inflows arising from the Measurement Period Ending June 30, 2017 For the Employer Fiscal Year Ending June 30, 2018

## A. Outflows (Inflows) of Resources due to Liabilities

|  |    |        |
|--|----|--------|
| 1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses  | \$ | 2      |
| 2. Assumption Changes (gains) or losses  | \$ | 1,683  |
| 3. Recognition period for Liabilities: Average of the expected remaining service lives of all participants {in years}  |    | 1.0000 |
| 4. Outflow (Inflow) of Resources to be recognized in the current pension expense/(income) for the difference between expected and actual experience of the Total Pension Liability                           | \$ | 2      |
| 5. Outflow (Inflow) of Resources to be recognized in the current pension expense/(income) for assumption changes   | \$ | 1,683  |
| 6. Outflow (Inflow) of Resources to be recognized in the current pension expense/(income) due to Liabilities (Item A.4 + Item A.5)   | \$ | 1,685  |
| 7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expense/(income) for the difference between expected and actual experience of the Total Pension Liability (Item A.1 - Item A.4) | \$ | -      |
| 8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expense/(income) for assumption changes (Item A.2 - Item A.5)   | \$ | -      |
| 9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expense/(income) due to Liabilities (Item A.7 + Item A.8)   | \$ | -      |

## B. Outflows (Inflows) of Resources due to Assets

|   |    |         |
|---|----|---------|
| 1. Net difference between projected and actual earnings on pension plan investments (gains) or losses                             | \$ | (1,779) |
| 2. Recognition period for Assets {in years, closed 5-year period}   |    | 5.0000  |
| 3. Outflow (Inflow) of Resources to be recognized in the current pension expense/(income) due to Assets (Item B.1 / Item B.2)     | \$ | (356)   |
| 4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expense/(income) due to Assets (Item B.1 - Item B.3) | \$ | (1,423) |

# Statement of Outflows and Inflows arising from Current and Prior Reporting Periods Employer Fiscal Year Ended June 30, 2018

**A. Current Pension Expense/(Income) - Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense/(Income)**

|                       | Outflows<br>of Resources | Inflows<br>of Resources | Net Outflows/(Inflows)<br>of Resources |
|-----------------------|--------------------------|-------------------------|--|
| 1. Due to Liabilities | \$ 1,685                 | \$ -                    | \$ 1,685                               |
| 2. Due to Assets      | 1,193                    | 1,005                   | 188                                    |
| <b>3. Total</b>       | <b>\$ 2,878</b>          | <b>\$ 1,005</b>         | <b>\$ 1,873</b>                        |

**B. Current Pension Expense/(Income) - Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense/(Income)**

|   | Outflows<br>of Resources | Inflows<br>of Resources | Net Outflows/(Inflows)<br>of Resources |
|---|--------------------------|-------------------------|--|
| 1. Differences between expected and actual experience                               | \$ 2                     | \$ -                    | \$ 2                                   |
| 2. Assumption Changes   | 1,683                    | -                       | 1,683                                  |
| 3. Net Difference between projected and actual earnings on pension plan investments | 1,193                    | 1,005                   | 188                                    |
| <b>4. Total</b>   | <b>\$ 2,878</b>          | <b>\$ 1,005</b>         | <b>\$ 1,873</b>                        |

**C. Future Pension Expense/(Income) - Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expense/(Income)**

|   | Deferred Outflows<br>of Resources | Deferred Inflows<br>of Resources | Net Deferred Outflows/<br>(Inflows) of Resources |
|---|-----------------------------------|----------------------------------|--|
| 1. Differences between expected and actual experience                               | \$ -                              | \$ -                             | \$ -   |
| 2. Assumption Changes   | -                                 | -                                | -  |
| 3. Net Difference between projected and actual earnings on pension plan investments | 3,087                             | 2,071                            | 1,016  |
| <b>4. Total</b>   | <b>\$ 3,087</b>                   | <b>\$ 2,071</b>                  | <b>\$ 1,016</b>                                  |

**D. Future Pension Expense/(Income) - Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expense/(Income)**

| Year Ending<br>June 30 | Net Deferred Outflows/<br>(Inflows) of Resources |
|------------------------|--|
| 2019                   | \$ 189   |
| 2020                   | 837  |
| 2021                   | 345  |
| 2022                   | (355)  |
| 2023                   | -  |
| Thereafter             | -  |
| <b>Total</b>           | <b>\$ 1,016</b>                                  |

## Schedule of Changes in Net Pension Liability and Related Ratios Current Period Measurement Period Ending June 30, 2017

|  |           |                 |
|--|-----------|-----------------|
| <b>A. Total pension liability</b>  |           |                 |
| 1. Service Cost  | \$        | -               |
| 2. Interest on the Total Pension Liability   |           | 1,820           |
| 3. Benefit changes   |           | -               |
| 4. Difference between expected and actual experience<br>of the Total Pension Liability                         |           | 2               |
| 5. Changes of assumptions  |           | 1,683           |
| 6. Benefit payments  |           | (2,489)         |
| 7. Net change in total pension liability   | \$        | 1,016           |
| 8. Total pension liability – beginning   |           | 25,509          |
| 9. Total pension liability – ending  | <u>\$</u> | <u>26,525</u>   |
| <b>B. Plan fiduciary net position</b>  |           |                 |
| 1. Contributions – employer  | \$        | -               |
| 2. Contributions – employee  |           | -               |
| 3.. Net investment income  |           | 5,082           |
| 4. Benefit payments  |           | (2,489)         |
| 5. Pension Plan Administrative Expense   |           | (48)            |
| 6. Other   |           | -               |
| 7. Net change in plan fiduciary net position   | \$        | 2,545           |
| 8. Plan fiduciary net position – beginning (Market value of assets at beginning of year)                       |           | 45,306          |
| 9. Plan fiduciary net position – ending (Market value of assets at end of year)                                | <u>\$</u> | <u>47,851</u>   |
| <b>C. Net pension liability/(asset) (Item A.9 - Item B.9)</b>  | <u>\$</u> | <u>(21,326)</u> |
| <b>D. Plan fiduciary net position as a percentage<br/>of the total pension liability (Item B.9 / Item A.9)</b> |           | 180.40%         |
| <b>E. Covered-employee payroll</b>   | \$        | -               |
| <b>F. Net pension liability/(asset) as a percentage<br/>of covered employee payroll</b>                        |           | NA              |

## Schedules of Required Supplementary Information

### Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Last 10 Fiscal Years (to be built prospectively)

| Measurement period ending June 30,  | 2017      | 2016      | 2015      | 2014      | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|-----------|-----------|-----------|-----------|------|------|------|------|------|------|
| <b>Total Pension Liability</b>  |           |           |           |           |      |      |      |      |      |      |
| Service Cost  | \$ -      | \$ -      | \$ -      | \$ -      |      |      |      |      |      |      |
| Interest on the Total Pension Liability   | 1,820     | 1,804     | 1,756     | 1,764     |      |      |      |      |      |      |
| Benefit Changes   | -         | -         | 806       | -         |      |      |      |      |      |      |
| Difference between Expected and<br>Actual Experience                              | 2         | 889       | 254       | -         |      |      |      |      |      |      |
| Assumption Changes  | 1,683     | -         | -         | -         |      |      |      |      |      |      |
| Benefit Payments  | (2,489)   | (2,470)   | (1,880)   | (1,870)   |      |      |      |      |      |      |
| <b>Net Change in Total Pension Liability</b>                                      | 1,016     | 223       | 936       | (106)     |      |      |      |      |      |      |
| <b>Total Pension Liability - Beginning</b>  | 25,509    | 25,286    | 24,350    | 24,456    |      |      |      |      |      |      |
| <b>Total Pension Liability - Ending (a)</b>                                       | \$ 26,525 | \$ 25,509 | \$ 25,286 | \$ 24,350 |      |      |      |      |      |      |
| <b>Plan Fiduciary Net Position</b>  |           |           |           |           |      |      |      |      |      |      |
| Employer Contributions  | \$ -      | \$ -      | \$ -      | \$ -      |      |      |      |      |      |      |
| Employee Contributions  | -         | -         | -         | -         |      |      |      |      |      |      |
| Pension Plan Net Investment Income  | 5,082     | (16)      | 1,121     | 6,478     |      |      |      |      |      |      |
| Benefit Payments  | (2,489)   | (2,470)   | (1,880)   | (1,870)   |      |      |      |      |      |      |
| Pension Plan Administrative Expense   | (48)      | (42)      | (45)      | (41)      |      |      |      |      |      |      |
| Other Changes in Plan Fiduciary Net Position                                      | -         | -         | (1)       | 1         |      |      |      |      |      |      |
| <b>Net Change in Plan Fiduciary Net Position</b>                                  | 2,545     | (2,528)   | (805)     | 4,568     |      |      |      |      |      |      |
| <b>Plan Fiduciary Net Position - Beginning</b>                                    | 45,306    | 47,834    | 48,639    | 44,071    |      |      |      |      |      |      |
| <b>Plan Fiduciary Net Position - Ending (b)</b>                                   | \$ 47,851 | \$ 45,306 | \$ 47,834 | \$ 48,639 |      |      |      |      |      |      |
| <b>Net Pension Liability/(Asset) - Ending (a) - (b)</b>                           | (21,326)  | (19,797)  | (22,548)  | (24,289)  |      |      |      |      |      |      |
| <b>Plan Fiduciary Net Position as a Percentage<br/>of Total Pension Liability</b> | 180.40%   | 177.61%   | 189.17%   | 199.75%   |      |      |      |      |      |      |
| <b>Covered Employee Payroll</b>   | \$ -      | \$ -      | \$ -      | \$ -      |      |      |      |      |      |      |
| <b>Net Pension Liability as a Percentage<br/>of Covered Employee Payroll</b>      | NA        | NA        | NA        | NA        |      |      |      |      |      |      |



## Schedule of Contributions Multiyear Last 10 Fiscal Years

| FY Ending<br>June 30, | Actuarially<br>Determined<br>Contribution | Actual<br>Contributed by<br>Participating<br>Employers | Contribution<br>Deficiency<br>(Excess) | Covered<br>Payroll |
|-----------------------|---|--|--|--------------------|
| (a)                   | (b)                                       | (c)  | (d)                                    | (e)                |
| 2017                  | \$ -                                      | \$ -   | \$ -                                   | \$ -               |
| 2016                  | -   | -  | -                                      | -                  |
| 2015                  | -   | -  | -                                      | -                  |
| 2014                  | -   | -  | -                                      | -                  |

## Notes to Schedule of Contributions

### Valuation Date:

Notes Actuarially determined contribution rates are calculated as of June 30th of each plan year and effective two years after the actuarial valuation. So the actuarial valuation as of June 30, 2014, determines the contribution amounts for 2017.

### Methods and Assumptions Used to Determine Contribution Rates:

|                               |  |
|-------------------------------|--|
| Actuarial Cost Method         | Entry Age Normal   |
| Amortization Method           | Level Percentage of Payroll, Closed  |
| Remaining Amortization Period | 19 Years   |
| Asset Valuation Method        | 5-Year smoothed market   |
| Inflation                     | 2.75%  |
| Salary Increases              | 3.5% to 7.5% for general employees and 4% to 14% for Police and Fire   |
| Investment Rate of Return     | 7.50%  |
| Retirement Age                | Experience-based table of rates that are specific to the type of eligibility condition. Last updated for 2014 valuation.   |
| Mortality                     | Males: 115% of RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA from 2000.<br>95% of RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA from 2000. |

## ERSRI System Description

The Employees' Retirement System of Rhode Island (ERSRI) administers an agent multiple-employer Public Employee Retirement System (PERS). The PERS represents the assets of numerous separate plans that have been pooled for investment purposes. The pension plans have elected to affiliate with ERSRI for plan administration and investment only.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan’s net pension liability, calculated using a Single Discount Rate of 7.00%, as well as what the plan’s net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

## Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

| 1% Decrease | Current Single Discount<br>Rate Assumption | 1% Increase |
|-------------|--|-------------|
| 6.00%       | 7.00%                                      | 8.00%       |
| \$ (18,126) | \$ (21,326)                                | \$ (23,711) |

## **SECTION C**

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### **GLOSSARY OF TERMS**

## Glossary of Terms

|   |   |
|---|---|
| <b><i>Actuarial Accrued Liability (AAL)</i></b>   | The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."  |
| <b><i>Actuarial Assumptions</i></b>   | These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation. |
| <b><i>Accrued Service</i></b>   | Service credited under the system which was rendered before the date of the actuarial valuation.  |
| <b><i>Actuarial Equivalent</i></b>  | A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.  |
| <b><i>Actuarial Cost Method</i></b>   | A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.   |
| <b><i>Actuarial Gain (Loss)</i></b>   | The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.   |
| <b><i>Actuarial Present Value (APV)</i></b>   | The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.  |
| <b><i>Actuarial Valuation</i></b>   | The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.   |
| <b><i>Actuarial Valuation Date</i></b>  | The date as of which an actuarial valuation is performed.   |
| <b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b> | A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.   |

## Glossary of Terms

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| <b><i>Amortization Payment</i></b>  | The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.   |
| <b><i>Amortization Method</i></b>   | The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).   |
| <b><i>Cost-of-Living Adjustments</i></b>  | Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.  |
| <b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b> | A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.   |
| <b><i>Covered-Employee Payroll</i></b>  | The payroll of employees that are provided with pensions through the pension plan.  |
| <b><i>Deferred Retirement Option Program (DROP)</i></b>   | A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report. |
| <b><i>Deferred Inflows and Outflows</i></b>   | The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.   |
| <b><i>Discount Rate</i></b>   | For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"><li>1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>                         |

## Glossary of Terms

***Entry Age Actuarial Cost Method (EAN)***

The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

***GASB***

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

***Fiduciary Net Position***

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

***Long-Term Expected Rate of Return***

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

***Money-Weighted Rate of Return***

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

***Multiple-Employer Defined Benefit Pension Plan***

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

***Municipal Bond Rate***

The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.

***Net Pension Liability (NPL)***

The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.

***Non-Employer Contributing Entities***

Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.

***Normal Cost***

The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

## Glossary of Terms

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| <b><i>Other Postemployment Benefits (OPEB)</i></b>        | All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.   |
| <b><i>Real Rate of Return</i></b>                         | The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.  |
| <b><i>Service Cost</i></b>                                | The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.   |
| <b><i>Total Pension Expense</i></b>                       | The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total Pension Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. Pension Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol> |
| <b><i>Total Pension Liability (TPL)</i></b>               | The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.  |
| <b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b> | The UAAL is the difference between actuarial accrued liability and valuation assets.   |
| <b><i>Valuation Assets</i></b>                            | The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.   |