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Actuarial Valuation Report

Eversource

Eversource Pension Plan

As of January 1, 2022

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Introduction

This report documents the results of the January 1, 2022 actuarial valuation of the Eversource Pension Plan for the plan sponsor and for Eversource. The information provided in this report is intended strictly for documenting:

- Minimum required contribution for the 2022 plan year
- Maximum deductible contribution for the 2022 tax year
- Pension cost for the 2022 fiscal year
- Information relating to company and plan disclosure and reporting requirements

Determinations for purposes other than the funding valuation, financial accounting and plan reporting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the applicable laws and regulations under Internal Revenue Code (IRC) sections 404 and 412 (including section 430), and our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Accounting Standards Codification (ASC) Topics 715 and 960, including any guidance or interpretations provided by the Company and reviewed by its auditors prior to the issuance of this report. The financial accounting information in this report is not intended to supersede or supplant the advice and interpretations of the Company's auditors.

A valuation model was used to develop the liabilities for the January 1, 2022 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of the Eversource Pension Plan. The undersigned relied on experts at Aon for the development of the capital market assumptions models underlying the yield curve and the expected rate of return.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to (but not limited to) such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions
- Changes in actuarial methods or 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 or additional cost or contribution requirements based on the plan's funded status)
- Changes in plan provisions or applicable law
- Issuance of additional regulatory guidance

Due to the limited scope of this valuation report, we have not included an analysis of the potential range of such future measurements. However, an assessment and disclosure of risks pertaining to the funding valuation as required by the actuarial standards of practice is being provided in a separate report.

Funded status measurements shown in this report are determined based on various measures of plan assets and liabilities. For funding purposes, plan assets are measured based on the asset valuation method described in the Actuarial Assumptions and Methods section of this report and may be further reduced by certain funding balances depending on the purpose of the funded status measurement. For company and plan disclosure and reporting purposes, funded status is determined using plan assets measured at market value. Plan liabilities are measured based on the interest rates and other assumptions summarized in the Actuarial Assumptions and Methods section of this report.

These funded status measurements may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for company and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions.

In determining the minimum required contribution for the Eversource Pension Plan and information relating to plan disclosure and reporting requirements, Aon may be assisting the appropriate plan fiduciary as it performs tasks that are required for the administration of an employee benefit plan. Aon also may be consulting with the employer/plan sponsor (Eversource) as it considers alternative strategies for funding the plan, or as it evaluates information relating to employer reporting requirements. Thus, Aon potentially will be providing assistance to Eversource (and/or certain of its employees) acting in a fiduciary capacity (for the benefit of plan participants and beneficiaries) and to Eversource (and/or its executives) acting in a settlor capacity (for the benefit of the employer sponsoring the Eversource Pension Plan).

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by Eversource as of the funding valuation date. While we cannot verify the accuracy of all of the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we do not doubt the substantial accuracy or completeness of the information and we believe that it has produced appropriate results. We have relied on actual and expected contributions as summarized within this report. Additionally, we have relied on elections to waive funding balances by Eversource as of the date this report is issued.

Each significant assumption used in this actuarial valuation and not prescribed by law represents, in our opinion, a reasonable expectation of anticipated experience under the plan. Actuarial assumptions and methods for funding purposes for a plan year are formally established when the Form 5500 Schedule SB for such plan year is filed. For this report, it is assumed the plan sponsor will make any elections necessary to execute the assumptions and methods outlined in the Actuarial Assumptions and Methods section of this report.

The American Rescue Plan Act of 2021 (ARPA) provides a range of options for the effective date of alternative interest rate stabilization rules and a 15-year amortization period for any shortfall amortization bases. For Eversource Pension Plan, Eversource elected to:

- First apply the alternative interest rates for minimum funding for the January 1, 2020 plan year, and
- First apply the 15-year amortization period for the January 1, 2020 plan year.

The undersigned are familiar with the near-term and long-term aspects of pension valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon providing services to Eversource has any material direct or indirect financial interest in Eversource. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for Eversource.

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September 2022

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Funding Requirements

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Summary

	January 1, 2021	January 1, 2022
Funding Target		
Retired Participants and Beneficiaries Receiving Payment	$ 2,858,041,200	$ 3,041,787,866
Terminated Vested Participants	$ 228,971,240	$ 222,950,879
Active Participants		
Nonvested Benefits	$ 64,918,063	$ 53,406,417
Vested Benefits	1,319,987,090	1,263,297,466
Subtotal Active Participants	$ 1,384,905,153	$ 1,316,703,883
Total	$ 4,471,917,593	$ 4,581,442,628
Effective Interest Rate	5.55%	5.38%
Target Normal Cost	$ 82,361,063	$ 66,471,854
Plan Assets		
Market Value of Assets	$ 5,295,341,786	$ 6,336,359,897
Value of Plan Assets	$ 5,047,059,488	$ 5,702,723,908
Funding Standard Carryover Balance	0	0
Prefunding Balance	434,427,455	687,703,056
Adjusted Value of Plan Assets	$ 4,612,632,033	$ 5,015,020,852
Funding Shortfall, not Less Than $0	$ 0	$ 0
Funding Target Attainment Percentage	103.14%	109.46%
Contributions, Beginning of Year		
Minimum Required Contribution[1]	$ 0	$ 0
Maximum Deductible Contribution[2]	$ 3,966,657,589	$ 3,716,981,117
Number of Participants		
Retired Participants and Beneficiaries Receiving Payment	13,045	13,184
Terminated Vested Participants	2,411	2,272
Active Participants	4,559	4,126
Total	20,015	19,582

[1] Before application of funding balances.
[2] Prior to reflection of the at-risk funding target.

Market Value of Assets

	2020 Plan Year	2021 Plan Year
Market Value of Assets (MVA), Without Accrued Contributions, January 1	$ 4,972,470,546	$ 5,266,481,426
Contributions Paid During Plan Year:		
Employer Contributions	100,000,000	175,000,000
Employee Contributions	3,525	3,638
Benefit Payments During Plan Year	(304,339,423)	(337,336,544)
Administrative Expenses for Plan Year	(14,887,219)	(16,438,063)
Net Return on Assets During Plan Year	513,233,997	1,248,649,440
MVA, Without Accrued Contributions, December 31	$ 5,266,481,426	$ 6,336,359,897
Discounted Contributions Receivable for Plan Year	28,860,360	0
MVA, Including Accrued Contributions, December 31	$ 5,295,341,786	$ 6,336,359,897
Investment Return During Plan Year	10.59%	24.19%

Value of Plan Assets

The value of plan assets is used each year for developing the funding requirements of the plan. The value is equal to the average market value of assets for the current and prior two years, adjusted for contributions, benefit payments, administrative expenses, and the expected return on assets during these periods. In addition, it includes discounted accrued contributions. However, the value of plan assets must also be constrained to be within 10% of the market value of assets, including discounted accrued contributions, as of the valuation date. This value may be further reduced by applicable funding balances when calculating certain results.

	2020	2021	2022
Expected Rate of Return on Assets	6.27%	6.11%	N/A
Market Value of Assets, Including Discounted Accrued Contributions	$ 5,007,142,231	$ 5,295,341,786	$ 6,336,359,897
Net Adjustments by Plan Year to January 1, 2022:			
Employer Contributions for 2020	92,860,360	N/A	N/A
Employer Contributions for 2021	145,000,000	145,000,000	N/A
Employee Contributions for 2020	3,525	N/A	N/A
Employee Contributions for 2021	3,638	3,638	N/A
Benefit Payments for 2020	(304,339,423)	N/A	N/A
Benefit Payments for 2021	(337,336,544)	(337,336,544)	N/A
Administrative Expenses for 2020	(14,887,219)	N/A	N/A
Administrative Expenses for 2021	(16,438,063)	(16,438,063)	N/A
Expected Earnings for 2020	305,251,142	N/A	N/A
Expected Earnings for 2021	316,379,136	316,379,136	N/A
Adjusted Market Value of Assets	$ 5,193,638,783	$ 5,402,949,953	$ 6,336,359,897

(1) Preliminary Value of Plan Assets, Including Accrued Contributions, January 1, 2022, Average of Adjusted Market Value of Assets	$ 5,644,316,211
(2) Market Value Corridor	
(a) 90% of Market Value of Assets, Including Discounted Accrued Contributions	$ 5,702,723,908
(b) 110% of Market Value of Assets, Including Discounted Accrued Contributions	$ 6,969,995,886
(3) Value of Plan Assets, After Corridor, January 1, 2022, Greater of (1) and 2(a), not Greater Than 2(b)	$ 5,702,723,908
(4) Value of Plan Assets as a Percent of Market Value of Assets	90.00%

Prior Plan Year Contributions and Funding Balance Application

Date	Contribution Amount	Discounted at 5.55% to January 1, 2021[1]
March 18, 2021	$ 30,000,000	$ 29,664,484
June 15, 2021	40,000,000	39,035,126
September 13, 2021	35,000,000	33,703,842
December 15, 2021	40,000,000	37,992,190
(1) Total Contributions	$ 145,000,000	$ 140,395,642
(2) Allocation of 2021 Plan Year Contributions		
(a) Allocation Toward Unpaid Minimum Required Contribution for Prior Years		$ 0
(b) Contributions Made to Avoid Benefit Restrictions		$ 0
(c) Allocation Toward Minimum Required Contribution for 2021 Plan Year		$ 140,395,642
(3) Funding Balance Applied Against Minimum Required Contribution		
(a) Funding Standard Carryover Balance		$ 0
(b) Prefunding Balance		0
(c) Total		$ 0
(4) Minimum Required Contribution		$ 0
(5) Excess Contributions at January 1, 2021, 2(c) + 3(c) – (4)		$ 140,395,642

[1] Contributions are normally discounted to the beginning of the plan year at the effective interest rate when determining the portion of the minimum required contribution that has been satisfied by the contributions. However, note that contributions attributable to late quarterly installments are discounted at the effective interest rate plus 5% during the period of underpayment.

Funding Balances

The development of the prefunding balance for the 2022 plan year shown below reflects any elections to waive funding balances that have been made by the plan sponsor as of the date this report is issued (including any deemed elections required under section 436). Note that any elections to waive funding balances that occur after this report is issued (including any deemed elections required under section 436) could affect the valuation results shown in this report.

	Prefunding Balance
(1) Beginning Balance, January 1, 2021	$ 517,427,455
(2) Balances Used During 2021 Plan Year	
(a) Balance Applied to 2021 Plan Year Minimum Required Contribution	$ 0
(b) Balance Waived or Deemed Waived for 2021 Plan Year	83,000,000
(c) Total	$ 83,000,000
(3) Amount Remaining, (1) – 2(c)	$ 434,427,455
(4) Investment Return During 2021 Plan Year	24.19%
(5) Interest Earned on Balance, (3) x (4)	$ 105,088,001
(6) Prior Year Excess Contributions	
(a) Excess 2021 Plan Year Contributions	
i. Excess Cash Contributions	$ 140,395,642
ii. Excess Contributions Due to Balances	0
iii. Total Excess Contributions	$ 140,395,642
(b) Interest to December 31, 2021[1]	
i. On Excess Cash Contributions	$ 7,791,958
ii. On Excess Contributions Due to Balances	0
iii. On Total Excess Contributions	$ 7,791,958
(c) Total Available to Add to Balance 6a(iii) + 6b(iii)	$ 148,187,600
(d) Excess Contributions Added to Balance	$ 148,187,600
(7) Preliminary Balance, January 1, 2022, (3) + (5) + 6(d)	$ 687,703,056
(8) Balance Waived or Deemed Waived for 2022 Plan Year	0
(9) Balance, January 1, 2022, (7) – (8)	$ 687,703,056

[1] As applicable, interest on contributions in excess of the minimum required contribution before applying funding balances uses the effective interest rate of 5.55%, and interest on excess contributions attributable to the use of funding balances to offset the minimum required contribution uses the plan's investment return.

Determination of At-Risk Status

A plan is considered at-risk for the 2022 plan year if:

- There were at least 500 participants covered by defined benefit plans in the controlled group on any day of the prior plan year;
- The funding target attainment percentage for the 2021 plan year was less than the funding target benchmark percentage of 80%; and
- The at-risk funding target attainment percentage for the 2021 plan year was less than the at-risk funding target benchmark percentage of 70%.

Small plan exemption? Yes if 500 or fewer defined benefit plan participants in the controlled group on each day of preceding plan year	No
2021 Funding Target Attainment Percentage	103.14%
Funding Target Benchmark Percentage	80.00%
At-Risk Status	
2022 Plan Year	Not-at-Risk
2021 Plan Year	Not-at-Risk
2020 Plan Year	Not-at-Risk
2019 Plan Year	Not-at-Risk
2018 Plan Year	Not-at-Risk
At-Risk in Current Year and Two of Preceding Four Years? (If Yes, Loads Apply)	No

Since the 2021 funding target attainment percentage is greater than or equal to the 80% funding target benchmark percentage, the plan is deemed to be not-at-risk for the 2022 plan year.

Funding Target and Target Normal Cost

IRC section 430 prescribes the allowable interest rate and mortality assumptions that may be used in this calculation. If a plan is in at-risk status, the plan's funding target and target normal cost are determined using special actuarial assumptions. For 2022, the plan has been determined to be not-at-risk, so the funding target and target normal cost have been developed using the not-at-risk liability basis, including the interest rate, mortality, and other assumptions shown in the Actuarial Assumptions and Methods section of this report.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) introduced a 25-year average interest rate corridor within which each segment rate used for minimum funding purposes must fall; this corridor was later modified by the Highway and Transportation Funding Act of 2014 (HATFA) and the American Rescue Plan Act of 2021 (ARPA) and the Infrastructure Investment and Jobs Act of 2021 (IIJA). The results below reflect the interest rate stabilization corridor under ARPA and are used to develop the minimum required contribution.

Funding Target, January 1, 2022	
Retirees and Beneficiaries Receiving Payment	$ 3,041,787,866
Terminated Vested Participants	$ 222,950,879
Nonvested Benefits for Active Participants	$ 53,406,417
Vested Benefits for Active Participants	1,263,297,466
Subtotal Actives	$ 1,316,703,883
Total	$ 4,581,442,628
Target Normal Cost, January 1, 2022	
Target Normal Cost, Before Reflecting Expenses	$ 61,340,447
Trust Expense Amount	5,131,407
Total	$ 66,471,854
Effective Interest Rate	5.38%

Funding Target and Target Normal Cost for Purposes Other Than Minimum Funding

The results below do not reflect the interest rate stabilization corridor[1] and are used for certain other purposes, such as developing the maximum deductible contribution.

Funding Target, January 1, 2022	$ 6,083,017,161
Target Normal Cost, January 1, 2022	
Target Normal Cost, Before Reflecting Expenses	$ 92,633,930
Trust Expense Amount	5,131,407
Total	$ 97,765,337
Effective Interest Rate	2.78%

[1] Throughout this report, results that do not reflect the interest rate stabilization corridor are referred to as "without regard to interest rate stabilization." These results still reflect the application of the interest rate stabilization corridor to any prior years to which the corridor applied.

Funding Target Attainment Percentage and Eligibility Ratio

The 2022 funding target attainment percentage will be used to determine at-risk status for section 430 and section 404 funding purposes for the 2023 plan year. This is a separate calculation from the adjusted funding target attainment percentage used in determining whether benefit restrictions apply under section 436.

Since the 2022 funding target attainment percentage is greater than or equal to 80%, the plan is not at-risk for the 2023 plan year.

For purposes of determining whether a plan sponsor is subject to reporting to the PBGC under ERISA section 4010, the funding target attainment percentage is determined without regard to interest rate stabilization.

A 2022 funded ratio of at least 80% allows the plan sponsor to apply a portion of the funding standard carryover balance or the prefunding balance against the 2023 minimum required contribution (if elected). For this purpose, the 2022 funded ratio (referred to here as the eligibility ratio for convenience) is calculated as the value of plan assets minus the prefunding balance, divided by the not-at-risk funding target. The funding standard carryover balance must be exhausted before the prefunding balance may be used.

Since the 2022 eligibility ratio is greater than or equal to 80%, the plan sponsor may elect to apply the funding standard carryover balance or prefunding balance to the 2023 minimum required contribution.

(1) Adjusted Value of Plan Assets, January 1, 2022	
(a) Value of Plan Assets	$ 5,702,723,908
(b) Funding Standard Carryover Balance	0
(c) Prefunding Balance	687,703,056
(d) Total, 1(a) – 1(b) – 1(c)	$ 5,015,020,852
(2) Not-At-Risk Funding Target	$ 4,581,442,628
(3) Funding Target Attainment Percentage, January 1, 2022, 1(d) / (2)	109.46%
(4) Not-At-Risk Funding Target Without Regard to Interest Rate Stabilization	$ 6,083,017,161
(5) Funding Target Attainment Percentage Without Regard to Interest Rate Stabilization, January 1, 2022, 1(d) / (4)	82.44%
(6) Eligibility Ratio, January 1, 2022, [1(a) – 1(c)] / (2)	109.46%

ERISA Minimum Required Contribution

The minimum required contribution is specified by the Employee Retirement Income Security Act of 1974 (ERISA) and determined under IRC section 430(a). The minimum contribution is determined as of the beginning of the plan year and is equal to the sum of the target normal cost for the plan year and the shortfall amortization charge for the plan year, less any credit for excess assets for the plan year.

The target normal cost represents the value of additional benefits accrued and expenses expected to be paid from the plan during the plan year. The shortfall amortization charge generally represents an amount that would be sufficient to amortize the plan's funding shortfall over a period no longer than seven years (fifteen years under ARPA). Each significant assumption used to determine these values is summarized in the Actuarial Assumptions and Methods section of this report. In the event that all assumptions are realized and the plan sponsor contributes an amount that is at least equal to the minimum required amount each year, the funding shortfall, if any, would be eliminated by the end of the amortization period and the minimum required contribution would be expected to decrease thereafter.

All contributions are calculated as being payable on January 1, 2022. Actual contributions are discounted at the effective interest rate from the date of each contribution to the beginning of the plan year to determine the portion of the minimum required contribution that has been satisfied. The effective interest rate is the single interest rate that produces the same liability as the liability calculated using segment rates. Contributions for the 2022 plan year may be made until September 15, 2023.

A plan sponsor may elect to use all or a portion of any funding standard carryover balance or prefunding balance to offset the minimum required contribution for a plan year if the plan's eligibility ratio for the prior plan year is at least 80%.

(1) Effective Interest Rate		5.38%
(2) Target Normal Cost	$	66,471,854
(3) Credit for Excess Assets		
(a) Adjusted Value of Plan Assets	$	5,015,020,852
(b) Funding Target		4,581,442,628
(c) Excess Assets, (a) – (b), not Less Than $0	$	433,578,224
(d) Credit for Excess Assets, Lesser of (2) and 3(c)	$	66,471,854
(4) Target Normal Cost Adjusted for Excess Assets, (2) – 3(d)	$	0
(5) Amortization Charges		
(a) Net Shortfall Amortization Charge	$	0
(b) Waiver Amortization Charge		0
(c) Total	$	0
(6) Minimum Required Contribution, Before Reflecting Funding Balances, January 1, 2022, (4) + 5(c), not Less Than $0	$	0

Funding Shortfall

(1) Funding Target	$ 4,581,442,628
(2) Adjusted Value of Plan Assets	
(a) Value of Plan Assets	$ 5,702,723,908
(b) Funding Standard Carryover Balance	0
(c) Prefunding Balance	687703,056
(d) Adjusted Value of Plan Assets, (a) – (b) – (c), not Less Than $0	$ 5,015,020,852
(3) Funding Shortfall, (1) – 2(d), not Less Than $0	$ 0

Determination of Shortfall Amortization Base Exemption

Prefunding balance used to reduce minimum required contribution?	No
Value of plan assets less prefunding balance, if any portion used to reduce minimum required contribution, 2(a) – 2(c)	$ 5,702,723,908
Is plan exempt from creating a shortfall amortization base?	Yes

Since the value of plan assets less the prefunding balance (if applicable) is greater than the funding target, the plan is exempt from creating a new shortfall amortization base in 2022.

ERISA Minimum Required Contribution Without Regard to Interest Rate Stabilization

The minimum required contribution developed below may be disclosed in the Annual Defined Benefit Funding Notice required under ERISA section 101(f). The plan sponsor is not required to contribute the amount shown below.

(1)	Effective Interest Rate	2.78%
(2)	Target Normal Cost	$ 97,765,337
(3)	Credit for Excess Assets	
	(a) Adjusted Value of Plan Assets	$ 5,015,020,852
	(b) Funding Target	6,083,017,161
	(c) Excess Assets, (a) – (b), not Less Than $0	$ 0
	(d) Credit for Excess Assets, Lesser of (2) and 3(c)	$ 0
(4)	Target Normal Cost Adjusted for Excess Assets, (2) – 3(d)	$ 97,765,337
(5)	Amortization Charges	
	(a) Net Shortfall Amortization Charge	$ 83,673,650
	(b) Waiver Amortization Charge	0
	(c) Total	$ 83,673,650
(6)	Minimum Required Contribution, Without Regard to Interest Rate Stabilization, January 1, 2022, (4) + 5(c), not Less Than $0	$ 181,438,987

Funding Shortfall Without Regard to Interest Rate Stabilization

(1) Funding Target	$ 6,083,017,161
(2) Adjusted Value of Plan Assets	
(a) Value of Plan Assets	$ 5,702,723,908
(b) Funding Standard Carryover Balance	0
(c) Prefunding Balance	687,703,056
(d) Adjusted Value of Plan Assets, (a) – (b) – (c), not Less Than $0	$ 5,015,020,852
(3) Funding Shortfall, (1) – 2(d), not Less Than $0	$ 1,067,996,309

Determination of Shortfall Amortization Base Exemption Without Regard to Interest Rate Stabilization

Prefunding balance used to reduce minimum required contribution?	No
Value of plan assets less prefunding balance, if any portion used to reduce minimum required contribution, 2(a) – 2(c)	$ 5,702,723,908
Is plan exempt from creating a shortfall amortization base?	No

Since the value of plan assets less the prefunding balance (if applicable) is less than the funding target, the plan is not exempt from creating a new shortfall amortization base in 2022.

Shortfall Amortization Charge Without Regard to Interest Rate Stabilization

The shortfall amortization charge for a plan year is the sum of up to 15 annual shortfall amortization installments. Each shortfall amortization installment is equal to a 15-year amortization of the shortfall amortization base (if any) established for a given plan year.

The shortfall amortization base for a plan year is generally determined by subtracting the present value of any remaining shortfall amortization installments for prior plan years from the funding shortfall for the current plan year.

(1) Shortfall Amortization Base for 2022 Plan Year	
(a) Funding Shortfall	$ 1,067,996,309
(b) Total Present Value of Annual Installments for Prior Bases	0
(c) Shortfall Amortization Base, (a) – (b)	$ 1,067,996,309
(2) Segment Rates	
(a) 1st Segment Rate	0.88%
(b) 2nd Segment Rate	2.61%
(3) Shortfall Amortization Installment for 2022 Plan Year, 15-Year Amortization of 1(c)	$ 83,673,650
(4) Sum of Annual Installments for Prior Bases	0
(5) Shortfall Amortization Charge, (3) + (4), not Less Than $0	$ 83,673,650

Schedule of Shortfall Amortization Installments

Type of Base	Present Value of Installment	Date Established	Years Remaining	Amortization Installment
Shortfall	$ 1,067,996,309	January 1, 2022	15	$ 83,673,650

Quarterly Contributions

Unless a plan qualifies for an exemption, quarterly installments toward the minimum required contribution are due on April 15, July 15, and October 15 of the plan year, and January 15 of the following plan year.

If the quarterly due date falls on a weekend or holiday, it is recommended that the payment be made by the last business day before the weekend or holiday. If the plan does not satisfy these quarterly installment requirements, interest penalties payable to the plan accrue, and plan participants may need to be notified if the contribution is more than 60 days late. In addition, there may be other implications of missed quarterly installments such as a requirement to notify the PBGC and a requirement to file certain information with the PBGC under ERISA section 4010.

A plan is exempt from the quarterly contribution requirements if it did not have a funding shortfall for the prior plan year. Quarterly requirements may be satisfied by a combination of contributions, and, if eligible, application of funding balances.

2022 Quarterly Contribution Exemption

The plan did not have a funding shortfall for the 2021 plan year, so quarterly contributions are not required for the 2022 plan year.

2023 Quarterly Contribution Exemption

The plan does not have a funding shortfall for the 2022 plan year, so quarterly contributions are not required for the 2023 plan year.

Maximum Deductible Contribution

The maximum deductible contribution shown below is based on the valuation results for the 2022 plan year. The IRS has not yet provided guidance as to which tax year this maximum deductible contribution corresponds. We have assumed below that the maximum deductible contribution based on the valuation results for the 2022 plan year corresponds to the 2022 tax year.

The maximum deductible contribution shown below is as of the valuation date. Regulatory guidance has not been issued regarding whether this contribution can be adjusted with interest to each contribution date for contributions made on other dates.

Regulatory guidance that could impact the amount of the maximum deductible limit and the tax year it applies to is anticipated to be provided after this report is issued. The maximum deductible limit shown below should be verified with the plan's actuary before being relied upon.

The target liability and normal cost amounts below are determined without regard to the 25-year average interest rate stabilization corridor.

(1) Minimum Funding Target Without Regard to Interest Rate Stabilization	$ 6,083,017,161
(2) Minimum Target Normal Cost Without Regard to Interest Rate Stabilization	$ 97,765,337
(3) Cushion Amount	
(a) 50% of Minimum Funding Target, 0.5 x (1)	$ 3,041,508,581
(b) Maximum Funding Target, Including Expected Benefit Increases Due to Future Salary Growth	6,280,431,107
(c) Minimum Funding Target, (1)	6,083,017,161
(d) Cushion Amount, (a) + (b) – (c)	$ 3,238,922,527
(4) Value of Plan Assets for Maximum Deductible Purposes	
(a) Value of Plan Assets	$ 5,702,723,908
(b) Carry-Forward for Contributions Made for Prior Plan Years but not Deducted for Prior Tax Years	0
(c) Total, (a) – (b)	$ 5,702,723,908
(5) Preliminary Maximum Deductible Contribution, (1) + (2) + 3(d) – 4(c), not Less Than $0	$ 3,716,981,117
(6) Minimum Required Contribution Without Regard to Interest Rate Stabilization	$ 181,438,987
(7) Maximum Deductible Contribution Without Reflection of At-Risk Target, Greater of (5) and (6)	$ 3,716,981,117

PBGC Unfunded Vested Benefit Liability

The PBGC unfunded vested benefit liability calculations shown below may be used for calculating the PBGC variable rate premium for the 2022 premium payment year.

	2022 Premium Payment Year
Premium Funding Target Method	Standard
Discount Rates:	
First Segment Rate	1.16%
Second Segment Rate	2.72%
Third Segment Rate	3.10%
(1) PBGC Vested Benefit Liability, January 1, 2022	
(a) Retirees and Beneficiaries Receiving Payment	$ 3,825,344,681
(b) Terminated Vested Participants	328,815,032
(c) Vested Benefits for Active Participants	1,854,293,331
(d) Total	$ 6,008,453,044
(2) Market Value of Plan Assets (Including Receivables)[1]	$ 6,336,359,897
(3) Unfunded Vested Benefits: 1(d) – (2), Min Zero, Rounded Up to Nearest $1,000	$ 0

[1] Preliminary market value of assets. Final audited assets will be used in actual filing.

Funding Experience

Funding Target Experience

Under the unit credit cost method, deviations in liability experience are measured by comparing the actual funding target before assumption and method changes with the expected funding target. The excess of the expected funding target over the actual funding target is the actuarial gain or loss for the year. The funding target shown below has been measured on a not-at-risk basis, using the 2021 plan year valuation interest rates and mortality table.

	During 2021 Plan Year
Not-At-Risk Funding Target, January 1, 2021	$ 4,471,917,593
Not-At-Risk Target Normal Cost, Before Trust Expenses, January 1, 2021	66,570,349
Benefit Payments During Plan Year	(337,336,544)
Interest at 5.55% to December 31, 2021	240,779,122
Expected Funding Target, Before Changes, January 1, 2022	$ 4,441,930,520
Actual Funding Target, Before Changes, January 1, 2022	4,510,062,194
Funding Target (Gain)/Loss for 2021 Plan Year (Actual – Expected)	$ 68,131,674

Funding Target Reconciliation

The funding target “after changes” shown below has been measured on a not-at-risk basis, using the 2022 plan year valuation interest rates, mortality table, and other assumptions as outlined in the Actuarial Assumptions and Methods section.

Actual Funding Target, Before Changes, January 1, 2022	$ 4,510,062,194
Changes During Plan Year:	
Mortality Table Change	7,745,717
Interest Rate Change	73,561,395
Nonprescribed Assumption Changes	(9,926,678)
Plan Amendments	0
Actual Funding Target, After Changes, January 1, 2022	$ 4,581,442,628

Accounting Requirements

Fair Value of Assets

Fair Value of Assets, January 1, 2021	$ 5,266,481,426
Cash Contributions, Year Ended December 31, 2021	175,000,000
Benefit Payments, Year Ended December 31, 2021	(337,321,411)
Investment Return, Net of Expenses, Year Ended December 31, 2021	1,231,073,008
Fair Value of Assets, Used for Fiscal 2021 Disclosure December 31, 2021	$ 6,335,233,023
Adjustment for Updated Assets	1,126,874
Fair Value of Assets, Used for Fiscal 2022 Expense January 1, 2022	$ 6,336,359,897

ASC 715 Pension Cost/(Income)

	Fiscal 2021	Fiscal 2022
Service Cost	$ 78,610,320	$ 65,639,763
Interest Cost	$ 123,623,031	$ 146,823,283
Expected Return on Assets	$ (427,428,520)	$ (512,489,213)
Amortization of:		
Prior Service Cost	1,141,203	1,128,858
Net (Gain)/Loss	227,372,610	105,131,682
Total	$ 228,513,813	$ 106,260,540
Net Periodic Pension Cost/(Income)	$ 3,368,644	$ (193,765,627)
Settlement/Curtailment Cost/(Income)	0	0
Total Cost/(Income)	$ 3,368,644	$ (193,765,627)
Key Assumptions		
Effective Discount Rate for Benefit Obligation	2.63%	2.94%
Effective Discount Rate for Service Cost	3.00%	3.19%
Effective Discount Rate for Interest Cost	1.90%	2.36%
Expected Long-Term Rate of Return	8.25%	8.25%
Salary Scale Assumption	3.50%	3.50%
Additional Information		
Assumed Expenses in Service Cost (if $0, Rate of Return Is Assumed Net of Expenses)		$ 0
Expected Benefit Payments		$ 346,790,991
Expected Contributions		$ 100,000,000
Market-Related Value of Assets		$ 6,336,359,897
Average Remaining Service		7.52 Years

Reconciliation of ASC 715 Funded Status

	Actual January 1, 2021	Disclosed December 31, 2021	Actual January 1, 2022
Accumulated Benefit Obligation	$ (6,283,002,919)	$ (6,003,008,956)	$ (6,113,430,406)
Projected Benefit Obligation	$ (6,665,896,384)	$ (6,369,262,239)	$ (6,378,611,744)
Fair Value of Assets	5,266,481,426	6,335,233,023	6,336,359,897
Funded Status	$ (1,399,414,958)	$ (34,029,216)	$ (42,251,847)
Amounts Recognized in Accumulated Other Comprehensive Income			
Net Transition (Asset)/Obligation	0	0	0
Prior Service Cost	6,143,967	5,002,764	5,002,764
Net (Gain)/Loss	2,612,841,974	1,420,228,791	1,428,451,422
Asset/(Liability) Recognized in Retained Earnings	$ 1,219,570,983	$ 1,391,202,339	$ 1,391,202,339

Asset/(Liability) Recognized in Retained Earnings

	Fiscal 2021
Asset/(Liability) Recognized in Retained Earnings, January 1, 2021	$ 1,219,570,983
Fiscal 2021 Pension (Cost)/Income	(3,368,644)
Contributions During Fiscal 2021	175,000,000
Asset/(Liability) Recognized in Retained Earnings, January 1, 2022	$ 1,391,202,339

ASC 715 Amortization of Net (Gain)/Loss

ASC 715-30-35-24 describes a minimum amortization requirement for net gains and losses that reflects a corridor based on 10% of the greater of the projected benefit obligation or the market-related value of assets. The following presents the calculation of the portion, if any, of net gain or loss that was included in the net periodic pension expense/(income).

	January 1, 2022
Unamortized Net (Gain)/Loss	$ 1,428,451,422
Fair Value of Plan Assets	6,336,359,897
Market-Related Value of Assets (MRVA)	(6,336,359,897)
Net (Gain)/Loss Subject to Corridor	$ 1,428,451,422
Projected Benefit Obligation (PBO)	$ 6,378,611,744
(Gain)/Loss Corridor, 10% of Greater of PBO or MRVA	$ 637,861,174
Net (Gain)/Loss Subject to Amortization	$ 790,590,248
Average Remaining Service	7.52 Years
Amortization of Net (Gain)/Loss	$ 105,131,682

Schedule of Other ASC 715 Amortization Amounts

The following table summarizes the amortization schedule for the Prior Service Cost.

Schedule of Amortization Amounts

Description	Amortization Amount	Years Remaining January 1, 2022	Outstanding Balance
Bay State - Union 3	$ 22,680	1.00	$ 22,680
Bay State - Union 4	1,268	1.34	1,696
Bay State - Union 5	36,428	1.34	48,809
Bay State - Union 6	9,162	1.63	14,931
Bay State - Union 7	82,355	2.64	217,416
Bay State - Union 8	14,975	2.64	39,536
Bay State - Union 10	121,563	3.83	465,583
Bay State - Nonunion	26,571	4.36	115,762
Bay State - Union 11	80,817	6.72	543,094
PEP 12/31/2016	733,039	4.82	3,533,257
	$ 1,128,858		$ 5,002,764

ASC 960 Plan Reporting

ASC 960 establishes standards of accounting and reporting for the annual financial statements of a defined benefit pension plan.

	January 1, 2021	January 1, 2022
(1) Actuarial Present Value of Accumulated Plan Benefits		
(a) Participants Currently Receiving Payment	$ 2,309,803,098	$ 2,459,902,568
(b) Vested Benefits for Other Participants	1,149,478,771	1,074,908,654
(c) Total Vested Plan Benefits	$ 3,459,281,869	$ 3,534,811,222
(d) Nonvested Benefits	49,377,460	39,113,239
(e) Total Plan Benefits	$ 3,508,659,329	$ 3,573,924,461
(2) Net Assets Available for Plan Benefits		
(a) Plan Assets Per Trust Statement	$ 5,266,481,426	$ 6,336,359,897
(b) Contributions Receivable	30,000,000	0
(c) Market Value of Assets Available for Plan Benefits	$ 5,296,481,426	$ 6,336,359,897
(3) Funded Ratio, 2(c) / 1(e)	150.95%	177.29%
(4) Interest Rate	8.25%	8.25%
(5) Mortality/Projection Scale	PRI2012/MP2020	PRI2012/MP2021

ASC 960 Change in Present Value of Accumulated Plan Benefits

Disclosure of the following reconciliation of changes in the actuarial present value of accumulated plan benefits is required under ASC 960.

Actuarial Present Value of Accumulated Plan Benefits, January 1, 2021	$ 3,508,659,329
Change Due to:	
Interest Accumulation	$ 275,825,000
Benefits Paid	(337,336,544)
Plan Amendments	0
Assumption Changes[1]	31,208,626
Other Changes[2]	95,568,050
Net Change	$ 65,265,132
Actuarial Present Value of Accumulated Plan Benefits, January 1, 2022	$ 3,573,924,461

[1] See page 40 for assumption changes.
[2] The "Other Changes" component represents the normal operation of the pension plan. It consists primarily of the increase due to ongoing benefit accruals (if any) and those items of plan experience that are not associated with plan asset performance.

Appendix

Participant Data

The actuarial valuation was based on personnel information from Eversource records as of January 1, 2022. Following are some of the pertinent characteristics from the personnel data as of that date. Prior year characteristics are also provided for comparison purposes. Both age and service have been determined using years and months as of the valuation date.

	January 1, 2021	January 1, 2022
Active Participants		
Number	4,559	4,126
Average Age	54.3	54.6
Average Service	24.5	24.7
Average Pay	$ 122,715	$ 122,226
Total Pensionable Compensation	$ 559,458,663	$ 504,302,914
Inactives With Deferred Benefits		
Number	2,411	2,272
Average Current Age	56.0	56.4
Average Monthly Benefit[1]	$ 953	$ 821
Inactives Receiving Payment		
Number	13,045	13,184
Average Current Age	74.5	74.7
Average Monthly Benefit	$ 1,799	$ 1,860
Total Participants		
Number	20,015	19,582

[1] After adjustment for assumed retirement age and payment form.

Distribution of Active Participants by Age and Service

Schedule SB, Line 26—Schedule of Active Participant Data
As of January 1, 2022

Eversource
Eversource Pension Plan
Active Employees

EIN: 06-0810627 PN: 006

Number of Participants and Average Compensation

Attained Age	Years of Credited Service									
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<25										
25-29			5							
30-34			12	52 $118,902	1					
35-39			23 $107,156	134 $119,853	80 $129,519	5				
40-44			11	134 $119,863	171 $128,806	50 $126,395	1			
45-49			14	105 $119,693	189 $123,244	142 $124,729	11	1		
50-54			15	93 $113,966	232 $116,734	148 $120,345	60 $123,808	148 $122,019	11	
55-59			5	87 $121,103	179 $118,469	157 $116,568	66 $141,597	344 $126,492	197 $121,721	22 $116,243
60-64		1	5	32 $125,355	109 $120,119	123 $118,606	38 $129,345	188 $116,930	281 $127,086	144 $109,873
65-69			2	15	36 $119,781	28 $97,131	9	31 $110,898	47 $124,728	73 $114,954
70+				5	7	3	3	1	8	32 $115,877

N-4,126

Changes in Participant Group

Below is a table showing the changes in the number or participants during the 2021 plan year.

	Actives	Vested Terminations	Retirees and Beneficiaries	Total
Participants, 1/1/2021	**4,559**	**2,411**	**13,045**	**20,015**
Changes				
▪ New Participants	0	0	0	0
▪ Nonvested Terminations	0	0	0	0
▪ Vested Terminations	(52)	52	0	0
▪ Retirements	(332)	(160)	492	0
▪ Deaths	(14)	(6)	(614)	(634)
▪ Survivors	0	7	205	212
▪ Alternate Payees	0	0	47	47
▪ Rehires	8	(8)	0	0
▪ Lump Sum	(43)	(26)	0	(69)
▪ Other	0	2	9	11
▪ Net Changes	(433)	(139)	139	(433)
Participants, 1/1/2022	**4,126**	**2,272**	**13,184**	**19,582**

Actuarial Assumptions and Methods

For ERISA Requirements

Interest Rates for Minimum Funding Purposes	Based on segment rates with no lookback, each adjusted as needed to fall within the 25-year average interest rate corridor under ARPA
1st Segment Rate	4.75%
2nd Segment Rate	5.18%
3rd Segment Rate	5.92%
Interest Rates for Maximum Tax Purposes	Based on segment rates with no lookback, without regard to the MAP-21 interest rate corridor
1st Segment Rate	0.88%
2nd Segment Rate	2.61%
3rd Segment Rate	3.27%
Salary Increases	See Table 1
Future Bonuses	*Legacy NSTAR participants* For management participants in positions that were eligible for the former Annual Incentive Plan (AIP), actual bonuses paid at the beginning of the current fiscal year for the prior fiscal year, and for management participants who are in positions that were not eligible for the former Annual Incentive Plan (AIP), 7.50% of base salary.
Social Security Wage Base Increases	3.00%
Social Security COLA Increases	*Legacy NU and NSTAR Participants:* 3.50% *Legacy Bay State Participants:* 2.50%
Optional Payment Form Election Percentage	*For legacy NU Participants:* 60% of Males Elect Joint and Survivor. 30% of Females Elect 100% Joint and Survivor. 20% of Males Elect Life Annuity. 50% of Females Elect Life Annuity. 20% of Males and Females elect Free 1/3 Joint and Survivor.

Actuarial Assumptions and Methods

For ERISA Funding

Optional Payment Form Election Percentage (continued)	*For legacy NSTAR Participants:* 50% of participants who retire or terminate employment and are eligible for a lump sum are assumed to elect a lump sum form of payment. 100% of beneficiaries of management participants who terminate due to death are assumed to elect a lump sum form of payment. Former Commonwealth Energy Plan management participants are assumed to elect an annuity at retirement if the Rule of 75 under the former Commonwealth Energy Plan applies, or if the present value of the former commonwealth Energy Plan annuity exceeds the pension credits times Final Average Pay formula. 75% of the participants selecting an annuity are assumed to select a Joint and Survivor 50% Option, while 25% are assumed to select a Single Life Annuity. After the above criteria has been applied, the following is the form of payment for resulting annuities (ignores marriage assumption): 60% Single Life Annuity 40% Joint and Survivor 50% Option *For legacy Bay State participants:* Final Average Pay participants: 50% life annuity / 50% lump sum Account Balance participants: 10% life annuity / 90% lump sum
Retirement Age	
Active Participants	See Tables 2–8
Terminated Vested Participants	Yankee Gas age 60 (or immediate if older than 60); Boston Edison later of age 55 or the valuation date; Commonwealth Energy later of age 55 with Rule of 75 or the valuation date, all others age 65.

Actuarial Assumptions and Methods

For ERISA Funding

Mortality Rates	
Healthy	2022 static mortality table for annuitants and non-annuitants under IRS Notice 2020-85
Disabled	Revenue Ruling 96-7 Disabled Mortality
Withdrawal Rates	See Table 9-11
Disability Rates	See Table 12
Decrement Timing	Middle of year decrements, with 100% retirement occurring at beginning of year
Surviving Spouse Benefit	*For legacy NU & NSTAR participants:* It is assumed that 75% of males and 75% of females have an eligible spouse, and that males are 2 years older than their spouses. *For legacy Bay State participants:* It is assumed that 80% of males and 80% of females have an eligible spouse, and that males are 3 years older than their spouses.
Valuation Compensation	*Legacy NU*—Base Salary pay plus lump sum pay increase on January 1 times a five-year average adjustment factor for overtime, penalty/on-call and Sunday/shift and incentive pay, increased with a fraction of one year's salary scale to reflect pay increases during the year. *Legacy NSTAR*—Base compensation plus applicable incentive load. *Legacy Bay State*—2021 pensionable earnings rolled forward one year with the salary increase assumption.
Benefit and Compensation Limits	Projected benefits and compensation are limited by the current IRC section 415 maximum benefit of $245,000 and the IRC section 401(a)(17) compensation limit of $305,000.

Actuarial Assumptions and Methods

For ERISA Funding

Valuation of Plan Assets	Smoothed fair market value of assets over the current and prior two years, adjusted for contributions, benefit payments, administrative expenses, and expected earnings. The average value of assets calculated in this manner is further limited to not less than 90% nor more than 110% of fair market value.
Expected Return on Assets	
2020 Plan Year	6.27%
2021 Plan Year	6.11%
Trust Expenses Included in Target Normal Cost	Prior year's administrative expenses paid from the trust (excluding PBGC premiums) increased 5%, plus expected PBGC premiums for the current year.
Legacy Bay State Only Assumptions:	
Cash Balance Interest Crediting Rate	4.00%
Cash Balance Annuity Conversion Rate	3.50%
Lump Sum Conversion Interest Rate	3.50% (subject to the 417(e) minimum)
Lump Sum Conversion Mortality	Mortality basis in IRS revenue ruling 2001-62 (subject to the 417(e) minimum)
417(e) Minimum Interest Rates	Same as funding interest rates
417(e) Minimum Mortality	Current IRC section 417(e) table for lump sums
Actuarial Method	Standard unit credit cost method
Valuation Date	January 1, 2022

Actuarial Assumptions and Methods

For ERISA Funding

Changes in ERISA Methods/Assumptions Since the Prior Year

Method Changes

There have been no method changes in the funding valuation since the prior year.

Assumption Changes

The funding valuation reflects the following non-prescribed assumption changes:

- The annuity conversion basis was changed from the funding interest rates and required 417(e) mortality table for the 2021 plan year to the funding interest rates and required 417(e) mortality table for the 2022 Plan Year.
- The surviving spouse assumption was updated to 75% for all Legacy NU and NSTAR employees. The prior year assumption was 80% of male employees were married and 50% of female employees were married for Legacy NU employees. The previous assumption for Legacy NSTAR employees was 75% of male employees and 75% of female employees were married. The prior year assumption for MA Gas was that 80% of male and female employees were married.
- The surviving spouse assumption was updated for Legacy NU and NSTAR employees from males being 3 years older than their spouse to males being 2 years older than their spouse.
- The withdrawal rates have been updated to reflect new age-based rates varying by legacy group.
- The Social Security Wage Base increase assumption was updated for Legacy NU and NSTAR participants to 3.00% from 2.50% per year.

Actuarial Assumptions and Methods

For ASC 715 Requirements

Discount Rate	The Aon AA-only Above Median Full Yield Curve as of December 2021: PBO—2.94% Service Cost (for 2022)—3.19% Interest Cost (for 2022)—2.36%
Expected Long-Term Rate of Return on Plan Assets	8.25% as of January 1, 2022, net of assumed administrative expenses paid from the trust (0.29%)
Salary Increases	See Table 1
Future bonuses	*Legacy NSTAR* For management participants in positions that were eligible for the former Annual Incentive Plan (AIP), actual bonuses paid at the beginning of the current fiscal year for the prior fiscal year, and for management participants who are in positions that were not eligible for the former Annual Incentive Plan (AIP), 7.50% of base salary.
Social Security Wage Base Increases	3.00%
Social Security COLA Increases	*Legacy NU and NSTAR Participants:* 3.50% *Legacy Bay State Participants:* 2.50%
Benefit and Compensation Limits	The IRC section 415 benefit limit and the IRC section 401(a)(17) compensation limit have been projected at 2.50% per year.
Optional Payment Form Election Percentage	*For Legacy NU Participants:* 60% of Males Elect Joint and Survivor. 30% of Females Elect 100% Joint and Survivor. 20% of Males Elect Life Annuity. 50% of Females Elect Life Annuity. 20% of Males and Females elect Free 1/3 Joint and Survivor.

Actuarial Assumptions and Methods

For ASC 715 Requirements

Optional Payment Form Election Percentage (continued)	*For Legacy NSTAR Participants:* 50% of participants who retire or terminate employment and are eligible for a lump sum are assumed to elect a lump sum form of payment. 100% of beneficiaries of management participants who terminate due to death are assumed to elect a lump sum form of payment. Former Commonwealth Energy Plan management participants are assumed to elect an annuity at retirement if the Rule of 75 under the former Commonwealth Energy Plan applies, or if the present value of the former commonwealth Energy Plan annuity exceeds the pension credits times Final Average Pay formula. 75% of the participants selecting an annuity are assumed to select a Joint and Survivor 50% Option, while 25% are assumed to select a Single Life Annuity. After the above criteria has been applied, the following is the form of payment for resulting annuities (ignores marriage assumption): 60% Single Life Annuity 40% Joint and Survivor 50% Option *For legacy Bay State participants:* Final Average Pay participants: 50% life annuity / 50% lump sum Account Balance participants: 10% life annuity / 90% lump sum
Retirement Age	
Active Participants	See Tables 2–8
Terminated Vested Participants	Yankee Gas age 60; Boston Edison later of age 55 or the valuation date; Commonwealth Energy later of age 55 with Rule of 75 or the valuation date, all others age 65.
Mortality Rates	
Healthy and Disabled	Pri-2012 Employee and Retiree Table and the Pri-2012 Contingent Survivor Table for beneficiaries in payment status. Both tables are projected generationally using Scale MP-2021.

Actuarial Assumptions and Methods

For ASC 715 Requirements

Withdrawal Rates	See Tables 9-11
Disability Rates	See Tables 12-13
Surviving Spouse Benefit	*For legacy NU & NSTAR participants:* It is assumed that 75% of males and 75% of females have an eligible spouse, and that males are 2 years older than their spouses. *For legacy Bay State participants:* It is assumed that 80% of males and 80% of females have an eligible spouse, and that males are 3 years older than their spouses.
Legacy Bay State Only Assumptions:	
Cash Balance Interest Crediting Rate	4.00%
Lump Sum Conversion Interest Rate	3.50% (subject to the 417(e) minimum)
Lump Sum Conversion Mortality	Mortality basis in IRS revenue ruling 2001-62 (subject to the 417(e) minimum)
417(e) Minimum Interest Rates	IRC section 417(e) market segment rates as of September 2021 **Duration** **Rate** 0–5 0.70% 5–20 2.55% 20+ 3.06%
417(e) Minimum Mortality	Current IRC section 417(e) table for lump sums
Market-Related Value of Assets	The market-related value of assets is equal to the fair value of assets.
Gain/Loss Amortization	10% Corridor used
Method of Amortizing Prior Service Costs	Straight-line
Actuarial Cost Method	Projected unit credit cost method
Measurement Period	January 1, 2022 to December 31, 2022
Census Data	As of January 1, 2022

Actuarial Assumptions and Methods

For ASC 715 Requirements

Changes in Financial Accounting Methods/Assumptions Since the Prior Year

Method Changes

There have been no method changes in the financial accounting valuation since the prior year.

Assumption Changes

- The annuity conversion basis was changed from the funding interest rates and required 417(e) mortality table for the 2021 plan year to the funding interest rates and required 417(e) mortality table for the 2022 Plan Year.
- The mortality table is Pri-2012 Employee and Retiree Table and the Pri-2012 Contingent Survivor Table for beneficiaries in payment status. Both tables are projected generationally using Scale MP-2021 (previously projected using Scale MP-2020).
- The surviving spouse assumption was updated to 75% for all Legacy NU and NSTAR employees. The prior year assumption was 80% of male employees were married and 50% of female employees were married for Legacy NU employees. The previous assumption for Legacy NSTAR employees was 75% of male employees and 75% of female employees were married. The prior year assumption for MA Gas was that 80% of male and female employees were married.
- The surviving spouse assumption was updated for Legacy NU and NSTAR employees from males being 3 years older than their spouse to males being 2 years older than their spouse.
- The withdrawal rates have been updated to reflect new age-based rates varying by legacy group.
- The Social Security Wage Base increase assumption was updated for Legacy NU and NSTAR participants to 3.00% from 2.50% per year.

Actuarial Assumptions and Methods

For ASC 960 Requirements

Interest Rate	8.25%
Value of Accrued Benefits for Plan Reporting Purposes	Beginning-of-year values are determined in accordance with the recommended procedures of the American Academy of Actuaries as described in Illustrations 1 and 2 of the October 1993 edition of ASOP No. 4, using the standard unit credit cost method.
All Other Assumptions	Same as financial accounting assumptions

Changes in Plan Reporting Methods/Assumptions Since the Prior Year

Method Changes

There have been no method changes in the plan reporting valuation since the prior year.

Assumption Changes

- The annuity conversion basis was changed from the funding interest rates and required 417(e) mortality table for the 2021 plan year to the funding interest rates and required 417(e) mortality table for the 2022 Plan Year.
- The mortality table is Pri-2012 Employee and Retiree Table and the Pri-2012 Contingent Survivor Table for beneficiaries in payment status. Both tables are projected generationally using Scale MP-2021 (previously projected using Scale MP-2020).
- The surviving spouse assumption was updated to 75% for all Legacy NU and NSTAR employees. The prior year assumption was 80% of male employees were married and 50% of female employees were married for Legacy NU employees. The previous assumption for Legacy NSTAR employees was 75% of male employees and 75% of female employees were married. The prior year assumption for MA Gas was that 80% of male and female employees were married.
- The surviving spouse assumption was updated for Legacy NU and NSTAR employees from males being 3 years older than their spouse to males being 2 years older than their spouse.
- The withdrawal rates have been updated to reflect new age-based rates varying by legacy group.
- The Social Security Wage Base increase assumption was updated for Legacy NU and NSTAR participants to 3.00% from 2.50% per year.

Actuarial Assumptions and Methods

Table 1

Salary Increase Rates

Legacy NU Nonunion and Legacy NSTAR Union

Age	Increase Rate	Age	Increase Rate
20	5.50%	45	3.75%
21	5.50%	46	3.75%
22	5.50%	47	3.75%
23	5.50%	48	3.75%
24	5.50%	49	3.75%
25	5.50%	50	3.25%
26	5.50%	51	3.25%
27	5.50%	52	3.25%
28	5.50%	53	3.25%
29	5.50%	54	3.25%
30	4.50%	55	3.00%
31	4.50%	56	3.00%
32	4.50%	57	3.00%
33	4.50%	58	3.00%
34	4.50%	59	3.00%
35	4.25%	60	2.75%
36	4.25%	61	2.75%
37	4.25%	62	2.75%
38	4.25%	63	2.75%
39	4.25%	64	2.75%
40	4.25%	65	2.75%
41	4.25%	66	2.75%
42	4.25%	67	2.75%
43	4.25%	68	2.75%
44	4.25%	69	2.75%
		70+	2.25%

Actuarial Assumptions and Methods

Table 1

Salary Increase Rates

Legacy NU Union

Age	Base Pay Increase Rate	Overtime Increase Rate	Age	Increase Rate	Overtime Increase Rate
20	5.50%	0.00%	45	3.75%	2.50%
21	5.50%	0.00%	46	3.75%	2.50%
22	5.50%	0.00%	47	3.75%	2.50%
23	5.50%	0.00%	48	3.75%	2.50%
24	5.50%	0.00%	49	3.75%	2.50%
25	5.50%	0.00%	50	3.25%	2.25%
26	5.50%	0.00%	51	3.25%	2.25%
27	5.50%	0.00%	52	3.25%	2.25%
28	5.50%	0.00%	53	3.25%	2.25%
29	5.50%	0.00%	54	3.25%	2.25%
30	4.50%	3.00%	55	3.00%	1.50%
31	4.50%	3.00%	56	3.00%	1.50%
32	4.50%	3.00%	57	3.00%	1.50%
33	4.50%	3.00%	58	3.00%	1.50%
34	4.50%	3.00%	59	3.00%	1.50%
35	4.25%	3.00%	60	2.75%	0.50%
36	4.25%	3.00%	61	2.75%	0.50%
37	4.25%	3.00%	62	2.75%	0.50%
38	4.25%	3.00%	63	2.75%	0.50%
39	4.25%	3.00%	64	2.75%	0.50%
40	4.25%	2.75%	65	2.75%	0.50%
41	4.25%	2.75%	66	2.75%	0.50%
42	4.25%	2.75%	67	2.75%	0.50%
43	4.25%	2.75%	68	2.75%	0.50%
44	4.25%	2.75%	69	2.75%	0.50%
			70+	2.25%	0.50%

Actuarial Assumptions and Methods

Table 1

Salary Increase Rates

Legacy Bay State

Age	Rate	Age	Rate
25	6.50%	45	4.00%
26	6.50%	46	4.00%
27	6.50%	47	4.00%
28	6.50%	48	4.00%
29	6.50%	49	4.00%
30	5.00%	50+	3.50%
31	5.00%		
32	5.00%		
33	5.00%		
34	5.00%		
35	4.50%		
36	4.50%		
37	4.50%		
38	4.50%		
39	4.50%		
40	4.00%		
41	4.00%		
42	4.00%		
43	4.00%		
44	4.00%		

Actuarial Assumptions and Methods

Table 2

Retirement Rates—Legacy NSTAR Union Traditional

Age	Rate
≤54	0.0%
55	3.0%
56	1.0%
57	4.0%
58	2.0%
59	3.0%
60	7.5%
61	5.0%
62	13.0%
63	5.0%
64	5.0%
65	20.0%
66	25.0%
67	20.0%
68	20.0%
69	20.0%
70+	100%

Actuarial Assumptions and Methods

Table 3

Retirement Rates—PEP

Age	Rate
≤54	0.0%
55	10.0%
56	7.0%
57	7.0%
58	7.0%
59	7.0%
60	10.0%
61	10.0%
62	20.0%
63	20.0%
64	20.0%
65	20.0%
66	20.0%
67	20.0%
68	30.0%
69	30.0%
70+	100.0%

Actuarial Assumptions and Methods

Table 4

Retirement Rates—Legacy NU—Less than 85 Points

Age	Nonunion	Union
≤54	0.0%	0.0%
55	5.0%	5.0%
56	5.5%	5.0%
57	6.0%	5.0%
58	6.0%	10.0%
59	7.0%	10.0%
60	12.5%	15.0%
61	12.5%	10.0%
62	20.0%	20.0%
63	10.0%	20.0%
64	25.0%	20.0%
65	40.0%	50.0%
66	50.0%	50.0%
67	30.0%	50.0%
68	30.0%	25.0%
69	30.0%	25.0%
70+	100.0%	100.0%

Actuarial Assumptions and Methods

Table 5

Retirement Rates—Legacy NU—Greater than 85 Points

Age	Nonunion	Union
≤54	0.0%	0.0%
55	15.0%	15.0%
56	15.0%	10.0%
57	15.0%	10.0%
58	15.0%	10.0%
59	15.0%	12.5%
60	12.5%	12.5%
61	20.0%	20.0%
62	25.0%	30.0%
63	25.0%	20.0%
64	40.0%	25.0%
65	40.0%	50.0%
66	50.0%	50.0%
67	30.0%	50.0%
68	30.0%	25.0%
69	30.0%	25.0%
70+	100.0%	100.0%

Actuarial Assumptions and Methods

Table 6

Retirement Rates—Bay State Active Participants

Age	Rate
55	5.00%
56	5.00%
57	5.00%
58	5.00%
59	10.00%
60	10.00%
61	15.00%
62	20.00%
63	20.00%
64	20.00%
65	30.00%
66	30.00%
67	30.00%
68	30.00%
69	30.00%
70+	100.00%

Actuarial Assumptions and Methods

Table 7

Retirement Rates—Bay State Terminated Vested Final Average Pay Participants

Age	Rate
≤59	1.00%
60	1.00%
61	1.00%
62	1.00%
63	1.00%
64	50.00%
65	50.00%
66	50.00%
67	50.00%
68	50.00%
69	50.00%
70+	100.00%

Actuarial Assumptions and Methods

Table 8

Retirement Rates—Bay State Terminated Vested Account Balance Participants

Age	<1 Year	1+ Years
≤58	30.00%	5.00%
59	30.00%	10.00%
60	30.00%	10.00%
61	30.00%	15.00%
62	30.00%	20.00%
63	30.00%	20.00%
64	30.00%	20.00%
65	30.00%	30.00%
66	30.00%	30.00%
67	30.00%	30.00%
68	30.00%	30.00%
69	30.00%	30.00%
70+	100.00%	100.00%

Actuarial Assumptions and Methods

Table 9

Legacy NU Union and Nonunion Withdrawal Rates

Age	Nonunion	Union	Age	Nonunion	Union
25	6.00%	4.00%	50	4.00%	5.00%
26	6.00%	4.00%	51	4.00%	5.00%
27	6.00%	4.00%	52	4.00%	5.00%
28	6.00%	4.00%	53	4.00%	5.00%
29	6.00%	4.00%	54	4.00%	5.00%
30	8.00%	4.00%	55+	0.00%	0.00%
31	8.00%	4.00%			
32	8.00%	4.00%			
33	8.00%	4.00%			
34	8.00%	4.00%			
35	3.00%	9.00%			
36	3.00%	9.00%			
37	3.00%	9.00%			
38	3.00%	9.00%			
39	3.00%	9.00%			
40	3.00%	3.00%			
41	3.00%	3.00%			
42	3.00%	3.00%			
43	3.00%	3.00%			
44	3.00%	3.00%			
45	5.00%	7.00%			
46	5.00%	7.00%			
47	5.00%	7.00%			
48	5.00%	7.00%			
49	5.00%	7.00%			

Actuarial Assumptions and Methods

Table 9a

Legacy NSTAR Withdrawal Rates

Age	Rate	Age	Rate
25	4.00%	50	2.00%
26	4.00%	51	2.00%
27	4.00%	52	2.00%
28	4.00%	53	2.00%
29	4.00%	54	2.00%
30	3.00%	55+	0.00%
31	3.00%		
32	3.00%		
33	3.00%		
34	3.00%		
35	2.00%		
36	2.00%		
37	2.00%		
38	2.00%		
39	2.00%		
40	2.00%		
41	2.00%		
42	2.00%		
43	2.00%		
44	2.00%		
45	2.00%		
46	2.00%		
47	2.00%		
48	2.00%		
49	2.00%		

Actuarial Assumptions and Methods

Table 10

Legacy Bay State Nonunion Withdrawal Rates

Age	Rate
≤34	12.00%
35	11.85%
36	11.10%
37	10.35%
38	9.75%
39	9.00%
40	8.40%
41	7.80%
42	7.35%
43	6.75%
44	6.30%
45	5.85%
46	5.40%
47	5.10%
48	4.65%
49	4.35%
50	4.05%
51	3.90%
52	3.60%
53	3.45%
54	3.30%
55	3.30%
56	3.15%
57	3.15%
58	3.00%
59	3.00%
60	2.85%
61	2.85%
62	2.70%
63	2.55%
64	2.40%
65+	2.25%

Actuarial Assumptions and Methods

Table 11

Legacy Bay State Union Withdrawal Rates

Age	Rate	Age	Rate
≤21	14.40%	45	3.30%
22	13.50%	46	3.00%
23	12.90%	47	3.00%
24	12.00%	48	3.00%
25	11.40%	49	3.00%
26	10.80%	50	3.00%
27	9.90%	51	3.00%
28	9.30%	52	3.00%
29	8.70%	53	3.00%
30	8.40%	54	3.00%
31	7.80%	55+	3.00%
32	7.20%		
33	6.60%		
34	6.30%		
35	5.70%		
36	5.40%		
37	5.10%		
38	4.80%		
39	4.50%		
40	4.20%		
41	3.90%		
42	3.60%		
43	3.60%		
44	3.30%		

Actuarial Assumptions and Methods

Table 12

Legacy NU and NSTAR Disability Rates

Age	Male	Female	Age	Male	Female
15	0.0804%	0.1200%	45	0.1323%	0.1975%
16	0.0804%	0.1200%	46	0.1481%	0.2210%
17	0.0804%	0.1200%	47	0.1668%	0.2490%
18	0.0804%	0.1200%	48	0.1879%	0.2805%
19	0.0804%	0.1200%	49	0.2110%	0.3150%
20	0.0804%	0.1200%	50	0.2389%	0.3565%
21	0.0804%	0.1200%	51	0.2713%	0.4050%
22	0.0804%	0.1200%	52	0.3099%	0.4625%
23	0.0804%	0.1200%	53	0.3501%	0.5225%
24	0.0804%	0.1200%	54	0.3970%	0.5925%
25	0.0804%	0.1200%	55	0.4563%	0.6810%
26	0.0804%	0.1200%	56	0.5300%	0.7910%
27	0.0804%	0.1200%	57	0.6228%	0.9295%
28	0.0804%	0.1200%	58	0.7437%	1.1100%
29	0.0804%	0.1200%	59	0.8442%	1.2600%
30	0.0804%	0.1200%	60	0.9246%	1.3800%
31	0.0811%	0.1210%	61	0.9852%	1.4705%
32	0.0817%	0.1220%	62	1.0331%	1.5420%
33	0.0827%	0.1235%	63	1.0707%	1.5980%
34	0.0841%	0.1255%	64	1.0988%	1.6400%
35	0.0854%	0.1275%	65+	0.0000%	0.0000%
36	0.0871%	0.1300%			
37	0.0891%	0.1330%			
38	0.0918%	0.1370%			
39	0.0951%	0.1420%			
40	0.0985%	0.1470%			
41	0.1025%	0.1530%			
42	0.1065%	0.1590%			
43	0.1132%	0.1690%			
44	0.1226%	0.1830%			

Actuarial Assumptions and Methods

Table 13

Legacy Bay State Disability Rates

Age	Male	Female	Age	Male	Female
20	0.052%	0.052%	50	0.413%	0.575%
21	0.053%	0.056%	51	0.463%	0.613%
22	0.054%	0.060%	52	0.513%	0.650%
23	0.055%	0.064%	53	0.563%	0.700%
24	0.056%	0.067%	54	0.625%	0.738%
25	0.057%	0.071%	55	0.688%	0.783%
26	0.058%	0.075%	56	0.762%	0.825%
27	0.059%	0.075%	57	0.856%	0.875%
28	0.060%	0.081%	58	0.975%	0.950%
29	0.061%	0.083%	59	1.075%	1.050%
30	0.062%	0.087%	60	1.175%	1.150%
31	0.064%	0.092%	61	1.325%	1.275%
32	0.065%	0.113%	62	1.500%	1.450%
33	0.067%	0.125%	63	1.665%	1.625%
34	0.069%	0.142%	64+	1.725%	1.725%
35	0.071%	0.158%			
36	0.073%	0.175%			
37	0.078%	0.194%			
38	0.083%	0.217%			
39	0.092%	0.238%			
40	0.100%	0.263%			
41	0.116%	0.283%			
42	0.131%	0.313%			
43	0.145%	0.338%			
44	0.170%	0.367%			
45	0.200%	0.400%			
46	0.244%	0.431%			
47	0.280%	0.463%			
48	0.325%	0.496%			
49	0.363%	0.533%			

Actuarial Assumptions and Methods

Discussion of Actuarial Assumptions and Methods

For the funding valuation, the allowable interest rates and mortality tables available to measure plan liabilities are prescribed by IRC section 412. Aon provided guidance with respect to the alternative interest rate and mortality table options, and it is our belief that the options prescribed by Eversource are appropriate for funding purposes. It is our belief that all other actuarial assumptions used for the funding valuation represent reasonable expectations of anticipated plan experience. The actuarial cost and amortization methods used are prescribed by IRC section 412. While the method used to value assets is prescribed by Eversource, Aon provided guidance with respect to the use of this method, and it is our belief that the method is appropriate for funding purposes.

For the Eversource financial accounting valuation and the plan reporting valuation, Eversource selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with ASC 715 and ASC 960. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience. The actuarial cost method used is prescribed by ASC 715 and ASC 960. While the method used to value assets is prescribed by Eversource, Aon provided guidance with respect to the use of this method, and it is our belief that the method is appropriate for financial accounting purposes.

Calculation of Normal Costs and Liabilities

The method used to calculate the service cost and projected benefit obligation for determining pension expense is the projected unit credit cost method. Under this method, benefits are estimated at each decrement age by crediting future accruals based on projected pay as applicable. The liability is determined as the present value of the projected benefit based on service at the valuation date. The service cost is the amount of the present value of projected benefits attributable to the valuation year.

The method used to calculate the ERISA target normal cost and funding target, and ASC 960 liabilities, is the unit credit cost method. The funding target under IRC section 430 is calculated as the present value of all benefits that have been accrued or earned under the plan as of the first day of the plan year, based on current service and current pay. The target normal cost is the present value of all benefits expected to accrue or be earned under the plan during the plan year, including any increase in benefits earned in prior plan years attributable to compensation increases in the current plan year, plus certain trust expenses.

Under this method, benefits are estimated at each decrement age using service and earnings as of the valuation date. The present value of these estimated benefits using the applicable ERISA or ASC 960 assumptions is the ERISA funding target or ASC 960 actuarial present value of accumulated plan benefits. The target normal cost is the present value of the benefits earned during the year.

For calculating the actuarial present value of vested benefits, benefits at each decrement age are determined in the same manner but are then multiplied by each participant's vesting percentage as of the valuation date. The present value of these estimated vested benefits is determined without recognition of any benefit for which a participant will become entitled only through the advancement in service or age while actively employed. In addition, certain ancillary benefits have been treated as vested consistent with PBGC premium regulations.

The ERISA funding target for lump sum benefits, other than lump sum benefits paid from a statutory hybrid plan under the provisions of IRC section 411(a)(13)(A), is determined by valuing the annuity that corresponds to the distribution using special actuarial assumptions, as described under Treasury regulations section 1.430(d). Under these special assumptions, for the period beginning with the annuity starting date, the current IRC section 417(e) applicable mortality table is substituted for the mortality table otherwise used.

Accounting Information Under ASC 715

Benefit obligations and expense/(income) are calculated under U.S. Generally Accepted Accounting Principles as set forth in Accounting Standards Codification (ASC) Topic 715.

The accumulated benefit obligation represents the actuarial present value of benefits based on service and pay earned as of the measurement date. The projected benefit obligation represents the actuarial present value of benefits based on service earned through the measurement date reflecting the effect of assumed future pay increases on ultimate benefit amounts.

The service cost represents the actuarial present value of benefits that are attributed to the 2021 fiscal year, reflecting the effect of assumed future pay increases. The service cost includes interest to the end of the measurement period.

Interest cost and service cost are calculated by applying the individual spot rates in the yield curve to each of the discounted cash flows as of the measurement date.

The net periodic pension expense/(income) is the annual amount to be recognized in the income statement as the cost of pension benefits for this plan for the period ending December 31, 2021.

Certain special events can result in additional cost/(income) recognized in the income statement during fiscal 2021. Settlement cost/(income) is the accelerated recognition of gains and losses due to certain actions that irrevocably relieve the plan sponsor of significant plan liabilities. Curtailment cost/(income) is an accelerated recognition of certain amounts due to actions that significantly reduce the future years of expected service credited under the plan to existing participants. Special termination benefit cost is an immediate recognition of the liability associated with certain one-time benefits that may be provided in conjunction with participants' separation from service.

Summary of Plan Provisions

Plan Provisions–Legacy NU

Effective Date	Amended and restated January 1, 2015.
Membership	Effective January 1, 2011, all new employees participate in the K-Vantage defined contribution plan rather than the NUSCo Retirement Plan.
Eligibility	
Normal	Attainment of age 65.
Early	Attainment of age 55 and the completion of 10 years of service.
Deferred Vested	Completion of 5 years of service.
Disability	Receiving Long-Term Disability benefits.
Preretirement Death	Completion of 5 years of service.
Postretirement Death	After retirement from active or disabled status.
Postponed	Retirement after attainment of age 65.
Retirement Benefits	
Normal	The annual benefit is equal to (a)+(b)+(c) below: (a) 1.25% of Final Average Earnings up to Covered Compensation plus 1.50% of the excess of Final Average Earnings over Covered Compensation, times Credited Service up to 25 years. (b) 1.35% of Final Average Earnings up to Covered Compensation plus 1.50% of the excess of Final Average Earnings over Covered Compensation, times Credited Service between 25 and 35 years. (c) 1.35% of Final Average Earnings times Credited Service in excess of 35 years.

Plan Provisions–Legacy NUSCo Retirement Plan

Retirement Benefits (continued)

Early

A benefit computed in the same manner as a normal retirement benefit based on final average compensation and Credited Service at the time of termination. This benefit will be paid without reduction if deferred to age 65 or reduced in accordance with the following table:

Age at Commencement	Years of Service at Termination: Less Than 30	Years of Service at Termination: 30 or More
63	0.96	1.00
64	0.98	1.00
62	0.94	1.00
61	0.92	1.00
60	0.90	1.00
59	0.87	0.87
58	0.84	0.84
57	0.81	0.81
56	0.78	0.78
55	0.75	0.75

For employees who are age 55 or older at retirement and whose age plus credited service equals 85 or more (i.e., 85 points), no reduction will be applied.

Deferred Vested

A benefit computed in the same manner as a normal retirement benefit based on Final Average Earnings and Credited Service at the time of termination. This benefit will be paid without reduction at age 65 or in an actuarially reduced amount as early as age 55.

Disability

The normal retirement benefit described above calculated using Final Average Earnings at date of disability and Credited Service at age 65.

Plan Provisions–Legacy NUSCo Retirement Plan

Retirement Benefits (continued)

Preretirement Death	50% of the annual benefit at date of death, reduced for the 50% joint and survivor form. After age 45 with 20 years of Credited Service, or age 55 with 10 years of Credited Service, benefits are payable immediately and are unreduced if the participant had 20 years of Credited Service. Otherwise, payouts begin at the time the participant would have been eligible for early retirement.
Postretirement Death	One-third of the benefit prior to adjustment for optional forms.
Postponed	A benefit computed in the same manner as a normal retirement benefit.
Life Insurance Conversion Option	Participants may elect to convert postretirement life insurance in excess of $5,000 but not exceeding $35,000 to an actuarially equivalent additional pension benefit.
Maximum Benefit	Benefits may not exceed the maximum limitation defined by the Internal Revenue Code.
Forms of Payment	Benefits will be paid in the form of a life annuity (for single participants) or a 33-1/3% contingent annuitant option (for married participants) unless an actuarially equivalent option is elected. Optional forms include 100%, 75%, 66-2/3%, 50% contingent annuitant options, ten-year certain and life, life annuity or level income annuities.

Definitions

Credited Service	Years and completed months of all service. For certain participants, the New Hampshire Yankee Division of PSNH, additional service credit may be given for periods with a Named Associated Utility.

Plan Provisions–Legacy NUSCo Retirement Plan

Definitions (continued)

Compensation	Actual regular earnings plus incentive pay (beginning in 1996, and excluding EIP payments), shift differential, Sunday premium pay, on-call pay and overtime earnings (computed at straight time rates). Compensation for any year may not exceed the limitation defined in the Internal Revenue Code.
Final Average Earnings	Average of compensation for the highest consecutive 60 months.
Covered Compensation	The average of the Taxable Wage Bases in effect for each calendar year during the 35-year period ending with the last day of the calendar year in which the employee attains Social Security Normal Retirement Age.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Eligibility

Full time employees or part time employees scheduled to work 20 or more hours per week become covered by the plan on the January 1 or July 1 following the earlier of:

a) Attainment of age 21 with one year of Eligibility Service,

b) Attainment of age 35.

Represented employees are eligible if hired on or after: Local 369—May 15, 2005
Local 12004—March 31, 2006

Eligible employees participating in the Boston Edison Retirement Plan as of December 31, 1999 become participants of the plan on January 1, 2000.

Eligible employees participating in the Pension Plan for Employees of Commonwealth Energy System and Subsidiary Companies as of December 31, 1999 become participants of the plan on January 1, 2000.

The Plan was closed to employees hired on or after the following dates:

Management—October 1, 2012
Local 369—November 1, 2013
Local 12004—April 1, 2013

All new active employees participate in the K-Vantage defined contribution plan

Service

Eligibility Service

One year is earned for the 12-month period beginning with date of hire or any calendar year of employment during which 1,000 hours of service are performed.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Service (continued)	One year of Benefit Service is earned for any calendar year during which the employee is scheduled to work at least 2,080 hours. Partial years of Benefit Service are earned by dividing the number of hours scheduled by 2,080.
Vesting Service	A year of Vesting Service is earned for any calendar year during which the employee completes at least 1,000 hours of service.
Final Average Pay	Highest 3 years average pay of last 10 years, based on July 1 rate plus lump sum merit increases and incentive bonuses during preceding 12 months.
Benefit Formula	Single sum amount equal to Final Average Pay multiplied by the sum of (a) and (b) below is converted to an annuity payable at normal retirement age. Pension credits shall not exceed 525% for participants who were eligible employees on August 17, 1999 and 325% for all others.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Pension Credits after January 1, 2000

For participants who were eligible employees on August 17, 1999

Age on January 1 while working	Annual Credit for years 2000 through 2004	Annual Credit for years 2005 through 2014	Annual Credit for years 2015 through 2019	Annual Credit for years 2020 and later
<25	6%	5%	5%	5%
25–29	6%	6%	6%	6%
30–34	7%	7%	7%	7%
35–39	8%	8%	8%	8%
40	11%	11%	9%	8%
41	12%	11%	9%	8%
42	14%	11%	9%	8%
43	16%	11%	9%	8%
44	18%	11%	9%	8%
45–49	20%	14%	11%	11%
50–54	22%	18%	13%	13%
55+	25%	22%	18%	15%

In addition, former Commonwealth Energy Plan participants with age plus service greater than 65 on December 31, 1999 are credited with an additional annual credit of 10% for each year of service from January 1, 2000 through December 31, 2004.

For participants who were not eligible employees on August 17, 1999:

Age on January 1	Annual Credit
<25	5%
25–29	6%
30–34	7%
35–44	8%
45–49	11%
50–54	13%
55 +	15%

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Pension Credits as of January 1, 2000

Former Boston Edison Plan Participants

Based on present value of prior plan employer-provided accrued benefit as of December 31, 1999. Early retirement subsidies based on unreduced annuities after age 60, and 6% per year annual reduction in annuities from age 60 to 55, are included in the value. Pension credits are equal to present value divided by Final Average Pay at December 31, 1999. If greater, pension credits at December 31, 1999 are based on schedule applicable to participants who were not eligible employees on August 17, 1999 as if in effect for prior Benefit Service.

Former Commonwealth Energy Plan Participants:

Based on present value of prior plan accrued benefit as of December 31, 1999, including additional temporary annuity benefits earned under the Rule of 75 provisions for Employees satisfying the rule as of December 31, 1999. Early retirement subsidies equal to unreduced annuities after age 60, and 6% per year annual reduction in annuities from age 60 to 55, are included in the value. Pension credits are equal to present value divided by Final Average Pay at December 31, 1999. If greater, pension credits at December 31, 1999 are based on the schedule applicable to participants who were not eligible employees on August 17, 1999 as if in effect for prior Benefit Service.

Present Value Calculation Assumptions

Interest: 6%

Mortality: The blended 1994 Group Annuity Reserving Table, weighted 50% for males and 50% for females

Single Sum to Annuity Conversion Assumptions: Based on factors defined in plan document Appendix J (for non-transition members) and Appendix K (for transition members)

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Minimum Benefit	In no event will a participant receive an annuity less than the accrued benefit as of December 31, 1999, including early retirement subsidies and optional forms available under prior plan provisions had those provisions remained in effect. This includes: 1. a 6% per year early retirement reduction from age 60 and no early retirement reduction upon completion of 40 years of Vesting Service for former Boston Edison Plan participants, 2. No benefit offset prior to age 62 for former Commonwealth Energy Plan participants. The minimum single sum payment is subject to Internal Revenue Code Section 417(e) actuarial assumptions and methodology.
Contribution Benefit	In addition to the benefits described above, participants are also eligible for a contributory benefit upon retirement equal to the greater of: 1) 1/3 of employee contributions without interest (reduced for early commencement), 2) Employee contributions with interest converted to an annuity based on the Plan's definition of actuarial equivalence.
Supplemental Benefit for Eligible Employees	Additional benefits are payable from the NSTAR Pension Plan for selected individuals as listed in Appendix I of the Plan Document.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Normal Retirement Benefit

Eligibility	Attainment of age 65.
Benefit	Single sum amount at termination of employment based on Pension Credits and Final Average Pay is converted to an annuity at Normal Retirement.
Form of Payment	Benefit is normally payable as a life annuity for single participants, or an actuarially reduced 50% joint and survivor annuity for married participants. Other optional forms, including a lump sum payment equal to the single sum amount, are available.
Single Sum to Annuity Conversion Assumptions	Interest: 5% Mortality: The blended 1994 Group Annuity Reserving Table, weighted 50% for males and 50% for females

Early Retirement Benefits

Eligibility

Attainment of age 55 with 5 years of Vesting Service.

Former Boston Edison Plan participants may retire early upon satisfying any of the following requirements:

1) Age 62 for employees hired before May 15, 1986. Age 62 with 10 years of Benefit Service for employees hired on or after May 15, 1986,
2) Age 55 with 20 years of Benefit Service,
3) Sum of attained age and completed years of Benefit Service at least 85,
4) Age 45 with 20 years of Benefit Service and either resigning for cause or being discharged for reasons not the fault of participant.

Former Commonwealth Energy Plan participants may retire early upon completion of 20 years of Benefit Service and attainment of age 55.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Benefit	Single sum amount at termination of employment is converted to an annuity at Normal Retirement Age which is reduced for payment at early retirement age.
Form of Payment	Benefit is normally payable as a life annuity for single participants, or an actuarially reduced 50% joint and survivor annuity for married participants. For participants who were eligible employees on August 17, 1999, annuity conversion factors include an early retirement subsidy based on a 3% per year reduction in the annuity from age 65 to the payment age. Other optional forms, including a lump sum payment, are available.
Late Retirement Benefits	
Eligibility	Continued employment past Normal Retirement Age.
Benefit	Single sum amount at Late Retirement converted to an immediate annuity, but not less than the annuity equivalent of the single sum amount at Normal Retirement increased with 5% annual interest credited to late retirement date.
Form of Payment	Same as for Normal Retirement.
Termination of Employment Benefits	
Eligibility	The completion of at least 3 years of Vesting Service. Involuntary terminations as a result of the merger of BEC Energy and Commonwealth Energy System are 100% vested at termination, regardless of Vesting Service earned.
Benefit	Single sum amount at termination of employment converted to an annuity at Normal Retirement Date.
Form of Payment	Same as for Normal Retirement.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Death Benefits	
Eligibility	The completion of at least 3 years of Vesting Service.
Benefit	Single sum amount at date of death.
Form of Payment	Benefit is payable as a single sum or a five-year certain payout for unmarried participants or as an actuarially equivalent life annuity to the spouse for married participants. Minimum for Former Boston Edison Plan Participants: Accrued benefit as of December 31, 1999 is normally payable as if the participant elected the 50% joint and survivor annuity option. Minimum for Former Commonwealth Energy Plan Participants: Accrued benefit as of December 31, 1999 is normally payable as if the participant elected the 50% joint and survivor annuity option. If a participant satisfies the Rule of 75 at date of death, the 50% joint and survivor annuity is unreduced for married participants and is payable as a five-year certain benefit for single participants.
Disability Benefits	
Eligibility	Eligibility for LTD plan benefits from a participating unit.
Benefit	Single sum amount is based on Final Average Pay and Benefit Service continuing until the earliest of Normal Retirement, date of retirement, date of recovery, and date of death.
Form of Payment	Same as Normal Retirement

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Prior Plan Benefits for Boston Edison Plan Participants

Accrued Benefit	The monthly benefit is equal to one-twelfth of (1) plus (2) below: (1) Contributory benefit: 1/3 of the sum of all contributions made by the member which have not been withdrawn (2) Noncontributory benefit: A) plus (B) plus (C) less (D) (a) 2% of Final Average Pay times years of Benefit Service up to 25 years, (b) 2.5% of Final Average Pay times years of Benefit Service in excess of 25 years, up to 30 years, (c) 0.5% of Final Average Pay times years of Benefit Service in excess of 30 years, (d) 1 2/3% of Social Security benefit times years of Benefit Service up to 30 years, subject to maximum offset per Revenue Ruling 71-446.

Plan Provisions–Legacy NSTAR Pension Plan–PEP Formula

Prior Plan Benefits for Commonwealth Energy Plan Participants

Accrued Benefit	The monthly benefit is equal to one-twelfth of (1) less (2) below, but not less than (3) or (4) below: (1) 1-5/6% of average annual compensation, multiplied by years of service to a maximum of 30 years, plus 1% of average annual compensation, multiplied by years of service in excess of 30 years, to a maximum of 5 years. (2) .30% of the lesser of average annual compensation, and covered compensation, multiplied by years of service to a maximum of 35 years (3) 1.4% of average annual compensation, multiplied by years of service to a maximum of 30 years, plus 1% of average annual compensation, multiplied by years of service in excess of 30 years, to a maximum of 5 years. (4) $300, multiplied by years of service to a maximum of 40 years.
Covered Compensation	In any year, the average of the Social Security taxable wage base amounts for the preceding 35 years ending with the year of Social Security retirement age.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Eligibility	Represented employees hired before May 15, 2005 become covered by the plan on the earlier of: (a) The January 1 or July 1 following attainment of age 21 with one year of Eligibility Service, or (b) The January 1 following the earlier of attainment of age 35 and four years of Eligibility Service. Employees participating in the plan as of December 31, 1999 remain participants of this plan on January 1, 2000. Former Commonwealth Energy Locals 333, 338 and 339 and Boston Edison Local 387 consolidated into Local 369 effective January 1, 2001. Former Commonwealth Energy Local 392 consolidated into Local 369 effective October 1, 2000. Locals 387 and 392 are eligible for Local 369 benefits as of January 1, 2001 and October 1, 2000, respectively. Locals 333,338 and 339 are eligible for Local 369 plan benefits as of January 1, 2005. New hires are not eligible for this benefit.
Service	
Eligibility Service	The 12-month period beginning with date of hire or any calendar year of employment during which 1,000 Hours of Service are performed.
Benefit Service	Elapsed time based on years and completed months. *Former Commonwealth Energy Locals Participants:* With respect to the accrued benefit as of September 30, 2000 for Local 392 and December 31, 2004 for Locals 333, 338, and 339, a year of Benefit Service is granted for any calendar year during which the participant completes 1,000 hours of service.
Vesting Service	A year of Vesting Service is credited for any calendar year during which the participant completes at least 1,000 Hours of Service.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Final Average Pay

Highest consecutive 36 months average base pay of last 10 years.

Benefit Formula

I. The monthly benefit is equal to one-twelfth of (1) plus (2) below:

1) Contributory benefit: Greater of 1/3 of employee contributions without interest (reduced for early commencement) or employee contributions with interest converted to an annuity based on the Plan's definition of actuarial equivalence,

2) Noncontributory benefit: (a) plus (b) plus (c)

   a) 1.4% of Final Average Pay times years of Benefit Service up to 15 years,

   b) 1.86% of Final Average Pay times years of Benefit Service in excess of 15 years, up to 30 years,

   c) 0.65% of Final Average Pay times years of Benefit Service in excess of 30 years.

For Local 369 or 387 employees as of December 31, 2000, a minimum monthly noncontributory benefit based on pay and service through May 1, 1990 is equal to one-twelfth of the greatest of (1), (2), and (3) below:

1) 60% of Final Average Pay (excluding overtime) less 50% of the primary Social Security benefit, both reduced by .2083% for each month that Benefit Service is less than 30 years,

2) The accrued benefit under the Career Average Pay formula as of May 15, 1986,

3) $1,200 for participants with at least 10 years of Vesting Service at Normal Retirement.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

II. For Local 387 employees as of December 31, 2000, a minimum benefit based on pay and service through December 31, 2000 is equal to one twelfth of (1) plus (2) below:
   1) Contributory benefit: 1/3 of the sum of all contributions made by the member which have not been withdrawn

   2) Noncontributory benefit: (A) plus (B) plus (C)

   3) 1.44% of Final Average Pay times years of Benefit Service up to 15 years,

   4) 1.92% of Final Average Pay times years of Benefit Service in excess of 15 years, up to 30 years,

   5) 0.85% of Final Average Pay times years of Benefit Service in excess of 30 years.

III. For Local 392 employees as of September 30, 2000, a minimum benefit based on pay and service through September 30, 2000 is equal to one-twelfth of (1) plus (2) less (3) below, but not less than (4) or (5):
   1) 1-5/6% of Final Average Annual Compensation times years of Benefit Service up to 30 years,

   2) 1% of Average Annual Compensation times years of Benefit Service in excess of 30 years, up to 35 years,

   3) 0.60% of the lesser of Average Annual Compensation and Covered Compensation times years of Benefit Service to a maximum of 35 years. The 0.60% factor is replaced by 0.55% for those born during 1938 through 1954 and by 0.50% for those born during and after 1955,

   4) 1.4% of Average Annual Compensation, multiplied by years of Benefit Service up to 30 years, plus 1% of Average Annual Compensation multiplied by years of Benefit Service in excess of 30 years, up to 35 years,

   5) $300 multiplied by years of Benefit Service to a maximum of 40 years.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Normal Retirement Benefits

Eligibility	Attainment of age 65.
Benefit	Accrued benefit at Normal Retirement.
Form of Payment	Accrued benefit is normally payable as a life annuity for single participants, or an actuarially reduced 50% joint and survivor annuity for married participants. A minimum payout on death is applicable to employee contributions with interest. Employees who were Local 387 employees hired before May 15, 1994 and Local 369 employees prior to the consolidations are eligible for lump sum payments with respect to accrued benefits under the Local 369 or 387 formulas as applicable, as of December 31, 2000. Employees who were Local 369 employees on May 15, 2000 who become eligible for an unreduced pension prior to May 15, 2006 retain the right to a lump sum benefit.

Early Retirement Benefits

Eligibility

The earliest of (1), (2), (3), and (4).

(1) Age 62 for employees hired before May 15, 1986. Age 62 with 10 years of Benefit Service for employees hired on or after May 15, 1986,

(2) Age 55 with 20 years of Benefit Service,

(3) Sum of attained age and completed years of Benefit Service at least 85,

(4) Age 45 with 20 years of Benefit Service and either resigning for cause or being discharged for reasons not the fault of participant.

Employees of Local 392 as of September 30, 2000 may retire at age 55 or later with the sum of age and years of Vesting Service of at least 75.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Benefit

Accrued benefit at Early Retirement reduced for early commencement. $100 minimum monthly benefit does not apply for Early Retirement.

Early Retirement Reduction

Benefits are reduced for early commencement based upon the factors below. However, the factor equals 1.000 regardless of age after completing 40 years of Vesting Service or at age 57 with 35 years of Vesting Service.

Full Years Prior to NRD	Early Retirement Factor
1 to 5	1.000
6	.925
7	.850
8	.775
9	.700
10	.625
11	.457
12	.430
13	.404
14	.382
15	.360
16	.340
17	.321
18	.304
19	.288
20	.272

Employees of Local 392 can receive the accrued benefit as of September 30, 2000, unreduced for early commencement, if age 55 with age plus Vesting Service at retirement equal to or exceeding 75.

Employees of Local 387 as of December 31, 2000 may receive their benefit earned through December 31, 2000, reduced 6% per year from age 60 to age 55.

Form of Payment

Same as for Normal Retirement.

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Temporary Supplement for Early Retirement	Monthly amount payable as a temporary life annuity until age 62 to retirees ages 57 through 61 with 35 or more years of service equal to $10 times years of Benefit Service. Employees of Local 387 as of December 31, 2000 with at least 33 years of Benefit Service may receive a temporary life annuity to the later of age 62 and eligibility for 80% Social Security benefit equal to $11 times years of Benefit Service. Employees of Local 392 may receive a temporary 50% joint and survivor annuity supplement equal to the amount defined in item (3) of the ***Benefit Formula*** section of the Local 12006 plan provisions. This benefit is available only if the employee has elected to receive benefits earned under the Local 392 formula.
Late Retirement Benefits	
Eligibility	A participant may continue to work beyond Normal Retirement Age.
Benefit	Accrued benefit at Late Retirement.
Form of Payment	Same as for Normal Retirement.
Termination of Employment Benefits	
Eligibility	The completion of at least 5 years of Vesting Service.
Benefit	Accrued benefit at termination, without regard to $100 monthly minimum benefit. The noncontributory monthly benefit is subject to a minimum of $3 multiplied by Benefit Service, not to exceed 33-1/3 years.
Form of Payment	Same as for Normal Retirement

Plan Provisions–Legacy NSTAR Pension Plan–Local 369

Pre-Retirement Spouse Benefits	
Eligibility	Married twelve months and either age 55 or the completion of at least 10 years of Benefit Service.
Benefit	50% of the participant's noncontributory and contributory benefit based on the Normal Retirement benefit formula and Final Average Pay and years of Benefit Service as of the date of death.
Form of Payment	Benefit is normally payable as a life annuity to the spouse.
Pre-Retirement Death Benefits	
Eligibility	Married twelve months with 5 years of Vesting Service and not eligible for pre-retirement spouse benefits. If not eligible for married death benefit, a minimum benefit of return of employee contributions with interest is payable to a beneficiary.
Benefit	50% of 50% joint and survivor annuity based on accrued benefit determined based on Final Average Pay and years of Benefit Service at the date of death.
Form of Payment	Benefit is normally payable as a life annuity to the spouse.
Employee Contributions	Each member who was contributing to the Plan of May 1, 1980 and continued to contribute an annual amount equal to 3.75% of base pay in excess of $6,600 became eligible for an annual contributory benefit equal to 1/3 of total contributions.
Fossil Divestiture	For transferred participants and designated support participants, years of Benefit Service are frozen at date of transfer but pay for pension calculation purposes continues until the earliest of termination of employment, death, or May 15, 2000.
Nuclear Divestiture	Participants affected by the sale became 100% vested as of the closing date.

Plan Provisions–Legacy NSTAR Pension Plan–Local 12004

Eligibility	Age 21 and completion of one year of service and hired before March 31, 2006. Former Commonwealth Energy Locals 333, 338, and 339 are eligible for benefits in this section through December 31, 2004. New hires are not eligible for this benefit.
Service	
Eligibility Service	The 12-month period beginning with date of hire or any calendar year of employment during which 1,000 hours of service are performed.
Benefit Service	A year of Benefit Service is granted for any calendar year during which the participant completes 1,000 hours of service.
Vesting Service	A year of Vesting Service is granted for any calendar year during which the participant completes at least 1,000 hours of service.
Benefit Formula	The monthly benefit is equal to one-twelfth of (1) plus (2) less (3) below, but not less than (4) or (5) below: 1) 1-5/6% of Final Average Annual Compensation times years of Benefit Service up to 30 years, 2) 1% of Average Annual Compensation times years of Benefit Service in excess of 30 years, up to 35 years, 3) 0.60% of the lesser of Average Annual Compensation and Covered Compensation times years of Benefit Service to a maximum of 35 years. The 0.60% factor is replaced by 0.55% for those born during 1938 through 1954 and by 0.50% for those born during and after 1955. The 0.60% factor is replaced by 0.30% for all participants who are members of Local 12004. 4) 1.4% of Average Annual Compensation, multiplied by years of Benefit Service up to 30 years, plus 1% of Average Annual Compensation multiplied by years of Benefit Service in excess of 30 years, up to 35 years, 5) $300 multiplied by years of Benefit Service to a maximum of 40 years.

Plan Provisions–Legacy NSTAR Pension Plan–Local 12004

Normal Retirement Benefits

Eligibility	Age 65 or later, the 5th anniversary of the date of plan participation
Benefit	Accrued benefit at Normal Retirement
Form of Payment	Accrued benefit is normally payable as a life annuity for single participants or an actuarially reduced 50% joint and survivor annuity for married participants. The 50% joint and survivor annuity for married participants. The 50% joint and survivor annuity is unreduced for a married participant if the sum of the participant's age and years of service is 75 or greater.

Early Retirement Benefits

Eligibility	Age 55 or later with the sum of age and years of Vesting Services at least 75.
Benefit	Accrued benefit at Early Retirement. The benefit is not reduced for early commencement. Benefit offset does not apply prior to age 62.
Form of Payment	Same as for Normal Retirement.

Late Retirement Benefits

Eligibility	A participant may continue to work beyond Normal Retirement Age.
Benefit	Accrued benefit at Late Retirement but not less than pension payable at age 65.
Form of Payment	Same as for Normal Retirement.

Plan Provisions–Legacy NSTAR Pension Plan–Local 12004

Termination of Employment Benefits	
Eligibility	5 years of Vesting Service
Benefit	Accrued benefit at termination. Benefit is reduced on an actuarial equivalence basis for payment at or after age 55 but before Normal Retirement.
Form of Payment	Same as for Normal Retirement
Regular Pre-Retirement Death Benefits	
Eligibility	5 years of Vesting Service.
Benefit	50% of accrued benefit reduced as applicable for early payment and 50% joint and survivor annuity.
Form of Payment	Benefit is normally payable as a life annuity to the Spouse. Other optional forms are available, including lump sum payments.
Special Pre-Retirement Death Benefits	
Eligibility	Age 55 and the completion of at least 10 years of Vesting Service.
Benefit	50% of accrued benefit unreduced for early payment but reduced for 50% joint and survivor annuity for married participants. A five-year certain benefit is payable for single participants.

Plan Provisions—Bay State Union Pension Plan

Effective Date	January 1, 1981, restated effective January 1, 2013.
Eligibility for Participation	Springfield Clerical/Technical and Northampton employees hired on or after January 1, 2011 and Brockton Physical and Lawrence employees hired on or after January 1, 2013 are not eligible for pensions. All other bargaining unit employees of Bay State Gas Company except for Brockton Clerical/Technical are eligible. Eligible employees participate on their date of hire.
Benefit Formula Eligibility Brockton Physical and Lawrence Participants	Employees hired prior to January 1, 2008 received the final average pay benefit. Employees hired between January 1, 2008 and January 1, 2013 receive the account balance II benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after January 1, 2013 do not participate in the plan.
Springfield Clerical/ Technical Participants	Employees hired prior to January 1, 2011 received the Technical Participants final average pay benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after January 1, 2011 do not participate in the plan.
Northampton Participants	Employees hired prior to January 1, 2011 received the final average pay benefit. Effective April 1, 2015, all participants were moved to the account balance II benefit. Employees hired after January 1, 2011 do not participate in the plan.
Springfield Operating Participants	Employees hired prior to January 1, 2014 received the final average pay benefit. Effective January 1, 2014, all participants were moved to the account balance II benefit. Employees hired after January 1, 2014 do not participate in the plan.
Normal Retirement Eligibility	Age 65

Plan Provisions—Bay State Union Pension Plan

Benefit

Final Average Pay Benefit

1.25% of three-year average compensation times credited service (maximum 45 years). Average compensation is limited to $55,000–$75,000 per year, as shown in the following table:

Union	Highest Compensation Limit	Ultimate Compensation Limit
Brockton Physical	$ 70,000	$ 70,000
Lawrence	$ 70,000	$ 70,000
Northampton	$ 70,000	$ 70,000
Springfield Steel	$ 75,000	$ 75,000
Springfield Clerical/Technical	$ 55,000	$ 55,000

Certain prior accrued benefits are guaranteed as minimum benefits

Account Balance II Benefit

A cash balance benefit with pay credits based on the following schedule:

Age Plus Service Points	Percentage of Compensation	Percentage of Compensation Above ½ Taxable Wage Base
Less than 50	4.0%	1.0%
50–69	5.0%	1.0%
70 or more	6.0%	1.0%

If a participant moved from the final average pay benefit to this benefit, the participant's accrued benefit as of the conversion date was converted to an opening balance. The account balance is credited with interest equal to the greater of 4% or 30-year Treasuries.

Certain prior accrued benefits are guaranteed as minimum benefits.

Early Retirement

Eligibility

Age 55 and 10 years of service.

Plan Provisions—Bay State Union Pension Plan

Benefit	
Final Average Pay Benefit	A benefit equal to the normal retirement benefit based on years of credited service and final three-year average compensation at the date of termination. If payments begin before age 65, the payments are reduced by 3.6% per year. Reductions are only applied from age 60 if a participant retires with 25 years of service.
Account Balance Benefit	The participant is always entitled to their entire vested cash balance at termination or retirement.
Temporary Supplemental Benefit	Final average pay participants of all unions who retire after age 60 and satisfy early retirement eligibility will receive a supplemental benefit payable until age 62 equal to 2.0% of three-year average compensation (subject to compensation limits) times credited service (maximum 25 years), not to exceed 100% of the Social Security benefit that would be payable at age 62.
Vested Termination	
Eligibility	Three years of service
Benefit	
Final Average Pay Benefit	A monthly benefit equal to the normal retirement benefit based on three-year average compensation and credited service at the date of termination. Payments may begin at any time following termination of service. Vested termination benefits that begin before normal retirement will be reduced by 6⅔% per year that payments would be paid from age 55 until normal retirement date, and reduced on an actuarial equivalence basis for payments that precede age 55. Certain minimum benefit calculations may apply.
Account Balance Benefit	The participant is always entitled to their entire vested cash balance at termination or retirement.
Disability	
Eligibility	Qualification for benefits under the employer's long-term disability plan.

Plan Provisions—Bay State Union Pension Plan

Benefit	
Final Average Pay Benefit	Eligible employees are deemed to receive the same compensation as at the date of disability and continue to earn credited service as long as the disability continues.
Account Balance Benefit	Eligible employees continue to earn pay credits based on the same compensation as at the date of disability.
Preretirement Death	
Eligibility	Three years of service.
Benefit	
Final Average Pay Benefit	50% of normal retirement benefit as of the participant's date of death, reduced for 50% joint and survivor annuity, and reduced for payment at the participant's earliest retirement eligibility. Benefits payable only to eligible spouse.
Account Balance Benefit	A life annuity actuarially equivalent to the account balance as of the date of death (non-spouse beneficiaries must receive as lump sum, and spousal beneficiaries may elect to receive as a lump sum).
Normal Form of Payment	
Without Spouse	Life annuity.
With Spouse	50% joint and survivor annuity. Participant receives reduced lifetime benefit and, in event of participant's death, 50% of reduced benefit continued to surviving spouse. For account balance participants, if the spouse dies before the participant and within 60 months after the annuity start date, the benefit increases to the life annuity value.
Optional Forms of Payment	
Final Average Pay Participants	Life annuity, lump sum, 5 or 10 year certain and life annuity, 50% pop-up joint and survivor annuity, 66⅔%, 75%, or 100% joint and survivor annuity (only married participants may elect joint and survivor annuities).
Account Balance Participants	Life annuity; lump sum, 100%, 75%, 66⅔%, 50% with pop-up, or 33⅓% joint and survivor annuity.

Plan Provisions—Bay State Union Pension Plan

Actuarial Equivalence	Factors as provided in the plan document.
Definitions	
Credited Service	Employees earn one year of credited service for any period in which he/she is credited with at least 1,000 hours of service.
Compensation	
Final Average Pay Participants	Straight time wages plus lump sum merit pay before any reductions under IRC sections 125 and 401(k) and excluding overtime, bonuses, other incentive pay, and other exclusions specified in the plan document. Compensation considered for benefit purposes is limited based upon the provision of the IRC section 401(a)(17).
Account Balance Participants	Base salary or wages including performance-based pay, commissions, lump sum merit pay, and banked vacation before any reductions under IRC sections 125 and 401(k), but excluding other special forms of compensation such as overtime or shift differentials. Compensation considered for benefit purposes is limited based upon the provision of the IRC section 401(a)(17).
Three-Year Average Compensation	Highest average annual compensation for any 36 consecutive months during the last 120 months of employment.
Effective Date	January 1, 1978, restated effective January 1, 2013.
Eligibility for Participation	Exempt employees hired on or after January 1, 2010 and nonunion nonexempt employees hired on or after January 1, 2013 are not eligible for pension benefits. All other nonunion employees of Bay State Gas Company and all Brockton Clerical/Technical bargaining unit employees are eligible. Eligible employees participate on their date of hire.

Plan Provisions—Bay State Union Pension Plan

Benefit Formula Eligibility	
Exempt Participants	Employees hired prior to January 1, 2002 received the nonunion final average pay benefit. Effective January 1, 2002, the plan was amended to allow participants a one-time choice between the final average pay benefit and the account balance I benefit, and employees hired between January 1, 2002 and January 1, 2006 received the account balance I benefit. Effective January 1, 2006, the plan was amended to allow all participants a one-time choice between their existing final average pay or account balance I benefit and the account balance II benefit, and employees hired between January 1, 2006 and January 1, 2010 received the account balance II benefit. Effective January 1, 2011, all participants were moved to the account balance II benefit. Employees hired after January 1, 2010 do not participate in the plan.
Nonexempt Nonunion Participants	Employees hired prior to January 1, 2002 received the nonunion final average pay benefit. Effective January 1, 2002, the plan was amended to allow participants a one-time choice between the final average pay benefit and the account balance I benefit, and employees hired between January 1, 2002 and January 1, 2008 received the account balance I benefit. Effective January 1, 2008, the plan was amended to provide that employees hired after January 1, 2008 received the account balance II benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after January 1, 2013 do not participate in the plan.
Union Participants	Employees hired prior to January 1, 2008 received the union final average pay benefit. Effective January 1, 2008, the plan was amended to provide that employees hired after January 1, 2008 receive the account balance II benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after June 1, 2013 do not participate in the plan.

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Plan Provisions—Bay State Gas Company Pension Plan

Effective Date	January 1, 1978, restated effective January 1, 2013.
Eligibility for Participation	Exempt employees hired on or after January 1, 2010 and nonunion nonexempt employees hired on or after January 1, 2013 are not eligible for pension benefits. All other nonunion employees of Bay State Gas Company and all Brockton Clerical/Technical bargaining unit employees are eligible. Eligible employees participate on their date of hire.
Benefit Formula Eligibility Exempt Participants	Employees hired prior to January 1, 2002 received the nonunion final average pay benefit. Effective January 1, 2002, the plan was amended to allow participants a one-time choice between the final average pay benefit and the account balance I benefit, and employees hired between January 1, 2002 and January 1, 2006 received the account balance I benefit. Effective January 1, 2006, the plan was amended to allow all participants a one-time choice between their existing final average pay or account balance I benefit and the account balance II benefit, and employees hired between January 1, 2006 and January 1, 2010 received the account balance II benefit. Effective January 1, 2011, all participants were moved to the account balance II benefit. Employees hired after January 1, 2010 do not participate in the plan.
Nonexempt Nonunion Participants	Employees hired prior to January 1, 2002 received the nonunion final average pay benefit. Effective January 1, 2002, the plan was amended to allow participants a one-time choice between the final average pay benefit and the account balance I benefit, and employees hired between January 1, 2002 and January 1, 2008 received the account balance I benefit. Effective January 1, 2008, the plan was amended to provide that employees hired after January 1, 2008 received the account balance II benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after January 1, 2013 do not participate in the plan.

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Union Participants

Employees hired prior to January 1, 2008 received the union final average pay benefit. Effective January 1, 2008, the plan was amended to provide that employees hired after January 1, 2008 receive the account balance II benefit. Effective January 1, 2013, all participants were moved to the account balance II benefit. Employees hired after June 1, 2013 do not participate in the plan.

Normal Retirement

Eligibility

Age 65.

Benefit

Nonunion Final Average Pay

The sum of (a), (b), and (c):

(a) 1.4% of final three-year average compensation times years of credited service (maximum 25 years).
(b) 0.475% of final three-year average compensation in excess of covered compensation times credited service (maximum 25 years).
(c) 0.50% of final three-year average compensation times credited service over 25 years.

This benefit is reduced by certain previously accrued benefits, and is subject to a minimum benefit calculation, as provided in the plan document.

Union Final Average Pay

1.25% of final three-year average compensation (not greater than $70,000) times credited service (maximum 45 years).

This benefit is subject to certain minimum benefit calculations, as provided in the plan document.

A cash balance benefit with pay credits based on the following schedule:

Age Plus Service Points	Percentage of Compensation	Percentage of Compensation Above ½ Taxable Wage Base
Less than 45	5.0%	2.0%
45–59	6.5%	2.0%
60–74	8.0%	2.0%
75 or more	10.0%	2.0%

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If a participant moved from the final average pay benefit to this benefit, the participant's accrued benefit as of the conversion date was converted to an opening balance. The account balance is credited with interest equal to the greater of 4% or 30-year Treasuries.

Certain prior accrued benefits are guaranteed as minimum benefits.

Account Balance II

Eligibility

A cash balance benefit with pay credits based on the following schedule:

Age Plus Service Points	Percentage of Compensation	Percentage of Compensation Above ½ Taxable Wage Base
Less than 50	4.0%	1.0%
50–69	5.0%	1.0%
70 or more	6.0%	1.0%

If a participant moved from the final average pay benefit to this benefit, the participant's accrued benefit as of the conversion date was converted to an opening balance. The account balance is credited with interest equal to the greater of 4% or 30-year Treasuries.

Certain prior accrued benefits are guaranteed as minimum benefits.

Early Retirement

Eligibility

Age 55 and 10 years of service, or age 60 and five years of service.

Benefit

Final Average Pay Benefit

A benefit equal to the normal retirement benefit based on years of credited service and final three-year average compensation at the date of termination. If payments begin before age 65, the payments are reduced by 3.6% per year. Reductions are applied beginning at age 62 if a participant retires with 25 years of service. A Brockton Clerical/Technical Union participant retiring at or after age 60 with 25 years of service receives an unreduced benefit.

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Account Balance Benefit	The participant is always entitled to their entire vested cash balance at termination or retirement.
Temporary Supplemental Benefit	Final average pay option employees and account balance I option employees who were participants as of January 1, 2002 are eligible for a temporary supplemental benefit. Any participant retiring after age 60 with five years of service will receive a supplemental benefit until age 62 equal to 2.0% of three-year average compensation (up to covered compensation) times credited service (maximum 25 years), not to exceed 100% of the Social Security benefit that would be payable at age 62. Account Balance II participants are not eligible for a supplement.
Vested Termination	
Eligibility	Three years of service.
Benefit	
Final Average Pay Benefit	A monthly benefit equal to the normal retirement benefit based on three-year average compensation and credited service at the date of termination. Payments may begin at any time following termination from service. Vested termination benefits that begin before normal retirement will be reduced by 6⅔% per year that payments would be paid from age 55 until normal retirement date and reduced on an actuarial equivalent basis for payments that precede age 55, subject to a minimum benefit calculation.
Account Balance Benefit	The participant is always entitled to their entire vested cash balance at termination or retirement.
Disability	
Eligibility	Qualification for benefits under the employer's long-term disability plan.
Benefit	
Final Average Pay Benefit	Eligible employees are deemed to receive the same compensation as at the date of disability and continue to earn credited service as long as the disability continues.

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Account Balance Benefit	Eligible employees continue to earn pay credits based on the same compensation as at the date of disability.
Preretirement Death	
Eligibility	Three years of service.
Benefit	
Final Average Pay Participants	50% of normal retirement benefit as of the participant's date of death, reduced for 50% joint and survivor annuity, and reduced for payment at the participant's earliest retirement eligibility.
Benefits Payable Only to Eligible Spouse	
Account Balance Participants	A life annuity actuarially equivalent to the account balance as of the date of death (non-spouse beneficiaries must receive as a lump sum and spousal beneficiaries may elect to receive as a lump sum).
Normal Form of Payment	
Without Spouse	Life annuity.
With Spouse	50% joint and survivor annuity. Participant receives reduced lifetime benefit and, in event of participant's death, 50% of reduced benefit continued to surviving spouse. For Account Balance II participants, if the spouse dies before participant and within 60 months after the annuity start date, benefit increases to life annuity value.
Optional Forms of Payment	
Final Average Pay Participants	Life annuity, lump sum, 5 or 10 year certain and life annuity, 50% pop-up joint and survivor annuity, 66⅔%, 75%, or 100% joint and survivor annuity (only married participants may elect joint and survivor annuities).
Account Balance Participants	Life annuity, 100%, 75%, 66⅔%, or 33⅓% joint and survivor annuity, 50% pop-up joint and survivor annuity, 5 or 10 year certain and life annuity, or lump sum.
Actuarial Equivalence	Factors as provided in the plan document.

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Definitions	
Credited Service	Participants earn one year of credited service for each year in which he/she completes at least 1,000 hours of service.
Compensation	
Final Average Pay Participants	Straight time wages plus commissions, overtime up to a limit of 20% of base pay, lump sum merit pay, banked vacation, and Supplementary Incentive Compensation up to a limit of 20% of base pay, before any reductions under Sections 125 and 401(k). Certain exclusions apply as provided in the plan document. Compensation considered for benefit purposes is limited based upon the provision of the IRC section 401(a)(17).
Account Balance Participants	Base salary or wages including performance-based pay, commissions, lump sum merit pay, and banked vacation before any reductions under IRC sections 125 and 401(k), but excluding other special forms of compensation such as overtime or shift differentials. Compensation considered for benefit purposes is limited based upon the provision of the IRC section 401(a)(17).
Three-Year Average Compensation	Highest average annual compensation for any 36 consecutive months during the last 120 months of employment.
Covered Compensation	35-year average of Social Security wage bases based on year-of-birth table.