



CENTRAL PENNSYLVANIA TEAMSTERS DEFINED BENEFIT PLAN

**ACTUARIAL VALUATION AS OF
JANUARY 1, 2022**

Prepared by:



*1845 Walnut Street
Philadelphia, PA 19103-4755
(215) 587-0700*

November 2022



November 30, 2022

Board of Trustees
Central Pennsylvania Teamsters Defined Benefit Plan
P.O. Box 15223
Reading, PA 19612-5223

Dear Board of Trustees:

This report was prepared by CBIZ Retirement Plan Services ("CBIZ RPS") to present the results of the actuarial valuation of the Central Pennsylvania Teamsters Defined Benefit Plan as of January 1, 2022. The primary purposes of the valuation are to:

1. Determine the minimum funding requirements of ERISA (as amended) for the plan year ending December 31, 2022.
2. Provide information required by FASB ASC 960, Plan Accounting - Defined Benefit Pension Plans.

This report is intended for the sole use of the Board of Trustees and Plan Administrator to comply with the stated purposes and may not be appropriate for other purposes. Additional determinations may be needed for other purposes, such as meeting employer financial accounting requirements or judging benefit sufficiency for plan termination. This report should not be relied upon for other purposes without consulting CBIZ RPS.

CBIZ RPS has relied upon participant data and financial information provided to us by the Board of Trustees of the Central Pennsylvania Teamsters Defined Benefit Plan and other organizations designated by the Board of Trustees of the Central Pennsylvania Teamsters Defined Benefit Plan. We did not audit this data, but we have reviewed it for reasonableness and consistency with prior years. We believe that the information is sufficiently complete to be relied upon for the purposes intended. To the best of our knowledge, all plan participants on January 1, 2022, and all plan provisions in effect on that date have been reflected in the valuation.



In our opinion, all calculations and procedures conform to generally accepted actuarial principles and practices; the results presented comply with the requirements of the Internal Revenue Code, ERISA, or the FASB Accounting Standards Codification, as applicable. Other than prescribed assumptions, the actuarial assumptions have been selected by CBIZ RPS in concurrence with the Board of Trustees of the Central Pennsylvania Teamsters Defined Benefit Plan. We believe that each non-prescribed assumption is individually reasonable, and in combination they offer our best estimate of anticipated experience under the Plan.

The actuaries whose signatures appear below meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are qualified to render the actuarial opinion contained herein. CBIZ RPS's relationship with the Plan and the Board of Trustees is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of our work.

We will be pleased to review this report with you at your convenience and answer any questions.

Respectfully submitted:

CBIZ



Joseph F. Hicks, Jr., EA, MAAA
Senior Vice President
Enrolled Actuary No. 20-06117



Bryan M. McCormick, ASA, MAAA
Senior Vice President

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TRUSTEE SUMMARY OF RESULTS

	<u>January 1, 2022</u>	<u>January 1, 2021</u>
Participants		
Actively Employed	5,925	5,669
Vested Terminated	4,308	4,531
Retirees and Beneficiaries	17,003	17,192
Total	<u>27,236</u>	<u>27,392</u>
Contributions		
Minimum Required Contribution		
Before Recognition of Credit Balance/ (Funding Deficiency)	\$ 94,403,292	\$ 92,837,157
After Recognition of Credit Balance/ (Funding Deficiency)	\$ 0	\$ 0
Contributions for the Plan Year*	\$ 94,000,000	\$ 83,519,789
Normal Cost (including Expenses)	\$ 31,335,708	\$ 27,929,716
Unfunded Accrued Liability (UAL)		
Accrued Liability	\$ 1,364,799,580	\$ 1,345,069,668
Actuarial Value of Assets	1,287,263,142	1,191,341,101
Unfunded Accrued Liability	77,536,438	153,728,567
Funding Period to Amortize UAL (MVA)	0.00 years	2.34 years
Funded Status (FASB ASC 960)		
Market Value of Assets	\$ 1,390,068,876	\$ 1,229,974,089
Present Value of Accumulated Benefits	1,361,799,580	1,342,069,668
Funded Ratio	102.07%	91.65%
Funded Status (under the Pension Protection Act of 2006 "PPA")		
Actuarial Value of Assets	\$ 1,287,263,142	\$ 1,191,341,101
PPA Liability (Unit Credit)	1,364,799,580	1,345,069,668
PPA Funded Percentage	94.31%	88.57%
Unfunded Vested Benefit Liability**		
Vested Benefit Liability	\$ 1,867,581,867	\$ 1,854,417,862
Unfunded Vested Benefit Liability	477,512,991	624,443,773

* Estimated for 2022.

** For purposes of determining employer withdrawal liability only.



TRUSTEE SUMMARY OF RESULTS (continued)

COMMENTARY

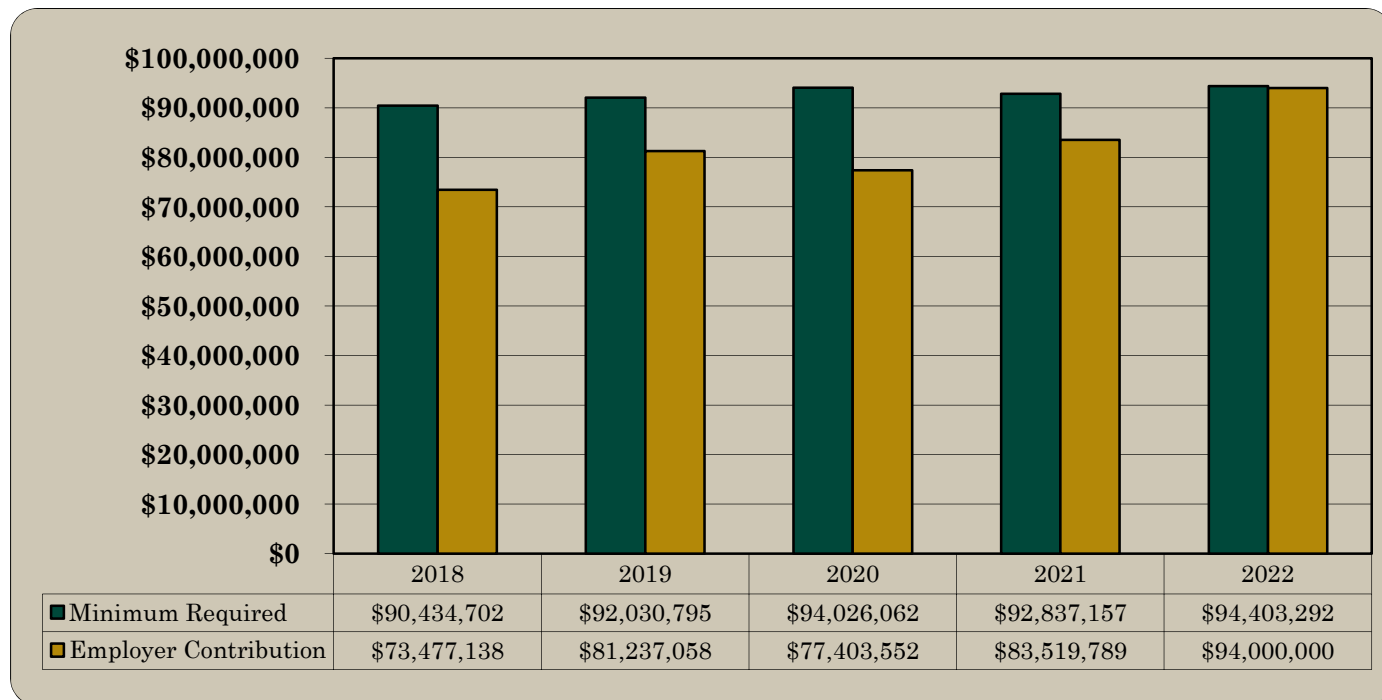
- Plan assets performed strongly during 2021, returning 15.20% on a market value basis. The actuarial value of assets, which limits fluctuation by recognizing gains and losses over a 5-year period, returned 10.25% for the year. This return, compared to the 7.50% valuation assumption, created an actuarial investment gain of \$33.0 million for 2021. A five year history of fund performance is shown on page 7.
- The Plan had a small liability loss for the 2021 plan year of \$1.5 million. This loss, combined with the asset gain described above, yielded a total actuarial gain for 2021 of \$31.5 million.
- The Plan's funded position on a market value of assets basis improved since the prior valuation. The ratio of the market value of assets to the present value of accumulated benefits (Exhibit D-1) increased from 91.65% as of January 1, 2021 to 102.07% as of January 1, 2022. The Plan's funded percentage on an actuarial value of assets basis, used for actuarial certifications under PPA and MPRA (see page 10), increased from 88.57% as of January 1, 2021 to 94.31% as of January 1, 2022.
- The Plan was amended since the prior valuation. For calendar year 2022, the monthly benefit accrual cap of \$140 was increased to \$180 for participants whose employer contributed at a rate of at least \$10.395 per hour (or \$1,801.80 per month) but less than \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021. The monthly benefit accrual cap was increased to \$200 for participants whose employer contributed at a rate of at least \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021. This change increased the normal cost by approximately \$6.2 million.
- The minimum required contribution, prior to the recognition of the credit balance, increased slightly from \$92.8 million for 2021 to \$94.4 million for 2022.
- Since the prior valuation, the number of active participants in the plan increased by 4.5%, from 5,669 to 5,925. The number of inactive participants in the plan decreased by 1.9%, from 21,723 to 21,311.
- There are 1,909 active members between the age of 50 and 60 (32.2% of the active population), with 882 of these members having at least 20 years of Credited Service.
- For the Plan year beginning 1/1/2022, the Plan was certified to be in Not Endangered, Critical, or Critical and Declining Status.



CONTRIBUTION AMOUNTS

Exhibit C-1 shows the development of the minimum required contribution. Exhibits C-2 through C-5 contain information needed to develop the minimum contribution.

Five-Year History of Minimum Required and Actual/Expected Contributions



Notes:

1. The minimum contribution amounts are calculated before application of the credit balance/(funding deficiency).
2. Employer contributions shown above include employer withdrawal liability payments.
3. The 2022 employer contribution is estimated based on current contribution rates, the number of active members as of January 2022, and the hours worked by active members in 2021.

CREDIT BALANCE ANALYSIS					
	2018	2019	2020	2021	2022
Minimum Required before Credit Balance*	\$ 90,435	\$ 92,031	\$ 94,026	\$ 92,837	\$ 94,403
Credit Balance / (Funding Deficiency)*	\$ 422,075	\$ 438,029	\$ 462,080	\$ 481,517	\$ 510,505
Minimum Contribution*	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

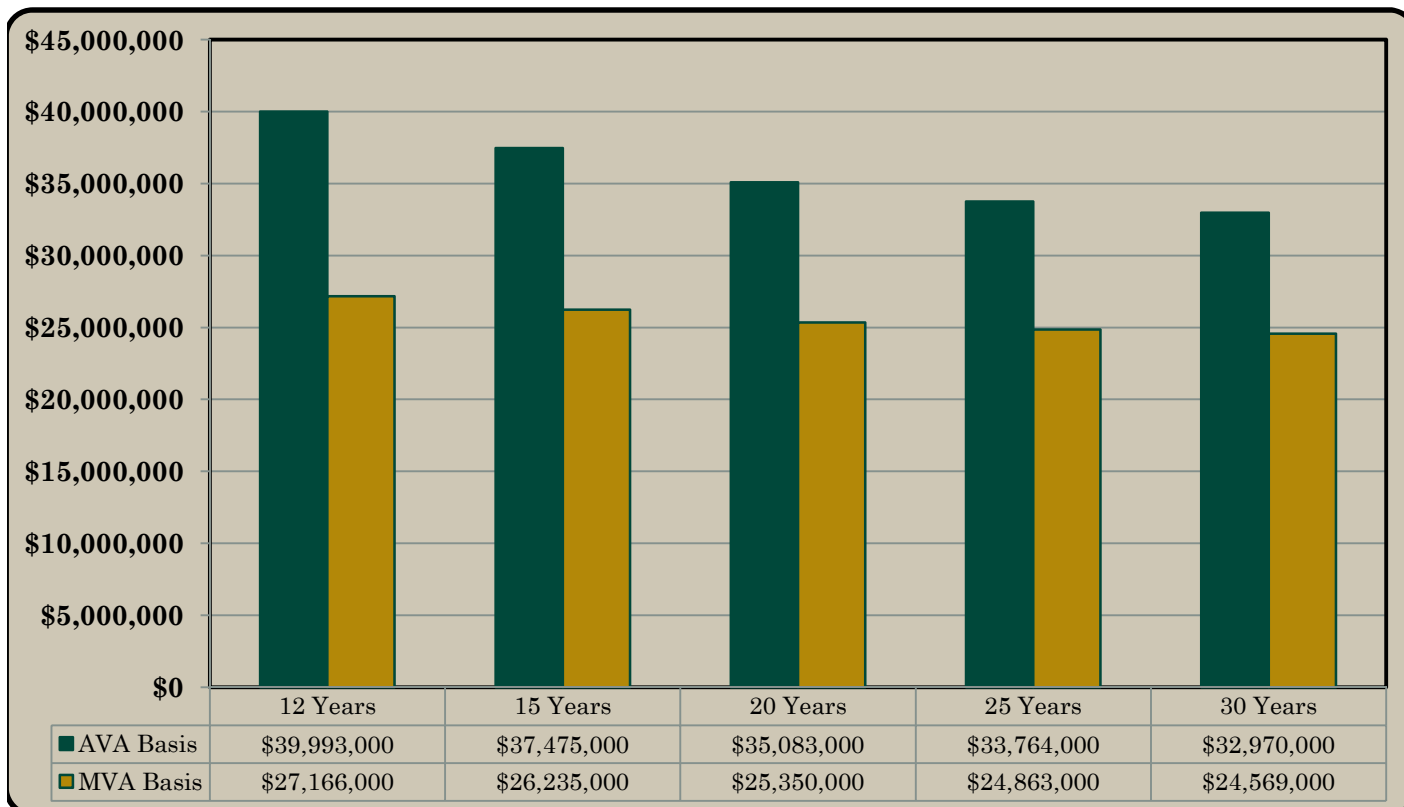
* End of year, in thousands.



FUNDING METRIC CONTRIBUTION

The Minimum Required Contribution is developed using the actuarial assumptions and methods disclosed in the Appendix to this report, and amortizing the Plan's Unfunded Accrued Liability over the IRS-mandated funding periods. Alternative funding contribution amounts are shown in the graph below and were developed using the following metric criteria, and by amortizing the Plan's Unfunded Accrued Liability, on an Actuarial or Market Value of Assets basis, over various funding periods, and applying a mid-year interest adjustment.

FUNDING CONTRIBUTION METRIC CRITERIA	
Interest Rate	7.50%
Accrued Liability Cost Method	Entry Age Normal
Accrued Liability	\$1,450,381,281
Normal Cost plus Expenses	\$18,930,756



This graph is for discussion purposes only



FUNDED STATUS OF THE PLAN

Many benchmarks can be used to measure how well a plan is funded. Here we focus on the **FASB ASC 960 method**. Although this measurement provides useful information, it shouldn't be used as a measure of the value of plan liabilities for plan termination purposes, since the liabilities upon plan termination are valued based on interest rates at the time of termination, and can vary significantly from month-to-month.

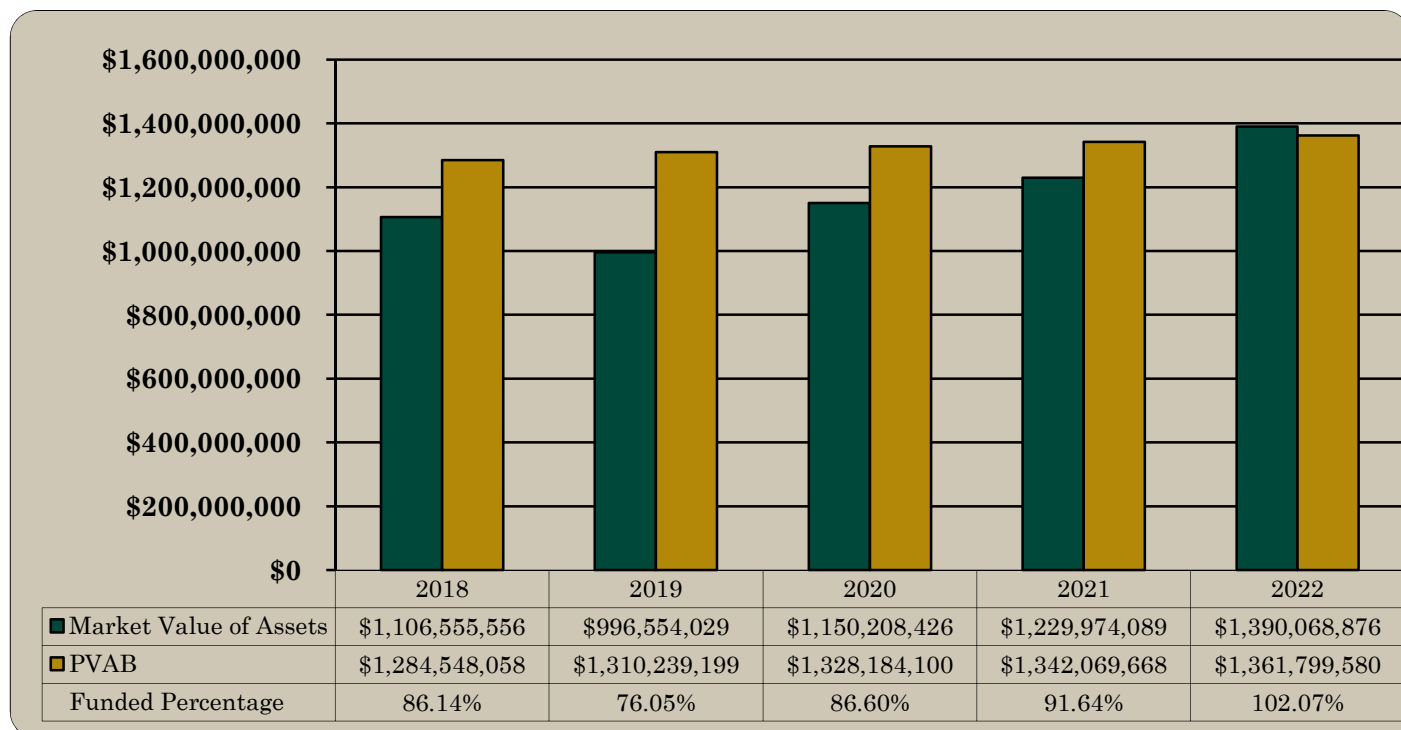
FASB ASC 960

FASB ASC 960 compares the value of the Plan's accumulated benefits to the Plan's market value of assets. The value of the Plan's accumulated benefits is determined as if all employees stopped earning additional benefits on the valuation date. This measure must be disclosed in the plan's financial statements. The result of this calculation is shown below. Additional details are shown in Exhibits D-1 and D-2.

FASB ASC 960 FUNDED STATUS ON JANUARY 1, 2022

1.	Market Value of Assets	\$ 1,390,068,876
2.	Present Value of Accumulated Benefits	1,361,799,580
3.	Funded Ratio (1) ÷ (2)	102.07%

Five-Year History of Present Value of Accumulated Benefits (PVAB) and Market Value of Assets



PLAN EXPERIENCE

To determine the plan's liabilities and contribution amounts, we make various assumptions to predict future benefit payments and the amount of assets available to pay these benefits. To the extent actual experience is different from our assumptions, an actuarial gain or loss results. An actuarial gain improves the funded position, while an actuarial loss has the opposite effect.

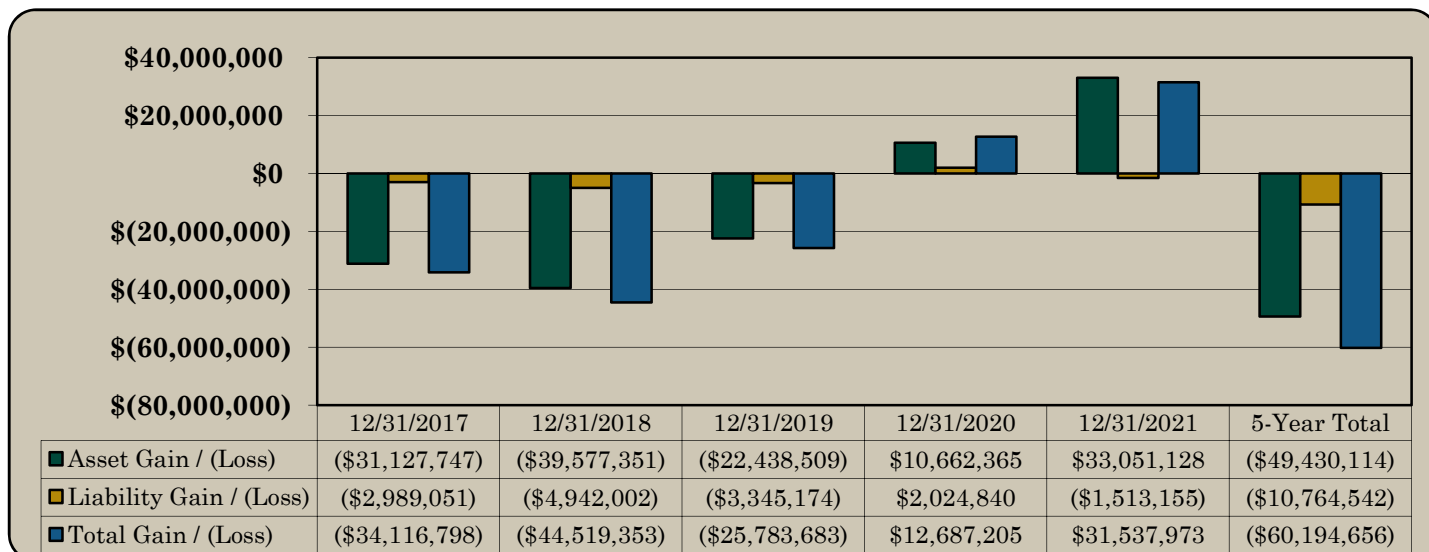
In addition to changes caused by actuarial gains or losses, there are several other reasons why the funded position changes from year to year:

1. Changes occur as a result of the normal operation of the actuarial assumptions and funding method as a result of expected retirements, terminations, etc.
2. Changes occur as a result of the difference in actual administrative expenses paid out from the Fund compared to expected expenses.
3. IRS rules do not allow us to anticipate future new entrants. As a result, additional participants may cause contribution increases.

The total net amount of the actuarial gain/(loss) during the prior plan year was \$31,537,973 as shown in Exhibit B-3. This amount is amortized and subtracted from the other contribution requirements. The breakdown of the gain/(loss) is shown below.

SUMMARY OF THE PRIOR YEAR'S ACTUARIAL GAIN/(LOSS)	
Gain/(Loss) Due to Investment Return.....	\$ 33,051,128
Gain/(Loss) Due to Liability Experience.....	(1,513,155)
Total Gain/(Loss).....	\$ 31,537,973

Five-Year History of Actuarial Gain / (Loss)



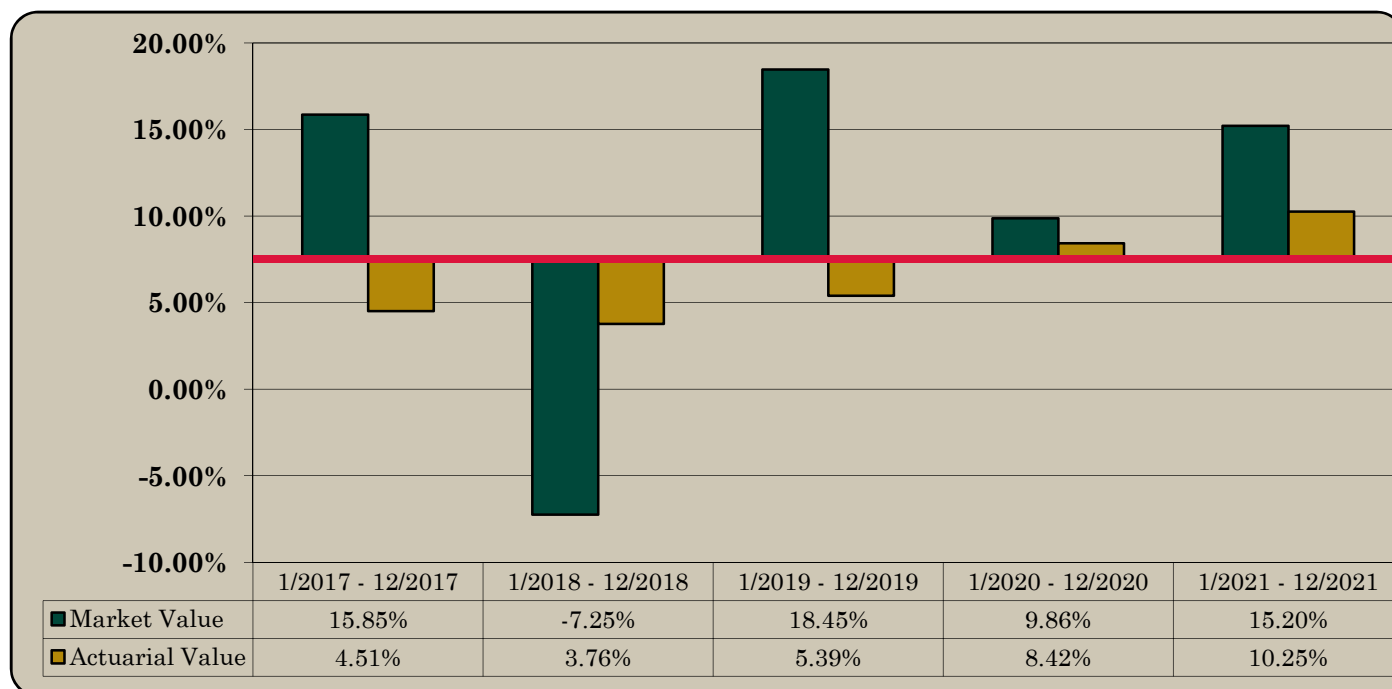
PLAN ASSETS AND INVESTMENT PERFORMANCE

The plan is funded through a separate trust. The market value of assets as of January 1, 2022 is \$1,390,068,876. This amount includes \$11,512,368 of accrued employer contributions at year-end. The actuarial value of assets is equal to \$1,287,263,142 as shown in Exhibit E-3.

The rate of return during the prior plan year was 15.20% on a market value basis and 10.25% on an actuarial value basis. These figures are net of investment expenses, and compare to the 7.50% return assumed for last year. Exhibit E-1 shows the calculation of these rates.

The graph below presents the net rates of return over the last 5 years.

Five-Year History of Investment Returns



Time-Weighted Investment Return	Asset Valuation Basis	
	Market	Actuarial
3-Year	14.45%	8.00%
5-Year	10.00%	6.44%
10-Year	9.22%	6.23%

Note: The approximate returns shown above were calculated under the assumption that all receipts and disbursements occurred in the middle of the year. To the extent that substantial receipts and disbursements occurred on a time-weighted basis at other than the middle of the year, these returns may not be indicative of actual investment performance.



UNFUNDED VESTED BENEFIT LIABILITY

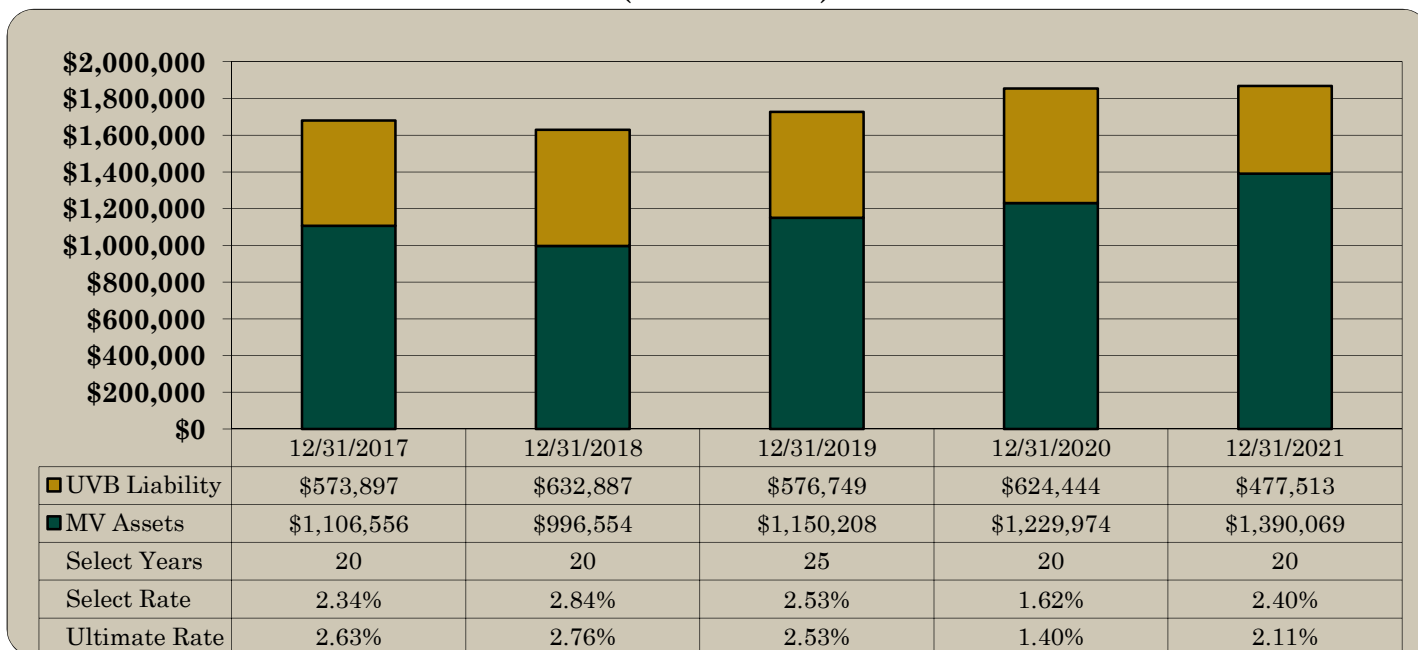
The unfunded vested benefit liability as of December 31, 2021 is the amount used in the determination of withdrawal liability under the Multiemployer Pension Plan Amendments Act of 1980. Except for the interest rate described below, the vested benefit liability was calculated on the same basis as used for the funding valuation of the Plan. The calculation of the unfunded vested benefit liability is shown below:

UNFUNDED VESTED BENEFIT LIABILITY ON DECEMBER 31, 2021	
1. Vested Benefit Liability*	
a. For retired participants and beneficiaries in pay status	\$ 1,178,710,487
b. For other participants	688,871,380
c. Total	\$ 1,867,581,867
2. Market Value of Assets	\$ 1,390,068,876
3. Unfunded / (Overfunded) Vested Benefit Liability: (1) - (2)	\$ 477,512,991

The Market Value of Assets listed above does not include the value of future withdrawal liability payments

*The portion of the vested benefits that is matched by the Plan's assets is valued using current annuity market interest rates as represented by the Pension Benefit Guaranty Corporation's plan close-out rates as of the determination date. Each vested benefit is treated as covered by assets to the same extent as other vested benefits. The portion of the vested benefits that exceed Plan assets (as determined on the above basis) are valued using the same interest rates that apply for plan funding.

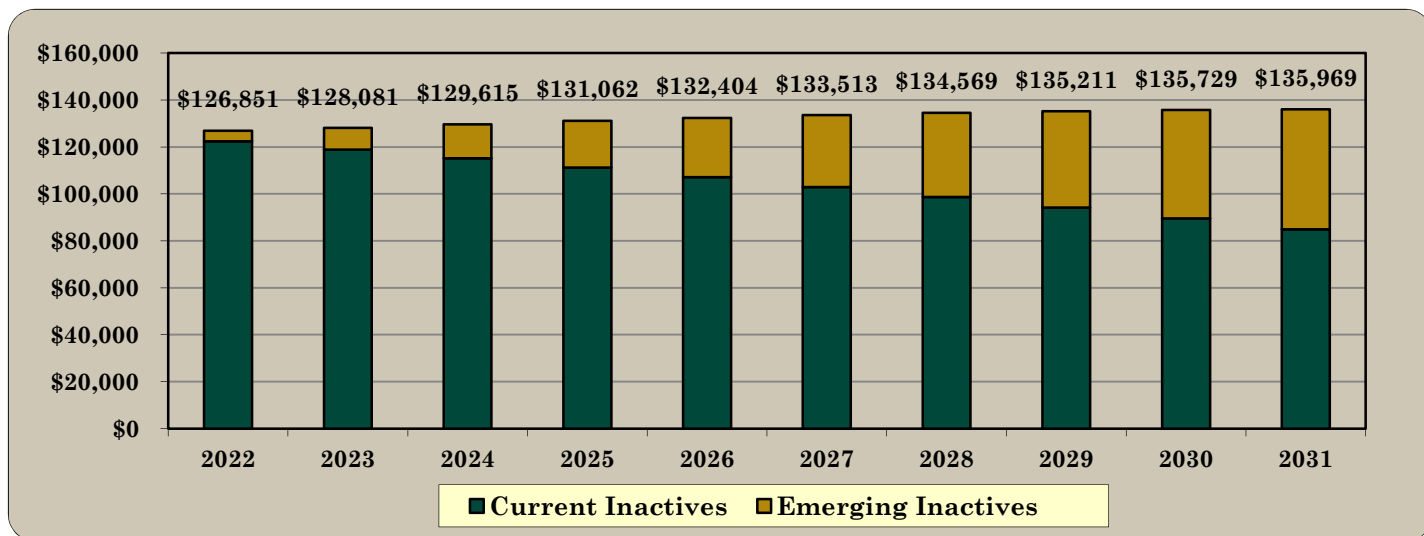
Five-Year History of Unfunded Vested Benefit (UVB) Liability (in thousands)



PROJECTED BENEFIT PAYMENTS AND CASH FLOW

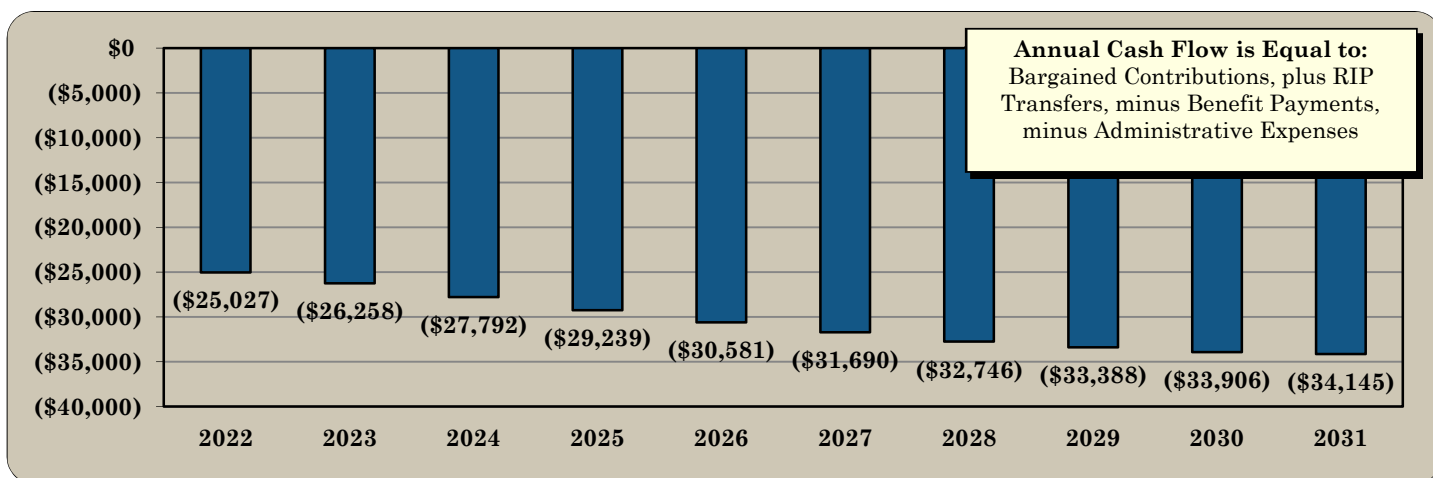
The following graph illustrates the expected benefit payments over the next ten years for participants who are in the plan as of January 1, 2022. This information should assist the plan's investment advisors in determining the liquidity requirements that the plan will face in the near term.

Expected Benefit Payments (in thousands)



Note: Except for anticipated future RIP transfers (assumed to be \$11.2 million per year for these two exhibits), the benefit disbursements and projected cash flow are calculated based on the assumptions used in the valuation.

Projected Cash Flow (in thousands)



Comment: Mathematically, if two portfolios have the same average rate of return, the portfolio with less period-to-period volatility will have a greater compound rate of return. The larger a plan's negative cash flow, the more susceptible its time-weighted, compound investment return will be to volatility.



ANNUAL ACTUARIAL CERTIFICATIONS

The Pension Protection Act of 2006 ("PPA") imposed rules aimed at accelerating the funding of multiemployer defined benefit plans based on current and projected Plan assets and liabilities.

In December 2014, the Multiemployer Pension Reform Act (MPRA) was passed, which extended the provisions of PPA past the originally scheduled sunset of December 31, 2014. In addition, MPRA added three new certification zones, eliminated the reorganization test, increased PBGC premiums, and made technical changes to PPA.

This exhibit provides an overview of PPA and MPRA and the Plan's history under them. Certifications and other detailed calculations required under PPA are provided in separate reports, and the information provided herein should not be considered a substitute for those reports.

Annual Certification

Beginning in 2008, the actuary must annually certify the Plan's status based on the current funded status of the Plan as well as on projections of the Plan's Funding Standard Account (FSA) credit balance and asset sufficiency. For purposes of certification, the funded status is calculated using the actuarial value of assets and the Unit Credit actuarial liability. For plan years beginning on or after 2015, the annual certification is determined in accordance with the following zone classifications:

Critical and Declining A plan is in Critical and Declining status if it meets the criteria for Critical Status and the plan is projected to become insolvent within 15 years (or within 20 years with an inactive-to-active participant ratio exceeding 2 to 1 or a PPA funded percentage less than 80%).

Critical A plan is in Critical Status if one of the following conditions is met:

- PPA funded percentage under 65% and either a projected FSA deficiency within five years or insufficient assets to pay benefits within seven years.
- A projected FSA deficiency within four years.
- Insufficient assets to pay benefits within five years.
- The present value of vested benefits for inactive participants exceeds that for actives, contributions are less than the normal cost plus interest on the unfunded liability, and there is a projected FSA deficiency within five years.

Projected to be Critical A Plan is Projected to be Critical status if Critical Status is projected within 5 years.

Seriously Endangered A plan is in Seriously Endangered Status if both of the conditions for Endangered status are met.



ANNUAL ACTUARIAL CERTIFICATIONS (continued)

Endangered

A plan is in Endangered status if *only one* of the following conditions is met:

- A PPA funded percentage under 80%.
- A projected FSA deficiency within seven years.

Not Endangered due to Special Rule

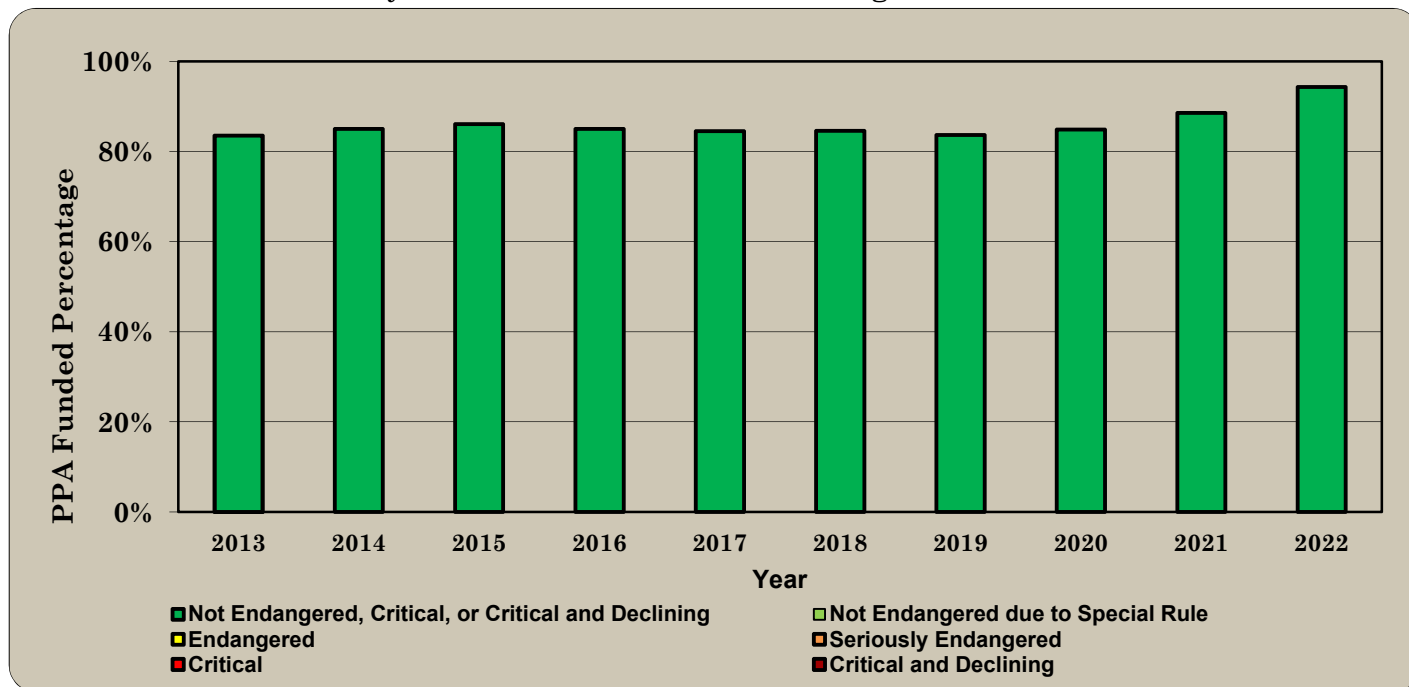
A plan is in this status if the Plan would be in Endangered status for the current year, the Plan was not Critical or Endangered for the prior year, and the Plan is projected to be neither Critical nor Endangered by the end of the 10th plan year after the plan year for the certification.

Not Endangered, Critical, or Critical and Declining

A plan is in this status if it does not meet any of the criteria described above.

Plans that are in critical status must adopt a Rehabilitation Plan, consisting of benefit reductions and/or contribution increases, that is designed to enable the plan to exit critical status within 10 years. Similarly, plans that are in either endangered or seriously endangered status must adopt a Funding Improvement Plan to improve the plan's funded status over time by reducing benefits and/or increasing contributions. The chart below shows the Plan's certified status and PPA funded percentage over the last ten years.

History of Plan's PPA Funded Percentage and Zone Status



Prior to 2015, four status certifications existed: critical, seriously endangered, endangered, or none of the above



PARTICIPANT DATA

Participant information was provided by Central Pennsylvania Teamsters. An audit of the data was not made. However, a thorough check of the data was prepared, reconciling last year's data with the new data. This reconciliation accounted for all changes to the covered population. The result of this reconciliation is shown in Exhibit F-1. Additionally, all data was checked for internal consistency and for consistency with last year's data.

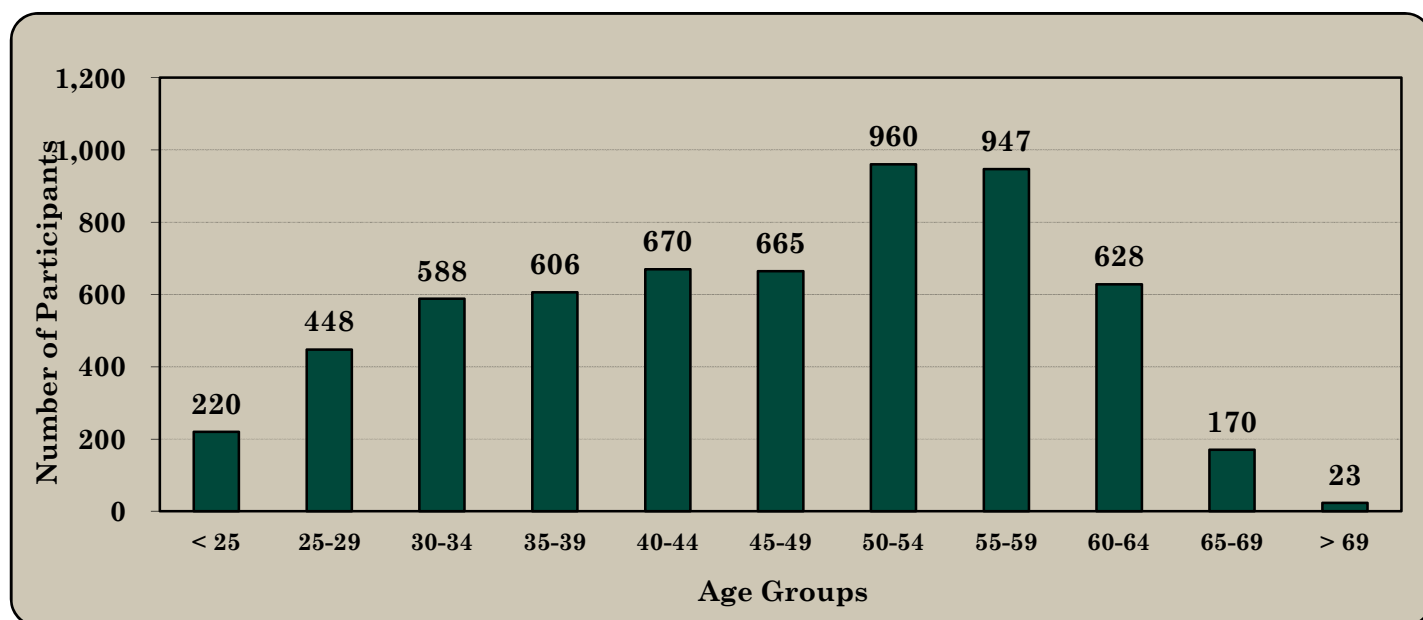
Exhibit F-2 shows the age and service distribution of active participants. This information is also shown in the graph below. Exhibit F-3 shows the distribution of the inactive participants.

Comparing this year's census data to last year's, the total number of active participants included in the valuation increased by 4.5%. The average age of the active participants is 46.6. The average benefit service of this group is 12.4 years.

The number of terminated vested participants in the plan decreased by 4.9%, from 4,531 to 4,308. The average age of the terminated vested participants is 56.2. The average monthly benefit amount for this group is \$392.

The number of retired participants in the plan decreased by 1.1%, from 17,192 to 17,003. The average age of the retired participants is 75.2. The average monthly benefit amount for this group is \$574.

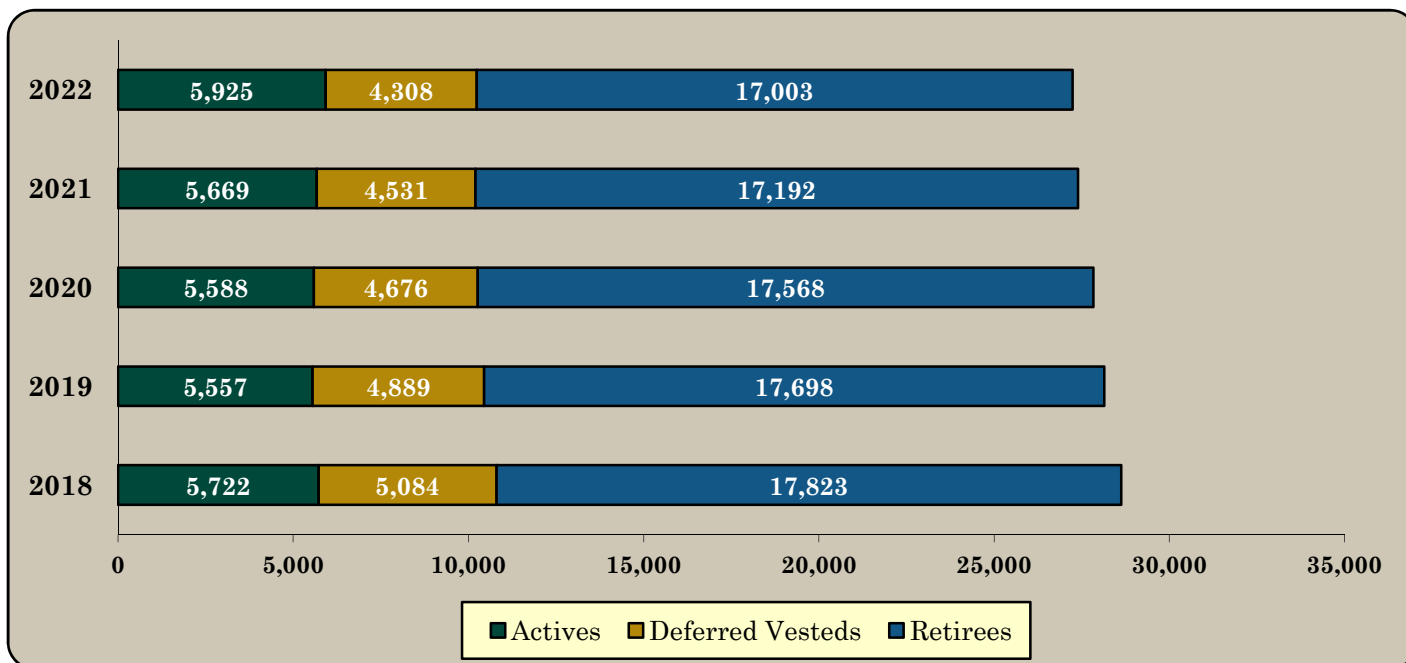
Age Distribution of Active Participants



PARTICIPANT DATA (continued)

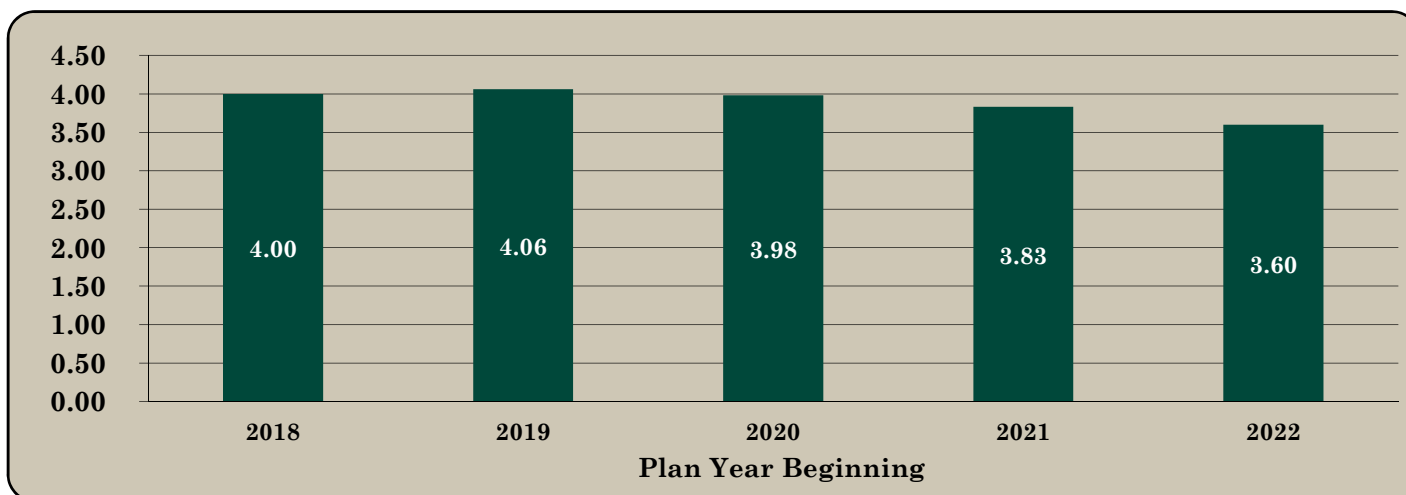
The following graph illustrates the change in participation during the past five years.

Five-Year History of Number of Participants



As a plan matures, the ratio of inactive to active participants increases. A higher ratio signifies an increased risk profile associated with actuarial gains and losses that the plan faces. The following graph shows the change in the inactive to active ratio over the past five years.

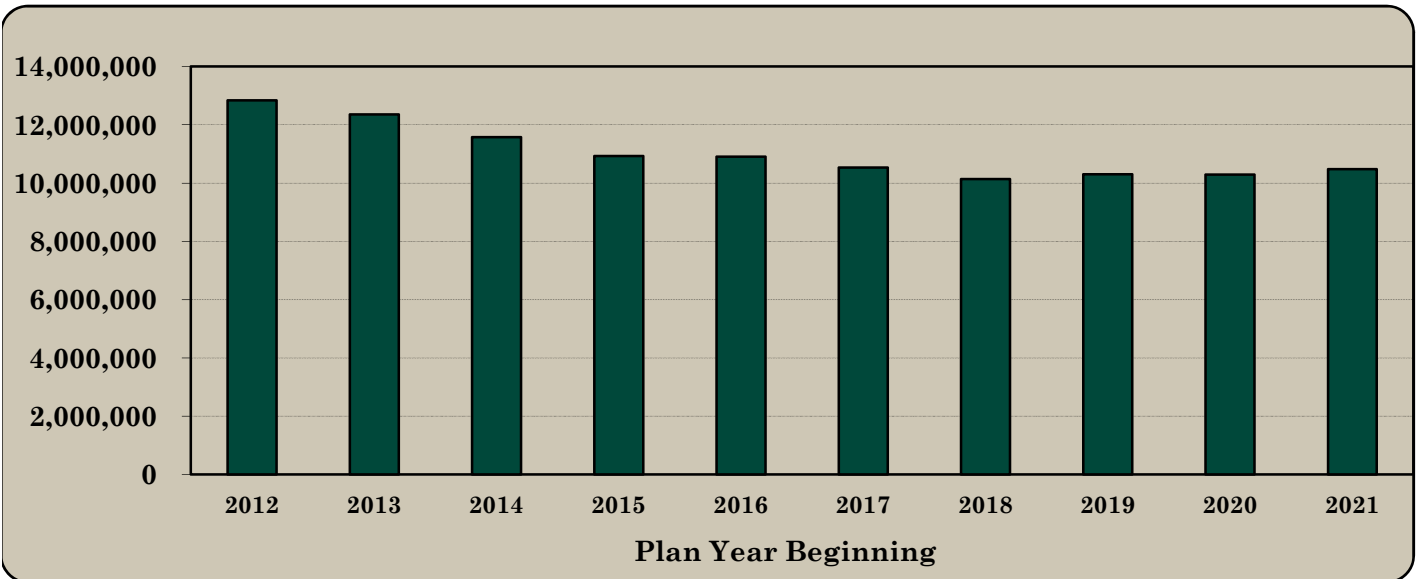
Ratio of Inactive Participants to Active Participants



PARTICIPANT DATA

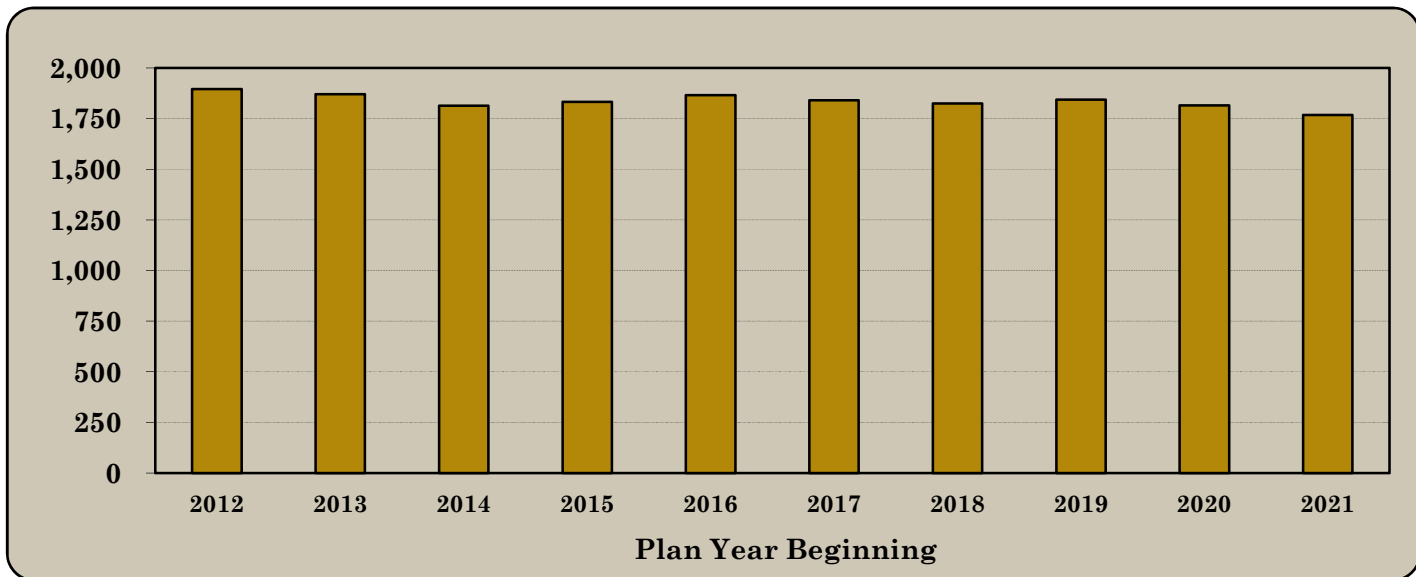
(continued)

Total Hours Worked Over the Last Ten Years



3-Year Average	1,808
5-Year Average	1,818
10-Year Average	1,838

Average Hours Worked Over the Last Ten Years



Hours worked in the previous year by participants in active status as of the valuation date.



SUMMARY AND COMPARISON OF VALUATION RESULTS

	<u>Actuarial Valuation as of</u>	
	<u>January 1, 2022</u>	<u>January 1, 2021</u>
1. Number of Plan Participants		
a. Active Participants	5,925	5,669
b. Terminated Vested Participants	4,308	4,531
c. Retired Participants and Beneficiaries	17,003	17,192
d. Total	<u>27,236</u>	<u>27,392</u>
2. RPA Current Liability (value of benefits accrued) \$	2,703,202,604	\$ 2,583,786,269
(based on a discount rate of 2.22% at 01/01/22 and a discount rate of 2.43% at 01/01/21)		
3. Actuarial Accrued Liability	\$ 1,364,799,580	\$ 1,345,069,668
4. Assets		
a. Market value	\$ 1,390,068,876	\$ 1,229,974,089
b. Actuarial value	\$ 1,287,263,142	\$ 1,191,341,101
5. Normal Cost		
a. Amount	\$ 31,335,708	\$ 27,929,716
b. Per participating employee*	5,310.24	4,940.69
6. Minimum Required Contribution		
a. Amount	\$ 0	\$ 0
b. Per participating employee*	0.00	0.00

Current plan year amounts are calculated assuming that contributions will be made in the amounts and on the dates described in Exhibit C-2 and that the receivable contributions for the prior plan year will be made when due. Prior plan year amounts may differ from the prior report if actual contributions were made in different amounts or on different dates than described in the prior report.

* For actives under the plan's assumed retirement age (5,901 for 2022; 5,653 for 2021).



DETAILS OF ACTUARIAL ACCRUED LIABILITY AND NORMAL COST UNDER THE UNIT CREDIT COST METHOD

1. Actuarial Accrued Liability			
a. Active Participants			
(i) Retirement benefits	\$	322,036,120	
(ii) Termination benefits		4,011,936	
(iii) Death benefits		7,931,982	
(iv) Disability benefits		5,422,625	
(v) Total Active			\$ 339,402,663
b. Terminated Vested Participants			105,712,462
c. Retired Participants and Beneficiaries			919,684,455
d. Total			\$ 1,364,799,580
2. Normal Cost			
a. Retirement benefits			\$ 25,812,203
b. Termination benefits			822,543
c. Death benefits			761,789
d. Disability benefits			539,173
e. Administrative expenses			3,400,000
f. Total			\$ 31,335,708
3. Present Value of Future Benefits			
a. Active Participants			
(i) Retirement benefits	\$	517,188,814	
(ii) Termination benefits		8,067,181	
(iii) Death benefits		13,295,912	
(iv) Disability benefits		9,049,286	
(v) Total Active			\$ 547,601,193
b. Terminated Vested Participants			105,712,462
c. Retired Participants and Beneficiaries			919,684,455
d. Total			\$ 1,572,998,110
4. Expected Benefit Payments			\$ 126,850,953



DETAILS OF CURRENT LIABILITY

		RPA '94 Based on IRS <u>Mandated Mortality</u>
1. Applicable Interest Rate		2.22%
2. Current Liability at Valuation Date		
a. Active Participants		
(i) Non-Vested Liability	\$ 110,584,673	
(ii) Vested Liability	812,922,126	
(iii) Total Liability	\$ 923,506,799	
b. Terminated Vested Participants		224,034,830
c. Retired Participants and Beneficiaries		1,555,660,975
d. Total: (a) + (b) + (c)		\$ 2,703,202,604
3. Current Liability Normal Cost (excluding expenses)		\$ 97,328,288
4. Expected Plan Disbursements		
a. Benefit payments		\$ 126,850,953
b. Administrative expenses		3,400,000
c. Total Expected Plan Disbursements		\$ 130,250,953
5. Assets at Valuation Date		
a. Market Value		\$ 1,390,068,876
b. Actuarial Value		\$ 1,287,263,142
6. Funded Percentage at Valuation Date		
a. Market Value		51.42%
b. Actuarial Value		47.61%



DEVELOPMENT OF (GAIN) / LOSS AS OF JANUARY 1, 2022

1. Unfunded Accrued Liability as of January 1, 2021	\$	153,728,567
2. Normal Cost as of January 1, 2021	\$	27,929,716
3. Interest to the end of the year at 7.50%	\$	13,624,371
4. Employer contributions for the 2021 plan year	\$	83,519,789
5. Interest on (4) to the end of the plan year	\$	2,688,454
6. Expected Unfunded Liability Before Changes as of January 1, 2022: (1) + (2) + (3) - (4) - (5)	\$	109,074,411
7. Actual Unfunded Liability Before Changes as of January 1, 2022		
a. Actuarial Accrued Liability	\$	1,364,799,580
b. Actuarial Value of Assets		1,287,263,142
c. Unfunded Liability: (a) - (b)	\$	77,536,438
8. (Gain) / Loss as of January 1, 2022		
a. Liability (Gain) / Loss	\$	1,513,155
b. Asset (Gain) / Loss		(33,051,128)
c. Total (Gain)/Loss: (a) + (b)	\$	(31,537,973)
9. Change in unfunded due to a change in assumptions	\$	0
10. Change in unfunded due to a plan amendment	\$	0
11. Change in unfunded due to method change	\$	0
12. Unfunded Liability as of January 1, 2022 after changes: (7) + (9) + (10) + (11)	\$	77,536,438
13. Actual Unfunded Liability as of January 1, 2022		
a. Actuarial Accrued Liability (Exhibit B-1, Item 1)	\$	1,364,799,580
b. Actuarial Value of Assets (Exhibit E-1, Item A5)		1,287,263,142
c. Unfunded Liability: (a) - (b)	\$	77,536,438



CALCULATION OF MINIMUM REQUIRED CONTRIBUTION FOR PLAN YEAR ENDING DECEMBER 31, 2022

1. Regular Minimum Contribution	
a. Normal cost (Exhibit B-1, Item 2)	\$ 31,335,708
b. Net amortization charges (Exhibit C-3, Item C, Column 6)	56,481,308
c. Interest on (a) and (b)	<u>6,586,276</u>
d. Total, but not less than zero	\$ 94,403,292
2. Full funding limitation (Exhibit C-4, Item A9)	\$ 1,212,454,297
3. Minimum required contribution before recognition of credit balance / (funding deficiency) if deposited on or after December 31, 2022: lesser of (1d) or (2)	\$ 94,403,292
4. Credit balance / (funding deficiency)	
a. Beginning of year (Exhibit C-2, Item A3)	\$ 474,888,149
b. Interest to end of year	<u>35,616,611</u>
c. End of year: (a) + (b)	\$ 510,504,760
5. Minimum required contribution if deposited on or after December 31, 2022: (3) - (4c), but not less than zero	\$ 0



FUNDING STANDARD ACCOUNT

A. Funding Standard Account for Plan Year Ended December 31, 2021

1.	Charges for the Plan Year	
a.	Normal cost	\$ 27,929,716
b.	Amortization charge (on outstanding balance of \$757,608,330)	90,599,866
c.	Interest to end of year on (a) and (b)	8,889,719
d.	Total charges	\$ 127,419,301
2.	Credits for the Plan Year	
a.	Prior year credit balance / (funding deficiency)	\$ 447,922,849
b.	Amortization credit (on outstanding balance of \$155,956,914)	32,169,437
c.	Employer contributions *	83,519,789
d.	Interest on (a), (b), and (c)	38,695,375
e.	Full funding limitation credit	0
f.	Total credits	\$ 602,307,450
3.	Credit balance / (funding deficiency) at December 31, 2021: (2f) - (1d)	\$ 474,888,149

* Contributions made during the year are assumed to be made mid-year unless noted below.
 Receivables are assumed to be made on January 15.

6/30/2021	\$	464,180
6/30/2021	\$	71,543,241
1/15/2022	\$	544,366
1/15/2022	\$	10,968,002

B. Projected Funding Standard Account for Plan Year Ending December 31, 2022

1.	Charges for the Plan Year	
a.	Normal cost (Exhibit B-1, Item 2)	\$ 31,335,708
b.	Amortization charge (Exhibit C-3, Item A, Column 6)	90,599,866
c.	Interest to end of year on (a) and (b)	9,145,168
d.	Total charges	\$ 131,080,742
2.	Credits for the Plan Year	
a.	Prior year credit balance / (funding deficiency) (A3)	\$ 474,888,149
b.	Amortization credit (Exhibit C-3, Item B, Column 6)	34,118,558
c.	Interest to the end of year on (a) and (b)	38,175,503
d.	Full funding limitation credit (Exhibit C-4, Item B3)	0
e.	Total	\$ 547,182,210
3.	Minimum required contribution as of December 31, 2022: (1d) - (2e), but not less than zero	\$ 0



SCHEDULE OF REQUIRED AMORTIZATIONS FOR FUNDING STANDARD ACCOUNT AS OF JANUARY 1, 2022

	Date Established	Initial Amount	Initial Amortization Period (Years)	Outstanding Balance	Remaining Amortization Period (Years)*	Amortization Payment as of Beginning of Year
	(1)	(2)	(3)	(4)	(5)	(6)
A. Charges						
1. Method Change	1/1/1997	\$ 1,482,948	N/A	\$ 522,748	5.000	\$ 120,191
2. Assumption Change	1/1/1999	14,849,370	30	6,817,393	7.000	1,197,326
3. Assumption Change	1/1/2001	39,167,309	30	21,552,710	9.000	3,143,030
4. Plan Amendment	1/1/2003	294,195,961	30	185,104,082	11.000	23,537,917
5. Assumption Change	1/1/2006	24,185,822	30	17,586,820	14.000	1,927,145
6. Plan Amendment	1/1/2007	4,253,016	30	3,211,643	15.000	338,454
7. PRA Investment Loss	1/1/2009	180,067,557	29	141,900,636	16.000	14,439,697
8. Actuarial Loss	1/1/2009	3,947,037	15	813,884	2.000	421,651
9. Assumption Change	1/1/2010	49,667,442	15	14,804,775	3.000	5,295,808
10. PRA Investment Loss	1/1/2010	34,482,290	28	27,437,368	16.000	2,792,005
11. PRA Investment Loss	1/1/2011	45,284,465	27	36,414,550	16.000	3,705,516
12. Actuarial Loss	1/1/2012	22,931,120	15	10,595,876	5.000	2,436,211
13. PRA Investment Loss	1/1/2012	79,197,933	26	64,422,868	16.000	6,555,621
14. Actuarial Loss	1/1/2014	10,428,501	15	6,286,970	7.000	1,104,169
15. Actuarial Loss	1/1/2015	19,844,040	15	13,208,296	8.000	2,097,687
16. Plan Amendment	1/1/2016	649,644	15	470,175	9.000	68,566
17. Actuarial Loss	1/1/2016	47,746,698	15	34,556,280	9.000	5,039,339
18. Actuarial Loss	1/1/2017	38,065,035	15	29,599,855	10.000	4,011,425
19. Plan Amendment	1/1/2017	1,723,263	15	1,340,032	10.000	181,604
20. Assumption Change	1/1/2017	4,730,695	15	3,678,649	10.000	498,537
21. Actuarial Loss	1/1/2018	34,116,798	15	28,274,097	11.000	3,595,347
22. Actuarial Loss	1/1/2019	44,519,353	15	39,012,679	12.000	4,691,604
23. Plan Amendment	1/1/2019	6,489,088	15	5,686,440	12.000	683,842
24. Actuarial Loss	1/1/2020	25,783,683	15	23,735,272	13.000	2,717,174
Total				\$ 717,034,098		\$ 90,599,866



**SCHEDULE OF REQUIRED AMORTIZATIONS FOR
FUNDING STANDARD ACCOUNT AS OF JANUARY 1, 2022
(continued)**

	Date Established	Initial Amount	Initial Amortization Period (Years)	Outstanding Balance	Remaining Amortization Period (Years)	Amortization Payment as of Beginning of Year
	(1)	(2)	(3)	(4)	(5)	(6)
B. Credits						
1. Assumption Change	1/1/2003	\$ 1,370,682	30	\$ 862,417	11.000	\$ 109,665
2. Actuarial Gain	1/1/2008	24,292,024	15	2,600,110	1.000	2,600,110
3. Actuarial Gain	1/1/2010	127,096,178	15	37,884,583	3.000	13,551,672
4. PRA Asset Relief	1/1/2010	52,800,851	30	43,687,698	18.000	4,187,068
5. Actuarial Gain	1/1/2011	62,571,446	15	23,977,568	4.000	6,659,463
6. Actuarial Gain	1/1/2013	22,157,652	15	11,857,715	6.000	2,349,977
7. Actuarial Gain	1/1/2021	12,687,205	15	12,201,447	14.000	1,337,022
8. Actuarial Gain	1/1/2022	31,537,973	15	31,537,973	15.000	3,323,581
Total				\$ 164,609,511		\$ 34,118,558
C. Net (A - B)						
				\$ 552,424,587		\$ 56,481,308
D. Balance Test						
1. Credit balance / (funding deficiency)				\$ 474,888,149		
2. Balance test: [C - D(1)]				\$ 77,536,438		
3. Unfunded accrued liability				\$ 77,536,438		



DEVELOPMENT OF FULL FUNDING LIMITATION AND CREDIT FOR THE PLAN YEAR ENDING DECEMBER 31, 2022

	<u>Minimum Required Contribution</u>
A. Development of Full Funding Limitation	
1. Actuarial accrued liability as of end of year: (Exhibit C-5, Item A2, Column 1)	\$ 1,365,582,571
2. RPA current liability as of end of year: (Exhibit C-5, Item A2, Column 2)	\$ 2,734,443,679
3. RPA current liability minimum: 90% x (2)	\$ 2,460,999,311
4. Assets at end of year	
a. Market value (Exhibit C-5, Item B2, Column 1)	\$ 1,359,061,178
b. Actuarial value (Exhibit C-5, Item B2, Column 2)	1,248,545,014
c. Lesser of (a) or (b)	\$ 1,248,545,014
5. Asset adjustments	
a. Credit balance at end of year	\$ 510,504,760
b. Net contribution carryover at end of year	N/A
c. Total asset adjustments	\$ 510,504,760
6. Adjusted assets: (4c) - (5c)	\$ 738,040,254
7. ERISA full funding limitation: (1) - (6), but not less than zero	\$ 627,542,317
8. RPA Override full funding limitation: (3) - (4b), but not less than zero	\$ 1,212,454,297
9. Full funding limitation: greater of (7) or (8)	\$ 1,212,454,297
B. Development of Credit Due to Full Funding Limitation	
1. Net charges to funding standard account (Exhibit C-1, Item 1)	
a. Normal cost	\$ 31,335,708
b. Net amortization charge	56,481,308
c. Interest	6,586,276
d. Total	\$ 94,403,292
2. Full funding limitation: (A9)	\$ 1,212,454,297
3. Full funding credit: (1) - (2), but not less than zero	\$ 0



DEVELOPMENT OF PROJECTED END-OF-YEAR AMOUNTS FOR CALCULATION OF FULL FUNDING LIMITATION

	ERISA Actuarial Accrued Liability (1)	RPA '94 Current Liability Based on IRS Mandated Mortality (2)
A. Liabilities		
1. Applicable interest rate	7.50%	2.22%
2. Projection to end of year		
a. Beginning-of-year liability	\$ 1,364,799,580	\$ 2,703,202,604
b. Normal cost, net of expenses	27,935,708	97,328,288
c. Expected benefit payments	(126,850,953)	(126,850,953)
d. Interest to end of year on (a) thru (c)	99,698,236	60,763,740
e. Projected end-of-year amount: (a) + (b) + (c) + (d)	\$ 1,365,582,571	\$ 2,734,443,679
	Market Value (1)	Actuarial Value (2)
B. Asset Values		
1. Applicable interest rate	7.50%	7.50%
2. Projection to end of year		
a. Beginning-of-year amount	\$ 1,390,068,876	\$ 1,287,263,142
b. Expected benefit payments	(126,850,953)	(126,850,953)
c. Expected expenses	(3,400,000)	(3,400,000)
d. Interest to end of year on (a) thru (c)	99,243,255	91,532,825
e. Projected end-of-year amount: (a) + (b) + (c) + (d)	\$ 1,359,061,178	\$ 1,248,545,014



**PRESENT VALUE OF ACCUMULATED BENEFITS
AS OF JANUARY 1, 2022
IN ACCORDANCE WITH FASB ASC 960**

	<u>January 1, 2022</u>	<u>January 1, 2021</u>
1. Number of Participants		
a. Retiree and beneficiaries	17,003	17,192
b. Terminated participants with deferred benefits	4,308	4,531
c. Participating employees	5,925 *	5,669
d. Total	<u>27,236</u>	<u>27,392</u>
2. Present Value of Vested Accumulated Benefits		
a. Retiree and beneficiaries	\$ 919,684,455	\$ 895,428,482
b. Terminated participants with deferred benefits	105,712,462	108,350,879
c. Participating employees	290,354,638	292,624,500
d. Total	<u>\$ 1,315,751,555</u>	<u>\$ 1,296,403,861</u>
3. Present Value of Nonvested Accumulated Benefits for Participating Employees	\$ 46,048,025	\$ 45,665,807
4. Present Value of Total Accumulated Benefits	\$ 1,361,799,580	\$ 1,342,069,668
5. Market Value of Assets	\$ 1,390,068,876	\$ 1,229,974,089
6. Benefit Security Ratio		
a. Retiree benefit security ratio: (5) ÷ (2a)	151.15%	137.36%
b. Vested benefit security ratio: (5) ÷ (2d)	105.65%	94.88%
c. Benefit security ratio: (5) ÷ (4)	102.08%	91.64%

Actuarial Assumptions: The same actuarial assumptions were used to value the FASB ASC 960 liabilities as were used for purposes of determining the plan's funding requirements, as described in the appendices. In particular the valuation interest rate of 7.50% was used. However, the \$3 million reciprocity allowance is not included.

* Of these, 3,776 are fully vested.



RECONCILIATION OF PRESENT VALUE OF ACCUMULATED PLAN BENEFITS

1. Present value of accumulated benefits at January 1, 2021	\$ 1,342,069,668
2. Increases / (Decreases) during the year	
a. Due to benefits accumulated and gains and losses*	\$ 39,751,946
b. Due to decrease in the discount period	96,293,396
c. Actual benefits paid	(116,315,430)
d. Due to plan amendment	0
e. Due to change of assumptions	0
f. Net increase (decrease): (a) + (b) + (c) + (d) + (e)	<u>\$ 19,729,912</u>
3. Present value of accumulated benefits at January 1, 2022: (1) + (2f) (Exhibit D-1, Item 4, Column 1)	\$ 1,361,799,580

* For FASB ASC 960 reporting, this is a balancing item and includes the effects of new entrants.



SUMMARY OF ASSET VALUES AND RATES OF RETURN

A. Summary of Asset Values

1. Fair Value of Assets	\$ 1,377,570,245
2. Amounts Receivable	13,619,515
3. Amounts Payable	<u>1,120,884</u>
4. Market Value of Assets: (1) + (2) - (3)	\$ 1,390,068,876
5. Actuarial Value of Assets	\$ 1,287,263,142

B. Rate of Return

	<u>Market Value</u> (1)	<u>Actuarial Value</u> (2)
1. Plan assets as of January 1, 2021	\$ 1,229,974,089	\$ 1,191,341,101
2. Employer contributions	83,519,789	83,519,789
3. Benefit payments made	(116,315,430)	(116,315,430)
4. Expenses paid from the trust	(3,395,290)	(3,395,290)
5. Transfers to/(from) the plan	11,223,466	11,223,466
6. Investment return, net of expenses	<u>185,062,252</u>	<u>120,889,506</u>
7. Plan assets as of January 1, 2022: (1) + (2) + (3) + (4) + (5) + (6)	\$ 1,390,068,876	\$ 1,287,263,142
8. Approximate rate of return (net of investment expenses) on average invested assets		
a. Average invested assets ¹	\$ 1,217,490,357	\$ 1,178,857,369
b. Rate of return: (6) ÷ (8a)	15.20%	10.25%
9. Approximate rate of return (net of total expenses) on average invested assets		
a. Average invested assets ²	\$ 1,219,188,002	\$ 1,180,555,014
b. Rate of return: [(6) + (4)] ÷ (9a)	14.90%	9.95%

1. Determined using the Schedule MB (Form 5500) methodology: [Item 1 + Item 2÷2 + Item 3÷2 + Item 4÷2 + Item 5÷2]

2. Determined using the Schedule MB (Form 5500) methodology: [Item 1 + Item 2÷2 + Item 3÷2 + Item 5÷2]



STATEMENT OF ASSETS AS OF DECEMBER 31, 2021

1. Total noninterest-bearing cash		\$	4,495,489
2. Receivables			
a. Employer contributions	\$	11,512,368	
b. Other		<u>2,107,147</u>	
c. Total: (a) + (b)			\$ 13,619,515
3. General Investments			\$ 1,364,212,059
4. Securities & Real Property, Buildings, and other property used in plan operations			\$ 8,862,697
5. Total assets: (1) + (2c) + (3) + (4)			\$ 1,391,189,760
6. Liabilities			\$ 1,120,884
7. Net Assets: (5) - (6)			\$ 1,390,068,876

RECONCILIATION OF MARKET VALUE OF ASSETS

1. Market Value of Assets as of January 1, 2021			\$	1,229,974,089
2. Contributions				
a. Bargained	\$	82,511,243		
b. Withdrawal payments		1,008,546		
c. Other		<u>0</u>		
d. Total contributions: (a) + (b) + (c)			\$	83,519,789
3. Earnings on investments			\$	184,499,384
4. Other income			\$	562,868
5. Benefit payment and payment to provide benefits			\$	116,315,430
6. Interest expense			\$	0
7. Expenses				
a. Administrative Expenses	\$	3,395,290		
b. Investment advisory and management fees		<u>0</u>		
c. Total administrative expenses: (a) + (b)			\$	3,395,290
8. Transfers to (from) the plan			\$	11,223,466
9. Net assets at end of year: (1) + (2d) + (3) + (4) - (5) - (6) - (7c) + (8)			\$	1,390,068,876



ACTUARIAL VALUE OF ASSETS

1.	Market Value of Assets as of January 1, 2021					\$ 1,229,974,089
2.	Contributions for the prior plan year					83,519,789
3.	Participant account transfers					11,223,466
4.	Benefit payments					(116,315,430)
5.	Administrative expenses					(3,395,290)
6.	Expected Investment Return at 7.50% on:					
	a. Market Value of Assets as of January 1, 2021				\$	92,248,057
	b. Contributions for the prior plan year					2,688,454
	c. Participant account transfers					420,880
	d. Benefit payments					(4,361,829)
	e. Administrative expenses					(127,323)
	f. Total: (a) + (b) + (c) + (d) + (e)					\$ 90,868,239
7.	Actual Investment Return as of December 31, 2021					\$ 185,062,252
8.	Investment Gain/(Loss): (7) - (6)					\$ 94,194,013
9.	Market Value of Assets as of January 1, 2022					\$ 1,390,068,876
10.	Total Deferred Gain/(Loss)					
		<u>Plan</u>	<u>Investment</u>	<u>Percent</u>	<u>Percent</u>	<u>Deferred</u>
		<u>Year</u>	<u>Gain/(Loss)</u>	<u>Recognized</u>	<u>Deferred</u>	<u>Gain/(Loss)</u>
	a. 2021	\$	94,194,013	20%	80%	\$ 75,355,210
	b. 2020		27,219,718	40%	60%	16,331,831
	c. 2019		108,053,371	60%	40%	43,221,348
	d. 2018		(160,513,277)	80%	20%	(32,102,655)
	e. Total					\$ 102,805,734
11.	Preliminary Actuarial Value of Assets as of January 1, 2022: (9) - (10e)					\$ 1,287,263,142
12.	Corridor					
	a. 80% of Market Value: 0.80 x (9)					\$ 1,112,055,101
	b. 120% of Market Value: 1.20 x (9)					\$ 1,668,082,651
13.	Actuarial Value of Assets as of January 1, 2022: (11), but not less than (12a) nor more than (12b)					\$ 1,287,263,142



RECONCILIATION OF PARTICIPANT DATA

	<u>Actives</u>	<u>Pensioners & Beneficiaries</u>	<u>Deferred Vested Participants</u>	<u>Total</u>
1. Participants in Prior Valuation	5,669	17,192	4,531	27,392
2. Change During Year				
a. New entrants	894	-	-	894
b. Returns to active employment	20	-	(20)	-
c. Retirements	(232)	515	(283)	-
d. Deaths with survivor annuity	(4)	(202)	(12)	(218)
e. Deaths with no survivor	(12)	(813)	(35)	(860)
f. Deaths with lump sum benefit	-	-	-	-
g. New beneficiaries	-	218	-	218
h. Vested terminations	(126)	-	126	-
i. Non-vested terminations	(284)	-	-	(284)
j. Alternate Payee under QDRO	-	-	-	-
k. Return from pension/suspended	-	(6)	6	-
l. End of certain period	-	(2)	-	(2)
m. Data corrections	-	101	(5)	96
n. Total change	<u>256</u>	<u>(189)</u>	<u>(223)</u>	<u>(156)</u>
3. Participants in Current Valuation	5,925	17,003	4,308	27,236



AGE / SERVICE DISTRIBUTION OF ACTIVE PARTICIPANTS

	Attained	Years of Credited Service										Total Number
	Age	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<u>Average Age:</u> 2022: 46.63 2021: 47.40	Under 25	133	83	4	0	0	0	0	0	0	0	220
	25-29	155	222	68	3	0	0	0	0	0	0	448
<u>Average Service:</u> 2022: 12.39 2021: 13.59	30-34	148	305	118	17	0	0	0	0	0	0	588
	35-39	137	225	138	71	30	5	0	0	0	0	606
<u># of Males:</u> 5,556	40-44	113	219	139	70	97	31	1	0	0	0	670
	45-49	80	170	120	78	118	72	26	1	0	0	665
<u># of Females:</u> 369	50-54	71	130	129	93	136	182	147	69	3	0	960
	55-59	56	103	113	84	110	120	122	177	59	3	947
	60-64	25	55	75	48	74	90	81	87	61	32	628
	65-69	5	14	19	15	20	18	15	23	24	17	170
	70 & Over	2	1	1	1	1	1	4	5	2	5	23
	Total	925	1,527	924	480	586	519	396	362	149	57	5,925



AGE DISTRIBUTION OF INACTIVE PARTICIPANTS

Age Last Birthday	Normal, Early, and Deferred Vested Retirements*		Terminated Participants & Beneficiaries with Rights to Future Benefits **		Total	
	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit
Under 45	7	\$ 68,904	487	\$ 2,815,252	494	\$ 2,884,156
45-49	11	40,596	499	2,805,321	510	2,845,917
50-54	34	133,452	736	4,323,178	770	4,456,630
55-59	388	3,950,577	1,046	5,095,839	1,434	9,046,416
60-64	1,611	15,552,396	1,001	3,723,073	2,612	19,275,469
65-69	3,113	25,958,814	408	1,120,699	3,521	27,079,513
70-74	3,543	25,103,277	79	208,254	3,622	25,311,531
75-79	3,252	22,347,545	27	108,040	3,279	22,455,585
80 & Over	5,044	23,975,496	25	88,217	5,069	24,063,713
Total	17,003	\$ 117,131,057	4,308	\$ 20,287,873	21,311	\$ 137,418,930

Average age 75.18 56.18

Average monthly benefit \$574 \$392

* Including surviving spouses in pay status.

** Including surviving spouses eligible for future payment.

Benefits shown for Terminated Vested Participants beyond Normal Retirement Age do not reflect actuarial increases.



ACTUARIAL ASSUMPTIONS AND METHODS

Interest Rates

Funding 7.50% per year, compounded annually, net of investment expenses.

Current Liability The highest interest rate within the permissible range prescribed under IRC Section 431(c)(6)(E); valued at 2.22% as of January 1, 2022.

Mortality

Healthy Lives Sex Distinct RP-2000 Combined Healthy Blue Collar Mortality Table.

Disabled Lives 1957-66 Social Security Administration Experience as shown in PBGC Publication #501, Table 5.

Current Liability IRS 2022 Static Mortality, as prescribed

These tables are assumed to reflect both expected mortality rates as of the measurement date and any expected mortality improvement after the measurement date.

Retirement

Active rates of retirement are based on age and service. Sample rates are shown below for participants with 20 years of service:

Attained Age	Rate of Retirement	Attained Age	Rate of Retirement
55	0.01	63	0.16
56	0.01	64	0.16
57	0.05	65	0.25
58	0.05	66	0.25
59	0.05	67	0.25
60	0.05	68	0.25
61	0.07	69	0.25
62	0.16	70	1.00

Vested terminated participants are assumed to retire at age 57.

Withdrawal

Participants are assumed to terminate employment for reasons other than death, disability, or retirement according to Scale T-2 from the Actuary's Pension Handbook, with rates graduated from tabular at age 40 to zero at age 50.



ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Disability	Probability of becoming disabled according to Sarason's Advanced Pension Table pages XXXIX, with rates graduated from tabular at age 50 to zero at age 55.
Expenses	An amount equal to the actual expenses (excluding investment expenses) paid in the preceding Plan Year, rounded to the nearest \$100,000, added to the Normal Cost. For the plan year beginning January 1, 2022, this amount is assumed to be \$3,400,000.
Marital Status	80% of participants who have not yet commenced receipt of benefit are assumed to be married. Wives are assumed to be three years younger than their husbands.
Form of Payment	Benefits are assumed to be paid as a three-year certain and life annuity.
Reciprocity Allowance	\$3 million has been added to the accrued liability to account for reciprocity benefits.
Asset Valuation Method	Recognition of gains and losses above or below the assumed rate of return over a 5-year period, adjusted, if necessary, to remain no greater than 120% of market value, nor less than 80% of market value. As allowed by the Pension Relief Act of 2010, the loss from the 2008 plan year is being recognized over a 10-year period.
Actuarial Cost Methods	<p><i>The Unit Credit Cost Method (used for minimum funding)</i></p> <p>Normal Cost - For each active participant, the present value of the benefit expected to be earned during the year.</p> <p>Actuarial Accrued Liability - For each active participant, the present value of the benefit accrued as of the valuation date. For each terminated participant, the present value at the valuation date of his pension entitlement.</p>

ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Actuarial Cost Methods *The Entry Age Normal Cost Method (used for funding metric contributions)*

Normal Cost - For each active participant, the level amount which if paid each year from his hire date to assumed retirement date would accumulate to the amount needed at retirement date to provide the participant's expected pension.

Actuarial Accrued Liability - For each active participant, the amount needed at the valuation date to provide his expected pension at retirement, less the present value of his expected future normal cost amounts. For each terminated participant, the present value at the valuation date of his pension entitlement.

Changes since the Prior Valuation

The current liability interest rate was updated from 2.43% to 2.22% to reflect the change in IRS mandated rates.

The mortality table used to calculate the RPA current liability was updated from 2021 to 2022.

ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Rationale for Selection of Significant Actuarial Assumptions

Interest Rate	The interest rate assumption used for funding purposes is based on historical data, both current and future market expectations, and professional judgment. In setting the long-term investment return assumption, the Plan's Investment Consultant provided future investment expectations based on the Plan's asset allocation.
Mortality	The mortality assumption is based on historical and current demographic data, adjusted to reflect estimated future experience, and professional judgment. Experience studies wherein actual experience is compared to expected experience are performed periodically.
Retirement	The retirement decrements for active participants are based on studies of Plan experience. The retirement age assumption for vested terminated participants (57) represents the unreduced retirement age for pre-1987 benefit accruals.
Withdrawal	A standard withdrawal table has been selected which results in a similar level of aggregate annual withdrawal as the Plan has experienced over recent years.
Disability	Because the Fund does not have enough data to do a fully credible experience analysis with respect to disability during active employment, the current assumption has been selected based on observations of recent disabilities, the actuary's experience with plans of a similar size, plan design, workforce composition, geography, and discussions with the Plan Sponsor.
Plan Expenses	Expenses paid from the plan trust are estimated by reviewing historical fees paid from the trust and adjusting for PBGC premiums and other expenditures expected to be paid in this Plan Year.
Marital Status	The current assumption has been selected based on the actuary's experience with plans of a similar size, plan design, and workforce composition.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Introduction There are two pieces to the benefit. The first piece is the accrued benefit as of 12/31/1986 (Pre-RIP Benefit) and the second piece is the benefit accrued based on all service after 01/01/2003 (Future Service Date).

Payment of the Pre-RIP Benefit is generally based on the provisions of the plan at that time. Following is a summary of those provisions.

Vesting Service	Each year during which the participant works at least 1,000 hours.
Benefit Service	Prior to 1987: Each year during which the participant works at least 1,800 hours in covered employment. A partial year of benefit service is earned for a year in which less than 1,800 hours but more than 1,000 hours are worked.
Normal Retirement Date	The later of age 57 or the fifth anniversary of participation.
Normal Retirement Pension	The monthly amount varies by benefit level and was frozen as of 12/31/1986.
Early Retirement Date	Separation from covered employment on or after age 55 with five or more years of vesting service.
Early Retirement Pension	The Normal Retirement Pension, actuarially reduced for commencement prior to age 57.
Disability Pension	An active participant with at least 15 years of benefit service who has been awarded disability benefits by the Social Security Administration and is not eligible for a Normal Retirement Pension may be eligible for a disability benefit. The monthly benefit is payable as of the Social Security Entitlement date with no reduction for early commencement.
Single Sum Death Benefit	The beneficiary of an active participant who dies will receive a lump sum death benefit. The amount of benefit is based on the number of years of Pre-RIP benefit service completed prior to death.
Termination Benefit	Participants are 100% vested in their accrued pension after five years of vesting service, with benefits payable at age 57, or a reduced pension payable as early as age 55, if eligible.



SUMMARY OF PRINCIPAL PLAN PROVISIONS (continued)

Pre-Retirement

Spouse's Death Benefit

If a vested participant or vested former participant dies before his pension begins, his surviving spouse will be entitled to a lifetime pension. The amount of such pension will be the same as the spouse would have received if the participant had (i) separated from covered employment on the date of death, (ii) survived until the later of the earliest retirement date or date of death, (iii) retired having elected a Qualified Joint and Survivor Annuity, and (iv) died on the next day.

Normal Form of Payment

For single participants: Three-year Certain and Continuous annuity.
For married participants: 50% Joint and Survivor annuity.

Payment of the Future Service Benefit is based on the following summary of provisions.

Vesting Service

Each plan year during which the participant works at least 1,000 hours.

Benefit Service

Prior to 1987: Each plan year during which the participant works at least 1,800 hours in covered employment. A partial year of benefit service is earned for a plan year in which less than 1,800 hours but more than 1,000 hours are worked.

1987-2001: Each plan year during which the participant works at least 1,000 hours in covered employment.

2002: 1,500 hours in covered employment. A partial year of benefit service is earned for a plan year in which less than 1,500 hours but more than 1,000 hours are worked.

2003 and later: Each plan year during which the participant works at least 1,800 hours in covered employment. A partial year of benefit service is earned for a plan year in which less than 1,800 hours but more than 1,000 hours are worked.

Normal Retirement Date

The later of age 65 and the completion of five years of vesting service.



SUMMARY OF PRINCIPAL PLAN PROVISIONS (continued)

Normal Retirement Pension From Future Service Date: For each year of Benefit Service, the monthly benefit accrual is equal to the lesser of (i) 1.25% of Employer Contributions made on behalf of the member, or (ii) \$140 (\$160 for 2006, \$170 for 2007, \$180 for 2008 and \$165 for 2012).

In addition to the above, a monthly benefit accrual equal to 1.25% of the aggregate Employer Contributions from August 1, 2014 through July 31, 2016 generated by a contribution rate greater than \$10.145 per hour.

For calendar years 2018-2021, the monthly benefit accrual cap in (ii) above is \$180 for participants whose employer contributes at a rate of at least \$11.00 per hour (or \$1,906.67 per month) as of the December 31 immediately preceding.

For calendar year 2022, the monthly benefit accrual cap in (ii) above is \$180 for participants whose employer contributes at a rate of at least \$10.395 per hour (or \$1,801.80 per month) but less than \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021; and is \$200 for participants whose employer contributes at a rate of at least \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021.

Early Retirement Pension Eligibility Separation from covered employment at any age with less than 15 years of Benefit Service, or separation from covered employment before the attainment of age 57 with 15-29 years of Benefit Service.

Early Retirement Pension Amount The Normal Retirement Pension, reduced 0.5% for each month by which the actual benefit commencement date precedes age 65.

Special Early Retirement Eligibility Separation from covered employment on or after the attainment of age 57 with 15-29 years of Benefit Service.

Special Early Retirement Pension Amount The Normal Retirement Pension, reduced 0.25% for each month by which the actual benefit commencement date precedes age 65.

Service Pension Eligibility Separation from covered employment on or after the attainment of age 50 with 30 or more years of Benefit Service.



SUMMARY OF PRINCIPAL PLAN PROVISIONS (continued)

Service Pension Amount	The Normal Retirement Pension, reduced 0.5% for each month by which the actual benefit commencement date precedes age 57.
Combined Minimum Retirement Benefit Eligibility	<p>Separation from covered employment on or after age 57 with 25 or more years of Benefit Service.</p> <p>In addition, a member must be eligible under the "2-Year" and "45-Day" rules described in the Plan document in order to be eligible for this benefit, and must not have previously withdrawn any part of his/her RIP balance or commenced a DB benefit.</p> <p>To be eligible for the <u>highest level</u> of the Combined Benefit Minimum, a member must have at least 20 years of Benefit Service at the UPS or Freight contribution rate, or 15 years of Benefit Service at the UPS or Freight contribution rate, including the last 10 consecutive years before retirement.</p>
Combined Minimum Retirement Benefit	<p>The sum of the Pre-1987 and Future Service retirement benefit cannot be less than the excess, if any, of (a) over (b):</p> <p>a) \$3,100, prorated for contributions that are at less than the "full" contribution level.</p> <p>b) The annuity equivalent of the RIP Account Balance as of the date of benefit commencement, based on the UP 1984 Mortality Table and a 7.0% discount rate.</p>



SUMMARY OF PRINCIPAL PLAN PROVISIONS (continued)

Rule of 82-85 Retirement Benefit Eligibility Separation from covered employment on or after attainment of 26 or more years of Benefit Service, with age plus years of Benefit Service at least 82.

In addition, a member must be eligible under the "2-Year" and "45-Day" rules described in the Plan document in order to be eligible for this benefit, and must not have previously withdrawn any part of his/her RIP balance or commenced a DB benefit.

To be eligible for the highest level of the Combined Benefit Minimum, a member must have at least 20 years of Benefit Service at the UPS or Freight contribution rate, or 15 years of Benefit Service at the UPS or Freight contribution rate, including the last 10 consecutive years before retirement.

Rule of 82-85 Retirement Benefit The sum of the Pre-1987 and Future Service retirement benefit cannot be less than the excess, if any, of (a) over (b):

a) The benefit below, prorated for contributions that are at less than the "full" contribution level.

<u>Age + Years of Benefit Service</u>	<u>Benefit</u>
82	\$2,250
83	\$2,350
84	\$2,450
85+	\$2,550

b) The annuity equivalent of the RIP Account Balance as of the date of benefit commencement, based on the UP 1984 Mortality Table and a 7.0% discount rate.

Disability Pension An active participant with at least 15 years of vesting service who has been awarded disability benefits by the Social Security Administration and is not eligible for a Normal Retirement Pension may be eligible for a disability benefit. The monthly benefit is payable as of the Social Security Entitlement date with no reduction for early commencement.



SUMMARY OF PRINCIPAL PLAN PROVISIONS (continued)

Single Sum Death Benefit	None.
Pre-Retirement Spouse's Death Benefit	<p>If a vested active or former participant dies before his pension begins, his surviving spouse will be entitled to a lifetime pension. The amount of such pension will be the same as the spouse would have received if the participant had (i) separated from covered employment on the date of death, (ii) survived until the later of the earliest retirement date or date of death, (iii) retired having elected a Qualified Joint and Survivor Annuity, and (iv) died on the next day.</p> <p>For purposes of calculating the amount of pre-retirement spouse's death benefit, vested active participants who have 15-29 years of Benefit Service at their date of death will be considered to have been eligible for the Plan's Special Early Retirement Pension (beginning at age 57), regardless of their age at death.</p>
Termination Benefit	Participants are 100% vested in their accrued pension after five years of vesting service, with benefits payable at age 65, or a reduced pension payable as early as age 57.
UPS Pension Plan Reciprocity	Effective January 1, 2018, participants receive 0.5 years of service for benefit eligibility for each 1.0 years of service earned in the UPS Pension Plan. This additional eligibility does not apply for the Combined Minimum Monthly Benefit or the Rule of 82-85 Benefit.
Normal Form of Payment	<u>For single participants:</u> Three-year Certain and Continuous annuity. <u>For married participants:</u> 50% Joint and Survivor annuity.
Changes since the Prior Valuation	For calendar year 2022, the monthly benefit accrual cap in (ii) above is \$180 for participants whose employer contributes at a rate of at least \$10.395 per hour (or \$1,801.80 per month) but less than \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021; and is \$200 for participants whose employer contributes at a rate of at least \$11.00 per hour (or \$1,906.67 per month) as of 12/31/2021.



RISKS INHERENT IN ACTUARIAL VALUATIONS – ASOP 51

The results presented in this report are based upon various actuarial assumptions detailed herein. The actuarial assumptions represent the expected experience for the Plan, which may or may not materialize. Actuarial assumptions are used in a forward-looking financial and demographic model to present a single scenario from a wide range of possibilities. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because actuarial estimates can be very sensitive to the assumptions made and, in some cases, the interaction between these assumptions.

Risk, as defined in Actuarial Standard of Practice (ASOP) No. 51, is the potential of actual future measurements deviating from expected future measurements resulting from actual experience deviating from actuarially assumed experience. Given that the future is uncertain, there are inherent risks involved when measuring pension obligations, which can lead to volatility in the funded status of the Plan and expected contribution requirements.

Examples of risks which exist that could significantly affect a Plan's future financial condition:

- Investment risk – the potential that investment returns will be different than expected;
- Longevity and other demographic risks – the potential that mortality or other demographic experience will be different than expected; and
- Contribution risk – the potential of actual contributions deviating from expected future contributions.

The purpose of this section is to help the readers of this report gain a better understanding of these risks inherent in measuring pension obligations. The risks presented in this section are those that may be reasonably anticipated to significantly affect the Plan's future financial condition. However, the possibility of other risks exists. This section is not intended to assess the ability or willingness of the plan sponsor to make contributions when due, or assess the likelihood of change in laws.

The risks described below all have the potential to impact the future financial position of the Plan because the Plan has an Unfunded Accrued Liability (i.e., the Plan's liabilities are greater than the Plan's assets) and is required to make minimum contributions.

Investment Risk

Investment risk will affect the Plan's future financial condition, both positively (if asset returns are higher than expected) and negatively (if asset returns are less than expected). Higher returns provide more assets to pay for benefits and lower returns provide less assets to pay for benefits.

Longevity and Other Demographic Risks

Longevity risk will affect the Plan's future financial condition if mortality experience is different than expected. For example, participants living longer than expected will cause benefits to be paid out over a longer period of time. Demographic risk will affect the Plan's future financial condition if other assumptions, such as withdrawal rates, disability incidence, etc., are different than expected.



ASOP 51 – RISKS INHERENT IN ACTUARIAL VALUATIONS (continued)

Contribution Risk

Contribution risk will affect the Plan's future financial condition if actual contributions deviate from expected future contributions. Examples include a Plan not making contributions in accordance with its funding policy, a material change occurring in the anticipated number of covered employees, hours worked, or other relevant contribution base, or the plan experiencing a financial hardship.

Maturity Measures

The following measures could be helpful in understanding the various risks inherent in this valuation.

Currently, 67% of the Plan's liabilities are for retirees currently in payment status. The liabilities for retirees are relatively stable, primarily impacted by longevity risk.

Retiree liability	\$919,684,455
Total liability	\$1,364,799,580

During the past plan year, Employer contributions were approximately 71% of the amount of benefit payments made to pensioners and beneficiaries.

Benefit payments	\$116,315,430
Contributions	\$83,519,789

Relevant Historical Information

The Discussion section of this report provides historical information helpful in understanding the various risks inherent in this valuation.

Other Considerations

The risks discussed herein are those that may reasonably be anticipated to significantly affect the Plan's future financial condition. The possibility of other risks exists. Each risk discussed has the potential to not only impact the Plan's future financial position by itself, but also in conjunction with other risks. In order to understand the impact each risk could have on the overall financial position of the Plan, a more detailed assessment should be performed. We are available to review the impact of the risks discussed in this section, as well as any other applicable risks upon request.