Pension Benefit Guaranty Corporation

Fiscal Year 2023 Actuarial Report

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ACTUARIAL VALUATION REPORT- FISCAL YEAR 2023

The Fiscal Year 2023 Annual Report of the Pension Benefit Guaranty Corporation (PBGC) contains a summary of the results of the September 30, 2023 actuarial valuation. The purpose of this separate Actuarial Valuation Report is to provide greater detail concerning the valuation of future benefits than is presented in PBGC's Annual Report.

Overview of Valuation Results

PBGC calculated and validated the present value of future benefits (PVFB) for the single-employer program and the nonrecoverable future financial assistance (NRFFA) under the multiemployer program. Generally, except for the changes in interest, mortality, and expense assumptions, we used the same methods and procedures as in fiscal year 2022 for the Single-Employer and Multiemployer Programs. These calculations reflect the present value of claims as of the date of the financial statements. They present a snapshot of the liabilities as of a point in time and do not include liability projections over the period after the date of the financial statements.

For the single-employer program, the liability as of September 30, 2023, consisted of:

(1) $73.8 billion for the 5,119 plans that have terminated: and

(2) $668.1 million for two probable plans terminations and plans not yet identified as probable terminations (small bulk reserve).

The liability for "probable terminations" reflected reasonable estimates of the losses for plans that are likely to terminate in a future year and plans not yet identified as probable terminations (small bulk reserve). These estimated losses were based on conditions that existed as of PBGC's fiscal year-end. PBGC believes it is likely that one or more events will occur after the fiscal year-end confirming the fact of the loss.

For the multiemployer program, the liability as of September 30, 2023, consisted of:

(1) less than \$500,000 for 10 pension plans that terminated before the passage of the Multiemployer Pension Plan Amendments Act of 1980 (MPPAA) and of which PBGC is trustee.

(2) \$1,622 million for estimable post-MPPAA losses due to financial assistance to 90 multiemployer pension plans that are currently receiving PBGC assistance: and

(3) \$589 million for probable estimable post-MPPAA losses due to financial assistance to 33 multiemployer pension plans that were probable to receive PBGC assistance in the future.

The results of the valuation, the present value of future benefits and nonrecoverable future financial assistance, are presented in Tables 1 & 7 of this report.

Table 1:
Present Value of Future Benefits and Nonrecoverable Future Financial Assistance – September 30, 2023

	Number of Plans	Estimated Number of Participants (in thousands)	Liability (in millions)
I. Single-Employer Program			
A. Terminated plans			
1. Seriatim at fiscal year-end (FYE)	4,988	1,172	$64,289
2. Seriatim at DOPT, adjusted to FYE	19	9	313
3. Nonseriatim[1]	112	175	8,856
4. Missing Participants Program (seriatim)[2]	--	44	364
Subtotal	5,119	1,400	$73,822
B. Probable terminations (nonseriatim)[3]	2	3	668
Total[4]	5,121	1,403	$74,490
II. Multiemployer Program			
Pre-MPPAA termination (seriatim)	10	*	$**
III. Multiemployer Program Post-MPPAA liability ((nonseriatim)			
1. Currently receiving assistance	90	86	1,622
2. Probable for assistance	33	42	589
Total[5]	123	128	$2,211

* Fewer than 500 participants
** Less than $500,000

Notes:
1) Liability for terminated plans includes an estimated liability of $17 million in settled litigation.

2) The Missing Participants Program refers to a liability that PBGC assumed for unlocated participants in standard plan terminations.

3) The net claims for the probable plans reported in the financial statements include $112 million for not yet identified probable terminations. The assets for probable plans, including the expected value of recoveries on employer liability and due and unpaid employer contributions claims, are $382 million. Thus, the net claims for probables as reported in the financial statements are $668 less $382 million, or $286 million.

4) The PVFB in the financial statements ($73,929 million) is net of estimated plan assets and recoveries on probables ($382 million), estimated recoveries on terminated plans ($166 million), and estimated assets of plans pending trusteeship ($13 million), or $74,490 million less $382 million less $166 million less $13 million equals $73,929 million.

5) The ARP of 2021 established Section 4262 of ERISA under which Special Financial Assistance (SFA) is provided to eligible multiemployer plans. Eligible plans can apply to PBGC for SFA sufficient to maintain solvency through the 2051 plan year and will not be required to repay the SFA. PBGC considered the impact of the ARP on the multiemployer inventory in decisions related to potential assumption updates resulting from the recent studies. PBGC results only reflect plans that were not eligible for SFA as of 9/30/2023.

Single-Employer Program

PBGC calculated the single-employer program's liability for benefits for each of the terminated plans and for each of the plans considered to be a probable termination using one of three methods:

(1) seriatim at fiscal year-end (FYE);

(2) seriatim at date of plan termination (DOPT), adjusted to FYE; and

(3) nonseriatim.

In addition, PBGC included liabilities for not yet identified probable terminations (small bulk reserve), for the Missing Participants Program, and for the Collins Settlement.

Seriatim at FYE Method

The liability for each participant's benefit was calculated separately at FYE for plans for which PBGC had sufficiently complete and accurate data. This was termed the seriatim at FYE method. PBGC selected plans to be valued using the seriatim at FYE method according to two criteria:

(1) completeness - whether PBGC's computer system contained enough of the plan's participant records and whether enough of those records had been finalized; and

(2) accuracy - whether the participant's record contained enough of the critical elements of data that were necessary to perform an actuarial valuation.

For this valuation, these criteria were met by 4,988 pension plans (97% of the single-employer terminated plans) representing $64,289 million (87%) in liabilities and about 1,172,000 (84%) participants. This was an increase of 93 plans over the 4,895 plans valued seriatim at September 30, 2022. The critical discrepancy rates for 542 plans or 10.9% of the seriatim plans (4.1% lower percentage than last year) exceeded 5%. The overall critical discrepancy rate for the group of 4,988 seriatim plans was 0.9%, which is 0.7% lower than last year. A data discrepancy is considered critical if the value of the data element in discrepancy has a major impact on the liability associated with a benefit record.

Seriatim at DOPT Method

There were 19 plans for which a final seriatim valuation as of date of plan termination (DOPT) had been completed, but the Office of Benefits Administration of PBGC had not finished processing the case as of year-end (e.g., participant data had not been fully loaded into PBGC's computer database, or the data lacked too many critical elements to be valued by the seriatim at FYE method). When PBGC benefit calculations were finalized but not ready for seriatim valuation as of fiscal year-end, PBGC valued the plan's liability seriatim as of the plan's termination date and brought the total amounts forward to September 30, 2023, using the nonseriatim method outlined below. Because PBGC had finalized and valued these benefits for each participant and valued them using PBGC assumptions and regulations as of each plan's date of termination, these amounts are more accurate than similar calculations for plans whose benefits are not final.

Nonseriatim Method

If calculations of benefits provided by PBGC were not final, PBGC based the liability calculations on the plan's most recent actuarial valuation performed before the termination date that is available to PBGC. For the 112 terminated plans and 2 probable plans valued nonseriatim, PBGC obtained the liability for each plan as of the most recent available actuarial valuation date for each category of participant: retired, active, and terminated vested. These liabilities were adjusted to reflect such factors as:

(1) benefits accrued between the valuation and plan termination dates.

(2) differences between the interest rates assumed by the plans' actuaries and those assumed by PBGC.

(3) differences between the mortality, retirement age, and expense assumptions used by the plans' actuaries and those used by PBGC; and

(4) the effect on the liability of time elapsed between the valuation date and September 30, 2023.

PBGC based the adjustment factors used in the nonseriatim procedure on its experience in routinely estimating the liability for benefits for administrative purposes.

Missing Participants Program

The Missing Participants Program refers to a responsibility that PBGC has assumed under the Retirement Protection Act of 1994 to act as a clearinghouse for unlocated participants in standard plan terminations. As with other parts of PVFB, only the liabilities are shown here. Because plan administrators have transferred a corresponding asset amount to PBGC, the net increase in liabilities of PBGC due to this program, if any, will be negligible. Effective January 22, 2018, PBGC revised the existing program, as authorized by the Pension Protect Act of 2006, to establish similar programs for most defined contribution plans, multiemployer plans covered by the pension insurance system, and certain defined benefit plans that are not covered by PBGC guarantees. This valuation incorporates the impact of this change.

Collins Settlement

The Collins Settlement refers to the liability for benefits that PBGC incurred because of the settlement of a class action lawsuit during fiscal year 1996. This settlement provides benefits for participants in plans which terminated between January 1, 1976, and December 31, 1981, without having been amended to conform to ERISA's vesting requirements. The remaining liability under this settlement is included in the nonseriatim portion of the liability.

Multiemployer Program

There was a total of ten pre-MPPAA terminations, nine of which were granted discretionary coverage under the provisions of ERISA as passed in 1974. The remaining plan terminated when coverage under Title IV was mandatory (from August 1, 1980, until September 25, 1980). PBGC calculated the liability for these ten terminations under the seriatim at FYE method using the same assumptions as for the single-employer program.

The post-MPPAA portion of the liability represented the present value, as of September 30, 2023, of net losses that PBGC expected to incur from nonrecoverable future financial assistance to 123 pension plans of which 90 were insolvent (i.e., currently receiving PBGC financial assistance) and 33 were expected to become insolvent. The liability for each plan was calculated (using the cash flow method) as the present value of future guaranteed benefit and expense payments, net of the present value of future employer contributions and withdrawal liability payments. This liability was determined as of the later of September 30, 2023, and the actual or projected date of insolvency, and then discounted back to September 30, 2023, using interest only. The most recent available actuarial reports and information provided by representatives of the affected plans served as the basis for the valuations.

Projected benefit payments were estimated based on liabilities, current benefit payments and estimated average ages for actives, terminated vested and retirees from the most recent actuarial reports, combined with assumptions of retirement ages and of future rates of mortality and termination. Projected expense payments were estimated as a constant percentage of the projected benefit payments; this percentage is equal to the ratio of current expense payments to current benefit payments. The projected date of insolvency was then established using a cashflow model with initial assets, expense payments, contributions, and projected benefit and withdrawal liability payments as inputs, estimated when necessary.

The post-MPPAA liability of $2,211 million as of September 30, 2023, is about $179 million lower than it was a year earlier. The main reasons for the decrease in liabilities were due to the change in interest factors and the expected assistance for insolvent plans.

COVID-19 Note

There are certain assumptions that are or can potentially be impacted by the COVID-19 pandemic. Any impact to assumptions tied to current market conditions, such as interest rates and investment returns, is reflected in these assumptions. Beginning with the March 31, 2023 valuation, ASTD adjusted the MP-2021 improvement scale to reflect excess mortality due to COVID-19 in future years. Any potential impact on other assumptions will be evaluated over time as events unfold and more data is acquired.

Actuarial Assumptions, Methods, and Procedures

PBGC continues to review the actuarial assumptions used in the valuation to assure that they remain consistent with current market conditions in the insurance industry and with PBGC's experience. The actuarial assumptions, which are used in both the single-employer and multiemployer valuations, are presented in Table 2A. Assumptions concerning data that were not available are discussed in the data section of this report.

The present value of future benefits (PVFB) is the estimated liability for future pension benefits that PBGC is or will be obligated to pay for trusteed plans and plans pending termination and trusteeship. PBGC uses a curve of interest factors to determine the estimated actuarial present value of future benefit payments. For September 30, 2023, the spot rate yield curve starts with an interest factor of 6.30% in year 1 and changes as the future period for discounting gets longer until year 30 when the factor becomes 5.55% and is assumed to remain level thereafter. For September 30, 2022, the spot rate yield curve started with an interest factor of 5.12% in year 1 and changes as the future period for discounting got longer until year 30 when the interest factor became 4.76% and was assumed to remain level thereafter. These interest factors are dependent upon PBGC's mortality assumptions. See PBGC Annual Performance & Financial Report 2023 Note 6 for a more detailed discussion on interest factors.

PBGC uses a fully generational mortality assumption, in combination with the spot rates above to measure the PVFB. Based on the results of a 2023 study of PBGC's Single-Employer Program mortality experience, an updated mortality assumption was adopted for 9/30/2023. The mortality tables used for valuing healthy lives in the Single Employer Program were the Pri-2012 Male and Female Total Dataset tables with adjustments for healthy annuitants, non-annuitants, and contingent survivors respectively. The resulting tables were projected generationally with adjusted Male and Female Scales MP-2021. For the 9/30/2023 valuation, the base year for mortality projection is 2024 and the adjustments to Scales MP-2021 for anticipated excess mortality are as follows: 2023: 5%, 2024: 4%, 2025: 3%, 2026:

2%, 2027: 1%, 2028 and beyond: 0%.

In fiscal year 2022, the mortality tables used for valuing healthy lives were the Pri-2012 Male and Female Total Dataset Combined tables, with adjustment and projected generationally with Male and Female Scales MP-2021.

For the September 30, 2023, multiemployer valuation, the mortality tables used for valuing healthy lives are the Pri-2012 Blue-collar mortality tables projected generationally using Scale MP-2021 with the following excess mortality adjustments to improvement rates:
2020: 18%, 2021: 16%, 2022: 12%, 2023: 3%, 2024: 4%, 2025: 3%, 2026: 2%, 2027: 1%, 2028 and beyond: 0%.

Excess mortality adjustments were developed based on a 2023 study of PBGC's single employer program mortality experience and assumptions about the future impact of COVID.

The Small Plan Average Recovery Ratio (SPARR) is used in the calculation of the liability for benefits determined under section 4022(c) of ERISA, which provides participants with a portion of PBGC's recoveries. The SPARR has been determined by PBGC for terminations initiated in a given fiscal year based on actual recoveries and unfunded benefit liabilities for plan terminations initiated during a five-year average period. As of the end of fiscal year 2023, the SPARR had been calculated for plan terminations initiated in fiscal years 1991-2023. The FY 2023 SPARR is assumed for probable plans affected by future SPARRs. The FY2023 SPARR of 7.79% is used for the September 30, 2023, valuation.

Based on the results of a 2023 study of PBGC's case administration expenses, a new expense assumption was adopted for the 9/30/2023 valuation. The reserve for expenses was assumed to be 0.68% of the liability for benefits plus additional reserves for cases whose plan asset determinations, participant database audits, and actuarial valuations were not yet complete. In addition to the completion of these milestones, PBGC continues to base the reserve on plan size (large/small), number of participants, and time since trusteeship. The expense reserve remained at 0.68% of the liability but the additional reserve factors decreased. The reserve factors are static and do not assume any future increases or decreases. The factors are intended to estimate a reserve for the entire inventory of plans and is not intended to predict costs for any one plan. The factors used in the expense reserve formula are shown in Table 2C.

During fiscal year 2023, PBGC implemented changes in assumption to the actuarial valuation system. For the Single Employer program, PBGC increased the age threshold at which liabilities are 100% phased-out. Liabilities are phased-out at 100% for deferred participants whose ages are 75 and over, previously it was 100% at age 70. Another change was the separation of the mortality tables for the system to use separate annuitant, non-annuitant and contingent survivor tables; previously, a single combined table was used.

We continue to improve the quality of the seriatim data and, as in previous years, made various changes to generally improve the security, auditability, speed, and accuracy of the calculations as well as integrate with the evolving PBGC technologies.

Table 2A - Actuarial Valuation Assumptions

CURVE OF SPOT RATES FOR 9/30/2023							
Year	Rate	Year	Rate	Year	Rate	Year	Rate
1	6.30%	11	5.88%	21	6.19%	31	5.55%
2	6.07%	12	5.91%	22	6.18%	32	5.55%
3	5.95%	13	5.95%	23	6.15%	33	5.55%
4	5.88%	14	5.99%	24	6.11%	34	5.55%
5	5.83%	15	6.03%	25	6.05%	35	5.55%
6	5.81%	16	6.07%	26	5.98%	36	5.55%
7	5.80%	17	6.11%	27	5.89%	37	5.55%
8	5.81%	18	6.14%	28	5.79%	38	5.55%
9	5.82%	19	6.17%	29	5.67%	39	5.55%
10	5.85%	20	6.18%	30	5.55%	40	5.55%

CURVE OF SPOT RATES FOR 9/30/2022							
Year	Rate	Year	Rate	Year	Rate	Year	Rate
1	5.12%	11	5.26%	21	5.59%	31	4.76%
2	5.28%	12	5.27%	22	5.57%	32	4.76%
3	5.44%	13	5.30%	23	5.54%	33	4.76%
4	5.48%	14	5.33%	24	5.48%	34	4.76%
5	5.47%	15	5.38%	25	5.41%	35	4.76%
6	5.43%	16	5.43%	26	5.31%	36	4.76%
7	5.37%	17	5.48%	27	5.19%	37	4.76%
8	5.32%	18	5.52%	28	5.06%	38	4.76%
9	5.28%	19	5.56%	29	4.91%	39	4.76%
10	5.26%	20	5.58%	30	4.76%	40	4.76%

Table 2A: Actuarial Valuation Assumptions, Single-Employer

	Previous Valuation as of 9/30/2022	Current Valuation as of 9/30/2023
Mortality **Healthy Lives**	Pri-2012 Total Dataset Combined Male and Female Healthy Mortality tables with adjustments, each projected generationally with scale MP-2021.	Pri-2012 Male and Female Total Dataset tables with adjustments for healthy annuitants, non-annuitants, and contingent survivors, each projected generationally with adjusted scale MP-2021.
Disabled Lives Eligible for Social Security (SS) Disability Benefits	Pri-2012 Total Dataset Disabled Male with no Ages adjustment and Pri-2012 Total Dataset Disabled Female with Ages Set Forward 2 years, each projected generationally with scale MP-2021.	Pri-2012 Total Dataset Disabled Male with no Ages adjustment and Pri-2012 Total Dataset Disabled Female with Ages Set Forward 2 years, each projected generationally with adjusted scale MP-2021.
Disabled Lives Not Eligible for SS Disability Benefits	Pri-2012 Total Dataset Disabled Male with Ages Set Back 3 years and Pri-2012 Total Dataset Disabled Female with Ages Set Back 2 years, each projected generationally with scale MP-2021	Pri-2012 Total Dataset Disabled Male with Ages Set Back 3 years and Pri-2012 Total Dataset Disabled Female with Ages Set Back 2 years, each projected generationally with adjusted scale MP-2021.
SPARR	Calculated SPARR through fiscal year ending 9/30/2022.	Calculated SPARR through current fiscal year ending 9/30/2023.
Retirement Ages	(a) Earliest possible for shutdown companies. (b) Expected retirement age (XRA) tables from 29 CFR 4044 for ongoing companies. (c) Deferred participants past XRA are assumed to be in pay status, retroactive to their XRA. To reflect lower likelihood of payment: (d) Unlocated deferred participants past age 65 are phased out over 3 years. (e) Located deferred participants are fully phased out past age 70. (f) Deferred participants in the Missing Participants Program are phased out over 10 years past age 70.	Same Same Same Same (e) Located deferred participants are fully phased out past age 75. Same
Expenses	All terminated plans and single-employer probable terminations: 0.68% of the liability for benefits plus additional reserves as shown in Table 2C for cases where plan asset determinations, participant database audits and actuarial valuations were not complete.	All terminated plans and single-employer probable terminations: 0.68% of the liability for benefits plus new additional reserves as shown in Table 2C for cases where plan asset determinations, participant database audits and actuarial valuations were not complete.

Table 2A: Actuarial Valuation Assumptions, Multiemployer

	Previous Valuation as of 9/30/2022	**Current Valuation as of 9/30/2023**
Mortality Healthy Lives	Pri-2012 Male Blue-collar Mortality and Pri-2012 Female Blue-collar tables published by the SOA projected generationally using most recent projection scale published by the SOA, MP-2021.	Pri-2012 Male Blue-collar Mortality and Pri-2012 Female Blue-collar tables published by the SOA projected generationally with adjusted scale MP-2021.
Expense Projection	Assumed annual increase is 3.5% for ongoing plans, 0.0% for terminated plans and plans currently receiving financial assistance. Expenses for each multiemployer plan are projected monthly as a ratio of total participant count.	Same
Premium Index	3.7% Premium expenses are separate from administrative expenses. A premium index is used to increase PBGC premium rates after the last published date.	3.9%
Retirement Ages	Assumed Retirement Ages as shown in plan's AVR or Schedule MB.	Same

Table 2C
Reserve Factors for Expenses: Single-Employer

Large Plans (more than 100 participants)							
	Plan Asset Evaluation	Participant Data Review	Actuarial Valuation				Interim Benefit Administration
Years Since Trusteeship	Per Large Plan	Per Large Plan	Per Large Plan	Per Participant for the First 100	Per Participant for the Next 400	Per Participant for >500	Per Participant
0<=y<1	$196,691	$843,063	$82,414	$5,161	$852	$63	$1,148
1<=y<2	146,733	567,929	56,763	3,555	587	44	791
2<=y<3	118,248	437,527	37,828	2,369	391	29	527
3<=y<4	100,669	350,907	33,072	2,071	342	25	461
4<=y<5	92,237	275,032	25,921	1,623	268	20	361
5<=y<10	46,566	166,299	15,673	750	162	12	218

Small Plans (100 or fewer participants)							
	Plan Asset Evaluation	Participant Data Review	Actuarial Valuation				Interim Benefit Administration
Years Since Trusteeship	Per Small Plan	Per Small Plan	Per Small Plan	Per Participant for the First 100	Per Participant for the Next 400	Per Participant for >500	Per Participant
0<=y<1	$196,691	$263,519	$82,414	$5,161	N/A	N/A	$1,148
1<=y<2	146,733	173,613	56,763	3,555	N/A	N/A	791
2<=y<3	118,248	151,393	37,828	2,369	N/A	N/A	527
3<=y<4	100,669	128,887	33,072	2,071	N/A	N/A	461
4<=y<5	92,237	118,092	25,921	1,623	N/A	N/A	361
5<=y<10	46,566	59,619	15,673	982	N/A	N/A	218

In addition to the reserve factors shown, an expense loading factor equal to 0.68% of the liability for benefits applies to both Large Plans and Small Plans.

Data Sources and Assumptions

The seriatim portion of this valuation was based on participant data maintained by PBGC's Office of Benefits Administration. For the seriatim liability, benefit amounts have been determined for each participant using plan documents, together with ERISA and PBGC regulations relating to guaranteed benefits and the allocation of assets. If specific data were not available for deferred vested participants under the seriatim method, participants were assumed to be married and to elect the qualified Joint and Survivor (J&S) benefit; wives were assumed to be four years younger than their husbands. When certain other data elements for a participant were missing, they were replaced by the average for the plan. When the plan average was not available, the average for all plans valued seriatim was used.

The nonseriatim liability was based on the plan's most recent actuarial valuation performed before the termination date that is available to PBGC. The valuation information generally was obtained from actuarial reports or Schedule SB or MB filings. For nonseriatim plans and probable terminations, provision generally has been made to reduce benefits to guaranteed levels. For Single Employer plans valued nonseriatim, the attained ages for active participants, terminated vested participants, and retired participants were assumed to be 55.1, 55.6 and 70.9 respectively when plan data were unavailable. For post-MPPAA Multiemployer plans that are terminated, the assumed age for terminated vested is 55. For ongoing plans, the assumed age for terminated vested is 54. For insolvent plans, the assumed age for terminated vested participants is 57. If there are any active participants, the assumed age is 47 when plan data were unavailable.

Valuation Statistics

The FY 2023 valuation for the single-employer program included approximately 1,400,000 participants owed future payments in terminated plans as of September 30, 2023. Of these, about 932,000 participants from terminated single employer plans and 5 participants from pre-MPPAA multiemployer plans were receiving benefits from PBGC at fiscal year-end. As of September 30, 2023, in the pre-MPPAA plans there were 11 participants and for the post-MPPAA plans, there were approximately 86,000 participants that are currently receiving financial assistance (insolvent plans) and 42,000 participants in terminated and ongoing (probable) plans that are expected to receive financial assistance.

The average monthly benefit paid by PBGC for participants in pay status during FY 2023 was $548 (including supplemental benefits) for the single employer program and $111 for the multiemployer program in the ten pre-MPPAA plans.

Tables 3, 4 and 6 summarize the detailed results of the seriatim and nonseriatim valuations for both the single-employer and multiemployer programs.

Table 3:
Liability for Pay-Status Recipients in "Seriatim at FYE" Method

	Single-Employer					Multiemployer			
Age	Number of Benefit Recipients**	Average Monthly Benefit	Average Supplemental Monthly Benefit	Liability (Millions)	Percent of Liability	Number of Benefit Recipients	Average Monthly Benefit	Liability (Millions)	Percent of Liability
Under 50	1,916	$144	$105	$60	*%	0	-	$0	0%
50-54	1,442	194	294	48	*%	0	-	0	0
55-59	13,191	378	89	820	2%	0	-	0	0
60-64	47,383	435	74	3,151	7%	0	-	0	0
65-69	138,441	549	108	10,607	22%	0	-	0	0
70-74	184,080	574	209	12,450	25%	0	-	0	0
75-79	181,151	597	327	11,145	23%	0	-	0	0%
80-84	131,360	606	190	6,376	13%	0	-	0	0%
85-89	78,965	570	57	2,660	6%	1	157	*	40%
Over 89	49,512	474	0	946	2%	4	99	*	60%
TOTAL	827,441	$561	$100	$48,263	100%	5	$111	*	100%

Notes:
*Liability is less than $500,000.
Not all recipients are receiving supplemental benefits.
Missing Participants Program liabilities and adjustments are not included.
Numbers may not add up due to rounding.

Table 4:
Liability for Deferred Participants in "Seriatim at FYE" Method

	Single-Employer					Multiemployer			
Age	Number of Benefit Recipients**	Average Monthly Benefit	Average Supplemental Monthly Benefit	Liability (Millions)	Percent of Liability	Number of Benefit Recipients	Average Monthly Benefit	Liability (Millions)	Percent of Liability
Under 40	$336	$218	$50	$4	0%	0	-	$0	0%
40-44	3,441	224	50	49	0%	0	-	0	0
45-49	15,799	227	53	302	2%	0	-	0	0
50-54	39,595	254	94	1,140	7%	0	-	0	0
55-59	69,013	295	133	3,127	20%	0	-	0	0
60-64	84,288	341	116	6,081	37%	0	-	0	
Over 64	53,308	318	118	4,891	31%	0	-	0	0
Other**	78,720	- -	- -	432	3%	6	-	*	100%
TOTAL	344,500	$303	$117	$16,026	100%	6	-	$*	100%

Notes
*Liability is less than $500,000.
** "Other" includes unlocatable participants and participants scheduled at year end for lump sum payments.
Missing Participants Program liabilities and adjustments are not included.
Numbers may not add up to totals due to rounding.

Table 6A:
Distribution of Single-Employer Liability (including 4022(c)) by Trusteeship Status, Recipient Status, and Valuation Method – September 30, 2023
(Dollars in millions)

Recipient Status	Seriatim/ Missing Participants	Nonseriatim/ Collins	Total Terminated Liability	Probables/ Small Bulk Reserves	Total Liability	Percent of Total Liability
Receiving Payments						
Trusteed	$48,316	$5,733	$ 54,049	$0	$54,049	72.6%
Pending Trusteeship	3	5	8	407	415	0.5%
Total	$ 48,319	$ 5,738	$ 54,057	$407	$54,464	73.1%
Not Receiving Payments						
Trusteed	$16,334	$3,392	$19,726	$0	$19,726	26.5%
Pending Trusteeship	0	39	39	261	300	0.4%
Total	$16,334	$3,431	$ 19,765	$261	$20,026	26.9%
All Payment Statuses						
Trusteed	$64,650	$9,125	$73,775	$0	$73,775	99.1%
Pending Trusteeship	3	44	47	688	715	0.9%
Total	$64,653	$9,169	$73,822	$688	$74,490	100.0%
Percent of Terminated	87.6%	12.4%	100.0%			
Percent of Total	86.8%	12.3%	99.1%	0.9%	100%	

Notes:

1) Recipient status for Seriatim and Missing Participants liabilities refers to status as of 9/30/2023. For Nonseriatim and Probable liabilities, recipient status refers to the status as of the most recent actuarial valuation report (date of plan termination if benefits are "Final"). Final DOPT benefits refer to those benefits that PBGC has determined and valued seriatim as of DOPT for the plan.

2) The Probable liabilities are shown as gross amounts (i.e., plan assets and collections on employer liabilities are not subtracted from the liability for benefits).

3) Numbers may not add up due to rounding.

Table 6B:
Distribution of Single Employer Participants (including 4022(c)) by Trusteeship Status, Recipient Status, and Valuation Method – September 30, 2023
(Participants in thousands)

Recipient Status	Seriatim/ Missing Participants	Nonseriatim	Total Terminated Participants	Probables	Total Participants	Percent of Total Participants *
Receiving Payments						
Trusteed	827	105	932	0	932	66.4%
Pending Trusteeship	0	0	0	2	2	0.2%
Total	827	105	932	2	934	66.6%
Not Receiving Payments						
Trusteed	389	79	468	0	468	33.3%
Pending Trusteeship	0	0	0	1	1	0.1%
Total	389	79	468	1	469	33.4%
All Payment Statuses						
Trusteed	1,216	184	1,400	0	1,400	99.7%
Pending Trusteeship	0	0	0	3	3	0.3%
Total	1, 216	184	1,400	3	1,403	100.0%
Percent of Terminated	86.8%	13.2%	100.0%			
Percent of Total	86.6%	13.2%	99.8%	0.2%	100.0%	

Notes:

1) Recipient status for Seriatim and Missing Participants liabilities refers to status as of 9/30/2023. For Nonseriatim and Probable liabilities, recipient status refers to the status as of the most recent actuarial valuation report (date of plan termination if benefits are "Final"). Final DOPT benefits refer to those benefits that PBGC has determined and valued seriatim as of DOPT for the plan.

2) Participant counts for Small Bulk Reserves and Collins are not included.

3) Numbers may not add up due to rounding.

Reconciliation of Results

Table 7 reconciles the September 30, 2023, valuation with the September 30, 2022, valuation. It shows that the $7,157 million decrease in the liability for the Single Employer program was the net effect of:

(1) decreased liability from change in interest factors = ($2,941) million

(2) actual benefit payments = ($6,061) million

(3) increased liability for probable plans = $145 million

(4) change in mortality assumptions = $237 million

(5) new plan terminations as of DOPT = $257 million

(6) expected interest on liability = $3,909 million

(7) other changes = ($2,702) million.

The Multiemployer columns reconcile the liability for the post-MPPAA financial assistance to insolvent plans. The liability for the pre-MPPAA terminated plans in FY 2023 is less than $500,000 and not included or shown in this table.

Table 7:
Reconciliation of the Present Value of Future Benefits (dollars in millions)

	Total Single Employer	Post-MPPAA Multiemployer
1. Liability at BOY (9/30/2022)		
(a) Present Value of Future Benefits for all Plans	$81,647	$2,390
(b) Liability for Probable Plans (gross liability including unreported)	(523)	(839)
(c) Liability for Unreported Terminated Plans and other settlements	(17)	0
(d) 9/30/2022 Liability for Terminated Plans (a + b + c)	$81,106	$1,551
2. Change in Valuation Software		
(a) Effect on Liability as of DOPT	$0	$0
(b) Projection of (a) from DOPT to BOY + post-DOPT changes	604	0
(c) Total (a + b)	$604	$0
3. Net New Plans and Missing Participant Liability		
(a) New Missing Participant Liability	$101	$0
(b) New Termination Inventory as of DOPT	156	252
(c) Deletions as of DOPT	(3,559)	0
(d) Projection of (b + c) from DOPT to BOY	1,168	0
(e) Total (a + b + c + d)	($2,134)	$252
4. Nonseriatim Data Changes and Effect of DOPT Seriatim Valuation		
(a) Effect on Liability at DOPT	$20	($9)
(b) Projection of (a) from DOPT to BOY	(4)	0
(c) Total (a + b)	$16	($9)
5. Actuarial Charges/Credits		
(a) Expected Interest	$3,909	$87
(b) Change in Interest Factors	(2,941)	(66)
(c) Change in Mortality Assumption	237	(15)
(d) Change in Method (Current Year: Seriatim at DOPT to Seriatim at FYE)	(38)	0
(e) Effect of Experience*	(611)	(22)
(f) Change in Other Assumptions (Expense, SPARR, PBGCC STD Rates)	(81)	0
(g) Total (a + b + c + d + e +f)	$475	($16)
6. Expected Expense Payments	($201)	$0
7. Actual Benefit Payments	($6,061)	($157)
8. Liabilities at End of Period (9/30/2023)		
(a) Liability for all Terminated Plans = (1d) + (2c) + (3e) + (4c) + (5g) + (6) + (7)	$73,805	$1,622
(b) Liability for Unreported Terminated Plans and other settlements	17	-
(c) Liability for all Terminated Plans (a + b)	73,822	1,622
(d) Liability for Probable Plans (gross liability including unreported) **	668	589
(e) 9/30/2023 Present Value of Future Benefits for all Plans (c + d)	$74,490	$2,211

* Includes change from expected benefits $6,356 million to actual benefits $6,061 million in Total Single Employer.
Includes change from expected benefits $177 million to actual benefits $157 million in Post-MPPAA Multiemployer.
Actual does not include payments made by employers.
Numbers may not add up due to rounding.

** Includes $112 million for not yet identified probable terminations.
Financial statements show a probables liability of $668 million, less assets of $382 million, for a net claim of $286 million.
Includes $163 million for small reserves Post-MPPAA Multiemployer plans.
Numbers may not add up due to rounding.

Statement of Actuarial Opinion

This valuation has been prepared in accordance with generally accepted actuarial principles and practices and, to the best of my knowledge, fairly reflects the actuarial present value of the Corporation's liabilities for the single-employer and multiemployer plan insurance programs as of September 30, 2023.

In preparing this valuation, I have relied upon information provided to me regarding plan provisions, plan participants, plan assets, and other matters.

In my opinion, (1) the techniques and methodology used for valuing these liabilities are generally acceptable within the actuarial profession; (2) the assumptions used are appropriate for the purposes of this statement and are individually my best estimate of expected future experience, discounted using current settlement rates from insurance companies as determined by PBGC’s Policy Research and Analysis Department; and (3) the resulting total liability represents my best estimate of anticipated experience under these programs.

I, Scott G. Young, am the Chief Valuation Actuary of PBGC. I am a Member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and an Enrolled Actuary.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Scott G. Young

Scott G. Young, FSA, EA, MAAA
Fellow of the Society of Actuaries
Enrolled Actuary
Member of the American Academy of Actuaries
Chief Valuation Actuary and Department Director
Actuarial Services and Technology Department
Pension Benefit Guaranty Corporation

December 20, 2023