



PENSION BENEFIT GUARANTY CORPORATION

29 CFR Parts 4022, 4044, 4050, 4262, and 4281

RIN 1212-AA55

Valuation Assumptions and Methods

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Proposed rule.

SUMMARY: This proposed rule would update the interest, mortality, and expense assumptions used to determine the present value of benefits for a single-employer pension plan under subpart B of the Pension Benefit Guaranty Corporation's regulation on Allocation of Assets in Single-Employer Plans, to determine components of mass withdrawal liability for a multiemployer pension plan, and for other purposes.

DATES: Comments must be submitted on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*] to be assured of consideration.

ADDRESSES: Comments may be submitted by any of the following methods:

- *Federal eRulemaking Portal:* <https://www.regulations.gov>. Follow the instructions for sending comments.
- *Email:* reg.comments@pbgc.gov. Refer to RIN 1212-AA55 in the subject line.
- *Mail or Hand Delivery:* Regulatory Affairs Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101.

Commenters are strongly encouraged to submit comments electronically. Commenters who submit comments on paper by mail should allow sufficient time for mailed comments to be received before the close of the comment period. All submissions must include the agency's name (Pension Benefit Guaranty Corporation or PBGC), the title for this rulemaking (Valuation

Assumptions and Methods), and the Regulation Identifier Number for this rulemaking (RIN 1212-AA55). Comments received will be posted without change to PBGC's website, www.pbgc.gov, including any personal information provided. Do not submit comments that include any personally identifiable information or confidential business information.

Copies of comments may also be obtained by writing to Disclosure Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101, or calling 202-326-4040 during normal business hours. If you are deaf or hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

FOR FURTHER INFORMATION CONTACT: Gregory M. Katz (katz.gregory@pbgc.gov), Attorney, Regulatory Affairs Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101; 202-229-3829. If you are deaf or hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

SUPPLEMENTARY INFORMATION:

Executive Summary

Purpose and authority

This proposed rule would update the actuarial assumptions used to determine the present value of a single-employer plan's benefits when it terminates in a distress or involuntary termination, to determine the present value of multiemployer plan benefits in certain withdrawal liability calculations, and for other purposes.

Legal authority for this action comes from section 4002(b)(3) of the Employee Retirement Income Security Act of 1974 (ERISA), which authorizes the Pension Benefit Guaranty Corporation (PBGC) to issue regulations to carry out the purposes of title IV of ERISA; section 4044 of ERISA (Allocation of Assets); section 4010 of ERISA (Authority to Require Certain Information); section 4022 of ERISA (Single-Employer Plan Benefits

Guaranteed); section 4041 of ERISA (Termination of Single-Employer Plans); section 4041A of ERISA (Termination of Multiemployer Plans); section 4043 of ERISA (Reportable Events); section 4062 of ERISA (Liability for Termination of Single-Employer Plans Under a Distress Termination or a Termination by Corporation); section 4050 of ERISA (Missing Participants); section 4219 of ERISA (Notice, Collection, Etc., of Withdrawal Liability); section 4262 of ERISA (Special Financial Assistance by the Corporation); and section 4281 of ERISA (Benefits Under Certain Terminated Plans).

Major provisions

This proposed rule would modify the interest, mortality, and expense assumptions for valuing benefits under subpart B to PBGC's regulation on Allocation of Assets in Single-Employer Plans ("benefits valuation regulation") (29 CFR part 4044) to:

- Modernize the interest assumption structure by adopting a yield curve approach;
- Enable the use of market interest rates as of the date of liability measurement (i.e., the valuation date) as the basis for the interest assumption;
- Increase transparency by using a procedure based on publicly available yield curves as of the valuation date;
- Adopt a more recent mortality table along with a generational mortality improvement projection; and
- Simplify the expense assumption.

Because the assumptions for valuing benefits are incorporated by reference in other regulations, the changes to these assumptions would affect PBGC's regulations on Notice, Collection, and Redetermination of Withdrawal Liability (29 CFR part 4219); Special Financial Assistance by PBGC (29 CFR part 4262); Duties of Plan Sponsor Following Mass Withdrawal (29 CFR part 4281); Annual Financial and Actuarial Information Reporting (29 CFR part 4010); Missing Participants (29 CFR part 4050); and other regulations.

Background

The Pension Benefit Guaranty Corporation (PBGC) administers two insurance programs for private-sector defined benefit pension plans under title IV of the Employee Retirement Income Security Act of 1974 (ERISA): a single-employer plan termination insurance program and a multiemployer plan insolvency insurance program. In addition, PBGC administers a special financial assistance program for certain financially distressed multiemployer plans.

Under the single-employer plan termination insurance program, covered plans that are underfunded may terminate either in a distress termination under section 4041(c) of ERISA or in an involuntary termination (one initiated by PBGC) under section 4042 of ERISA. When such a plan terminates, PBGC typically is appointed statutory trustee of the plan, and becomes responsible for paying benefits in accordance with the provisions of title IV.

Under the multiemployer insurance program, PBGC provides financial assistance under section 4261 of ERISA to plans that are insolvent and thus unable to pay benefits at the guaranteed level. This financial assistance is primarily in the form of financial assistance loans, paid to the plans periodically so that they are able to pay plan benefits when due. Additionally, under the special financial assistance program under section 4262 of ERISA, PBGC provides funding to eligible financially troubled multiemployer plans upon approval of an application. This proposed rule applies to both the single-employer program and the multiemployer program.

PBGC has identified these proposed amendments as part of its ongoing review of its regulations to ensure that PBGC provides clear and helpful guidance and modernizes outdated methodologies.

Purpose of the assumptions described in the benefits valuation regulation

Under the single-employer insurance program, if a pension plan terminates without enough assets to provide for all benefits either in a distress termination under section 4041(c) of ERISA or in a plan termination initiated by PBGC under section 4042 of ERISA, PBGC typically is appointed statutory trustee of the plan and becomes responsible for paying benefits in accordance with the provisions of title IV of ERISA. When this happens, PBGC must determine

(1) the extent to which participants' benefits are funded under the benefits valuation rules, (2) whether a terminated plan has sufficient assets to pay guaranteed benefits, and (3) how much a plan sponsor and its controlled group owe PBGC because of the termination under section 4062 of ERISA. The assumptions described in the benefits valuation regulation are used to value a plan's benefit liabilities for these purposes.

In setting the assumptions under the benefits valuation regulation, PBGC's long-standing policy is to set assumptions that produce valuations similar to the premium that a private-sector insurance company would charge for a group annuity contract covering the same plan benefits.¹ This policy ensures that for a plan entering PBGC trusteeship, the plan's benefit liabilities are measured consistent with annuity market pricing.

These assumptions are also used in other situations where it is appropriate for liabilities to be in-line with private-sector group annuity prices. For example, PBGC's regulations on Notice, Collection, and Redetermination of Withdrawal Liability (29 CFR part 4219) and Duties of Plan Sponsor Following Mass Withdrawal (29 CFR part 4281) provide that these assumptions are used to value liabilities for purposes of determining withdrawn employers' reallocation liability² in the event of a mass withdrawal from a multiemployer plan. Multiemployer plans that receive special financial assistance under the regulation on Special Financial Assistance by PBGC (29 CFR part 4262) must, as a condition of receiving special financial assistance, use the interest assumptions to determine withdrawal liability for a prescribed period. Additionally, plan sponsors are required to use these assumptions for certain purposes (e.g., reporting benefit liabilities in filings required under PBGC's regulation on Annual Financial and Actuarial Information Reporting (29 CFR part 4010), determining certain amounts to transfer to PBGC's

¹ Because plan terms, plan demographics, and annuity providers' methods vary, no single set of assumptions could exactly match the value private-sector annuity providers would assign to benefits for all terminating plans. Instead, the assumptions are intended to produce reasonable valuation results on average for the range of plans terminating in distress or involuntary terminations, rather than for any particular plan or plan type. *See* 70 FR 72205, 72205 (Dec. 2, 2005).

² When a multiemployer plan terminates in a mass withdrawal, section 4219 of ERISA requires that unfunded vested benefits be fully allocated among withdrawing employers. The liability assessed in this process is called reallocation liability.

Missing Participants Program on behalf of a missing participant of a terminating defined benefit plan under PBGC's regulation on Missing Participants (29 CFR part 4050)), and may use them for other purposes (e.g., to ensure that plan spinoffs comply with section 414(l) of the Internal Revenue Code (the Code)).³

Interest Assumption

Current assumption

The benefits valuation regulation contains an interest assumption for determining the present value of future payments (4044 interest assumption). Since November 1993, the 4044 interest assumption has been expressed in a two-component structure known as “select and ultimate” in which one interest factor is assumed to be in effect for the first 20 or 25 years from the valuation date, and the other interest factor is assumed to be in effect thereafter.

To align valuations with the group annuity market, the American Council of Life Insurers conducts periodic surveys⁴ of private-sector single-premium nonparticipating group annuity prices for PBGC. These surveys ask insurers for sample market pricing information (exclusive of loads for administrative expenses). The select and ultimate rates are determined such that in combination with the mortality assumption provided under the benefits valuation regulation, the resulting liabilities are in line with group annuity prices from the survey.⁵

PBGC publishes the interest assumption in appendix B to part 4044 each quarter, for use in the subsequent quarter. Therefore, the interest rates used have not been rates observed on the valuation date.

Reasons for change

This proposal would improve upon current methodology in several ways. Actuarial practice, with the help of technology, has moved toward a bond yield curve approach where

³ The assumptions are deemed reasonable for use in determining the value of “benefits on a termination basis” after a merger or spinoff under Internal Revenue Service regulations at 26 CFR 1.414(l)-1.

⁴ Survey approved under OMB Control Number 1212-0030 (expires July 31, 2024).

⁵ See 41 FR 48484, 48485 (Nov. 3, 1976). “PBGC’s interest assumptions have been designed so that, when coupled with the mortality assumptions found in the regulation, the benefit values obtained . . . are in line with the industry annuity prices.”

future benefits are discounted to the valuation date using yields for which the time to maturity equates to the length of the discounting period. By associating an interest rate with each specific benefit payment time horizon, using a yield curve for discounting better represents the present value of future benefits. As a result, the select and ultimate structure of PBGC's interest assumption under the benefits valuation regulation has become increasingly obsolete. A yield curve approach also better reflects the term structure of the fixed income investments that underlie the price of group annuities.

In addition, PBGC seeks to improve the methodology by eliminating the lag between when data used to set PBGC's interest assumption are observed and the interest rate environment on the valuation date. Eliminating the lag is desirable because the interest rate environment on the valuation date also impacts the value of the assets that pension funds invest in, including fixed income investments, equity, and real estate.

Lastly, PBGC seeks to increase transparency with respect to its process for setting the 4044 interest assumption. The public availability of month-end bond yield data now makes it possible to adopt a methodology that would increase transparency and, in almost all situations, eliminate the lag entirely.⁶

For these reasons, PBGC is proposing to structure the 4044 interest assumption as a yield curve, more closely replicating the actual yields on the investments backing group annuities, and better reflecting today's actuarial practice. In addition, the proposal would incorporate publicly available bond yield data into the methodology used to determine the 4044 interest assumption to increase transparency, and to base the interest assumption on bond yields as of the valuation date, or as close as practical for valuations that are not as of a month-end.

⁶ In the uncommon situation of a mid-month valuation date, the lag would be reduced significantly, but not completely eliminated.

Proposed 4044 interest assumption

Under the proposal, the 4044 interest assumption would be based on a blend of two publicly available yield curves (the “blended market yield curve”) and would be adjusted to the extent necessary so that the resulting liabilities align with group annuity prices. The adjusted blended market yield curve would consist of interest rates at maturity points from 0.5 to 30.0 years in half-year increments. The interest rate for the maturity point at year 30.0 would be used to discount benefits expected to be paid more than 30 years after the valuation date.

The blended market yield curve (prior to adjustment) would be determined as follows:

- Step 1 – Obtain rates for maturities 0.5 through 30.0 on Treasury securities from the Department of the Treasury (Treasury Department) Nominal Coupon Issues Spot Rates, End of Month yield curve (TNC Yield Curve).⁷
- Step 2 – Obtain rates on corporate bonds for maturities 0.5 through 30.0 from the Treasury Department’s High Quality Market Corporate Bond Yield Curve Spot Rates, End of Month yield curve (HQM Bond Yield Curve).⁸
- Step 3 – Combine the rates obtained in steps 1 and 2 weighting each corporate bond rate at two-thirds and each Treasury rate at one-third.⁹

The yield curves used to develop the blended market yield curve are based on yields as of the end of each month. In PBGC’s experience, most calculations that use 4044 assumptions use valuation dates as of last day of a month, and for such calculations, the applicable blended market yield curve would be determined using the published TNC and HQM curves as of the valuation date. To accommodate other valuation dates, the proposal includes a “lookback” rule for valuation dates that are not as of the end of the month. Under the lookback rule, if the valuation date is not on the last day of a month, the applicable blended market yield curve as of the last day of the prior month would be used. For example, if the valuation date is February 15,

⁷ Available at <https://home.treasury.gov/data/treasury-coupon-issues-and-corporate-bond-yield-curves/treasury-coupon-issues>.

⁸ Available at <https://home.treasury.gov/data/treasury-coupon-issues-and-corporate-bond-yield-curve/corporate-bond-yield-curve>.

⁹ The proposal primarily uses yields on investment-grade corporate bonds when setting its assumptions because such yields are the most important driver of group annuity prices. A white paper describing, among other things, additional details about this weighting is available on PBGC’s website, www.pbgc.gov.

2023, the applicable blended market yield curve is the blended market yield curve as of January 31, 2023.

PBGC considered other possible rules for determining the blended market yield curve for valuation dates that are not the last day of the month, so that its interest assumption might better reflect the bond market on the actual valuation date (e.g., a blend of the current and prior month's blended market yield curves, a requirement to use the blended market yield curve for the end of the month closest to the valuation date). However, because most plan terminations occur on the last day of a month, PBGC concluded that the benefits did not outweigh the additional complexity. PBGC requests comments on this issue.

As noted above, once the blended market yield curve is determined, it would be adjusted so that the resulting present values align with group annuity prices. The term "4044 yield curve" would be used to describe the blended market yield curve after reflecting such adjustments.

The adjustments, or "spreads," would be in the format of a curve (i.e., a list of spreads through year 30, each of which applies to a specific point in the blended market yield curve). PBGC would determine the spreads quarterly based on survey data on pricing of private-sector group annuities. More specifically, PBGC would determine a yield curve that best fits data from those surveys, given an assumed mortality table. Next, PBGC would calculate the differences ("spreads") between this curve and the blended market yield curve as of the survey date. To smooth random variation and seasonality effects before publishing, PBGC would average the calculated spreads with spreads from prior periods. PBGC would publish the spreads (by amending its regulation) shortly before each quarter begins.¹⁰

The spreads for any quarter would be used to adjust the month-end blended market yield curves in that quarter. For example, the first quarter spreads would be used to adjust the blended market yield curves as of January 31, February 28,¹¹ and March 31. Because of the lookback

¹⁰ The previously mentioned white paper would describe the methodology used to determine the spreads.

¹¹ February 29 in a leap year.

rule, the first quarter spreads would apply to valuation dates occurring April 1 through April 29 because for such dates, the applicable blended market yield curve is the curve as of March 31. Similarly, the fourth quarter spreads would be used to adjust the blended market yield curves as of October 31, November 30, and December 31. Because of the lookback rule, the fourth quarter spreads would apply to valuation dates occurring January 1 through January 30, which use the blended market yield curve rate determined as of December 31 from the prior year.

The following example illustrates how the 4044 yield curve would have been developed for a valuation date on June 30, 2022, had the proposal been in effect at that time and assuming the second quarter spreads for 2022 were as shown in column D below:

| Maturity | (A) June 30, 2022, Nominal TNC Treasury Yield Curve | (B) June 30, 2022, HQM Bond Yield Curve | (C) Blended Market Yield Curve $\frac{1}{3}$ (A) + $\frac{2}{3}$ (B) | (D) Second Quarter 2022 Spreads | (E) Applicable 4044 Yield Curve* (C)+(D) |
|-----------------|--|--|---|--|---|
| 0.5 | 2.91% | 2.84% | 2.86% | 0.27% | 3.13% |
| 1.0 | 2.90% | 3.17% | 3.08% | 0.27% | 3.35% |
| 1.5 | 2.90% | 3.45% | 3.27% | 0.26% | 3.53% |
| 2.0 | 2.92% | 3.65% | 3.41% | 0.26% | 3.67% |
| . | . | . | . | . | . |
| . | . | . | . | . | . |
| . | . | . | . | . | . |
| 28.5 | 3.18% | 4.84% | 4.29% | -0.02% | 4.27% |
| 29.0 | 3.17% | 4.84% | 4.28% | -0.02% | 4.26% |
| 29.5 | 3.17% | 4.83% | 4.28% | -0.03% | 4.25% |
| 30.0 | 3.18% | 4.83% | 4.28% | -0.03% | 4.25%** |

* Because of the lookback rule, valuation dates from July 1, 2022, through July 30, 2022, would also use the June 30, 2022, blended market yield curve which means they would also use the second quarter spreads. Thus, the 4044 yield curve in column (E) would also be used for those valuation dates.

** The 4.25% rate would be used for benefits expected to be paid 30 or more years after the valuation date.

Because the yield curves used to develop the blended market yield curve are not published until a week or two after the end of the month, in most situations (e.g., month-end valuation dates), the 4044 yield curve would not be available in advance of the valuation date. Given the typical situations where practitioners use 4044 interest assumptions (e.g., Annual

Financial and Actuarial Information Reporting (4010 reporting)), PBGC does not anticipate that this would create a timing problem.

This proposal would amend the benefits valuation regulation to prescribe the use of the 4044 yield curve and the process to determine it. It would also amend part 4044 to replace the select and ultimate interest factor table with a table showing spread adjustments for blended market yield curves. For each quarter, the table would show 60 spread adjustments.

Given the proposed methodology, practitioners would be able to determine the 4044 yield curve as of the end of any month as soon as the Treasury Department publishes the two yield curves underlying the development of the blended market yield curve. (The applicable spreads would be specified in the regulation before the blended market yield curves are available.) In addition, to reduce administrative burden on practitioners, PBGC would post the 4044 yield curve on its website at *www.pbgc.gov* each month shortly after its underlying data become available.

Mortality Assumption

Current assumptions

The mortality assumptions prescribed by the benefits valuation regulation relate to the probabilities that a participant (or beneficiary) will survive to each expected benefit payment date. The regulation currently prescribes six sets of mortality tables: tables for male and female individuals not receiving a disability benefit (healthy lives); tables for male and female participants who are disabled under a plan provision that does not require eligibility for Social Security disability benefits (non-Social Security disabled); and tables for male and female participants who are disabled under a plan provision requiring eligibility for Social Security disability benefits (Social Security disabled).

For healthy lives, the mortality tables are based on the GAM-94 Basic Table with mortality improvements projected forward to the year of valuation plus 10 years using the mortality improvement Scale AA, a static mortality improvement projection. A static mortality

projection “project[s] the [base mortality] table for a specified number of years and use[s] the resulting table without further projection.”¹² For Social Security disabled participants, the regulation uses the Mortality Tables for Disabilities Occurring in Plan Years Beginning After December 31, 1994, from IRS Rev. Rul. 96–7 (1996–1 C.B. 59). For non-Social Security disabled participants, the benefits valuation regulation uses the healthy lives mortality rates for an individual 3 years older (i.e., the table is set forward by 3 years). In addition, to prevent the rates at older ages from exceeding the rates for Social Security disabled participants, the mortality rates for non-Social Security disabled participants are capped at the corresponding rates for Social Security disabled participants. These assumptions are described in appendix A to part 4044.

Reasons for change

PBGC seeks to ensure that the assumptions described in the benefits valuation regulation, in the aggregate, produce annuity valuations similar to those produced by private-sector insurers. To do so, PBGC attempts to keep its “assumptions in line with those of private-sector insurers, and to modify its mortality assumptions whenever it is necessary to do so to achieve consistency with the private insurer assumptions.”¹³ PBGC has determined that it could better achieve consistency with insurers’ mortality assumptions by updating the mortality assumptions under the benefits valuation regulation.

PBGC’s review of insurance industry practice indicates that insurers use fully generational mortality tables rather than the simpler static mortality tables used in the current regulation. Generational mortality tables are a series of mortality tables, one for each year of birth, each of which fully reflects projected trends in mortality rates. In addition to achieving better consistency with insurers’ assumptions, over the past decade, generational mortality tables have become widely accepted as best practice in the actuarial community. With such

¹² 70 FR 72205 at 72206 (Dec. 2, 2005).

¹³ See 70 FR 72205, 72206 (Dec. 2, 2005) (quoting 58 FR 5128, 5129 (Jan. 19, 1993)).

projections, actuaries can “theoretically more accurately replicate the anticipated pattern of improvement in mortality rates.”¹⁴

PBGC’s review also indicates that insurers typically use more recent base mortality tables than the GAM-94 Basic Table. Similarly, it has also become clear that the industry recognizes and distinguishes between mortality for annuitants (i.e., individuals receiving benefits) and non-annuitants (i.e., terminated vested and active participants).

The Internal Revenue Service (IRS) and the Treasury Department reached the same conclusions regarding trends in mortality assumptions. On April 28, 2022, the Treasury Department and the IRS issued a proposed rule¹⁵ (“IRS proposal”) that would amend their mortality assumptions regulations under section 430(h)(3) of the Code to provide a more recent base mortality table with different rates for annuitants and non-annuitants. Their proposal also provides that, with limited exception, future mortality improvements would be reflected using generational mortality. The preamble discussion and operative regulatory provisions on the mortality assumptions for healthy lives in this proposal are derived from the IRS proposal.

Proposed updated healthy lives mortality assumption—base mortality tables

The base mortality tables PBGC is proposing are the same as those proposed by IRS and the Treasury Department for purposes of section 430 of the Code. As explained in the preamble to the IRS proposal, those tables are derived from the tables set forth in the Pri-2012 Private Retirement Plans Mortality Tables Report published by the Retirement Plan Experience Committee (RPEC) of the Society of Actuaries (SOA) in 2019 (“Pri-2012 Report”).¹⁶ PBGC agrees with IRS and the Treasury Department that the Pri-2012 Report is the best available study of the actual mortality experience of pension plan participants (other than disabled individuals).¹⁷

¹⁴ See Pension Comm, American Academy of Actuaries, Selecting and Documenting Mortality Assumptions for Pensions 16 (2015), https://actuary.org/files/Mortality_PN_060515_0.pdf.

¹⁵ 87 FR 25161.

¹⁶ This report is available at <https://www.soa.org/49c106/globalassets/assets/files/resources/experience-studies/2019/pri-2012-mortality-tables-report.pdf>.

¹⁷ 87 FR 25163

The tables in the Pri-2012 Report are gender-distinct and provide separate non-annuitant and annuitant mortality rates.¹⁸ Unlike the Pri-2012 Report, but consistent with the IRS proposal, this proposed rule does not provide separate tables for annuitants who are retirees and annuitants who are contingent beneficiaries. Rather, it provides annuitant mortality tables that combine the mortality experience of retirees and contingent beneficiaries. The annuitant mortality tables would be applied to determine the present value of benefits for an annuitant. For a non-annuitant, the non-annuitant mortality tables would be applied for the periods before the participant is projected to commence receiving benefits, and the annuitant mortality tables would be used for later periods. For a beneficiary of a participant, the annuitant mortality tables would apply for the period beginning with each assumed commencement of benefits for the participant. If the participant has died (or to the extent the participant is assumed to die before commencing benefits), the annuitant mortality tables apply for the beneficiary for the period beginning with each assumed commencement of benefits for the beneficiary.

These base tables generally have the same mortality rates as the employee and non-disabled annuitant mortality rates that were released by RPEC in connection with the Pri-2012 Report. However, the base tables provided in this proposal also include rates for certain situations that were not included in the base tables in the Pri-2012 report (i.e., non-annuitant mortality rates for ages below age 18 and above age 80 and annuitant mortality rates for ages below age 50). The preamble to the IRS proposal describes the methodology that was used to develop those additional rates.¹⁹

Proposed updated healthy lives mortality assumption — mortality improvements

The base tables described above have a base year of 2012 (the central year of the experience study used to develop the mortality tables in the Pri-2012 Report). Like the IRS

¹⁸ The Pri-2012 Report refers to non-annuitant rates as “employee” rates. However, because those rates also apply to former employees prior to benefit commencement, for purposes of this proposal, the term “non-annuitant” is used.

¹⁹ See 87 FR 25163.

proposal, under this proposal, those tables would be used to develop the mortality tables for future years using Scale MP-2021 Rates (the mortality improvement scale in the Mortality Improvement Scale MP-2021 Report,²⁰ which was published by the RPEC in October 2021). That mortality improvement scale was developed using the same underlying methodology used to develop RPEC's earlier mortality improvement scales but reflects historical population data through 2019 and the change to the RPEC-selected assumptions for the long-term rate of mortality improvement that was first incorporated in the Mortality Improvement Scale MP-2020 Report.

RPEC typically issues updated mortality improvement rates that reflect new data for mortality improvement trends for the general population on an annual basis.²¹ PBGC plans to amend its regulation periodically to take into account updated mortality improvement rates as they become available.

The proposed healthy lives mortality assumptions would closely align with the mortality assumptions used by private-sector insurers. The software needed to use generational mortality tables has become widely used and is often used for other business needs such as financial accounting. Using modern actuarial software, the new assumptions should be no more difficult to apply.

Proposed updated disabled lives mortality assumption

This proposal would provide that the healthy lives mortality assumptions (base table and improvement projections) be used for disabled individuals that are not eligible for Social Security disability benefits. However, for individuals that are eligible for Social Security disability benefits, the proposal would update the mortality assumptions to reflect more recent mortality experience by using tables published in the Social Security Disability Insurance

²⁰ Report available at <https://www.soa.org/4a9de4/globalassets/assets/files/resources/experience-studies/2021/2021-mp-scale-report.pdf>

²¹ RPEC did not issue an updated scale for 2022. See <https://www.soa.org/resources/research-reports/2022/rpec-mortality-improvement/>.

Program Disabled Worker Experience Actuarial Study 125, a study providing “extensive information on recent actual [Social Security Disability Insurance] disabled worker experience.”²² The proposed mortality rates comprise two tables: Table 12 for Social Security disabled participants age 75 and younger, and Table 7C for Social Security disabled participants age 76 and older. As with the current mortality assumptions for individuals that are eligible for Social Security disability benefits, the updated assumptions would not include a mortality improvement scale.

For the reasons discussed above, this proposal would amend PBGC’s benefits valuation regulation to replace mortality tables for healthy lives with mortality tables from Pri-2012. It would also replace tables relating to mortality improvement for healthy lives with references to generational mortality improvement projections from the Mortality Improvement Scale MP-2021 and prescribe their use. It would further amend PBGC’s benefits valuation regulation to replace tables relating to mortality for Social Security disabled participants with tables derived from Social Security Actuarial Study 125. Finally, it would amend the regulation so that the provisions specifying assumptions for non-Social Security disabled lives refer to the healthy lives mortality assumptions.

Expense Assumption

Current assumptions

Certain administrative expenses are incurred by insurers in connection with the payment of benefits. These expenses include establishing plan files, reviewing plan provisions to determine benefit entitlements, setting up and updating records, processing pension applications, remitting benefits, and others. Insurers use assumptions about these expenses to price annuities. To account for this component of private-sector annuity pricing, the benefits valuation regulation specifies expense assumptions.²³

²² Nettie J. Barrick-Funk, Soc. Sec. Admin., Social Security Disability Insurance Program Disabled Worker Experience Actuarial Study 125, at ix (2020), https://www.ssa.gov/OACT/NOTES/pdf_studies/study125.pdf.

²³ Expense assumptions are sometimes described as loading assumptions or expense loading assumptions.

Currently, these expense assumptions are based in part on the total present value of plan benefits. They are intended to recognize that the computation of benefit valuations entails certain expenses that are roughly proportional to the number of participants in a plan, and that private insurers' expenses, expressed as a percentage of liabilities, are somewhat lower for larger plans. For the expenses proportional to the number of plan participants, the benefits valuation regulation assumes a cost of \$200 per participant. In addition, a percent of liabilities is added to the assumed expense amount for all plans in a way that accounts for the efficiency advantage of larger plans. That percentage is 5 percent of liabilities up to \$200,000, plus a smaller, variable percent of liabilities above \$200,000.

Reasons for change and proposed updated expense assumptions

As discussed above, PBGC attempts to set its assumptions to match the private-sector annuity market. PBGC has determined that simple per-participant loads are the most common structure for explicitly charging for administrative expenses and that insurers' expense assumptions account for a very small portion of the total cost of a group annuity. PBGC's current multi-tiered expense assumptions are too complicated given expense assumptions' small share of annuity pricing and the simple structure insurers typically use. Thus, PBGC proposes to simplify the expense assumptions. PBGC is proposing to set the expense load assumption at \$400 per participant for the first 100 participants and \$250 for each participant over 100. PBGC concluded these amounts were reasonable based on a review of per-participant charges included in group annuity contracts for terminating plans provided to PBGC as part of the standard termination process. These amounts would be updated for inflation using the Consumer Price Index (CPI-U) each year. The proposal would amend PBGC's benefits valuation regulation to prescribe these updated expense assumptions.

Conforming changes to the Missing Participants regulation

Interest assumption

PBGC's Missing Participants regulation (29 CFR part 4050) provides that the interest assumption used to determine certain amounts to be transferred on behalf of a missing participant from a terminating defined benefit plan²⁴ to PBGC's Missing Participants Program is the interest assumption under PBGC's benefits valuation regulation applicable to valuations occurring in January of the calendar year in which the benefit determination date occurs.²⁵ Under the current benefits valuation regulation, the same interest assumption is used for any valuation date in January. However, under the proposal, two different interest assumptions would apply to valuation dates in January (i.e., the 4044 yield curve as of December 31 applies for valuation dates occurring January 1 through January 30 and the 4044 yield curve as of January 31 applies for a January 31 valuation date). If the Missing Participants regulation was left unchanged, it would be unclear which 4044 yield curve should be used for benefit determination dates occurring in a particular calendar year. Thus, PBGC is proposing to amend the Missing Participant regulation to prescribe the use of the 4044 yield curve applicable to valuations occurring on December 31 of the year preceding the calendar year in which the benefit determination date occurs.

Mortality assumption

PBGC's Missing Participants regulation prescribes use of a unisex version of the benefit valuation regulation's mortality assumption for healthy lives (i.e., a 50/50 blend of the male and female mortality tables) to determine certain amounts to be transferred on behalf of a missing participant from a terminating defined benefit plan to PBGC's Missing Participants Program.

²⁴ The terminating defined benefit plans covered by PBGC's Missing Participants Program are single-employer and multiemployer pension plans covered by title IV of ERISA, and small professional service employer plans not covered by title IV of ERISA. See 29 CFR 4050.101, § 4050.301, and § 4050.401.

²⁵ See definition of "PBGC missing participants assumptions" in § 4050.102, § 4050.302, and § 4050.402.

Doing the required calculation based on the current mortality assumption is relatively straightforward.

However, because the proposal provides that future mortality improvements would be reflected using generational mortality, if the Missing Participants regulation was left unchanged, practitioners would need to create, and use, a unisex version of a generational mortality table, which would be somewhat cumbersome and complicated. To alleviate the complication, PBGC is proposing that the Missing Participants regulation would provide that a unisex, static version of the proposed mortality table be used for this purpose. More specifically, PBGC is proposing to amend the portion of the definition of “PBGC missing participants assumptions” related to mortality to use a 50/50 blend of static male and female mortality combined tables reflecting non-annuitant and annuitant mortality rates. These male and female tables used for this purpose would be identical to the static mortality tables provided in the IRS proposal as an alternative for plans with 500 or fewer participants. As with the IRS proposal, PBGC intends to update the static mortality tables for years after 2023.

Other housekeeping changes

As previously discussed, the interest, mortality, and expense assumptions are specified in appendixes to part 4044. To better align with Office of the Federal Register guidance, this proposal would specify the updated assumptions within the codified text of part 4044 instead. The expected retirement age assumptions, which are also used in present value of benefit calculations under part 4044 (but not modified by this proposal), would be moved to codified text as well. This proposal would retain the current interest assumptions in appendix B for reference (redesignating them as historical rates), but the other three appendixes would be removed. The proposal would update cross-references to the appendixes in parts 4022, 4044, 4050, 4262, and 4281 so that they refer to the codified text.

Applicability

These amendments would apply to calculations where the valuation date is on or after the effective date of the final rule.

Incorporation by Reference

Section 4044.53(c)(1)(iii) of the proposed regulation provides that the mortality improvement rates used to construct the generational mortality tables to be used are the Scale MP-2021 Rates which are included in the Mortality Improvement Scale MP-2021 Report. The Office of the Federal Register (OFR) has regulations concerning incorporation by reference. 1 CFR part 51. These regulations require that agencies must discuss in the preamble to a rule or proposed rule the way in which materials that the agency incorporates by reference are reasonably available to interested persons, and how interested parties can obtain the materials. 1 CFR 51.5(b).

The Scale MP-2021 Rates and the Mortality Improvement Scale MP-2021 Report are described in this preamble under the heading “Proposed updated healthy lives mortality assumption — mortality improvements” in the “Mortality Assumption” section of this preamble. The Mortality Improvement Scale MP-2021 Report was issued by the Retirement Plans Experience Committee of the Society of Actuaries in October of 2021 and is available to the public for free viewing online on the Society of Actuary’s website at <https://www.soa.org/resources/experience-studies/2021/mortality-improvement-scale-mp-2021>. The Scale MP-2021 Rates consist of tables of mortality improvement rates by age, sex, and year that are used to project future mortality improvements on the base mortality table.

Executive Orders 12866 and 13563

The Office of Management and Budget (OMB) has determined that this rule is not a “significant regulatory action” under Executive Order 12866. Accordingly, OMB has not reviewed the proposed rule under Executive Order 12866.

Executive Order 12866 directs agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity).

Although this is not a significant regulatory action under Executive Order 12866, PBGC has examined the economic implications of this proposed rule and has concluded that the proposed changes would have a minimal impact on liabilities determined under PBGC's regulations.

The proposed updates to the assumptions under the benefits valuation regulation would, on average, produce benefit liabilities that are very close to the valuations produced by the current assumptions. The results for any particular benefit valuation, however, could be different as a result of adopting an interest rate methodology based on market rates (i.e., eliminating the lag between when data used to set the interest assumption are observed and the interest rate environment on the valuation date).

The impact on liabilities resulting from eliminating the above-noted lag would not be biased in favor of higher or lower benefit liabilities. Also, the impact should be fairly small (i.e., within a few percentage points) unless market rates on the valuation date are significantly different from what PBGC would have used to determine the 4044 interest assumption absent this change (i.e., had the lag not been eliminated).

PBGC's analysis indicates that, ignoring the impact of the interest rate timing difference described in the prior paragraph, the impact would also be relatively small in situations where the updated 4044 interest assumption is used, but not the updated 4044 mortality assumption. For example, this might be the case with respect to certain withdrawal liability calculations.²⁶ For

²⁶ Section 4262.16(g) of PBGC's regulation on special financial assistance (29 CFR part 4262) requires, as a condition of receiving special financial assistance, that the 4044 interest assumption be used to determine unfunded vested benefits for purposes of determining withdrawal liability. For other ongoing plans determining withdrawal liability, use of the 4044 interest assumption, either as a standalone assumption or combined with funding interest assumptions, represents a valid approach to selecting an interest assumption to determine

plans using the 4044 interest assumption but not the 4044 mortality assumption to determine withdrawal liability, the updated assumptions will generally result in lower benefit liabilities but should be within a few percentage points of the liability measurement using the current methodology, which would result in only a minor change in withdrawal liability.

The proposed changes to generational mortality tables and to a yield-curve based interest assumption would impose a small and not significant administrative burden on plans and practitioners that do calculations using the assumptions.

Section 6 of Executive Order 13563 requires agencies to rethink existing regulations by periodically reviewing their regulatory programs for rules that “may be outmoded, ineffective, insufficient, or excessively burdensome.” These rules should be modified, streamlined, expanded, or repealed as appropriate. PBGC proposes to update certain outmoded assumptions in its benefits valuation regulation consistent with the principles for review under E.O. 13563.

Regulatory Flexibility Act

The Regulatory Flexibility Act²⁷ imposes certain requirements respecting rules that are subject to the notice-and-comment requirements of section 553(b) of the Administrative Procedure Act, or any other law,²⁸ and that are likely to have a significant economic impact on a substantial number of small entities. Unless an agency certifies that a proposed rule will not, if promulgated, have a significant economic impact on a substantial number of small entities, section 603 of the Regulatory Flexibility Act requires that the agency present an initial regulatory flexibility analysis at the time of the publication of the proposed rule describing the impact of the rule on small entities and seek public comment on such impact. Small entities include small businesses, organizations, and governmental jurisdictions.²⁹

withdrawal liability in all circumstances. (See PBGC’s proposed rule, Actuarial Assumptions for Determining an Employer’s Withdrawal Liability, 87 FR 62316.)

²⁷ 5 U.S.C. 601 et seq.

²⁸ The applicable definition of “rule” is found in section 601 of the Regulatory Flexibility Act. *See* 5 U.S.C. 601(2).

²⁹ The applicable definitions of “small business,” “small organization,” and “small governmental jurisdiction” are found in section 601 of the Regulatory Flexibility Act. *See* 5 U.S.C. 601.

For purposes of the Regulatory Flexibility Act requirements with respect to this proposed rule, PBGC considers a small entity to be a plan with fewer than 100 participants.³⁰ This is substantially the same criterion PBGC uses in other regulations³¹ and is consistent with certain requirements in title I of ERISA³² and the Code,³³ as well as the definition of a small entity that PBGC and DOL have used for purposes of the Regulatory Flexibility Act.³⁴

Further, while some large employers operate small plans along with larger ones, in general, most small plans are maintained by small employers. Thus, PBGC believes that assessing the impact of the proposed rule on small plans is an appropriate substitute for evaluating the effect on small entities. The definition of small entity considered appropriate for this purpose differs, however, from a definition of small business based on size standards promulgated by the Small Business Administration³⁵ under the Small Business Act. PBGC therefore requests comments on the appropriateness of the size standard used in evaluating the impact of its proposed rule on small entities.

Based on its proposed definition of small entity, PBGC certifies under Section 605(b) of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) that the amendments in this proposed rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. As explained earlier in this preamble, the assumptions will continue to produce valuations that align with group annuity prices. Because of this, PBGC does not expect the proposed assumptions to have a significant economic impact on a substantial number of entities of any size. Similarly, because technology improvements allow even small plans (and their

³⁰ PBGC consulted with the Small Business Administration's Office of Advocacy before making this determination. Memorandum received from the U.S. Small Business Administration, Office of Advocacy on March 9, 2021.

³¹ See, e.g., special rules for small plans under part 4007 (Payment of Premiums).

³² See, e.g., section 104(a)(2) of ERISA, which permits the Secretary of Labor to prescribe simplified annual reports for pension plans that cover fewer than 100 participants.

³³ See, e.g., section 430(g)(2)(B) of the Code, which permits plans with 100 or fewer participants to use valuation dates other than the first day of the plan year.

³⁴ See, e.g., PBGC's proposed rule on Reportable Events and Certain Other Notification Requirements, 78 FR 20039, 20057 (April 3, 2013) and DOL's final rule on Prohibited Transaction Exemption Procedures, 76 FR 66637, 66644 (Oct. 27, 2011).

³⁵ See, 13 CFR 121.201.

service providers) to apply the more complicated interest and mortality assumptions of this proposal without additional administrative burden, this proposed rule would not increase administrative costs on these entities. Accordingly, as provided in Section 605 of the Regulatory Flexibility Act, sections 603 and 604 do not apply.

List of Subjects

29 CFR Part 4022

Employee benefit plans, Pension insurance, Pensions, Reporting and recordkeeping requirements.

29 CFR Part 4044

Employee benefit plans, Incorporation by reference, Pension insurance, Pensions.

29 CFR Part 4050

Employee benefit plans, Pension insurance, Pensions, Reporting and recordkeeping requirements.

29 CFR Part 4262

Employee benefit plans, Pension insurance, Pensions, Reporting and recordkeeping requirements.

29 CFR Part 4281

Employee benefit plans, Pension insurance, Reporting and recordkeeping requirements.

For the reasons stated in the preamble, PBGC proposes to amend 29 CFR parts 4022, 4044, 4050, 4262, and 4281 as follows:

PART 4022 — BENEFITS PAYABLE IN TERMINATED SINGLE-EMPLOYER PLANS

1. The authority citation for part 4022 continues to read as follows:

Authority: 29 U.S.C. 1302, 1322, 1322b, 1341(c)(3)(D), and 1344.

§ 4022.63 [Amended]

2. In § 4022.63 removing the words “the PBGC” and adding in their place the word “PBGC” wherever they appear.

3. Amend § 4022.63 by revising paragraph (b)(1) to read as follows:

§ 4022.63 Estimated asset-funded benefit.

* * * * *

(b) * * *

(1) An actuarial valuation of the plan has been performed for a plan year beginning not more than eighteen months before the proposed termination date. If the interest rate used to value plan liabilities in this valuation exceeded the applicable valuation interest rates and factors under § 4044.54 of this chapter in effect on the proposed termination date, the value of benefits in pay status and the value of vested benefits not in pay status on the valuation date must be converted to PBGC's valuation rates and factors.

* * * * *

PART 4044 — ALLOCATION OF ASSETS IN SINGLE-EMPLOYER PLANS

4. The authority citation for part 4044 continues to read as follows:

Authority: 29 U.S.C. 1301(a), 1302(b)(3), 1341, 1344, 1362.

5. Amend § 4044.52 by revising paragraphs (a) and (d) to read as follows:

§ 4044.52 Valuation of benefits.

* * * * *

(a) Using the mortality assumptions prescribed by § 4044.53 and the interest assumptions prescribed by § 4044.54;

* * * * *

(d) Adding an expense loading charge determined in accordance with this paragraph (d) to the total value of benefits.

(1) *Expense Loading charge.* The expense loading charge equals the applicable inflation multiplier determined in accordance with paragraph (d)(2) of this section multiplied by the sum of—

(i) \$400 multiplied by the lesser of the applicable participant count and 100, and

(ii) \$250 multiplied by the excess, if any, of the applicable participant count over 100.

(2) *Applicable inflation multiplier.* Except as provided in the next sentence, the applicable inflation multiplier equals the value of the CPI-U for September of the year preceding the year containing the valuation date divided by 296.808 (the value of the CPI-U for September of 2022), but not less than 1. However, for a valuation date on any day in January except the 31st, the applicable inflation multiplier is determined as if the valuation date were December 31 of the year preceding the year containing the valuation date. The term “CPI-U” means the Consumer Price Index for All Urban Consumers, not seasonally adjusted as published by the Bureau of Labor Statistics of the Department of Labor.

(3) *Rounding.* Any expense loading charge determined in accordance with this paragraph (d) which is not a multiple of \$1.00 is rounded to the nearest dollar.

6. Amend § 4044.53 by revising paragraphs (c), (d), and (e) and adding new paragraph (h) to read as follows:

§ 4044.53 Mortality assumptions.

* * * * *

(c) *Healthy lives*— (1) *In general.* If the individual is not disabled under paragraph (f) of this section, the plan administrator must value the benefit using generational mortality tables described in this paragraph (c).

(i) *Construction of generational mortality tables.* The generational mortality tables in this paragraph (c) are constructed from the base mortality tables described in paragraph (c)(1)(ii) of this section and the mortality improvement rates described in paragraph (c)(1)(iii) of this section.

(ii) *Base mortality tables.* The base mortality tables are set forth in paragraph (c)(5) of this section. The base year for those tables is 2012.

(iii) *Mortality improvement rates.* The mortality improvement rates are the Scale MP-2021 Rates.

(iv) *Incorporation by reference.* The Scale MP-2021 Rates, Mortality Improvement Scale MP-2021 Report, October 2021, Retirement Plans Experience Committee of the Society of Actuaries, is incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. This incorporation by reference (IBR) material is available for inspection at PBGC and at the National Archives and Records Administration (NARA). Contact PBGC at: Disclosure Division, Office of the General Counsel, Pension Benefit Guaranty Corporation; 445 12th Street, SW, Washington, DC 20024; 202-326-4040. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the Society of Actuaries at: Society of Actuaries, 475 N. Martingale Rd., Suite 600, Schaumburg, IL 60173; (847) 706-3500; <https://www.soa.org/resources/experience-studies/2021/mortality-improvement-scale-mp-2021>.

(2) *Application of mortality improvement rates—*

(i) *In general.* Under the generational mortality tables described in this paragraph (c), the probability of an individual's death at a particular age in the future is determined as the individual's base mortality rate that applies at that age (that is, the applicable mortality rate from the tables set forth in paragraph (c)(5) of this section for that age, gender, and status as an annuitant or a non-annuitant) multiplied by the cumulative mortality improvement factor for the individual's gender and for that age for the period from 2012 through the calendar year in which the individual is projected to reach the particular age. Paragraph (c)(3) of this section provides an example that illustrates how the base mortality tables in paragraph (c)(5) of this section and the Scale MP-2021 mortality improvement rates are combined to determine projected mortality rates.

(ii) *Cumulative mortality improvement factor.* The cumulative mortality improvement factor for an age and gender for a period is the product of the annual mortality improvement factors for that age and gender for each year within that period.

(iii) *Annual mortality improvement factor.* The annual mortality improvement factor for an age and gender for a year is 1 minus the mortality improvement rate that applies for that age and gender for that year. If that annual mortality improvement rate is greater than 1 (corresponding to a negative mortality improvement rate), then the projected mortality rate for that age and gender for that year is greater than the projected mortality rate for the same age and gender for the preceding year.

(3) Example of calculation using Scale MP-2021 Rates—

(i) *Calculation of mortality rate.* The mortality rate that is applied to male annuitants who are age 67 in 2023 is equal to the product of the mortality rate for 2012 that applied to male annuitants who were age 67 in 2012 (0.01288) and the cumulative mortality improvement factor for age 67 males from 2012 to 2023. The cumulative mortality improvement factor for age 67 males for the period from 2012 to 2023 is 0.9919, and the mortality rate for 2023 for male annuitants who are age 67 in that year would be 0.01278, as shown in the following table.

Table 1 to paragraph (c)(3)(i).

Example Mortality Rate Calculation

| Calendar Year | Scale MP-2021 Mortality Improvement Rate | Annual Mortality Improvement Factor (1-Mortality Improvement Rate) | Cumulative Mortality Improvement Factor | Mortality Rate |
|----------------------|---|---|--|-----------------------|
| 2012 | n/a | n/a | n/a | 0.01288 |
| 2013 | 0.0052 | 0.9948 | 0.9948 | |
| 2014 | 0.0027 | 0.9973 | 0.9921 | |
| 2015 | 0.0009 | 0.9991 | 0.9912 | |
| 2016 | (0.0003) | 1.0003 | 0.9915 | |
| 2017 | (0.0010) | 1.0010 | 0.9925 | |
| 2018 | (0.0016) | 1.0016 | 0.9941 | |
| 2019 | (0.0016) | 1.0016 | 0.9957 | |
| 2020 | (0.0010) | 1.0010 | 0.9967 | |
| 2021 | 0.0000 | 1.0000 | 0.9967 | |
| 2022 | 0.0015 | 0.9985 | 0.9952 | |
| 2023 | 0.0033 | 0.9967 | 0.9919 | 0.01278 |

(ii) *Probability of survival for an individual.* After the projected mortality rates are derived for each age for each year, the rates are used to calculate the present value of a benefit stream that depends on the probability of survival year-by-year. For example, using the Scale MP-2021 rates, for purposes of calculating the present value of future payments in a benefit stream payable for a male annuitant who is age 67 in 2023, the probability of survival for the annuitant is based on the mortality rate for a male annuitant who is age 67 in 2023 (0.01278), and the projected mortality rate for a male annuitant who will be age 68 in 2024 (0.01378), age 69 in 2025 (0.01489), and so on.

(4) Use of the tables—

(i) *Separate tables for annuitants and non-annuitants.* Separate mortality tables are provided for use for annuitants and non-annuitants. The non-annuitant mortality tables are applied to determine the probability of survival for a non-annuitant for the period before the non-annuitant is projected to commence receiving benefits. The annuitant mortality tables are applied to determine the present value of benefits for each annuitant. In addition, the annuitant mortality tables are applied for each non-annuitant with respect to each assumed commencement of benefits for the period beginning with that assumed commencement. For purposes of this section, an annuitant means a plan participant who has commenced receiving benefits and a non-annuitant means a plan participant who has not yet commenced receiving benefits (for example, an active employee or a terminated vested participant). A participant whose benefit has partially commenced is treated as an annuitant for the portion of the benefit that has commenced and treated as a non-annuitant for the balance of the benefit. In addition, for a beneficiary of a participant, the annuitant mortality tables apply for the period beginning with each assumed commencement of benefits for the participant. If the participant has died (or to the extent the participant is assumed to die before commencing benefits), the annuitant mortality tables apply with respect to the beneficiary for the period beginning with each assumed commencement of benefits for the beneficiary.

(ii) *Examples of calculation using separate non-annuitant and annuitant tables.* For a 45-year-old active participant who is projected to commence receiving an annuity at age 55, benefit liabilities are determined using the non-annuitant mortality tables for the period before the participant attains age 55 and using the annuitant mortality tables for the period ages 55 and above. Similarly, for a 45- year-old terminated vested participant who is projected to commence an annuity at age 65, benefit liabilities are determined using the non-annuitant mortality tables for the period before the participant attains age 65 and using the annuitant mortality tables for ages 65 and above.

(5) *Base mortality tables.* The following are the base mortality tables. The base year for these tables is 2012.

Table 2 to paragraph (c)(5).

Healthy Lives Base Mortality Table

| Age | Males | | Females | |
|-----|---------------|-----------|---------------|-----------|
| | Non-Annuitant | Annuitant | Non-Annuitant | Annuitant |
| 0 | 0.00650 | 0.00650 | 0.00544 | 0.00544 |
| 1 | 0.00045 | 0.00045 | 0.00038 | 0.00038 |
| 2 | 0.00030 | 0.00030 | 0.00023 | 0.00023 |
| 3 | 0.00022 | 0.00022 | 0.00018 | 0.00018 |
| 4 | 0.00019 | 0.00019 | 0.00013 | 0.00013 |
| 5 | 0.00016 | 0.00016 | 0.00012 | 0.00012 |
| 6 | 0.00014 | 0.00014 | 0.00011 | 0.00011 |
| 7 | 0.00013 | 0.00013 | 0.00010 | 0.00010 |
| 8 | 0.00011 | 0.00011 | 0.00009 | 0.00009 |
| 9 | 0.00009 | 0.00009 | 0.00009 | 0.00009 |
| 10 | 0.00008 | 0.00008 | 0.00009 | 0.00009 |
| 11 | 0.00009 | 0.00009 | 0.00009 | 0.00009 |
| 12 | 0.00013 | 0.00013 | 0.00010 | 0.00010 |
| 13 | 0.00017 | 0.00017 | 0.00012 | 0.00012 |
| 14 | 0.00022 | 0.00022 | 0.00013 | 0.00013 |
| 15 | 0.00028 | 0.00028 | 0.00013 | 0.00013 |
| 16 | 0.00034 | 0.00034 | 0.00014 | 0.00014 |
| 17 | 0.00040 | 0.00040 | 0.00015 | 0.00015 |
| 18 | 0.00046 | 0.00046 | 0.00015 | 0.00015 |
| 19 | 0.00053 | 0.00053 | 0.00015 | 0.00015 |
| 20 | 0.00056 | 0.00056 | 0.00015 | 0.00015 |
| 21 | 0.00056 | 0.00056 | 0.00015 | 0.00015 |
| 22 | 0.00056 | 0.00056 | 0.00016 | 0.00016 |

| | Males | | Females | |
|------------|----------------------|------------------|----------------------|------------------|
| Age | Non-Annuitant | Annuitant | Non-Annuitant | Annuitant |
| 23 | 0.00055 | 0.00055 | 0.00018 | 0.00018 |
| 24 | 0.00055 | 0.00055 | 0.00019 | 0.00019 |
| 25 | 0.00054 | 0.00054 | 0.00019 | 0.00019 |
| 26 | 0.00054 | 0.00054 | 0.00019 | 0.00019 |
| 27 | 0.00054 | 0.00054 | 0.00020 | 0.00020 |
| 28 | 0.00054 | 0.00054 | 0.00020 | 0.00020 |
| 29 | 0.00054 | 0.00054 | 0.00020 | 0.00020 |
| 30 | 0.00055 | 0.00055 | 0.00021 | 0.00021 |
| 31 | 0.00055 | 0.00055 | 0.00022 | 0.00022 |
| 32 | 0.00056 | 0.00056 | 0.00023 | 0.00023 |
| 33 | 0.00058 | 0.00058 | 0.00025 | 0.00025 |
| 34 | 0.00059 | 0.00059 | 0.00026 | 0.00026 |
| 35 | 0.00061 | 0.00061 | 0.00028 | 0.00028 |
| 36 | 0.00063 | 0.00063 | 0.00031 | 0.00031 |
| 37 | 0.00065 | 0.00065 | 0.00034 | 0.00034 |
| 38 | 0.00068 | 0.00068 | 0.00036 | 0.00036 |
| 39 | 0.00071 | 0.00071 | 0.00040 | 0.00040 |
| 40 | 0.00074 | 0.00074 | 0.00043 | 0.00043 |
| 41 | 0.00077 | 0.00082 | 0.00047 | 0.00049 |
| 42 | 0.00081 | 0.00099 | 0.00051 | 0.00061 |
| 43 | 0.00086 | 0.00124 | 0.00055 | 0.00078 |
| 44 | 0.00091 | 0.00158 | 0.00060 | 0.00101 |
| 45 | 0.00097 | 0.00200 | 0.00065 | 0.00130 |
| 46 | 0.00105 | 0.00251 | 0.00071 | 0.00165 |
| 47 | 0.00113 | 0.00310 | 0.00077 | 0.00206 |
| 48 | 0.00123 | 0.00378 | 0.00083 | 0.00252 |
| 49 | 0.00134 | 0.00454 | 0.00090 | 0.00304 |
| 50 | 0.00147 | 0.00539 | 0.00098 | 0.00362 |
| 51 | 0.00161 | 0.00544 | 0.00107 | 0.00426 |
| 52 | 0.00177 | 0.00565 | 0.00116 | 0.00495 |
| 53 | 0.00194 | 0.00588 | 0.00126 | 0.00500 |
| 54 | 0.00213 | 0.00616 | 0.00137 | 0.00512 |
| 55 | 0.00234 | 0.00647 | 0.00148 | 0.00517 |
| 56 | 0.00257 | 0.00686 | 0.00161 | 0.00522 |
| 57 | 0.00281 | 0.00728 | 0.00175 | 0.00528 |
| 58 | 0.00308 | 0.00770 | 0.00190 | 0.00561 |
| 59 | 0.00338 | 0.00811 | 0.00206 | 0.00601 |
| 60 | 0.00369 | 0.00848 | 0.00224 | 0.00643 |
| 61 | 0.00403 | 0.00882 | 0.00243 | 0.00690 |
| 62 | 0.00441 | 0.00918 | 0.00264 | 0.00743 |
| 63 | 0.00481 | 0.00960 | 0.00287 | 0.00796 |
| 64 | 0.00525 | 0.01014 | 0.00312 | 0.00859 |
| 65 | 0.00573 | 0.01087 | 0.00339 | 0.00928 |
| 66 | 0.00636 | 0.01178 | 0.00380 | 0.01003 |
| 67 | 0.00706 | 0.01288 | 0.00427 | 0.01089 |

| | Males | | Females | |
|-----|---------------|-----------|---------------|-----------|
| Age | Non-Annuitant | Annuitant | Non-Annuitant | Annuitant |
| 68 | 0.00784 | 0.01418 | 0.00480 | 0.01192 |
| 69 | 0.00870 | 0.01564 | 0.00540 | 0.01309 |
| 70 | 0.00967 | 0.01729 | 0.00606 | 0.01444 |
| 71 | 0.01073 | 0.01914 | 0.00681 | 0.01597 |
| 72 | 0.01192 | 0.02121 | 0.00765 | 0.01770 |
| 73 | 0.01323 | 0.02354 | 0.00860 | 0.01967 |
| 74 | 0.01469 | 0.02613 | 0.00966 | 0.02192 |
| 75 | 0.01632 | 0.02905 | 0.01085 | 0.02445 |
| 76 | 0.01812 | 0.03233 | 0.01219 | 0.02727 |
| 77 | 0.02012 | 0.03604 | 0.01370 | 0.03042 |
| 78 | 0.02234 | 0.04026 | 0.01539 | 0.03391 |
| 79 | 0.02480 | 0.04504 | 0.01729 | 0.03775 |
| 80 | 0.02754 | 0.05046 | 0.01943 | 0.04198 |
| 81 | 0.02989 | 0.05657 | 0.02134 | 0.04663 |
| 82 | 0.03460 | 0.06343 | 0.02516 | 0.05178 |
| 83 | 0.04166 | 0.07114 | 0.03089 | 0.05754 |
| 84 | 0.05108 | 0.07977 | 0.03853 | 0.06401 |
| 85 | 0.06285 | 0.08946 | 0.04808 | 0.07132 |
| 86 | 0.07698 | 0.10032 | 0.05955 | 0.07954 |
| 87 | 0.09346 | 0.11248 | 0.07293 | 0.08879 |
| 88 | 0.11229 | 0.12600 | 0.08822 | 0.09936 |
| 89 | 0.13348 | 0.14088 | 0.10542 | 0.11124 |
| 90 | 0.15703 | 0.15703 | 0.12453 | 0.12453 |
| 91 | 0.17401 | 0.17401 | 0.13818 | 0.13818 |
| 92 | 0.19151 | 0.19151 | 0.15250 | 0.15250 |
| 93 | 0.20936 | 0.20936 | 0.16737 | 0.16737 |
| 94 | 0.22742 | 0.22742 | 0.18274 | 0.18274 |
| 95 | 0.24569 | 0.24569 | 0.19863 | 0.19863 |
| 96 | 0.26415 | 0.26415 | 0.21509 | 0.21509 |
| 97 | 0.28281 | 0.28281 | 0.23214 | 0.23214 |
| 98 | 0.30169 | 0.30169 | 0.24983 | 0.24983 |
| 99 | 0.32077 | 0.32077 | 0.26814 | 0.26814 |
| 100 | 0.33996 | 0.33996 | 0.28698 | 0.28698 |
| 101 | 0.35910 | 0.35910 | 0.30619 | 0.30619 |
| 102 | 0.37794 | 0.37794 | 0.32549 | 0.32549 |
| 103 | 0.39633 | 0.39633 | 0.34472 | 0.34472 |
| 104 | 0.41415 | 0.41415 | 0.36375 | 0.36375 |
| 105 | 0.43131 | 0.43131 | 0.38243 | 0.38243 |
| 106 | 0.44771 | 0.44771 | 0.40065 | 0.40065 |
| 107 | 0.46329 | 0.46329 | 0.41828 | 0.41828 |
| 108 | 0.47800 | 0.47800 | 0.43522 | 0.43522 |
| 109 | 0.49181 | 0.49181 | 0.45139 | 0.45139 |
| 110 | 0.50000 | 0.50000 | 0.46673 | 0.46673 |
| 111 | 0.50000 | 0.50000 | 0.48120 | 0.48120 |
| 112 | 0.50000 | 0.50000 | 0.49477 | 0.49477 |

| | Males | | Females | |
|------------|----------------------|------------------|----------------------|------------------|
| Age | Non-Annuitant | Annuitant | Non-Annuitant | Annuitant |
| 113 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 114 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 115 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 116 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 117 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 118 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 119 | 0.50000 | 0.50000 | 0.50000 | 0.50000 |
| 120 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

(d) *Social Security disabled lives.* If the individual is Social Security disabled under paragraph (f)(1) of this section, the plan administrator will value the benefit using the following table.

Table 3 to paragraph (d).

Social Security Disabled Lives Mortality Table

| Age | Male | Female | Age | Male | Female |
|------------|-------------|---------------|------------|-------------|---------------|
| 16 | 0.012544 | 0.004759 | 64 | 0.042280 | 0.030776 |
| 17 | 0.007102 | 0.006541 | 65 | 0.039144 | 0.028230 |
| 18 | 0.005859 | 0.008035 | 66 | 0.043862 | 0.031667 |
| 19 | 0.009998 | 0.008369 | 67 | 0.046182 | 0.033318 |
| 20 | 0.008926 | 0.009224 | 68 | 0.048624 | 0.034728 |
| 21 | 0.008533 | 0.008144 | 69 | 0.052077 | 0.037341 |
| 22 | 0.008158 | 0.008616 | 70 | 0.055284 | 0.039491 |
| 23 | 0.008970 | 0.008127 | 71 | 0.058951 | 0.042134 |
| 24 | 0.008433 | 0.008318 | 72 | 0.062301 | 0.044962 |
| 25 | 0.008696 | 0.008851 | 73 | 0.067099 | 0.047548 |
| 26 | 0.009211 | 0.008002 | 74 | 0.071469 | 0.051148 |
| 27 | 0.009362 | 0.008694 | 75 | 0.075068 | 0.055271 |
| 28 | 0.009780 | 0.009477 | 76 | 0.080425 | 0.059382 |
| 29 | 0.010049 | 0.009664 | 77 | 0.085531 | 0.063489 |
| 30 | 0.011093 | 0.009417 | 78 | 0.091585 | 0.068675 |
| 31 | 0.011075 | 0.009985 | 79 | 0.098383 | 0.074929 |
| 32 | 0.010931 | 0.010524 | 80 | 0.104788 | 0.080536 |
| 33 | 0.011890 | 0.010648 | 81 | 0.113110 | 0.088455 |
| 34 | 0.012529 | 0.011252 | 82 | 0.122062 | 0.094573 |
| 35 | 0.012418 | 0.011450 | 83 | 0.131697 | 0.103589 |
| 36 | 0.013234 | 0.011448 | 84 | 0.140430 | 0.111345 |
| 37 | 0.013832 | 0.012135 | 85 | 0.151890 | 0.122160 |
| 38 | 0.014457 | 0.012579 | 86 | 0.165777 | 0.130844 |
| 39 | 0.015830 | 0.012619 | 87 | 0.176875 | 0.142631 |
| 40 | 0.016153 | 0.013578 | 88 | 0.188397 | 0.156112 |

| Age | Male | Female |
|-----|----------|----------|
| 41 | 0.016859 | 0.014243 |
| 42 | 0.017464 | 0.014520 |
| 43 | 0.018302 | 0.014773 |
| 44 | 0.019127 | 0.015630 |
| 45 | 0.020380 | 0.016131 |
| 46 | 0.021607 | 0.016874 |
| 47 | 0.023407 | 0.017547 |
| 48 | 0.023956 | 0.018198 |
| 49 | 0.025631 | 0.019281 |
| 50 | 0.026384 | 0.019413 |
| 51 | 0.027277 | 0.020343 |
| 52 | 0.028582 | 0.020488 |
| 53 | 0.030164 | 0.021316 |
| 54 | 0.031262 | 0.021960 |
| 55 | 0.031728 | 0.021969 |
| 56 | 0.033067 | 0.022897 |
| 57 | 0.034230 | 0.023556 |
| 58 | 0.035474 | 0.024159 |
| 59 | 0.036790 | 0.024958 |
| 60 | 0.037772 | 0.025905 |
| 61 | 0.039297 | 0.027414 |
| 62 | 0.039954 | 0.028394 |
| 63 | 0.041069 | 0.029795 |

| Age | Male | Female |
|------|----------|----------|
| 89 | 0.206651 | 0.166591 |
| 90 | 0.223252 | 0.182064 |
| 91 | 0.235073 | 0.197059 |
| 92 | 0.249318 | 0.205768 |
| 93 | 0.267740 | 0.225325 |
| 94 | 0.277033 | 0.240441 |
| 95 | 0.284003 | 0.260724 |
| 96 | 0.298740 | 0.281817 |
| 97 | 0.313086 | 0.293156 |
| 98 | 0.328740 | 0.308400 |
| 99 | 0.345177 | 0.324436 |
| 100 | 0.362436 | 0.341307 |
| 101 | 0.380558 | 0.359055 |
| 102 | 0.399586 | 0.377726 |
| 103 | 0.419565 | 0.397368 |
| 104 | 0.440543 | 0.418031 |
| 105 | 0.462571 | 0.439768 |
| 106 | 0.485699 | 0.462636 |
| 107 | 0.509984 | 0.486693 |
| 108 | 0.535483 | 0.512001 |
| 109 | 0.562257 | 0.538626 |
| 110 | 0.590370 | 0.566634 |
| 111+ | 1.000000 | 1.000000 |

(e) *Non-Social Security disabled lives.* If the individual is non-Social Security disabled under paragraph (f)(2) of this section, the plan administrator will value the benefit using generational mortality tables described in paragraph (c) of this section.

* * * * *

(h) *Missing participants mortality.* The following mortality table is used to value benefits using “*PBGC missing participants assumptions*” under part 4050, subparts A, C, and D of this chapter.

Table 4 to paragraph (h).

Missing Participants Mortality Table for Determination Dates in 2023

| Age | Unisex Mortality | Age | Unisex Mortality |
|------------|-------------------------|------------|-------------------------|
| 0 | 0.00210 | 61 | 0.00375 |
| 1 | 0.00015 | 62 | 0.00447 |
| 2 | 0.00010 | 63 | 0.00521 |
| 3 | 0.00008 | 64 | 0.00585 |
| 4 | 0.00006 | 65 | 0.00667 |
| 5 | 0.00006 | 66 | 0.00757 |
| 6 | 0.00005 | 67 | 0.00845 |
| 7 | 0.00005 | 68 | 0.00940 |
| 8 | 0.00004 | 69 | 0.01047 |
| 9 | 0.00004 | 70 | 0.01170 |
| 10 | 0.00004 | 71 | 0.01310 |
| 11 | 0.00004 | 72 | 0.01470 |
| 12 | 0.00005 | 73 | 0.01650 |
| 13 | 0.00006 | 74 | 0.01859 |
| 14 | 0.00008 | 75 | 0.02097 |
| 15 | 0.00009 | 76 | 0.02372 |
| 16 | 0.00011 | 77 | 0.02686 |
| 17 | 0.00012 | 78 | 0.03045 |
| 18 | 0.00014 | 79 | 0.03451 |
| 19 | 0.00016 | 80 | 0.03935 |
| 20 | 0.00017 | 81 | 0.04434 |
| 21 | 0.00017 | 82 | 0.05001 |
| 22 | 0.00018 | 83 | 0.05641 |
| 23 | 0.00018 | 84 | 0.06367 |
| 24 | 0.00019 | 85 | 0.07192 |
| 25 | 0.00020 | 86 | 0.08122 |
| 26 | 0.00021 | 87 | 0.09169 |
| 27 | 0.00022 | 88 | 0.10352 |
| 28 | 0.00023 | 89 | 0.11666 |
| 29 | 0.00024 | 90 | 0.13111 |
| 30 | 0.00026 | 91 | 0.14617 |
| 31 | 0.00027 | 92 | 0.16169 |
| 32 | 0.00028 | 93 | 0.17758 |
| 33 | 0.00031 | 94 | 0.19361 |
| 34 | 0.00032 | 95 | 0.20972 |
| 35 | 0.00034 | 96 | 0.22694 |
| 36 | 0.00037 | 97 | 0.24460 |

| | | | |
|----|---------|-----|---------|
| 37 | 0.00039 | 98 | 0.26269 |
| 38 | 0.00041 | 99 | 0.28131 |
| 39 | 0.00043 | 100 | 0.30036 |
| 40 | 0.00044 | 101 | 0.31968 |
| 41 | 0.00046 | 102 | 0.33909 |
| 42 | 0.00048 | 103 | 0.35847 |
| 43 | 0.00050 | 104 | 0.37762 |
| 44 | 0.00052 | 105 | 0.39610 |
| 45 | 0.00054 | 106 | 0.41412 |
| 46 | 0.00058 | 107 | 0.43160 |
| 47 | 0.00062 | 108 | 0.44820 |
| 48 | 0.00066 | 109 | 0.46409 |
| 49 | 0.00071 | 110 | 0.47687 |
| 50 | 0.00078 | 111 | 0.48520 |
| 51 | 0.00086 | 112 | 0.49310 |
| 52 | 0.00096 | 113 | 0.49699 |
| 53 | 0.00108 | 114 | 0.49818 |
| 54 | 0.00121 | 115 | 0.49940 |
| 55 | 0.00145 | 116 | 0.49968 |
| 56 | 0.00179 | 117 | 0.49983 |
| 57 | 0.00208 | 118 | 0.49998 |
| 58 | 0.00242 | 119 | 0.50000 |
| 59 | 0.00280 | 120 | 1.00000 |
| 60 | 0.00325 | | |

7. Revise § 4044.54 to read as follows:

§ 4044.54 Interest assumptions.

(a) *General rule.* The plan administrator must use the interest rates prescribed in this section to value benefits under § 4044.52.

(b) *Interest rate.* The interest rate used to discount an expected benefit payment is the interest rate from the applicable 4044 yield curve determined under paragraph (c) of this section for the maturity point that corresponds to the period of time from the valuation date to the date the benefit is expected to be paid unless that period of time exceeds 30 years. In that case, the interest rate used is the interest rate that corresponds to the maturity point at year 30.0. To address the timing of benefit payments during a year, reasonable approximations may be used to value benefit payments that are expected to be made during a plan year.

(c) *4044 yield curve.* A 4044 yield curve consists of interest rates (as percentages) that correspond to mid-year and whole-year maturity points for 30.0 years. The applicable 4044 yield curve is the applicable blended market yield curve determined under paragraphs (d)(1) and (2) of this section adjusted in accordance with paragraph (e)(2) of this section by the applicable spreads determined under paragraph (e)(1) of this section.

(d) *Blended market yield curves.* A blended market yield curve consists of interest rates (as percentages), determined as of the last day of a month, that correspond to mid-year and whole-year maturity points for 30.0 years.

(1) *Applicable blended market yield curve.* The applicable blended market yield curve is the blended market yield curve as of the valuation date if the valuation date is the last day of a month, otherwise it is the blended market yield curve as of the last day of the month before the month containing the valuation date.

(2) *Determination of blended market yield curve.* The blended market yield curve is determined by combining the Department of the Treasury's TNC Treasury Yield Curve Spot Rates, End of Month yield curve (TNC Yield Curve) with the Department of the Treasury's HQM Corporate Bond Yield Curve Spot Rates, End of Month yield curve (HQM Bond Yield Curve) in accordance with this paragraph (d)(2). To determine the blended market yield curve as of the last day of a month—

(i) Obtain the rate for each maturity point from 0.5 to 30.0 from the TNC Yield Curve for the end of the month published by the Department of the Treasury.

(ii) Obtain the rate for each maturity point from 0.5 to 30.0 from the HQM Bond Yield Curve for the end of the month published by the Department of the Treasury.

(iii) Determine the interest rate for each maturity point from 0.5 to 30.0 on the blended market yield curve by multiplying the rate determined in paragraph (d)(2)(i) of this section by one-third, multiplying the rate determined in (d)(2)(ii) of this section at the year by two-thirds, and adding the products.

(e) *Spreads.* (1) *Applicable spreads.* The applicable spreads for a blended market yield curve are the spreads set forth in table 1 to paragraph (e) of this section for the calendar quarter containing the date of the blended market yield curve.

(2) *Using spreads to adjust a blended market yield curve.* To adjust a blended market yield curve (to determine a 4044 yield curve described in paragraph (c) of this section), add the interest rate for each maturity point on the blended market yield curve to the spread corresponding to that maturity point from the applicable spreads.

(3) *Examples.* The following examples illustrate how to determine the applicable blended market yield curve and applicable spreads for a given valuation date:

(i) *Example 1 — June 30, 2024, valuation date.* Because the valuation date is the last day of a month, the applicable blended market yield curve determined under paragraph (d)(1) of this section is the blended market yield curve as of that date. Because June 30, 2024, is in the second calendar quarter of 2024, the applicable spreads determined under paragraph (e)(1) of this section are the spreads for the second calendar quarter of 2024.

(ii) *Example 2 — October 15, 2024, valuation date.* Because the valuation date is not the last day of a month, the applicable blended market yield curve determined under paragraph (d)(1) of this section is the blended market yield curve as of the last day of the month before the month containing the valuation date, September 30, 2024. Because September 30, 2024, is in the third calendar quarter of 2024, the applicable spreads determined under paragraph (e)(1) of this section are the spreads for the third calendar quarter of 2024.

Table 1 to paragraph (e).

First Quarter 2023 Spreads (Sample Rates)

| Maturity Point | Spread (Percent) | Maturity Point | Spread (Percent) | Maturity Point | Spread (Percent) |
|----------------|------------------|----------------|------------------|----------------|------------------|
| 0.5 | 0.27 | 10.5 | 0.19 | 20.5 | 0.04 |
| 1.0 | 0.27 | 11.0 | 0.19 | 21.0 | 0.04 |
| 1.5 | 0.26 | 11.5 | 0.17 | 21.5 | 0.03 |
| 2.0 | 0.26 | 12.0 | 0.17 | 22.0 | 0.03 |
| 2.5 | 0.26 | 12.5 | 0.16 | 22.5 | 0.02 |
| 3.0 | 0.26 | 13.0 | 0.16 | 23.0 | 0.02 |
| 3.5 | 0.26 | 13.5 | 0.14 | 23.5 | 0.01 |
| 4.0 | 0.26 | 14.0 | 0.14 | 24.0 | 0.01 |
| 4.5 | 0.25 | 14.5 | 0.13 | 24.5 | 0.00 |
| 5.0 | 0.25 | 15.0 | 0.13 | 25.0 | 0.00 |
| 5.5 | 0.24 | 15.5 | 0.11 | 25.5 | -0.01 |
| 6.0 | 0.24 | 16.0 | 0.11 | 26.0 | -0.01 |
| 6.5 | 0.23 | 16.5 | 0.10 | 26.5 | -0.02 |
| 7.0 | 0.23 | 17.0 | 0.10 | 27.0 | -0.02 |
| 7.5 | 0.22 | 17.5 | 0.08 | 27.5 | -0.02 |
| 8.0 | 0.22 | 18.0 | 0.08 | 28.0 | -0.02 |
| 8.5 | 0.21 | 18.5 | 0.07 | 28.5 | -0.02 |
| 9.0 | 0.21 | 19.0 | 0.07 | 29.0 | -0.02 |
| 9.5 | 0.20 | 19.5 | 0.05 | 29.5 | -0.03 |
| 10.0 | 0.20 | 20.0 | 0.05 | 30.0 | -0.03 |

8. Amend § 4044.55 by revising paragraph (c)(1) to read as follows:

§ 4044.55 XRA when a participant must retire to receive a benefit.

* * * *

(c) *Procedure.* (1) The plan administrator shall determine whether a participant is in the high, medium, or low retirement rate category using the applicable Selection of Retirement Rate Category Table in § 4044.58 of this part, based on the participant's benefit determined under paragraph (b)(1) of this section and the year in which the participant reaches URA.

* * * *

9. Amend § 4044.56 by revising paragraph (c) to read as follows:

§ 4044.56 XRA when a participant need not retire to receive a benefit.

* * * *

(c) *Procedure.* Participants in this case are always assigned to the high retirement rate category and therefore the plan administrator shall use Table II-C (Expected Retirement Ages for Individuals in the High Category) in § 4044.58 of this part to determine the XRA. The plan administrator shall determine the XRA from Table II-C by using the participant's URA and earliest retirement age at termination date.

10. Add § 4044.58 to subpart B to read as follows:

§ 4044.58 Tables used to determine expected retirement age

The following tables are used for determining expected retirement age under §§ 4044.55 through 4044.57 of this part.

Table 1 to § 4044.58.

TABLE I-23 — SELECTION OF RETIREMENT RATE CATEGORY
(For valuation dates in 2023¹)

| If participant reaches URA in year — | Participant's Retirement Rate Category is — | | | |
|--------------------------------------|---|--|-------|---|
| | Low ² if monthly benefit at URA is less than — | Medium ³ if monthly benefit at URA is — | | High ⁴ if monthly benefit at URA is greater than — |
| | | From — | To — | |
| 2024 | 745 | 745 | 3,146 | 3,146 |
| 2025 | 762 | 762 | 3,218 | 3,218 |
| 2026 | 779 | 779 | 3,292 | 3,292 |
| 2027 | 797 | 797 | 3,368 | 3,368 |
| 2028 | 816 | 816 | 3,445 | 3,445 |
| 2029 | 834 | 834 | 3,524 | 3,524 |
| 2030 | 854 | 854 | 3,605 | 3,605 |
| 2031 | 873 | 873 | 3,688 | 3,688 |
| 2032 | 893 | 893 | 3,773 | 3,773 |
| 2033 or later | 914 | 914 | 3,860 | 3,860 |

¹ Applicable tables for valuation dates before 2023 are available on PBGC's website (www.pbgc.gov).

² Table II-A.

³ Table II-B.

⁴ Table II-C.

Table 2 to § 4044.58.

Table II-A — Expected Retirement Ages for Individuals in the Low Category

| | |
|--|--------------------------|
| Participant's earliest retirement age at | Unreduced retirement age |
|--|--------------------------|

| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 54 | 57 | 58 | 58 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 |
| 55 | 58 | 58 | 59 | 59 | 59 | 60 | 60 | 60 | 60 | 60 | 60 |
| 56 | 58 | 59 | 59 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 57 | 59 | 59 | 60 | 60 | 61 | 61 | 61 | 61 | 61 | 61 | 61 |
| 58 | 59 | 60 | 60 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 |
| 59 | 59 | 60 | 61 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| 60 | 60 | 60 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| 61 | | 61 | 61 | 62 | 62 | 63 | 63 | 63 | 63 | 63 | 63 |
| 62 | | | 62 | 62 | 62 | 63 | 63 | 63 | 63 | 63 | 63 |
| 63 | | | | 63 | 63 | 64 | 64 | 64 | 64 | 64 | 64 |
| 64 | | | | | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 65 | | | | | | 65 | 65 | 65 | 65 | 65 | 65 |
| 66 | | | | | | | 66 | 66 | 66 | 66 | 66 |
| 67 | | | | | | | | 67 | 67 | 67 | 67 |
| 68 | | | | | | | | | 68 | 68 | 68 |
| 69 | | | | | | | | | | 69 | 69 |
| 70 | | | | | | | | | | | 70 |

Table 4 to § 4044.58.

Table II-C — Expected Retirement Ages for Individuals in the High Category

| Participant's earliest retirement age at valuation date. | Unreduced retirement age | | | | | | | | | | |
|--|--------------------------|----|----|----|----|----|----|----|----|----|----|
| | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 42 | 46 | 46 | 46 | 46 | 46 | 47 | 47 | 47 | 47 | 47 | 47 |
| 43 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| 44 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| 45 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| 46 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 47 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| 48 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 |
| 49 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 50 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| 51 | 54 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| 52 | 55 | 55 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| 53 | 56 | 56 | 56 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 |
| 54 | 57 | 57 | 57 | 57 | 57 | 58 | 58 | 58 | 58 | 58 | 58 |
| 55 | 57 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| 56 | 58 | 58 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 |
| 57 | 58 | 59 | 59 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 58 | 59 | 59 | 60 | 60 | 60 | 60 | 61 | 61 | 61 | 61 | 61 |
| 59 | 59 | 60 | 60 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 |
| 60 | 60 | 60 | 61 | 61 | 61 | 62 | 62 | 62 | 62 | 62 | 62 |
| 61 | | 61 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| 62 | | | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| 63 | | | | 63 | 63 | 63 | 64 | 64 | 64 | 64 | 64 |
| 64 | | | | | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 65 | | | | | | 65 | 65 | 65 | 65 | 65 | 65 |
| 66 | | | | | | | 66 | 66 | 66 | 66 | 66 |

| | | | | | | | | | | | |
|----|--|--|--|--|--|--|--|----|----|----|----|
| 67 | | | | | | | | 67 | 67 | 67 | 67 |
| 68 | | | | | | | | | 68 | 68 | 68 |
| 69 | | | | | | | | | | 69 | 69 |
| 70 | | | | | | | | | | | 70 |

Appendix A to Part 4044 — [Removed and reserved]

11. Remove and reserve Appendix A.

Appendix B to Part 4044 — [Amended]

12. Amend Appendix B to part 4044 by revising the heading to read “Appendix B to Part 4044 – Historical Interest Rates Used to Value Benefits”.

Appendix C to Part 4044 — [Removed]

13. Remove Appendix C.

Appendix D to Part 4044 — [Removed]

14. Remove Appendix D.

PART 4050 — MISSING PARTICIPANTS

15. The authority citation for part 4050 continues to read as follows:

Authority: 29 U.S.C. 1302(b)(3), 1350.

16. Amend § 4050.102 by revising paragraphs (2), (4), and (7)(i) of the definition of “*PBGC missing participants assumptions*” to read as follows:

§ 4050.102 Definitions

* * * * *

PBGC missing participants assumptions means the actuarial assumptions prescribed in §§ 4044.51 through 4044.57 of this chapter with the following modifications:

* * * * *

(2) The mortality assumption is the mortality table in § 4044.53(h) of this chapter.

* * * * *

(4) The interest assumption is the assumption for valuing benefits under § 4044.54 of this chapter applicable to valuations occurring on December 31 of the calendar year preceding the calendar year in which the benefit determination date occurs.

* * * *

(7) * *

(i) In the case of a participant who is not in pay status and whose normal retirement date is on or after the benefit determination date, benefits are assumed to commence at the XRA, determined using the high retirement rate category under Table II-C (Expected Retirement Ages for Individuals in the High Category) in § 4044.58 of this chapter;

* * * *

17. Amend § 4050.302 by revising paragraphs (2), (4), and (7)(i) of the definition of “*PBGC missing participants assumptions*” to read as follows:

§ 4050.302 Definitions

* * * *

PBGC missing participants assumptions means the actuarial assumptions prescribed in §§ 4044.51 through 4044.57 of this chapter with the following modifications:

* * * *

(2) The mortality assumption is the mortality table in § 4044.53(h) of this chapter.

* * * *

(4) The interest assumption is the assumption for valuing benefits under § 4044.54 of this chapter applicable to valuations occurring on December 31 of the calendar year preceding the calendar year in which the benefit determination date occurs.

* * * *

(7) * *

(i) In the case of a participant who is not in pay status and whose normal retirement date is on or after the benefit determination date, benefits are assumed to commence at the XRA,

determined using the high retirement rate category under Table II-C (Expected Retirement Ages for Individuals in the High Category) in § 4044.58 of this chapter;

* * * * *

18. Amend § 4050.402 by revising paragraphs (2), (4), and (7)(i) of the definition of “*PBGC missing participants assumptions*” to read as follows:

§ 4050.402 Definitions

* * * * *

PBGC missing participants assumptions means the actuarial assumptions prescribed in §§ 4044.51 through 4044.57 of this chapter with the following modifications:

* * * * *

(2) The mortality assumption is the mortality table in § 4044.53(h) of this chapter.

* * * * *

(4) The interest assumption is the assumption for valuing benefits under § 4044.54 of this chapter applicable to valuations occurring on December 31 of the calendar year preceding the calendar year in which the benefit determination date occurs.

* * * * *

(7) * * *

(i) In the case of a participant who is not in pay status and whose normal retirement date is on or after the benefit determination date, benefits are assumed to commence at the XRA, determined using the high retirement rate category under Table II-C (Expected Retirement Ages for Individuals in the High Category) in § 4044.58 of this chapter;

* * * * *

PART 4262 — SPECIAL FINANCIAL ASSISTANCE BY PBGC

19. The authority citation for part 4262 continues to read as follows:

Authority: 29 U.S.C. 1302(b)(3), 1432.

§ 4262.16 [Amended]

20. Amend § 4262.16 by removing the words “in Appendix B to part 4044” wherever it appears and adding in its place the words “under § 4044.54”.

PART 4281 — DUTIES OF PLAN SPONSOR FOLLOWING MASS WITHDRAWAL

21. The authority citation for part 4281 continues to read as follows:

Authority: 29 U.S.C. 1302(b)(3), 1341(a), 1399(c)(1)(D), 1431, and 1441.

22. Amend § 4281.13 by revising paragraphs (a) and (e) to read as follows:

§ 4281.13 Benefit valuation methods - in general.

* * * * *

(a) Using the interest assumptions under § 4044.54 of this chapter;

* * * * *

(e) Adjusting the values to reflect the loading for expenses in accordance with § 4044.52(d) of this chapter (substituting the term “benefits” for the term “benefit liabilities (as defined in 29 U.S.C. 1301(a)(16))”).

* * * * *

Signed in Washington, DC.

Gordon Hartogensis,

Director

Pension Benefit Guaranty Corporation