

Special condition 7 requires that supercapacitor be disconnected or otherwise removed from its charging source without the need for crew intervention should the supercapacitor become overheated or fail in a manner that may create a safety hazard. This requirement applies to all supercapacitor installations and is not limited to those whose proper functioning is required for the safe operation of the airplane.

The special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

### Discussion of Comments

The FAA issued Notice of Proposed Special Conditions No. 25–22–02–SC for the Airbus Model A319–133 and A321–200 series airplanes, which was published in the **Federal Register** on June 1, 2023 (88 FR 35781). The FAA received one comment from The Boeing Company (Boeing).

Boeing recommended the FAA add a definition of what constitutes a supercapacitor and high-capacity electrical storage device and to include their thresholds such as capacity, voltage, and dielectric strength. Boeing stated that this clarification of supercapacitor terminology will avoid any ambiguity and confusion when applying special conditions and their applicability, specifically with the inapplicability to small capacitors that are used on various electrical systems used in electronics.

The FAA acknowledges Boeing's recommendation that adding a definition of what constitutes a supercapacitor is important for clarification and to ensure these special conditions' inapplicability to small capacitors used in various electrical systems in aviation electronics. However, the FAA declines to create a definition for supercapacitors through special conditions. Currently, the FAA is not aware of an industry standard regarding the design and installation of supercapacitors. With no supercapacitor industry standard currently available, the similarity of the function of the supercapacitor closely relates to the rechargeable lithium batteries. Therefore, the special conditions used for lithium batteries are being used for this supercapacitor installation. The applicant and the FAA will review the design and installation of the supercapacitor to ensure these special conditions will apply only to supercapacitors used as energy storage

devices similar to rechargeable lithium batteries.

### Applicability

As discussed above, these special conditions are applicable to the Airbus Model A319–133 and A321–200 series airplanes. Should Lufthansa apply at a later date for a change to the supplemental type certificate to include another model incorporating the same novel or unusual design feature included on Type Certificate No. A28NM, these special conditions would apply to that model as well.

Under standard practice, the effective date of final special conditions would be 30 days after the date of publication in the **Federal Register**. However, as the certification date for the Airbus Model A319–133 and A321–200 series airplanes is imminent, the FAA finds that good cause exists to make these special conditions effective upon publication.

### Conclusion

This action affects only a certain novel or unusual design feature on Airbus Models A319–133 and A321–200 series airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

### Authority Citation

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

### The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Airbus Model A319–133 and A321–200 series airplanes, as modified by Lufthansa Technik AG. Each supercapacitor installation must:

1. Be designed to preclude the occurrence of uncontrolled increases in temperature or pressure under all foreseeable operating and failure conditions to prevent fire and explosion.

2. Not emit explosive or toxic gasses, in normal operation or as the result of its failure that may accumulate in hazardous quantities in any area of the airplane.

3. Meet the requirements of § 25.863.

4. Not damage surrounding structure or adjacent systems, equipment, or electrical wiring interconnection system (EWIS) components from corrosive fluids or gases that may escape to cause a hazardous condition.

5. Have provisions to prevent any hazardous effect on surrounding structure or adjacent systems, equipment, or EWIS components, caused by the maximum amount of heat it can generate during any failure including any individual supercapacitors.

6. Have a means to prevent overheating or overcharging of the supercapacitor.

7. Have a means to automatically disconnect it from its charging source in the event of an over-temperature condition or failure.

8. Have a monitoring and alerting feature that alerts the flightcrew when the capacity has fallen below acceptable levels if its function is required for safe operation of the airplane. The flightcrew alerting must be in accordance with the requirements of § 25.1322.

9. Have a means to prevent insufficient charging if required for safe operation of the airplane.

**Note:** A supercapacitor installation consists of the supercapacitor(s) and any protective, monitoring and alerting circuitry or hardware inside or outside of the supercapacitor. This includes EWIS components as defined by § 25.1701. It also includes any venting or cooling system and packaging. For the purpose of these special conditions, a supercapacitor and the supercapacitor installation is referred to as a supercapacitor.

Issued in Kansas City, Missouri, on January 8, 2024.

**Patrick R. Mullen,**

*Manager, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service.*

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## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### 26 CFR Part 1

[TD 9986]

RIN 1545–BQ57

#### Corporate Bond Yield Curve for Determining Present Value

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Final regulations.

**SUMMARY:** This document sets forth final regulations specifying the methodology

for constructing the corporate bond yield curve that is used to derive the interest rates used in calculating present value and making other calculations under a defined benefit plan, as well as for discounting unpaid losses and estimated salvage recoverable of insurance companies. These regulations affect participants in, beneficiaries of, employers maintaining, and administrators of certain retirement plans, as well as insurance companies.

**DATES:**

*Effective date:* These regulations are effective January 12, 2024.

*Applicability date:* These regulations apply for purposes of determining the corporate bond yield curve under section 430(h)(2)(D) of the Internal Revenue Code for months that begin on or after February 1, 2024.

**FOR FURTHER INFORMATION CONTACT:**

Arslan Malik or Linda S.F. Marshall, Office of Associate Chief Counsel (Employee Benefits, Exempt Organizations, and Employment Taxes) at (202) 317-6700 (not a toll-free number).

**SUPPLEMENTARY INFORMATION:**

**Background**

Section 412 of the Internal Revenue Code (Code) prescribes minimum funding requirements for defined benefit pension plans. Section 430 specifies the minimum funding requirements that apply generally to defined benefit plans that are not multiemployer plans.<sup>1</sup> For a plan subject to section 430, section 430(a) defines the minimum required contribution for a plan year by reference to the plan's funding target for the plan year. Under section 430(d)(1), a plan's funding target for a plan year generally is the present value of all benefits accrued or earned under the plan as of the first day of that plan year.

Section 430(h)(2) provides rules regarding the interest rates to be used under section 430. Section 430(h)(2)(B) provides that a plan's funding target and target normal cost for a plan year are determined using three interest rates: (1)

the first segment rate, which applies to benefits reasonably determined to be payable during the 5-year period beginning on the valuation date; (2) the second segment rate, which applies to benefits reasonably determined to be payable during the next 15-year period; and (3) the third segment rate, which applies to benefits reasonably determined to be paid after that 15-year period. Under sections 430(h)(2)(C)(i) through (iii), each of these segment rates is determined for a month on the basis of the corporate bond yield curve for the month, taking into account only that portion of the yield curve that is based on bonds maturing during the period for which the segment rate is used.

Section 430(h)(2)(C)(iv), which was added to the Code in 2012 by section 40211 of the Moving Ahead for Progress in the 21st Century Act, Public Law 112-141, 126 Stat. 405, and has been modified several times since then (most recently in 2021 by section 80602 of the Infrastructure Investment and Jobs Act, Pub. L. 117-58, 135 Stat. 429), provides interest rate stabilization rules under which the segment rates are constrained by reference to the 25-year average segment rates. Under section 430(h)(2)(C)(iv), if a segment rate for a month is less than the applicable minimum percentage, or more than the applicable maximum percentage, of the average of the corresponding segment rates for years in the 25-year period ending with September 30 of the calendar year preceding the calendar year in which the plan year begins, then the segment rate for that month is equal to the applicable minimum percentage or the applicable maximum percentage of the corresponding 25-year average segment rate, whichever is closest. The last sentence of section 430(h)(2)(C)(iv)(I) provides that any 25-year average segment rate that is less than 5 percent is deemed to be 5 percent.

Under section 430(h)(2)(D)(i), the term "corporate bond yield curve" means, with respect to any month, a yield curve prescribed by the Secretary for the month that reflects the average, for the 24-month period ending with the month preceding such month, of monthly yields on investment grade corporate bonds with varying maturities and that are in the top three quality levels available. Section 430(h)(2)(D)(ii) permits a plan sponsor to elect to use the corporate bond yield curve, rather than the segment rates, to determine the plan's minimum required contribution. The yield curve that applies pursuant to this election is determined without regard to 24-month averaging. This

election, once made, may be revoked only with the consent of the Secretary.

Under section 430(h)(2)(F), the Secretary is instructed to publish for each month the corporate bond yield curve (without regard to the 24-month averaging specification), the segment rates described in section 430(h)(2)(C), and the 25-year averages of segment rates used under section 430(h)(4)(C)(iv). The Secretary is also instructed to publish a description of the methodology used to determine the yield curve and segment rates which is sufficiently detailed to enable plans to make reasonable projections regarding the yield curve and segment rates for future months based on the plan's projection of future interest rates.

Section 1.430(h)(2)-1 was issued in 2009 to provide rules regarding the interest rates to be used under section 430. T.D. 9467, 74 FR 53004. Section 1.430(h)(2)-1(d) provides that the methodology for determining the yield curve is provided in guidance that is published in the Internal Revenue Bulletin. Notice 2007-81, 2007-2 CB 899, describes the methodology used by the Department of the Treasury (Treasury Department) to develop the corporate bond yield curve. Section 1.430(h)(2)-1(d) also provides that the yield curve for each month will be set forth in guidance published in the Internal Revenue Bulletin. Monthly IRS notices set forth the corporate bond yield curve for the month (without regard to the 24-month averaging specification), the section 430 segment interest rates (before and after adjustment pursuant to section 430(h)(3)(C)(iv)), and the 25-year average segment rates (which are updated annually).

Section 417(e)(3) provides assumptions for determining minimum present value for certain purposes, including the determination of a lump-sum that is the present value of an annuity, and prescribes an applicable interest rate for this purpose. Section 417(e)(3)(C) provides that the term "applicable interest rate" means the adjusted first, second, and third segment rates applied under rules similar to the rules of section 430(h)(2)(C) for the month before the date of a distribution or such other time as the Secretary may prescribe by regulations. However, for purposes of section 417(e)(3), these rates are determined without regard to the segment rate stabilization rules of section 430(h)(2)(C)(iv). In addition, under section 417(e)(3)(D), these rates are determined using the average yields for a month, rather than the 24-month average used under section 430(h)(2)(D).

<sup>1</sup> Section 302 of the Employee Retirement Income Security Act of 1974, Public Law 93-406, 88 Stat. 829 (1974), as amended (ERISA), sets forth funding rules that are parallel to those in section 412 of the Code, and section 303 of ERISA sets forth minimum funding requirements that apply generally for defined benefit plans (other than multiemployer plans) that are parallel to those in section 430 of the Code. Pursuant to section 101 of Reorganization Plan No. 4 of 1978, 5 U.S.C. App., as amended, the Secretary of the Treasury has interpretive jurisdiction over the subject matter addressed in these regulations for purposes of ERISA, as well as the Code. Thus, these Treasury regulations issued under section 430 of the Code also apply for purposes of section 303 of ERISA.

Under section 846(c), the Secretary determines the applicable interest rate to be used by insurance companies to discount unpaid losses on the basis of the corporate bond yield curve (as defined in section 430(h)(2)(D)(i), determined by substituting “60-month period” for “24-month period”). Under § 1.832-4(c), the applicable interest rate determined under section 846(c) is also used by insurance companies to discount estimated salvage recoverable, unless the Commissioner publishes applicable discount factors to be used for that purpose.

A notice of proposed rulemaking and notice of public hearing (REG-124123-22) that would revise the methodology for determining the corporate bond yield curve was published in the **Federal Register** (88 FR 41047) on June 23, 2023. Two commenters submitted comments on the proposed regulations. A public hearing on the proposed regulations was scheduled for August 30, 2023, but was cancelled because no one requested to speak. After consideration of these comments, these final regulations are adopted with minor changes to the language from the proposed regulations to provide more detail on the methodology for determining the corporate bond yield curve.

### Summary of Comments and Explanation of Revisions

These regulations specify the methodology used to develop the corporate bond yield curve. This methodology is generally the same as the methodology set forth in Notice 2007-81 but includes two refinements to take into account changes in the bond market since 2007. The regulations also amend the existing regulations under section 430(h)(2) to reflect the addition of the interest rate stabilization rules of section 430(h)(2)(C)(iv) and to eliminate transition rules that applied to plan years beginning before January 1, 2010.

One commenter expressed support for the rules set forth in the proposed regulations. The other commenter raised various concerns regarding the corporate bond yield curve.<sup>2</sup> Those

<sup>2</sup> This commenter suggested that multiple yield curves be published for different segments of the corporate bond market, such as by industry, sector, or region. This suggestion is inconsistent with the requirements of section 430(h)(2)(D) and (F), under which the Secretary must publish a single corporate bond yield curve for each month. In addition, this commenter expressed concern about the impact of the proposed regulations on the determination of the applicable federal rate and any resulting impact on the tax-exempt bond market. However, pursuant to section 1274(d), the applicable federal rates are determined with reference to the yields on Treasury securities, not corporate bonds; thus, these

concerns are discussed in this Summary of Comments and Explanation of Revisions.

Under these regulations, as under Notice 2007-81, the monthly corporate bond yield curve for a month is defined as the set of spot rates at specified durations. The specified durations are at 6-month intervals ranging from 6 months through 100 years, and the spot rate at a duration is the yield (when compounded semiannually) for a bond that matures at that duration with a single payment at maturity. Each spot rate at a specified duration on the monthly corporate bond yield curve for a month is equal to the arithmetic average for each business day of that month of the spot rates at that duration on the daily corporate bond yield curves.

Under these regulations, as under Notice 2007-81, each spot rate on the daily corporate bond yield curve is derived from a forward interest rate function (that is, the projected instantaneous interest rate at each point in time) that is defined by the selection of five coefficients of B-splines determined using the bond data, taking into account certain adjustment factors.

Two of those adjustment factors, which are included in the methodology set forth in Notice 2007-81, take into account the ratings of the bonds used to develop the daily corporate bond yield curve. The third adjustment factor, which was not included in the methodology set forth in that notice, is a hump adjustment variable that peaks at 20 years maturity<sup>3</sup> and serves to capture the effects of the hump in spot rates that is often seen around 20 years maturity.

Under the methodology used in Notice 2007-81, the spot rate at a duration  $t$  could be calculated directly as the discount rate at that duration derived from the forward interest rate function. However, the addition of the hump adjustment variable under the proposed regulations means that the calculation of the spot rates from the discount function and the hump adjustment variable requires an intermediate step. This intermediate step, which was implicit in the proposed regulations, involves the determination of a par yield curve (that is, the curve in which the rate at maturity  $t$  on the curve is equal to the yield for a bond with maturity of  $t$  for

regulations have no effect on the determination of the applicable federal rates.

<sup>3</sup> The hump adjustment variable is a mathematical function that is a cubic spline in the interval from 10 years maturity through 30 years maturity made up of two polynomials with a smooth junction at 20 years maturity.

which the price is the same as the principal amount) that is calculated from the discount function and the hump adjustment variable. In response to a commenter's request that the regulations specify clear standards for the determination of the corporate bond yield curve, these regulations describe this intermediate step. Accordingly, these regulations clarify that the spot rates are determined by first setting the spot rate at duration of  $\frac{1}{2}$  year on the daily corporate bond yield curve as the yield at maturity of  $\frac{1}{2}$  year from the daily par yield curve, and then determining the spot rate for any later duration by applying an iterative process based on the spot rates at earlier durations and the daily par yield curve.

One commenter asked how the IRS handles the situation in which the rating of a bond is upgraded or downgraded during a month, or a bond is rated differently by different rating organizations for a single day. Because the monthly corporate bond yield curve is developed from a set of daily corporate bond yield curves, changes in ratings during the month are automatically taken into account. In the case of a bond that is rated differently by different ratings organizations on a single day, the bond is treated as having the average of the ratings for that day.

These regulations generally adopt the specification for the bond data set for a month under Notice 2007-81 but modify an exclusion from that bond data set. Under Notice 2007-81 and these regulations, subject to certain exclusions, the bonds that are used to construct the daily corporate bond yield curve for a business day are bonds with the following characteristics: (1) maturities longer than  $\frac{1}{2}$  year,<sup>4</sup> (2) at least two payment dates, (3) designated as corporate, (4) high quality ratings (that is, AAA, AA, or A) as of that business day from the nationally recognized statistical rating organizations,<sup>5</sup> (5) at least \$250 million in par amount outstanding on at least one day during the month, (6) payment of fixed nominal semiannual coupons and the principal amount at maturity,

<sup>4</sup> Under Notice 2007-81 and the regulations, the data for durations equal to or below  $\frac{1}{2}$  year that is used to construct the daily corporate bond yield curve consists of AA financial and AA nonfinancial commercial paper rates, as reported by the Federal Reserve Board.

<sup>5</sup> Although section 939A(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Public Law 111-203, 124 Stat. 1376, generally prohibits federal agencies from issuing regulations that apply a standard that is based on credit ratings from statistical rating organizations, this prohibition does not apply to the construction of the daily corporate bond yield curve because the use of those credit ratings is required by section 430(h)(2)(D) of the Code.

and (7) maturity not later than 30 years after that day.

Under Notice 2007–81 and these regulations, the following categories of bonds are excluded from the bond data set: (1) bonds not denominated in U.S. dollars, (2) bonds not issued by U.S. corporations, (3) bonds that are capital securities (sometimes referred to as hybrid preferred stock), (4) bonds having variable coupon rates, (5) convertible bonds, (6) bonds issued by a government-sponsored enterprise (such as the Federal National Mortgage Association), (7) asset-backed bonds, (8) puttable bonds, (9) bonds with sinking funds, and (10) bonds with a par amount outstanding below \$250 million for the day for which the daily yield curve is constructed.

Notice 2007–81 also excluded callable bonds (unless the call feature is make-whole) from the bond data set used to construct the daily corporate bond yield curve. The regulations generally retain this exclusion but narrow it. Under the proposed regulations, this exclusion does not apply if the call feature is exercisable only during the last year before maturity. This type of call feature has recently become more widely used, and the inclusion of bonds with this feature in the data set will result in a significantly larger pool of bonds that more accurately reflects the market for high quality corporate bonds.

One commenter asked how the calculation of the yield of a corporate bond is affected by any options embedded in that bond. The complexity of the calculations involved in quantifying this effect is the reason that corporate bonds with embedded put and call options have been generally excluded from the set of bonds used to determine the corporate bond yield curve in the past. However, as noted in the preceding paragraph, including bonds with a call feature that is exercisable only during the last year before maturity significantly increases the pool of bonds that are taken into account in developing the corporate bond yield curve, and the Treasury Department and the IRS have determined that this feature does not significantly affect the yields of these bonds. Accordingly, no adjustment will be made to reflect the effect of this feature on bond yields.

#### Applicability Date

These regulations apply for purposes of determining the corporate bond yield curve under section 430(h)(2)(D) for months that begin on or after February 1, 2024.

#### Statement of Availability of IRS Documents

IRS Revenue Rulings, Revenue Procedures, and Notices cited in this document are published in the Internal Revenue Bulletin (or Cumulative Bulletin) and are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, or by visiting the IRS website at [www.irs.gov](http://www.irs.gov).

#### Special Analyses

##### *Regulatory Planning and Review* (*Executive Orders 12866 and 13563*)

Pursuant to the Memorandum of Agreement, Review of Treasury Regulations under Executive Order 12866 (June 9, 2023), tax regulatory actions issued by the IRS are not subject to the requirements of section 6 of Executive Order 12866, as amended. Therefore, a regulatory impact assessment is not required.

##### *Regulatory Flexibility Act*

It is hereby certified that this rule will not have a significant economic impact on a substantial number of small entities. The vast majority of plan sponsors of defined benefit plans that are subject to section 430 choose to use the segment rates under section 430(h)(2)(C), rather than the corporate bond yield curve under section 430(h)(2)(D), to determine minimum required contributions. Furthermore, most of the plan sponsors who choose to use the corporate bond yield curve for this purpose are not small employers. Therefore, the methodology set forth in these regulations for constructing the corporate bond yield curve will not have a significant effect on minimum required contributions for small employers. In addition, the insurance companies that are required to use a modified version of the corporate bond yield curve to discount unpaid losses are typically not small employers. Accordingly, a regulatory flexibility analysis under the Regulatory Flexibility Act is not required.

Pursuant to section 7805(f) of the Code, the proposed regulations that preceded these regulations were submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on their impact on small business, and no comments were received.

##### *Unfunded Mandates Reform Act*

Section 202 of the Unfunded Mandates Reform Act of 1995 requires that agencies assess anticipated costs and benefits and take certain other actions before issuing a final rule that

includes any Federal mandate that may result in expenditures in any one year by a State, local, or Tribal government, in the aggregate, or by the private sector, of \$100 million in 1995 dollars, updated annually for inflation. These regulations do not include any Federal mandate that may result in expenditures by State, local, or Tribal governments, or by the private sector in excess of that threshold.

##### *Executive Order 13132: Federalism*

Executive Order 13132 (Federalism) prohibits an agency from publishing any rule that has federalism implications if the rule either imposes substantial, direct compliance costs on State and local governments, and is not required by statute, or preempts State law, unless the agency meets the consultation and funding requirements of section 6 of the Executive order. These regulations do not have federalism implications, impose substantial direct compliance costs on State and local governments, or preempt State law within the meaning of the Executive order.

##### *Congressional Review Act*

Pursuant to the Congressional Review Act (5 U.S.C. 801 *et seq.*), the Office of Information and Regulatory Affairs designated this rule as not a major rule, as defined by 5 U.S.C. 804(2).

##### *Drafting Information*

The principal authors of these regulations are Arslan Malik and Linda S.F. Marshall of the Office of Associate Chief Counsel (Employee Benefits, Exempt Organizations, and Employment Taxes). However, other personnel from the Treasury Department and the IRS participated in the development of these regulations.

#### List of Subjects in 26 CFR Part 1

Income taxes, Reporting and recordkeeping requirements.

#### Adoption of Amendments to the Regulations

Accordingly, the Treasury Department and the IRS amend 26 CFR part 1 as follows:

#### PART 1—INCOME TAXES

■ **Paragraph 1.** The authority citation for part 1 continues to read in part as follows:

**Authority:** 26 U.S.C. 7805 \* \* \*

■ **Par. 2.** Section 1.430(h)(2)–1 is amended by:

- 1. Removing the phrase “and transition rules” in the last sentence of paragraph (a)(1);
- 2. Revising paragraph (b)(2);

- 3. Removing the last sentence in paragraph (c)(1);
- 4. In paragraphs (c)(2)(i) through (iii), removing the phrase “under the transition rule of paragraph (h)(4) of this section” and adding the phrase “under the interest rate stabilization rules in section 430(h)(2)(C)(iv)” in its place;
- 5. Revising paragraph (d);
- 6. Removing paragraph (e)(3) and redesignating paragraph (e)(4) as paragraph (e)(3);
- 7. In newly redesignated paragraph (e)(3)(ii), removing the phrase “this paragraph (e)(4)” and adding the phrase “this paragraph (e)(3)” in its place;
- 8. Redesignating paragraph (e)(5) as paragraph (e)(4); and
- 9. Revising paragraph (h).

The revisions read as follows:

**§ 1.430(h)(2)–1 Interest rates used to determine present value.**

\* \* \* \* \*

(b) \* \* \*

(2) *Benefits payable within 5 years.* In the case of benefits expected to be payable during the 5-year period beginning on the valuation date for the plan year, the interest rate used in determining the present value of the benefits that are included in the target normal cost and the funding target for the plan is the first segment rate with respect to the applicable month, as described in paragraph (c)(2)(i) of this section.

\* \* \* \* \*

(d) *Monthly corporate bond yield curve*—(1) *In general*—(i) *Construction of monthly corporate bond yield curve.* For purposes of this section, the monthly corporate bond yield curve for a month is defined as the set of spot rates at specified durations. The specified durations are at 6-month intervals ranging from 6 months through 100 years and the spot rate at a duration is the yield (when compounded semiannually) for a bond that matures at that duration with a single payment at maturity. The monthly corporate bond yield curve is constructed as the average of the spot rates from the set of daily corporate bond yield curves as specified in paragraph (d)(1)(ii) of this section. Each daily corporate bond yield curve is constructed using the methodology set forth in paragraph (d)(2) of this section based on the data described in paragraph (d)(3) of this section. The yield curve for each month will be published in the Internal Revenue Bulletin. See § 601.601(d) of this chapter.

(ii) *Monthly corporate bond yield curve constructed through averaging.* Each spot rate at a specified duration on the monthly corporate bond yield curve

for a month is equal to the arithmetic average, for each business day of that month, of the spot rates at that duration on the daily corporate bond yield curves.

(2) *Construction of the daily corporate bond yield curve*—(i) *In general*—(A) *Calculation of spot rates.* The spot rate at duration of ½ year on the daily corporate bond yield curve is set equal to the yield at maturity of ½ year from the daily par yield curve described in paragraph (d)(2)(i)(B) of this section. The spot rate for any later duration on the daily corporate bond yield curve is determined by applying an iterative process based on the spot rates at earlier durations and the daily par yield curve.

(B) *Calculation of par yield curve.* The daily par yield curve (that is, the curve in which the rate at maturity  $t$  on the curve is equal to the yield for a bond with maturity of  $t$  for which the price is the same as the principal amount) is calculated from the discount function described in paragraph (d)(2)(i)(C) of this section and the hump adjustment variable described in paragraph (d)(2)(iii)(D) of this section.

(C) *Derivation of discount function.* The discount function for a day at duration  $t$  (denoted  $d(t)$ ) is derived from the forward interest rate function as described in paragraph (d)(2)(ii) of this section (denoted  $f(z)$ ) using the following equation:

$$d(t) = \exp\left(-\int_0^t f(z)dz\right)$$

(ii) *Determination of forward interest rates*—(A) *In general.* The forward interest rate function used to derive the discount function is determined as a series of cubic polynomials (referred to as a cubic spline) that have a smooth junction at specified knot points (maturities of 0, 1.5, 3, 7, 15, and 30 years). The requirement that the polynomials have a smooth junction at a knot point is satisfied if the two polynomials that are meeting at the knot have the same value, the same derivative, and the same second derivative at that knot point.

(B) *Constraints on the forward interest function.* The following three constraints are placed on the forward interest rate function—

(1) The second derivative of the function is set to 0 at maturity 0.

(2) The value of the forward interest rate function at and after 30 years is constrained to equal its average value from 15 to 30 years.

(3) The derivative of the forward interest rate function is set to 0 at maturity 30 years.

(iii) *Parameters for daily bond price model*—(A) *B-spline coefficients.* The assumed cubic spline for the forward interest rate function can be described as a linear combination of B-splines, with five parameters, which are determined taking into account the two coefficients for the bond-quality adjustment variables described in paragraphs (d)(2)(iii)(B) and (C) of this section and the coefficient for the hump adjustment variable described in paragraph (d)(2)(iii)(D) of this section. The five parameters and three coefficients are determined using the bond data weighted as described in paragraph (d)(2)(iv) of this section. After this weighting of the bond data, the five parameters and three coefficients are chosen to minimize the sum of the squared differences between the bid price for each of the bonds (or ask price for commercial paper) and the price estimated for each of those bonds determined using the specified parameters and coefficients, and taking into account the bond’s coupon rate, number of years until maturity, and rating.

(B) *Adjustment factor for share of bonds that are AA-rated.* The first adjustment variable is based on the proportion of bonds that are rated AA within the universe of bonds in the data set that are rated AA or AAA, weighted by par value. In the case of an AAA-rated bond the adjustment variable described in this paragraph (d)(2)(iii)(B) is equal to the product of the proportion described in the preceding sentence and the number of years until maturity for the bond. In the case of an AA-rated bond the adjustment variable described in this paragraph (d)(2)(iii)(B) is equal to the product of (1- that proportion) and the number of years until maturity for the bond. In the case of an A-rated bond, the adjustment variable described in this paragraph (d)(2)(iii)(B) is 0.

(C) *Adjustment factor for share of bonds that are A-rated.* The second adjustment variable is based on the proportion of bonds rated A within the universe of bonds in the data set, weighted by par value. In the case of an AAA-rated bond or an AA-rated bond, the adjustment variable described in this paragraph (d)(2)(iii)(C) is equal to the product of the proportion described in the preceding sentence and the number of years until maturity for the bond. In the case of an A-rated bond, the adjustment variable described in this paragraph (d)(2)(iii)(C) is equal to the product of (1- that proportion) and the number of years until maturity for the bond.

(D) *Hump adjustment variable.* The hump adjustment variable is a

mathematical function that is a cubic spline in the interval from 10 years maturity through 30 years maturity made up of two polynomials with a smooth junction (as described in paragraph (d)(2)(ii)(A) of this section) at 20 years maturity. The spline rises from 0 at 10 years maturity to 1.0 at 20 years maturity, then falls back down to 0 at 30 years maturity. The hump adjustment variable is 0 for maturities less than 10 years and maturities greater than 30 years.

(iv) *Weighting of bond data.* The bond data are weighted in three steps. In the first step, equal weights are assigned to the commercial paper rates at the short end of the curve, and the par amounts outstanding of all the bonds are rescaled so that their sum equals the sum of the weights for commercial paper. In the second step, the squared price difference for each commercial paper rate is multiplied by the commercial paper weight, and the squared price difference for each bond is multiplied by the bond's rescaled par amount outstanding. In the third step, applicable for bonds with duration greater than 1, the weighted squared price difference for each bond from the second step is divided by the bond's duration.

(3) *Data used*—(i) *In general.* Except as otherwise provided in this paragraph (d)(3), the bonds that are used to construct the daily corporate bond yield curve for a business day are bonds with maturities longer than ½ year, with at least two payment dates, and that:

- (A) Are designated as corporate;
- (B) Have high quality ratings (AAA, AA, or A) as of that business day from the nationally recognized statistical rating organizations;
- (C) Have at least \$250 million in par amount outstanding on at least one day during the month;
- (D) Pay fixed nominal semiannual coupons and the principal amount at maturity; and
- (E) Mature not later than 30 years after that business day.

(ii) *Excluded bonds.* The following types of bonds are not used to construct the daily corporate bond yield curve for a date:

- (A) Bonds not denominated in U.S. dollars;
- (B) Bonds not issued by U.S. corporations;
- (C) Bonds that are capital securities (sometimes referred to as hybrid preferred stock);
- (D) Bonds with variable coupon rates;
- (E) Convertible bonds;
- (F) Bonds issued by a government-sponsored enterprise (such as the Federal National Mortgage Association);

(G) Asset-backed bonds;

(H) Callable bonds, unless the call feature is make-whole or the call feature is exercisable only during the last year before maturity;

(I) Puttable bonds;

(J) Bonds with sinking funds; and

(K) Bonds with an outstanding par amount below \$250 million for the day for which the daily yield curve is constructed.

(iii) *Durations equal to or below ½ year.* The data for durations equal to or below ½ year that is used to construct the daily corporate bond yield curve consists of AA financial and AA nonfinancial commercial paper rates, as reported by the Federal Reserve Board.

\* \* \* \* \*

(h) *Applicability date.* This section applies for months that begin on or after February 1, 2024. For rules that apply for earlier periods, see 26 CFR 1.430(h)(2)–1 revised as of April 1, 2023.

**Douglas W. O'Donnell,**

*Deputy Commissioner for Services and Enforcement.*

Approved: December 27, 2023.

**Lily Batchelder,**

*Assistant Secretary of the Treasury (Tax Policy).*

[FR Doc. 2024–00552 Filed 1–11–24; 8:45 am]

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## PENSION BENEFIT GUARANTY CORPORATION

### 29 CFR Parts 4071 and 4302

RIN 1212–AB45

### Adjustment of Civil Penalties for Inflation

**AGENCY:** Pension Benefit Guaranty Corporation.

**ACTION:** Final rule.

**SUMMARY:** The Pension Benefit Guaranty Corporation is required to amend its regulations annually to adjust for inflation the maximum civil penalty for failure to provide certain notices or other material information and for failure to provide certain multiemployer plan notices.

**DATES:**

*Effective date:* This rule is effective on January 12, 2024.

*Applicability date:* The increases in the civil monetary penalties under sections 4071 and 4302 of the Employee Retirement Income Security Act provided for in this rule apply to such penalties assessed after January 12, 2024.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:**

**Executive Summary**

*Purpose of the Regulatory Action*

This rule is needed to carry out the requirements of the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 and Office of Management and Budget guidance M–24–07. The rule adjusts, as required for 2024, the maximum civil penalties under 29 CFR parts 4071 and 4302 that the Pension Benefit Guaranty Corporation (PBGC) may assess for failure to provide certain notices or other material information and certain multiemployer plan notices.

PBGC's legal authority for this action comes from the Federal Civil Penalties Inflation Adjustment Act of 1990 as amended by the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 and from sections 4002(b)(3), 4071, and 4302 of the Employee Retirement Income Security Act of 1974 (ERISA).

*Major Provisions of the Regulatory Action*

This rule adjusts as required by law the maximum civil penalties that PBGC may assess under sections 4071 and 4302 of ERISA. The new maximum amounts are \$2,670 for section 4071 penalties and \$356 for section 4302 penalties.

**Background**

PBGC administers title IV of ERISA. Title IV has two provisions that authorize PBGC to assess civil monetary penalties.<sup>1</sup> Section 4302, added to ERISA by the Multiemployer Pension Plan Amendments Act of 1980, authorizes PBGC to assess a civil penalty of up to \$100 a day for failure to provide a notice under subtitle E of title IV of ERISA (dealing with multiemployer plans). Section 4071, added to ERISA by the Omnibus Budget Reconciliation Act of 1987, authorizes

<sup>1</sup> Under the Federal Civil Penalties Inflation Adjustment Act of 1990, a penalty is a civil monetary penalty if (among other things) it is for a specific monetary amount or has a maximum amount specified by Federal law. Title IV also provides (in section 4007) for penalties for late payment of premiums, but those penalties are neither in a specified amount nor subject to a specified maximum amount.