AIRAC date	State	City	Airport	FDC No.	FDC date	Subject
12–Oct–17	MT	Libby	Libby	7/6820	8/22/17	This NOTAM, published in TL 17–21, is hereby rescinded in its entirety.
12–Oct–17	AK	Central	Central	7/0453	8/29/17	RNAV (GPS) RWY 8, Orig-A.
12–Oct–17	AK	Central	Central	7/0454	8/29/17	RNAV (GPS) RWY 26, Orig-A.
12–Oct–17	AK	Homer	Homer	7/0473	8/29/17	RNAV (GPS) Y RWY 4, Amdt 1B.
12–Oct–17	AK	Homer	Homer	7/0475	8/29/17	LOC/DME RWY 4, Amdt 10A.
12–Oct–17	AK	Koliganek	Koliganek	7/0477	8/29/17	RNAV (GPS) RWY 27, Amdt 1.
12–Oct–17	AK	Kaltag	Kaltag	7/0478	8/29/17	RNAV (GPS) RWY 3, Orig-C.
12–Oct–17	AK	Mountain Village	Mountain Village	7/0479	8/29/17	RNAV (GPS) RWY 20, Amdt 1B.
12–Oct–17	AK	Pilot Point	Pilot Point	7/0480	8/29/17	RNAV (GPS) RWY 25, Orig-B.
12–Oct–17	AK	Pilot Point	Pilot Point	7/0482	8/29/17	RNAV (GPS) RWY 7, Orig-B.
12–Oct–17	AK	Ruby	Ruby	7/0492	8/29/17	RNAV (GPS) RWY 3, Amdt 1A.
12–Oct–17	CA	Bishop	Bishop	7/0499	8/29/17	RNAV (GPS) Y RWY 12, Orig-B.
12–Oct–17	CA	Bishop	Bishop	7/0500	8/29/17	RNAV (GPS) Z RWY 12, Orig-C.
12–Oct–17	CA	Davis	University	7/0503	8/29/17	RNAV (GPS) RWY 17, Orig-B.
12–Oct–17	CA	Bakersfield	Bakersfield Muni	7/0506	8/29/17	RNAV (GPS) RWY 34, Orig-B.
12–Oct–17	CA	San Diego/El Cajon	Gillespie Field	7/0509	8/29/17	RNAV (GPS) RWY 17, Amdt 2D.
12–Oct–17	CO	Meeker	Meeker Coulter Fld	7/0513	8/29/17	RNAV (GPS) RWY 3, Amdt 3B.
12–Oct–17	OR	Bend	Bend Muni	7/0515	8/29/17	RNAV (GPS) Y RWY 16, Amdt 2A.
12–Oct–17	OR	Mc Minnville	Mc Minnville Muni	7/0517	8/29/17	RNAV (GPS) RWY 4, Orig-A.
12–Oct–17	OR	Tillamook	Tillamook	7/0519	8/29/17	RNAV (GPS) RWY 13, Orig-B.
12–Oct–17	OK	Goldsby	David Jay Perry	7/1922	8/14/17	VOR/DME RWY 31, Amdt 2.
12–Oct–17	GA	Dalton	Dalton Muni	7/3954	8/22/17	ILS OR LOC RWY 14, Amdt 1.
12–Oct–17	MT	Libby	Libby	7/3967	8/22/17	GPS–A, Orig-C.
12–Oct–17	WA	Seattle	Boeing Field/King County Intl.	7/4152	8/22/17	ILS OR LOC RWY 31L, Amdt 1B.

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DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[TD9826]

RIN 1545–BM71

Mortality Tables for Determining Present Value Under Defined Benefit Pension Plans

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Final regulations.

SUMMARY: This document contains final regulations prescribing mortality tables to be used by most defined benefit pension plans. The tables specify the probability of survival year-by-year for an individual based on age, gender, and other factors. This information is used (together with other actuarial assumptions) to calculate the present value of a stream of expected future benefit payments for purposes of determining the minimum funding requirements for a defined benefit plan. These mortality tables are also relevant in determining the minimum required amount of a lump-sum distribution from such a plan. In addition, this document contains final regulations updating the requirements that a plan sponsor must meet to obtain IRS approval to use mortality tables specific to the plan for minimum funding purposes (instead of using the generally applicable mortality tables). These regulations affect participants in, beneficiaries of, employers maintaining, and administrators of certain retirement plans.

DATES:

Effective date: These regulations are effective on October 5, 2017.

Applicability date: These regulations apply to plan years beginning on or after January 1, 2018.

FOR FURTHER INFORMATION CONTACT: Concerning the regulations, Arslan Malik at (202) 317–6700; concerning the construction of the base mortality tables and the static mortality tables for 2018, Michael Spaid at (206) 946–3480.

SUPPLEMENTARY INFORMATION:

Background

A. Generally Applicable Mortality Tables

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.[1] 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)(3) contains rules regarding the mortality tables to be used under section 430. Under section 430(h)(3)(A), except as provided in section 430(h)(3)(C) or (D), the Secretary is to prescribe by regulation mortality tables to be used in determining any present value or making any computation under section 430. Those mortality tables must be based on the actual mortality experience of pension plan participants and projected trends in that experience. In prescribing those mortality tables, the Secretary is required to take into account results of available independent studies of mortality of individuals covered by pension plans.[2] Under section

[1] Section 302 of the Employee Retirement Income Security Act of 1974, Public Law 93–406, 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 additional funding rules for defined benefit plans (other than multiemployer plans) that are parallel to those in section 430 of the Code. Under section 101 of Reorganization Plan No. 4 of 1978 (43 FR 47713) and section 302 of ERISA, 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.

[2] The standards prescribed for developing these mortality tables are the same as the standards that are prescribed for developing mortality tables for multiemployer plans under section 431(c)(6)(D)(iv)(II) (which are used to determine current liability as part of the calculation of the minimum full funding limitation under section 431(c)(6)(B)). These standards also apply for

430(h)(3)(B), the Secretary is required to make revisions to any table in effect under section 430(h)(3)(A) at least every 10 years to reflect actual mortality experience of pension plan participants and projected trends in that experience.

Section 430(h)(3)(C) prescribes rules for a plan sponsor's use of substitute mortality tables reflecting the specific mortality experience of a plan's population instead of using the generally applicable mortality tables. Under section 430(h)(3)(C), the plan sponsor may request the Secretary's approval to use plan-specific substitute mortality tables that meet requirements specified in the statute.

Section 430(h)(3)(D) provides for the use of separate mortality tables with respect to certain individuals who are entitled to benefits on account of disability. These separate mortality tables are permitted to be used with respect to disabled individuals in lieu of the generally applicable mortality tables provided pursuant to section 430(h)(3)(A) or the substitute mortality tables under section 430(h)(3)(C). The Secretary is to establish separate tables for individuals with disabilities occurring in plan years beginning before January 1, 1995, and in later plan years, with the mortality tables for individuals with disabilities occurring in those later plan years applying only to individuals who are disabled within the meaning of Title II of the Social Security Act.

Final regulations (TD 9419) under section 430(h)(3) were published in the **Federal Register** for July 31, 2008 (73 FR 44632). The final regulations issued in 2008 include rules regarding generally applicable mortality tables, which are set forth in § 1.430(h)(3)–1 (the 2008 general mortality table regulations), as well as rules regarding substitute mortality tables, which are set forth in § 1.430(h)(3)–2 (the 2008 substitute mortality table regulations).

The 2008 general mortality table regulations prescribe a base mortality table and a set of mortality improvement rates that are used to project mortality rates for years after the year 2000. The mortality tables included in those regulations are based on the mortality tables included in the RP–2000 Mortality Tables Report (based on an experience study for the period 1990–1994 and referred to in this preamble as the RP–2000 mortality tables) released by the Society of Actuaries in July 2000 (updated in May 2001). The mortality improvement rates included in those regulations are the Scale AA Projection Factors (which are based on mortality improvement for the period 1977 through 1993), which were included in the RP–2000 Mortality Tables Report for use in conjunction with the RP–2000 mortality tables.[3]

The 2008 general mortality table regulations prescribe the use of generational mortality tables,[4] but include an option for plans to use static mortality tables. The static mortality tables (which are updated annually) use a single mortality table for all years of birth to approximate the present value that would be determined using the generational mortality tables. The 2008 general mortality table regulations set forth static mortality tables for valuation dates occurring in 2008 and provide that static mortality tables for valuation dates occurring in later years will be published in the Internal Revenue Bulletin. Static mortality tables for valuation dates occurring during 2009–2013 were published in Notice 2008–85 (2008–1 C.B. 747 (March 28, 2008)). Updated static mortality tables for valuation dates occurring during 2014 and 2015 were published in Notice 2013–49 (2013–32 I.R.B. 127 (July 10, 2013)). Updated static mortality tables for valuation dates occurring in 2016 and 2017 were published in Notice 2015–53 (2015–33 I.R.B. 190 (July 31, 2015)) and Notice 2016–50 (2016–38 I.R.B. 371 (September 2, 2016)), respectively.

Notice 2013–49 also requested comments on whether a separate disability mortality table is still warranted with respect to participants who became disabled before 1995. In addition, Notice 2013–49 noted that the Treasury Department (Treasury) and the IRS were aware that the Society of Actuaries was conducting a mortality study of pension plan participants and specifically requested comments on whether other studies of actual mortality experience of pension plan participants and projected trends of that experience were available that should be considered for use in developing mortality tables for future use under section 430(h)(3).

In October 2014, the Retirement Plans Experience Committee (RPEC) of the Society of Actuaries issued a new mortality study of participants in private pension plans. The study, which is based on mortality experience for the years 2004 to 2008, is referred to as the RP–2014 Mortality Tables Report (and sets forth mortality tables that are referred to as the RP–2014 mortality tables). The RP–2014 Mortality Tables Report, as revised November 2014, is available at *www.soa.org/Research/Experience-Study/pension/research-2014-rp.aspx.* At the same time, RPEC issued a companion study of mortality improvement, referred to as the Mortality Improvement Scale MP–2014 Report (which sets forth mortality improvement rates that are referred to as the Scale MP–2014 rates). As described in the Mortality Improvement Scale MP–2014 Report (available at *www.soa.org/Research/Experience-Study/pension/research-2014-mp.aspx*), the Scale MP–2014 rates were based on mortality improvement experience for the general population through 2009.

In October 2015, RPEC released an update to the Scale MP–2014 rates. The updated rates, referred to as the Scale MP–2015 rates, were released as part of the Mortality Improvement Scale MP–2015 Report (available at *https://www.soa.org/Research/Experience-Study/Pension/research-2015-mp.aspx*). The Scale MP–2015 rates were created using historical data for mortality improvement for the general population through 2011 and the same model and parameters that were used to produce the Scale MP–2014 rates. In conjunction with the release of the updated rates, RPEC indicated the intent to reflect the latest data available by providing future annual updates to the model as soon as practicable following the public release of updated data upon which the model is constructed.

In October 2016, RPEC released a further update to the Scale MP–2014 rates, which are referred to as the Scale MP–2016 rates. The Scale MP–2016 rates take into account data for mortality improvement for the general population for 2012 and 2013, along with an estimate of mortality rates for 2014. As described in the Mortality Improvement Scale MP–2016 Report (available at *www.soa.org/Research/Experience-Study/Pension/research-2016-mp.aspx*), in developing the Scale MP–2016 rates, RPEC changed some of the parameters from those that were used in developing the Scale MP–2014 rates.

B. Plan-Specific Substitute Mortality Tables

Section 430(h)(3)(C) permits a plan sponsor to request approval by the Secretary to use plan-specific substitute mortality tables in lieu of the generally applicable mortality tables. If the Secretary determines that the proposed

purposes of determining current liability as part of the calculation of the minimum full funding limitation under section 433(c)(7)(C) for a CSEC plan (as defined in section 414(y)).

[3] The RP–2000 Mortality Tables Report is available at *https://www.soa.org/experience-studies/2000-2004/research-rp-2000-mortality-tables/.*

[4] Generational mortality tables are a series of mortality tables, one for each year of birth, each of which fully reflects projected trends in mortality for individuals who are born in a particular year.

tables meet the statutory standards and approves the request, the substitute mortality tables are used to determine present values and make computations under section 430 during the period of consecutive plan years (not to exceed 10) specified in the request. Under the statute, a substitute mortality table may be used for a plan, only if: (1) The plan has a sufficient number of plan participants and has been maintained for a sufficient period of time to have credible mortality information necessary to create a substitute mortality table; and (2) the table reflects the actual mortality experience of the plan's participants and projected trends in general mortality experience. Except as provided by the Secretary, a plan sponsor may not use substitute mortality tables for any plan unless substitute mortality tables are established and used for each plan maintained by the plan sponsor or a member of its controlled group.

The 2008 substitute mortality table regulations provide for review by the Commissioner of a plan sponsor's request for approval to use substitute mortality tables. Under those regulations, to use substitute mortality tables with respect to a plan, a plan sponsor must submit a written request to the Commissioner that demonstrates that those substitute mortality tables comply with applicable requirements. A request for approval to use substitute mortality tables must specify the first plan year and the term of years for which the tables are requested to be used.

Substitute mortality tables may not be used for a plan year unless the plan sponsor submits the request at least 7 months before the first day of the first plan year for which the substitute mortality tables are to apply. The Commissioner has 180 days to review a request for approval to use substitute mortality tables. If the Commissioner does not deny the request within this 180-day period, the request is deemed to have been approved unless the Commissioner and the plan sponsor have agreed to extend that period.

Under the 2008 substitute mortality table regulations, substitute mortality tables for a plan must be established separately for each gender, and a substitute mortality table may be established for a gender only if there is credible mortality experience with respect to that gender. If the mortality experience for one gender is credible but the mortality experience for the other gender is not credible, the substitute mortality tables are used for the gender that has credible mortality experience, and the generally applicable mortality tables are used for the gender that does not have credible mortality experience.

Under the 2008 substitute mortality table regulations, there is credible mortality experience with respect to a gender if and only if, over the period covered by the experience study, there are at least 1,000 deaths of individuals of that gender.[5] For this purpose, the minimum length of the experience study period is 2 years and the maximum length of the experience study period generally is 5 years. Furthermore, the last day of the final year reflected in the experience data must be less than three years before the first day of the first plan year for which the substitute mortality tables are to apply.

Under the 2008 substitute mortality table regulations, development of substitute mortality tables for a plan requires creation of a base table and identification of a base year, which are then used to determine the substitute mortality tables. The base table must be developed from a study of the mortality experience of the plan using amounts-weighted data. Under those regulations, a plan's substitute mortality tables must be generational mortality tables that are determined using the base mortality tables developed from the experience study and the Scale AA Projection Factors (that is, using the same basis for mortality improvement that is used under 2008 general mortality table regulations).

Under the 2008 substitute mortality table regulations, the use of substitute mortality tables is terminated early in certain circumstances, including pursuant to a replacement of the generally applicable mortality tables. The early termination pursuant to such a replacement must be effective as of a date specified in guidance published in the Internal Revenue Bulletin.

Rev. Proc. 2008–62 (2008–2 C.B. I.R.B. 935) sets forth the procedure by which a plan sponsor of a defined benefit plan may request and obtain approval to use plan-specific substitute mortality tables in accordance with section 430(h)(3)(C). The revenue procedure specifies the information that must be provided in a request for approval to use substitute mortality tables and specifies two alternative acceptable methods of construction for base substitute mortality tables. Under section 11 of Rev. Proc. 2008–62, a base table for a population may be created from the unadjusted base table for the population through the application of a graduation method generally used by the actuarial profession in the United States.[6] Section 12 of Rev. Proc. 2008–62 provides for an alternative method of constructing a base table through the application of a fixed percentage to the mortality rates of a standard mortality table, projected to the base year.

Section 503 of the Bipartisan Budget Act of 2015, Public Law 114–74 (129 Stat. 584 (2015)), which was enacted November 2, 2015, provides for changes to the rules on the use of substitute mortality tables. Under that section, ''the determination of whether plans have credible information shall be made in accordance with established actuarial credibility theory, which (1) is materially different from the rules under [section 430(h)(3)(C)], including Revenue Procedure 2007–37,[7] that are in effect on [November 2, 2015]; and (2) permits the use of tables that reflect adjustments to the tables described in [section 430(h)(3)(A) and (B)]'' if those adjustments are based on the actual experience of the pension plan maintained by the plan sponsor.

Proposed regulations regarding revisions to mortality tables under section 430(h)(3) (REG–112324–15) were published in the **Federal Register** on December 29, 2016 (81 FR 95911). The proposed regulations contain revisions to the generally applicable mortality tables (based on the RP–2014 Mortality Tables Report), as well as new rules regarding substitute mortality tables that reflect section 503 of the Bipartisan Budget Act of 2015. Comments were received on the proposed regulations, and a public hearing was held on April 13, 2017. After consideration of the comments, the proposed regulations are adopted by this Treasury decision subject to certain changes, the most significant of which are described in this preamble under the heading Explanation of Provisions.

Explanation of Provisions

I. Overview

These final regulations revise the methodology for developing the

[5] The 1,000-death threshold for credible mortality experience under the regulations was intended to provide a high degree of confidence that the plan's past mortality experience will be predictive of its future mortality, and is consistent with relevant actuarial literature (see, for example, Thomas N. Herzog, Introduction to Credibility Theory (1999); Stuart A. Klugman, *et. al.,* Loss Models: From Data to Decisions (2004)).

[6] The revenue procedure identifies the Whittaker-Henderson Type B graduation method or the Karup-King graduation method as acceptable methods.

[7] Rev. Proc. 2007–37, 2007–1 CB 1433, was not in effect on November 2, 2015. It was issued in 2007 in conjunction with proposed regulations regarding substitute mortality tables (REG–143601–06, 72 FR 29456) and was replaced by Rev. Proc. 2008–62 when those regulations were finalized in 2008.

generally applicable mortality tables that are used to determine present value or make any computation under section 430. Pursuant to section 417(e)(3)(B), a modified version of these tables will be used for purposes of determining the amount of a single-sum distribution (or another accelerated form of distribution). This revised methodology for developing tables under section 430(h)(3)(A) is being issued pursuant to the requirement under section 430(h)(3)(B) to revise the mortality tables used under section 430 at least every 10 years to reflect the actual mortality experience of pension plan participants and projected trends in that experience. As under the 2008 general mortality table regulations, the methodology involves the separate determination of base tables and the projection of mortality improvement.

These regulations also revise the rules regarding substitute mortality tables. This revision is being made pursuant to section 503 of the Bipartisan Budget Act of 2015, which requires that the determination of whether a plan has credible information be made in accordance with established actuarial credibility theory. Following enactment of that requirement, Treasury and the IRS undertook a review of actuarial literature regarding credibility theory and consulted with experts on that topic from the Society of Actuaries. Based on that review and analysis, these regulations set forth a method for developing substitute mortality tables that is materially different from the method that is required under the 2008 substitute mortality table regulations and the associated revenue procedure. The method for developing substitute mortality tables that is set forth in the final regulations is simpler than the graduation method that applies under the 2008 substitute mortality table regulations and also accommodates the use of substitute mortality tables for plans with smaller populations that have only partially credible mortality experience.

II. Generally Applicable Mortality Tables

A. Base Mortality Tables

Under these regulations, the generally applicable base mortality tables are derived from the tables contained in the RP–2014 Mortality Tables Report. In response to Notice 2013–49, commenters generally recommended that the RP–2014 mortality tables form the basis for the mortality tables used under section 430. After reviewing the RP–2014 mortality tables, the accompanying report published by the Society of Actuaries, and related public comments, Treasury and the IRS determined that the experience study used to develop the RP–2014 mortality tables is the best available study of the actual mortality experience of pension plan participants (other than disabled individuals). As a result, Treasury and the IRS issued proposed regulations that use the RP–2014 mortality tables as the foundation for the base mortality tables used to project the mortality rates of pension plan participants (other than disabled individuals).[8]

Most commenters supported the selection of the base mortality tables in the proposed regulations. One commenter opposed this selection but did not suggest any alternative. Accordingly, the base mortality tables under these final regulations are the same as in the proposed regulations. Like the mortality tables provided in the 2008 general mortality table regulations, the mortality tables under these final regulations are gender-distinct because of significant differences between expected male mortality and expected female mortality. In addition, as under the 2008 general mortality table regulations, these regulations set forth separate mortality rates for annuitants and nonannuitants.

The base tables that are set forth in these final regulations are used to develop the mortality tables for future years. These base tables have a base year of 2006 (the central year of the experience study used to develop the mortality tables in the RP–2014 Mortality Tables Report). These base tables generally have the same mortality rates as the RP–2014 mortality tables after factoring out the mortality improvements from 2007 to 2014 (calculated using the Scale MP–2014 rates). However, these base tables also include nonannuitant mortality rates for ages below age 18 and above age 80 and annuitant mortality rates for ages below age 50. This generally is the same approach that was used to develop the base tables included in the 2008 general mortality table regulations.

B. Mortality Improvement and Static Mortality Tables

The proposed regulations, like the 2008 general mortality table regulations, provided that expected trends in mortality experience must be taken into account through the use of either generational or annually updated static mortality tables. In accordance with section 430(h)(3)(B), the proposed regulations updated the mortality improvement rates used under the 2008 general mortality table regulations. To select up-to-date mortality improvement rates, Treasury and the IRS reviewed the Mortality Improvement Scale MP–2014 Report, related public comments, the data sources cited in those comments, the Mortality Improvement Scale MP–2015 Report, the Mortality Improvement Scale MP–2016 Report, and other published data sources.[9] After that review, Treasury and the IRS issued proposed regulations that applied the MP–2016 rates to develop mortality tables for use in 2018.

Some commenters supported the selection of the mortality improvement rates in the proposed regulations, while other commenters expressed concerns about the selection of those rates. Those commenters who expressed concern about the mortality improvement rates noted that the selection of a long-term mortality improvement rate assumption is inherently speculative and cautioned against using the assumptions regarding the rate of long-term mortality improvement that were used by RPEC (which are a long-term rate of 1.0 percent per year for ages 85 and younger, grading down to 0.85 percent at age 95, and further grading down to 0 at age 115). Instead of the RPEC assumptions, these commenters suggested that Treasury and the IRS use assumptions regarding the rate of long-term mortality improvement that are closer to the rates that are used by the Office of the Actuary within the Social Security Administration. Those rates also vary by age group, and the documentation accompanying the 2017 report of the Board of Trustees of the Federal Old-Age, Survivors Insurance and Disability Insurance Trust Funds indicates that, under the intermediate assumptions (which reflect the Trustees' best estimates of future experience), the weighted average over all ages of those assumed long-term mortality improvement rates is 0.72 percent per year.[10]

Treasury and the IRS carefully considered the assumptions used by Office of the Actuary within the Social Security Administration and compared it with the long-term assumptions

[8] Mortality tables that may be used as an alternative to the tables provided in these regulations with respect to certain disabled individuals are provided in Rev. Rul. 96–7 (1996–1 CB 59).

[9] See the August 2013 Literature Review and Assessment of Mortality Improvement Rates in the U.S. Population: Past Experience and Future Long-Term Trends, available at *www.soa.org/Files/Research/Exp-Study/research-2013-lit-review.pdf.*

[10] See ''The Long-Range Demographic Assumptions for the 2017 Trustees Report,'' Office of the Chief Actuary, Social Security Administration (July 13, 2017), at Mortality, page 17 (available at *https://www.ssa.gov/OACT/TR/2017/2017_Long-Range_Demographic_Assumptions.pdf*).

currently recommended by RPEC. In evaluating the merits of each, Treasury and the IRS took into consideration the views of the Technical Panel of the Social Security Advisory Board. The Social Security Advisory Board is an independent federal government agency, and the Technical Panel, which is comprised of actuaries, economists and demographers, is charged by the Advisory Board with reviewing the assumptions and methods used in the annual report of the Board of Trustees of the Federal Old-Age, Survivors Insurance and Disability Insurance Trust Funds. The Technical Panel, which issues a report every 4 years, has consistently recommended that the mortality improvement assumption used by the Office of the Actuary be increased.[11] In addition, the Congressional Budget Office uses a faster rate of mortality improvement in evaluating Social Security solvency than the Office of the Actuary.[12]

After review and consideration of the comments, the documentation accompanying the Trustees' Report, and the views of the Technical Panel of the Social Security Advisory Board, Treasury and the IRS have concluded that the procedures that RPEC used to develop the Scale MP–2016 rates generate mortality improvement rates that currently are the appropriate rates for use in developing mortality tables to be used for purposes of pension funding. Accordingly, these regulations provide that the mortality improvement rates for valuation dates in 2018 are the Scale MP–2016 rates.

Treasury and the IRS understand that RPEC expects to issue updated mortality improvement rates that reflect new data for mortality improvement trends for the general population on an annual basis. As noted by the commenters, while the rate of mortality improvement has fluctuated significantly on a year-to-year basis, there has been a significant reduction in the rate of improvement over the past few years compared to the rate of improvement for the past 25 years. RPEC has indicated the intent to continually review the methodology used in its mortality improvement model in an effort to improve the overall effectiveness of the model, especially with respect to year-over-year stability and forecast accuracy, and it has identified the assumed long-term rate of mortality improvement and graduation techniques as two of the items included in this review. In establishing the mortality improvement rates to be used under section 430(h)(3) for valuation dates in years after 2018, Treasury and the IRS will continue to take into account RPEC's updates (including any modifications to RPEC's methodology), as well as other sources of data or analyses regarding mortality improvement. These regulations provide that the mortality improvement rates applicable for those future valuation dates will be specified in guidance to be published in the Internal Revenue Bulletin. See § 601.601(d)(2)(ii)(b) of this chapter. If Treasury and the IRS determine that significant revisions to the mortality improvement rates are appropriate, the revisions may first be proposed in a new rulemaking in order to allow for public comment before the rule is finalized.

Some commenters asked that Treasury and the IRS commit to providing the mortality improvement rates for a calendar year at least 12 months before the start of that year. Treasury and the IRS understand that a significant motivation for this request is to avoid the issuance of new mortality improvement rates in the early part of a calendar year (because issuance of new mortality improvement rates at that time could result in the need to revise calculations that have already been made in the course of preparing a plan sponsor's financial statement as of the previous December 31). While Treasury and the IRS intend that the mortality improvement rates for a calendar year generally will be issued more than 12 months in advance of that year, the final regulations do not include a provision requiring that the mortality improvement rates for a calendar year be issued within this timeframe. Retaining the flexibility to issue mortality improvement rates closer to the date they would become effective will allow additional time for the possibility that certain revisions to the mortality improvement rates will first be published in proposed form.

Other commenters requested that Treasury and the IRS consider updating the mortality tables on a less frequent basis than annually. Although the RPEC indicated its intent to issue updated mortality improvement rates on an annual basis, the final regulations do not require the mortality improvement rates under section 430(h)(3) to be updated annually. However, to minimize the discontinuities in mortality rates that could arise from infrequent updates, Treasury and the IRS contemplate that generally the rates will be updated annually. If the changes from one year to the next are minimal, Treasury and the IRS may choose not to update the rates for that year.

As under the 2008 general mortality table regulations, the proposed regulations take into account the limitations of some current actuarial software that is not designed to use generational mortality tables and continue to permit the use of static mortality tables. These static mortality tables, when used to determine the present value of an annuity, approximate the present value that would be determined using the generational mortality tables. All but one commenter supported the option to use static mortality tables, and these final regulations provide for this option. These static tables consist of separate gender-specific tables, which are updated annually. The static mortality tables that will be used for 2018 are included in these regulations. For later years, updated static mortality tables will be set forth in guidance published in the Internal Revenue Bulletin. See § 601.601(d)(2)(ii)(b) of this chapter.

C. Use of Section 430 Mortality Tables for Other Provisions

Section 417(e)(3) generally provides that the present value of certain benefits under a qualified pension plan (including single-sum distributions) must not be less than the present value of the accrued benefit using applicable interest rates and the applicable mortality table. Section 417(e)(3)(B) defines the term ''applicable mortality table'' as the mortality table specified for the plan year for minimum funding purposes under section 430(h)(3)(A) (without regard to the rules for substitute mortality tables under section 430(h)(3)(C) or mortality tables for disabled individuals under section 430(h)(3)(D)), modified as appropriate by the Secretary. The modifications to the section 430(h)(3)(A) mortality table used to determine the section 417(e)(3)(B) applicable mortality table are not addressed in these regulations and are currently provided in Revenue Ruling 2007–67 (2007–2 C.B. 1047).

As under the proposed regulations, the final regulations provide that the same mortality assumptions that apply for purposes of section 430(h)(3)(A) and § 1.430(h)(3)–1(a)(2) are used to determine a plan's current liability for purposes of applying the full-funding

[11] See ''2015 Technical Panel on Assumptions and Methods Report to the Social Security Advisory Board,'' available at *www.ssab.gov/Details-Page/ArticleID/656/2015-Technical-Panel-on-Assumptions-and-Methods-A-Report-to-the-Board-September-2015*.

[12] See Comparing CBO's Long-Term Projections with Those of the Social Security Trustees: Hearing before the Subcommittee on Social Security, Committee on Ways and Means, U.S. House of Representatives, 114th Cong. September 21, 2016 (Testimony of Keith Hall), *available at https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51988-socialsecuritytestimony.pdf*.

rules of section 431(c)(6) (in the case of a multiemployer plan) and section 433(c)(7)(C) (in the case of a CSEC plan). For this purpose, a multiemployer plan or CSEC plan is permitted to apply either the annually-adjusted static mortality tables or the generational mortality tables.

D. Effective Date

The proposed regulations provide that the regulations will be effective beginning in 2018. Some commenters expressed concern that this effective date would not allow adequate time for compliance. One commenter requested that the effective date of the regulations be no sooner than 18 months after the regulations are finalized in order to give plan sponsors adequate time to plan for the higher level of contributions that will be required under the new mortality assumptions. Treasury and the IRS understand that most employers have been planning for the issuance of updated mortality tables for the purposes of section 430 since the RP–2014 Mortality Tables Report was issued in 2014 and many of those employers are already using updated mortality tables for financial reporting purposes. Furthermore, any additional required contributions for a plan resulting from the adoption of the new tables will not be due before September 15, 2019. For a plan with a calendar plan year, this date is 8½ months after the end of the first plan year for which the regulations apply.[13]

Moreover, as described in section II.C of this Explanation of Provisions, the amount of a single-sum distribution computed as the present value of an annuity is determined using a mortality table that is based on the generally applicable mortality tables used for minimum funding purposes. Thus, retaining the mortality tables under existing regulations for the 2018 plan year, as requested by some commenters, would result in inappropriately depressing the amount of single-sum distributions payable to affected participants during the 2018 plan year (resulting in a permanent loss of retirement assets for those participants). A 2013 study indicates that approximately 56 percent of retiring participants in a traditional defined benefit plan with an unlimited single-sum option choose that option.[14] In addition, the Government Accountability Office recently issued a study examining the increase in ''lump-sum window'' offers—typically, limited time offers to participants who are no longer employed by the sponsor but still waiting for their pension benefit to begin in the future, or retirees already receiving their pension annuity payments.[15] Similarly, Willis Towers Watson reported significant risk transferring activity in recent years through lump sum windows and other means.[16]

Because these rules were proposed in December of 2016 to be applicable as final regulations for plan years beginning on and after January 1, 2018, the Treasury Department and the IRS believe that many plan sponsors have had adequate time to set aside funds needed for additional pension contributions for the 2018 plan year. Furthermore, because the steps that plan sponsors will need to take to update their administrative systems in response to these final regulations are not significantly different from the steps they would need to take in response to the annual update of mortality tables that has previously occurred at this time of the year, the Treasury Department and the IRS believe that plan sponsors generally will have sufficient time to make any needed changes to these administrative systems.[17]

The final regulations generally retain the effective date that was proposed, and apply to plan years beginning on or after January 1, 2018. In response to comments indicating that this effective date may create certain administrative or financial difficulties, the final regulations provide an option that may be used in certain circumstances for the 2018 plan year to apply the regulations that were formerly in effect. Specifically, for a plan for which substitute mortality tables are not used for the 2018 plan year, mortality tables determined in accordance with regulations previously in effect may be used for purposes of applying the rules of section 430 for a valuation date occurring during 2018 if the plan sponsor (1) concludes that the use of mortality tables determined in accordance with the final regulations for the plan year would be administratively impracticable or would result in an adverse business impact that is greater than de minimis, and (2) informs the actuary of the intent to apply this option. While this option provides significant flexibility to plan sponsors, the use of the option will not affect the mortality table used to determine minimum present value for distributions with annuity starting dates in stability periods that begin during 2018 (which is based on the generally applicable mortality tables under section 430(h)(3)(A) that apply if this option is not used). Therefore, the lump-sum distributions received by participants retiring in 2018 will appropriately reflect their expected longevity.

III. Plan-Specific Substitute Mortality Tables

A. Application of Established Actuarial Credibility Theory

These final regulations contain a comprehensive revision of the rules regarding plan-specific substitute mortality tables for plans that are subject to the rules of section 430.[18] These regulations carry over many of the rules regarding substitute mortality tables from the 2008 substitute mortality table regulations. However, after analyzing the actuarial literature regarding credibility theory, Treasury and the IRS made a number of changes to the rules relating to the development of substitute mortality tables. Specifically, these final regulations, like the proposed regulations, generally require that a substitute mortality table be constructed by multiplying the mortality rates from a projected version of the generally applicable base mortality table by a mortality ratio (that

[13] However, new mortality tables may affect plan operations relating to the requirements of section 436 during the 2018 plan year.

[14] Sudipto Banerjee, Ph.D., Employee Benefits Research Institute, *Issue Brief: Annuity and Lump-Sum Decisions in Defined Benefit Plans: The Role of Plan Rules,* January 2013, *available at https://www.ebri.org/pdf/briefspdf/EBRI_IB_01-13.No381.LSDs2.pdf.*

[15] U.S. Government Accountability Office, *GAO 15–74, Participants Need Better Information When Offered Lump Sums That Replace Their Lifetime Benefits* (January 2015). This report also notes the substantial financial advantages that exist for plan sponsors implementing lump sum windows and attributes the recent increase in lump-sum window offers, in part, to the outdated mortality tables in the current regulations, which result in reduced payments to plan participants. Id. at pp. 16–17.

[16] Brendan McFarland, *After a few ups and downs, corporate pension funding levels showed little change in 2016: Late-year rise in interest rates and stock market performance mitigate earlier downturn in* funded *status,* Willis Towers Watson Insider, Vol. 27, No. 2 (February 2017) at p. 3, *available at https://www.towerswatson.com/en-US/Insights/Newsletters/Americas/insider.*

[17] See section 4. of the Regulatory Impact Assessment provided under the heading Special Analyses, Regulatory Planning and Review (Executive Orders 12866 and 13563) in this preamble for a discussion of needed changes in administrative systems.

[18] There is no provision for defined benefit plans that are not subject to the requirements of section 430 (such as multiemployer plans) to request approval to use of substitute mortality tables. However, the mortality tables under section 430(h)(3) are required to be used for those plans only for very limited purposes (and the mortality tables used for those plans for most purposes, while subject to the requirements of section 431(c)(3) or 433(c)(3), are not tables specified by statute or regulations).

is, a ratio of the actual deaths for the population to the expected deaths determined using the standard mortality tables for that population).

Use of mortality ratios (rather than providing for the graduation of raw mortality rates as under the 2008 substitute mortality table regulations) will make it easier for plan sponsors to develop substitute mortality tables because it eliminates the need to apply a complex graduation technique. It also facilitates efficient IRS review of applications for approval to use substitute mortality tables, which is particularly important in light of the other major change made in the regulations (permitting the use of substitute mortality tables for a plan that has mortality experience that is only partially credible). As a result of the changes made in these regulations, Treasury and the IRS expect that significantly more plan sponsors will request approval to use substitute mortality tables.

B. Development of Substitute Mortality Tables for Plans With Full Credibility

The substitute mortality table for a population with full credibility must be determined by applying projected mortality improvement to a base substitute mortality table developed using an experience study of the population. Like the proposed regulations, the final regulations use the same general requirements for an experience study as under the 2008 substitute mortality table regulations but reflect certain changes from the proposed regulations in response to comments. Specifically, the experience study generally must cover a period of at least 2 (and no more than 5) consecutive 12-month periods that ends less than 3 years before the first day of the first plan year for which the substitute mortality tables are to apply, and must cover the same period for all populations within a plan.[19] However the final regulations include an exception that permits the use of an earlier study period if the submission is made more than 1 year (and less than 2 years) before the first day of the first plan year for which the substitute mortality tables are proposed to apply. Under this exception, the last day of the experience study period is permitted to be 3 years or more before the first day of the first plan year for which the substitute mortality tables are proposed to apply, provided that the last day of the experience study period is less than 2 years before the application is submitted.

A base substitute mortality table generally is determined by multiplying the mortality rates from the corresponding standard mortality table (that is, the generally applicable base mortality table for the population, projected with mortality improvement to the base year for the base substitute mortality table) by the mortality ratio for the population. For this purpose, the mortality improvement rates that apply for the calendar year during which the plan sponsor submits the request for approval to use substitute mortality tables are used to project the generally applicable base mortality table to the base year for the base substitute mortality table.[20] The mortality ratio is determined as a fraction, the numerator of which is the number of actual deaths during the experience study period (with each death weighted by the benefit amount) and the denominator of which is the number of expected deaths during that period (determined using the standard mortality table) weighted by the benefit amount. An individual's benefit amount (which is used to determine amounts-weighted mortality rates and for other purposes in the construction of base substitute mortality tables) is the individual's accrued benefit expressed in the form of an annual benefit commencing at normal retirement age (or at the current age, if later) if the individual has not commenced benefits, and the individual's annual payment if the individual has commenced benefits. Consistent with section 503 of the Bipartisan Budget Act of 2015 (and unlike § 1.430(h)(3)–2(c)(2)(ii)(D) of the 2008 substitute mortality table regulations, which provides that the Commissioner may permit the use of other recognized mortality tables to construct the base substitute mortality table), the regulations provide that the standard mortality table that must be used for this purpose is the generally applicable base mortality table projected with mortality improvement to the base year for the base substitute mortality table.

Some commenters pointed out that multiplying mortality ratios for a population by the mortality rates in the applicable standard mortality table could yield inappropriate results at extremely old ages. In response to those comments, the final regulations provide that mortality rates under the base substitute mortality tables must be the same as the mortality rates under the standard mortality table for ages above 109 and that a modified mortality ratio is used for ages from 96 through 109 (to accomplish a gradual transition to the standard mortality table while avoiding inappropriate results). If the mortality ratio for the population is greater than 1.0, the modified mortality ratio for an age within this range is equal to the mortality ratio for the population reduced by 1/15th of the excess of the mortality ratio over 1.0 for each year by which the age exceeds 95. If the mortality ratio for the population is less than 1.0, the modified mortality ratio for an age within this range is equal to the mortality ratio for the population increased by 1/15th of the excess of 1.0 over the mortality ratio for each year by which the age exceeds 95.

C. Standards for Full Credibility

The proposed regulations revised the standard for full credibility of a population under the 2008 substitute mortality table regulations (which is 1,000 actual deaths for the relevant population during the experience study period) to better reflect established actuarial credibility theory. Under established actuarial credibility theory, the 1,000-death threshold (which is a rounding down of the 1,082 actual deaths that would be needed for a 90% confidence level that the measured rate is within 5% of the underlying mortality rate) should apply to the credibility for a single mortality rate and not an entire mortality table.[21] Moreover, the 1,000 death threshold did not take into account the well-established actuarial principle that mortality experience within a population will vary predictably based on the amount of the annuity (or life insurance, as applicable). The base tables for the generally applicable mortality tables were constructed on an amounts-weighted basis (under which the individuals with higher benefit amounts have a greater weight in the computation of the mortality rate for a

[19] As under the 2008 regulations and the proposed regulations, the final regulations provide for permissive aggregation of plans of a plan sponsor for purposes of developing and using substitute mortality tables. The final regulations clarify that if two or more plans with different plan years are aggregated, the experience study may consist of data that is collected over different periods for plans with different plan years, subject to certain conditions.

[20] If the plan sponsor submits such a request during 2017, then mortality improvement is reflected using the mortality improvement rates that generally apply for use for 2018, which are the Scale MP–2016 rates.

[21] Although the use of a graduation technique under Rev. Proc. 2008–62 enables a plan with fewer than 1,000 deaths at each age to have credible mortality experience that may be used to establish a substitute mortality table, the statutory instruction providing that the determination of whether a plan has credible mortality information be made in accordance with established actuarial credibility theory which is materially different than the rules in effect on November 2, 2015, led to the elimination of that technique.

particular age); accordingly, substitute mortality tables should be constructed using the same principle.

Using established actuarial credibility theory to evaluate whether a population has fully credible mortality experience entails the use of a threshold that takes into account the dispersion of benefits within the population. Accordingly, under the proposed regulations, the number of deaths that are needed for a population within a plan to have fully credible mortality experience is determined as the product of 1,082 and the benefit dispersion factor for the population.[22] The benefit dispersion factor for a population is equal to the number of expected deaths for the population during the experience study period, multiplied by the sum of the mortality-weighted squares of the benefits, divided by the square of the sum of the mortality-weighted benefits.[23]

Commenters supported the actuarial soundness of the standard for fully credible mortality information under the proposed regulations, and the final regulations adopt the provisions of the proposed regulations regarding full credibility. At the request of commenters, the regulations include expressions of various formulas in mathematical notation to assist actuaries in making computations under the regulations.[24]

One commenter noted that the increase of the threshold for full credibility (together with the inability to reflect the pattern of the plan's mortality experience at different ages) may produce substitute mortality tables that are substantially different than those that are currently in use. To address this concern, in part, the final regulations include an option to increase the credibility of a plan's mortality experience by basing it on the combined mortality experience of both genders.[25]

[22] This formula for the number of deaths needed for full credibility is based on the assumption that the distribution of releases from liability due to deaths follows a compound Poisson model. See *www.actuaries.ca/members/publications/2002/202037e.pdf.*

[23] See Gavin Benjamin, Selecting Mortality Tables: A Credibility Approach, available at *www.soa.org/Files/Research/Projects/research-2008-benjamin.pdf.*

[24] In the proposed regulations, these formulas were stated as amounts to be computed separately for each age and then summed for the population. The final regulations instead state these formulas more concisely as amounts to be computed for the entire population. These two approaches yield mathematically identical results.

[25] This option is described in section III.F.2 of this Explanation of Provisions (Option to use combined male and female mortality experience).

D. Partial Credibility

As under the proposed regulations, the final regulations permit substitute mortality tables to be used for a plan that does not have sufficient deaths to have fully credible mortality information. In accordance with established actuarial credibility theory, the substitute mortality table used for such a plan is the weighted average of the standard mortality table and the substitute mortality table that would be developed for the plan if it were to have fully credible mortality information. The weight for the substitute mortality table that would be developed for the plan if the plan were to have fully credible mortality information is the square root of a fraction, the numerator of which is the actual number of deaths for the population within the experience study period and the denominator of which is the number of deaths needed for the plan to have fully credible mortality information.

E. Controlled Group Consistency Requirement

Under section 430(h)(3)(iv) there is a general consistency requirement for the use of substitute mortality tables with respect to all plans within a controlled group. Thus, use of substitute mortality tables for a plan is generally permitted only if substitute mortality tables are used for all plans subject to section 430 that are maintained within the controlled group of the plan sponsor.

The 2008 substitute mortality table regulations set forth an exception from this consistency requirement for plans that did not have credible mortality experience. As a result of the change permitting the use of substitute mortality tables for plans that have only partially credible mortality information, Treasury and the IRS concluded that the exception should be modified so that it only applies to plans with a relatively small population. Accordingly, the regulations provide that a population does not have credible mortality information (and so a substitute mortality table is neither permitted nor required to be used for that population) if the actual number of deaths for that population during the experience study period is less than 100. For this purpose, the length of the experience study period must be the same length as the longest experience study period for any plan in the controlled group [26] and must end less than 3 years before the first day of the first plan year for which the substitute mortality tables are to apply. Treasury and the IRS proposed the use of a threshold of 100 deaths to balance the benefit of the use of substitute mortality tables for a plan with a relatively small population (which would be small, given the relatively low weight assigned to that plan's partially credible mortality experience) against the burden of developing substitute mortality tables for that plan (which would be required to comply with the controlled group consistency requirement). No comments were received objecting to this threshold or recommending a different threshold. As a result, the final regulations adopt the proposed 100-death threshold.

[26] If a plan has credible mortality information for one gender but not for the other gender, the length of the period of this demonstration is the length of the experience study for that plan.

F. Other Rules Relating to the Use of Substitute Mortality Tables

1. Multiple-Employer Plans

In response to comments, the final regulations provide rules regarding the use of substitute mortality tables in connection with multiple-employer plans. Under the final regulations, the application for use of substitute mortality tables in the case of a multiple-employer plan must be made by the plan administrator, and the substitute mortality tables must apply on a plan-wide basis (even if the plan is subject to the rules of section 413(c)(4)(A)).

In addition, the final regulations provide special rules for the application of the controlled group consistency rule in the case of a multiple-employer plan. Under this special rule, an employer participating in a multiple-employer plan is treated as maintaining that plan if and only if the proportion of the plan's funding target attributable to the employees and former employees of the employer and members of the employer's controlled group is greater than 50 percent. Thus, such an employer is subject to the controlled group consistency rule with respect to the multiple-employer plan and any other plans subject to section 430 maintained by that employer (or any member of that employer's controlled group). By contrast, if the proportion of the multiple-employer plan's funding target attributable to the employees and former employees of the employer and members of the employer's controlled group is less than or equal to 50 percent, then that employer is not subject to the controlled group consistency rule with respect to the multiple-employer plan and any other plans subject to section 430 maintained by that employer (and any member of that employer's controlled group).

2. Option To Use Combined Male and Female Mortality Experience

Some commenters requested the ability to develop and use substitute mortality tables based on the combined experience of both males and females in the plan, to increase the credibility of mortality experience for a smaller population. Treasury and the IRS have determined that this approach is consistent with established actuarial credibility theory. Accordingly, the final regulations provide that a single mortality ratio may be developed for both genders and then used to construct separate gender-specific base substitute mortality tables for the plan. If this option is applied for a plan, then substitute mortality tables used for all plans in the plan sponsor's controlled group must be constructed in this manner (except for plans for which both the male and female populations, considered separately, have mortality experience with full credibility). In addition, if this option is applied for a plan, then the mortality experience for both genders must be combined for all other purposes under the regulations, including the determination of: (1) Whether a plan has credible mortality information for purposes of the controlled group consistency requirement; (2) whether the mortality experience for a plan has full credibility; and (3) the partial credibility weighting factor.

3. Special Rules for Newly-Affiliated Plans

The proposed regulations provide for a transition period during which the controlled group consistency requirement does not apply with respect to a newly-affiliated plan (that is, a plan that has become maintained within the new controlled group in connection with a transaction described in § 1.410(b)–2(f)). In response to comments, the final regulations extend the transition period during which the controlled group consistency requirement does not apply with respect to a newly-affiliated plan so that it ends on the last day of the plan year that immediately follows the period described in section 410(b)(6)(C)(ii) for any of the plans in the controlled group (whichever ends latest). For example, if all of the plans involved have a plan year that is the calendar year and a corporate transaction occurs during 2017, then the transition period during which the controlled group consistency requirement does not apply ends on December 31, 2019 (the end of the plan year that immediately follows December 31, 2018, which is the end of the period described in section 410(b)(6)(C)(ii)). This longer transition period will ensure that the plan sponsor has adequate time to complete an experience study covering the newly-affiliated plan for use in its submission for approval of substitute mortality tables for a plan year beginning January 1, 2020. As under the proposed regulations, the final regulations provide that this experience study may exclude the pre-affiliation data and the experience study period may be as short as 1 year (instead of 2 years). Therefore, under the facts of this example, the experience study used to develop substitute mortality tables for the plan may cover only calendar year 2018.[27]

4. Early Termination of Use of Substitute Mortality Tables and Transition Rule

The final regulations retain the rules from the 2008 substitute mortality table regulations regarding the termination of use of substitute mortality tables before their originally scheduled expiration. Among the circumstances that lead to early termination is the replacement of the generally applicable mortality tables (other than annual updates to the static mortality tables or changes to the mortality improvement rates).

In response to comments, the final regulations include a transition rule under which previously approved base substitute mortality tables continue to apply for plan years beginning in 2018 (assuming that plan year is covered by the original approval and that substitute mortality tables are used by all of the plans within the controlled group that have credible mortality experience under the standards in the 2008 substitute mortality table regulations). In addition, previously approved base substitute mortality tables continue to apply to later plan years during the term of their original approval, provided that the plan sponsor satisfies the requirement that substitute mortality tables be used for all plans in the controlled group that have credible mortality information under the standards in these regulations. However, the mortality improvement rates under the final regulations, rather than the Scale AA Projection Factors (which were used under the 2008 substitute mortality table regulations), must be applied to previously approved base substitute mortality tables beginning in 2019.

[27] However, if the experience study is used to demonstrate a lack of credible mortality information, the experience study period may be shorter than required under the otherwise applicable rules only if it starts on the date the plan becomes a newly-affiliated plan.

G. Effective Date

These regulations regarding substitute mortality tables apply to plan years beginning on or after January 1, 2018, subject to certain transition relief. In addition to the transition relief for previously approved base mortality tables described in section III.F.4 of the Explanation of Provisions portion of this preamble, the requirement that a plan sponsor apply for approval to use substitute mortality tables at least 7 months before the beginning of the plan year will be treated as satisfied if the plan sponsor's application is submitted on or before February 28, 2018, provided that the plan sponsor agrees to a 90-day extension of the 180-day review period.

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 Web site at *www.irs.gov.*

Special Analyses

Regulatory Planning and Review (Executive Orders 12866 and 13563)

It has been determined that these regulations constitute a significant regulatory action as defined in Executive Order 12866, as supplemented by Executive Order 13563. Accordingly, these rules have been reviewed by the Office of Management and Budget. The Regulatory Impact Assessment prepared by Treasury for these regulations is provided below. This rule is not subject to the requirements of Executive Order 13771 because this rule results in no more than *de minimis* costs.

1. Description of Need for the Regulations

Section 430 of the Internal Revenue Code specifies the minimum funding requirements that apply generally to defined benefit plans that are not multiemployer plans. Section 430(h)(3) contains rules regarding the mortality tables to be used under section 430. Under section 430(h)(3)(A), the Secretary is to prescribe by regulation mortality tables to be used in determining any present value or making any computation under section 430.[28] Under section 430(h)(3)(B), the

[28] Those mortality tables must be based on the actual mortality experience of pension plan

Secretary is required to revise any mortality table in effect under section 430(h)(3)(A) at least every 10 years to reflect actual mortality experience of pension plan participants and projected trends in that experience.

Section 430(h)(3)(C) prescribes rules for a plan sponsor's use of substitute mortality tables reflecting the specific mortality experience of a plan's population. Section 503 of the Bipartisan Budget Act of 2015 requires certain changes in the rules for developing a plan's substitute mortality tables.

The existing regulations regarding mortality tables were issued in 2008, for use beginning in 2008. Those tables were based on a study of mortality experience of pension plan participants covering the years 1990–1994 that was published in 2000. Since that time, studies have shown that people are living longer. For example, a study that RPEC published in 2014 indicates that the mortality tables issued under the 2008 general mortality table regulations no longer reflect the actual mortality experience of pension plan participants and projected trends in that experience. In accordance with section 430(h)(3)(B), the Secretary is required to revise the mortality tables in the existing regulations as a result of these changes in the actual mortality experience and projected trends in that experience. In addition, changes in the existing regulations regarding substitute mortality tables are required under the provisions of the Bipartisan Budget Act of 2015.

2. Affected Population

The final regulations affect participants in private-sector defined benefit plans and employers sponsoring those plans.

3. Baseline and Summary of Impacts

As required by OMB Circular A–4, the following table summarizes the estimated economic impact of the final regulations. The baseline for this estimate is the mortality tables issued under the existing regulations. Because the new tables reflect the fact that participants are living longer, the primary impact of the final regulations is to increase the reported liability for future benefit payments from pension plans; this higher reported liability will result in higher pension contributions. The higher liability will also result in an increase in PBGC premiums, which are a function of a plan's funded status. Because pension contributions and premiums are deductible from firms' incomes, tax revenues will fall.

As described in the effective date discussion in section II.D of the Explanation of Provisions portion of this preamble, these regulations include an option for a plan sponsor that is not using plan-specific mortality tables to delay the application of the new tables in certain circumstances. Because it is difficult to predict how many plan sponsors will utilize this option, the following tables provide a range of estimates of the economic impact of these regulations. The first row of numbers in the tables, labeled ''full take-up amount,'' is based on the assumption that all plan sponsors will use the option to delay the application of the new mortality tables; the second row of numbers, labeled ''no take-up amount,'' is based on the assumption that no plan sponsors will use the option to delay application of the new mortality tables. As noted in the effective date discussion in section II.D of the Explanation of Provisions portion of this preamble, the use of this option will not affect the mortality table used to determine minimum present value under section 417(e).

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Estimated change in tax revenue (in millions of 2017 dollars)										
Full take-up amount	0	−123	−499	−914	−1,170	−1,278	−1,216	−1,081	−807	−353
No take-up amount	−84	−362	−717	−1,025	−1,241	−1,314	−1,238	−1,042	−604	−228

Present Value[29] with full take-up of delay option (3% Discount Rate): −$6,372 million
Present Value with no take-up of delay option (3% Discount Rate): −$6,821 million
Present Value with full take-up of delay option (7% Discount Rate): −$5,245 million
Present Value with no take-up of delay option (7% Discount Rate): −$5,718 million
Annualized Estimate with full take-up of delay option (3% Discount Rate): −$747 million
Annualized Estimate with no take-up of delay option (3% Discount Rate): −$800 million
Annualized Estimate with full take-up of delay option (7% Discount Rate): −$747 million
Annualized Estimate with no take-up of delay option (7% Discount Rate): −$814 million

Estimated change in contributions (in millions of 2017 dollars)										
Full take-up amount	0	2,933	4,873	6,071	6,574	6,069	5,322	3,667	750	407
No take-up amount	2,151	3,631	5,418	6,391	6,694	6,194	5.373	1,751	815	797

Present Value with full take-up of delay option (3% Discount Rate): $32,417 million
Present Value with no take-up of delay option (3% Discount Rate): $35,100 million
Present Value with full take-up of delay option (7% Discount Rate): $27,784 million
Present Value with no take-up of delay option (7% Discount Rate): $30,595 million
Annualized Estimate with full take-up of delay option (3% Discount Rate): $3,800 million
Annualized Estimate with no take-up of delay option (3% Discount Rate): $4,115 million
Annualized Estimate with full take-up of delay option (7% Discount Rate): $3,956 million
Annualized Estimate with no take-up of delay option (7% Discount Rate): $4,356 million

Estimated change in PBGC premiums (in millions of 2017 dollars)										
Full take-up amount	0	293	287	187	91	0	0	0	0	81
No take-up amount	293	287	280	183	89	0	0	0	0	80

Present Value with full take-up of delay option (3% Discount Rate): 869 million
Present Value with no take-up of delay option (3% Discount Rate): 1,143 million
Present Value with full take-up of delay option (7% Discount Rate): $791 million
Present Value with no take-up of delay option (7% Discount Rate): $1,067 million
Annualized Estimate with full take-up of delay option (3% Discount Rate): $102 million

participants and projected trends in that experience. In prescribing those mortality tables, the Secretary is required to take into account results of available independent studies of mortality of individuals covered by pension plans.

[29] The present values are discounted to the beginning of 2019.

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027

Annualized Estimate with no take-up of delay option (3% Discount Rate): $134 million
Annualized Estimate with full take-up of delay option (7% Discount Rate): $113 million
Annualized Estimate with no take-up of delay option (7% Discount Rate): $152 million

For pension payments that are paid over a retiree's lifetime, the actual liability will depend on how long the retiree actually lives, and the impact of reflecting longer life expectancies in the calculation of present values under these regulations will merely accelerate the time when additional contributions attributable to longer lifetimes will need to be made. For pension payments that are lump-sum settlements in lieu of lifetime payments, the new tables will increase the amount of the lump sum. If the plan has a lump sum-based benefit formula, such as a cash balance plan, there will be no impact on the amount of a lump sum, but the optional annuity may be smaller.[30] However, it is difficult to quantify the impact of these changes.

4. Cost Associated With the Regulation

Substantially all of the amounts involved (decreased tax revenue, increased plan contributions and PBGC premiums) constitute transfer payments, rather than costs. This is because these amounts are monetary payments from one entity to another that do not affect total resources available to society.

We believe that the incremental administrative costs to implement this regulation are negligible, because plan sponsors would have to incur the same costs to update their plan administration software to reflect the new mortality tables under these regulations as they would incur in implementing the annual update to the mortality tables that would apply in the absence of these regulations. Moreover, the specific mortality rates used to calculate benefits for individuals normally are not provided to individual plan participants, so there will be no need to distribute information about the new mortality tables. Rather, plan sponsors and administrators provide individual participants who are considering retiring in the near future with individualized estimates of their benefits and that process is not dependent on the specific mortality rates used to determine benefits under the plan. Furthermore, Treasury and the IRS are issuing these regulations at a similar time of year as mortality tables were issued in prior years (and close in time to the issuance of the earliest interest rates that may be used in calculating the amount of a lump sum benefit to be distributed during a plan year beginning in 2018). In other words, these costs are included in the baseline of the analysis, not as new incremental costs associated with this rulemaking.

In terms of the use of the mortality tables for purposes of applying the funding requirements of section 430, these regulations (like the current regulations) permit actuaries to use static mortality tables that approximate the present value determined using the generational mortality tables. Even if a plan's actuary chooses to use generational mortality tables (including plan-specific mortality tables) instead of the static mortality tables, actuarial software capable of applying that approach (including generational mortality tables determined using mortality improvement rates that vary by both age and calendar year) should be readily available, as such generational mortality tables determined using varying mortality improvement rates have been used routinely for financial reporting purposes by large employers since the Mortality Improvement Scale MP–2014 Report was issued in 2014. In addition, these regulations permit any previously approved plan-specific mortality tables to continue to be used for the duration of the original approval period. Accordingly, any additional cost as a result of the issuance of these regulations should be negligible.

[30] The optional annuity may be smaller because, when converting the lump sum in which the participant's benefit is stated under the plan to an stream of annuity payments for the life of the participant (and the life of the participant's spouse if applicable), the lifetime(s) over which the payments must be paid will generally be assumed to be longer if the new tables are used for this purpose rather than the prior tables. To pay a fixed sum over a longer period, the amount of the periodic payments must be reduced. However, a plan is not required to use these tables for this purpose and a recent study indicates that relatively few participants take an annuity distribution from plans with lump sum based benefit formulas See Sudipto Banerjee, Ph.D., Employee Benefits Research Institute, *Issue Brief: Annuity and Lump-Sum Decisions in Defined Benefit Plans: The Role of Plan Rules,* January 2013, *available at https://www.ebri.org/pdf/briefspdf/EBRI_IB_01-13.No381.LSDs2.pdf.*

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It is hereby certified that this rule will not have a significant economic impact on a substantial number of small entities. This rule applies to all employers that sponsor defined benefit plans regardless of size. As stated above, this rule implements the statutorily-required updates and any compliance costs related to this rule are small and are consistent with previously issued annual updates.

Pursuant to section 7805(f) of the Internal Revenue Code, the notice of proposed rulemaking preceding these regulations was submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on its impact on small business.

Drafting Information

The principal authors of these regulations are Arslan Malik and Linda S.F. Marshall of the Office of Associate Chief Counsel (Tax Exempt and Government Entities). However, other personnel from Treasury 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, 26 CFR part 1 is amended 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)(3)–1 is revised to read as follows:

§ 1.430(h)(3)–1 Mortality tables used to determine present value.

(a) *Basis for mortality tables*—(1) *In general.* Pursuant to section 430(h)(3)(A), this section provides generally applicable mortality tables that are used to determine present value for purposes of section 430, and rules regarding the use of those mortality tables. Either the generational mortality tables under paragraph (a)(2) of this section or the static mortality tables under paragraph (a)(3) of this section may be used for a plan. In lieu of using the mortality tables provided under this section, plan-specific substitute mortality tables may be used pursuant to section 430(h)(3)(C), provided that the requirements of § 1.430(h)(3)–2 are satisfied. Mortality tables that may be used with respect to disabled

individuals are provided in guidance published in the Internal Revenue Bulletin. See § 601.601(d)(2)(ii)(b) of this chapter.

(2) *Generational mortality tables*—(i) *In general*—(A) *Use of generational mortality tables.* The generational mortality tables that are permitted to be used under section 430(h)(3)(A) and paragraph (a)(1) of this section are determined using the base mortality tables described in paragraph (a)(2)(i)(B) of this section and the mortality improvement rates described in paragraph (a)(2)(i)(C) of this section.

(B) *Base mortality tables.* The base mortality tables are set forth in paragraph (d) of this section. The base year for those tables is 2006.

(C) *Mortality improvement rates.* The mortality improvement rates for valuation dates occurring during 2018 are the mortality improvement rates contained in the Mortality Improvement Scale MP–2016 Report (issued by the Retirement Plans Experience Committee (RPEC) of the Society of Actuaries and available at *www.soa.org/Research/Experience-Study/Pension/research-2016-mp.aspx*). For later years, updated mortality improvement rates that take into account new data for mortality improvement trends of the general population will be provided in guidance published in the Internal Revenue Bulletin. See § 601.601(d)(2)(ii)(b) of this chapter.

(D) *Application of mortality improvement rates.* Under the generational mortality tables described in this paragraph (a)(2), 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 table set forth in paragraph (d) of this section for that age, gender, and status as an annuitant or a nonannuitant) multiplied by the cumulative mortality improvement factor for the individual's gender and for that age for the period from 2006 through the calendar year in which the individual is projected to reach the particular age. Paragraph (a)(2)(ii) of this section shows how the base mortality tables in paragraph (d) of this section and the mortality improvement rates for valuation dates occurring during 2018 are combined to determine projected mortality rates.

(E) *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.

(F) *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.

(ii) *Example of calculation*—(A) *Calculation of mortality rate.* The mortality rate for 2018 that is applied to male annuitants who are age 66 in 2018 is equal to the product of the mortality rate for 2006 that applied to male annuitants who were age 66 in 2006 (0.013855) and the cumulative mortality improvement factor for age 66 males from 2006 to 2018. The cumulative mortality improvement factor for age 66 males for the period from 2006 to 2018 is 0.8929, and the mortality rate for 2018 for male annuitants who are age 66 in that year would be 0.012371, as shown in the following table.

Calendar year	Scale MP–2016 mortality improvement rate	Annual mortality improvement factor (1- scale MP–2016 rate)	Cumulative mortality improvement factor	Mortality rate
2006	n/a	n/a	n/a	0.013855
2007	0.0237	0.9763	0.9763	.....
2008	0.0211	0.9789	0.9557	.....
2009	0.0180	0.9820	0.9385	.....
2010	0.0142	0.9858	0.9252	.....
2011	0.0099	0.9901	0.9160	.....
2012	0.0053	0.9947	0.9112	.....
2013	0.0043	0.9957	0.9072	.....
2014	0.0035	0.9965	0.9041	.....
2015	0.0030	0.9970	0.9014	.....
2016	0.0028	0.9972	0.8988	.....
2017	0.0030	0.9970	0.8961	.....
2018	0.0036	0.9964	0.8929	0.012371

(B) *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, for purposes of calculating the present value (for a 2018 valuation date) of future payments in a benefit stream payable for a male annuitant who is age 66 in 2018, the probability of survival for the annuitant is based on the mortality rate for a male annuitant who is age 66 in 2018 (0.012371), and the projected mortality rate for a male annuitant who will be age 67 in 2019 (0.013302), age 68 in 2020 (0.014321), and so on.

(3) *Static mortality tables.* The static mortality tables that are permitted to be used under section 430(h)(3)(A) and paragraph (a)(1) of this section are updated annually by the IRS according to the methodology described in paragraph (c)(2) of this section. Paragraph (e) of this section sets forth static tables that are permitted to be used for valuation dates in 2018. For valuation dates in later years, static mortality tables will be provided in guidance published in the Internal Revenue Bulletin. See § 601.601(d)(2)(ii)(b) of this chapter.

(b) *Use of the tables*—(1) *Separate tables for annuitants and nonannuitants*—(i) *In general.* Separate tables are provided for use for annuitants and nonannuitants. The nonannuitant mortality table is applied to determine the probability of survival for a nonannuitant for the period before the nonannuitant is projected to commence receiving benefits. The annuitant mortality table is applied to determine the present value of benefits for each annuitant. In addition, the annuitant mortality table is applied for each nonannuitant 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 nonannuitant 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 with respect to the portion of the benefit that has commenced and treated as a nonannuitant with respect to the balance of the benefit. In addition, with respect to a beneficiary of a participant, the annuitant mortality table applies 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 table applies with respect to the beneficiary for the period beginning with each assumed commencement of benefits for the beneficiary.

(ii) *Examples of calculation using separate annuitant and nonannuitant tables.* With respect to a 45-year-old active participant who is projected to commence receiving an annuity at age 55, the funding target is determined using the nonannuitant mortality table for the period before the participant attains age 55 (so that, if the static mortality tables are used pursuant to paragraph (a)(3) of this section, the probability of an active male participant living from age 45 to age 55 using the table that applies for a valuation date in 2018 is 0.988857) and using the annuitant mortality table 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, the funding target is determined using the nonannuitant mortality table for the period before the participant attains age 65 and using the annuitant mortality table for ages 65 and above.

(2) *Small plan tables.* If static mortality tables are used pursuant to paragraph (a)(3) of this section, as an alternative to the separate static tables specified for annuitants and nonannuitants pursuant to paragraph (b)(1) of this section, combined static tables that apply the same mortality rates to both annuitants and nonannuitants are permitted to be used for a small plan. For this purpose, a small plan is defined as a plan with 500 or fewer total participants (including both active and inactive participants and beneficiaries of deceased participants) on the valuation date. The combined static tables that are permitted to be used for small plans pursuant to this paragraph (b)(2) are constructed from the separate nonannuitant and annuitant static mortality tables using the weighting factors for small plans that are set forth in paragraph (d) of this section. The weighting factors are applied to develop these combined static tables using the following equation: Combined mortality rate = [nonannuitant rate * (1 − weighting factor)] + [annuitant rate * weighting factor].

(c) *Static tables*—(1) *Source of rates.* The static mortality tables that are used pursuant to paragraph (a)(3) of this section are determined using the base mortality tables described in paragraph (a)(2)(i)(B) of this section taking into account the mortality improvement rates described in paragraph (a)(2)(i)(C) of this section, in accordance with the rules of paragraph (c)(3) of this section.

(2) *Selection of static tables.* The static mortality tables that are used for a valuation date are the static mortality tables for the calendar year that contains the valuation date.

(3) *Projection of mortality improvements*—(i) *General rule.* Except as provided in paragraph (c)(3)(iii) of this section, the static mortality tables for a calendar year are determined by multiplying the applicable mortality rate for each age from the base mortality tables by both—

(A) The cumulative mortality improvement factor (determined under the rules of paragraph (a)(2) of this section) for the period from 2006 through that calendar year; and

(B) The cumulative mortality improvement factor (determined under the rules of paragraph (a)(2) of this section) for the period beginning in that calendar year and continuing beyond that calendar year for the number of years in the projection period described in paragraph (c)(3)(ii) of this section.

(ii) *Projection period for static mortality tables*—(A) *In general.* The projection period is 8 years for males and 9 years for females, as adjusted based on age as provided in paragraph (c)(3)(ii)(B) of this section.

(B) *Age adjustment.* For ages below 80, the projection period is increased by 1 year for each year below age 80. For ages above 80, the projection period is reduced (but not below zero) by ⅓ year for each year above 80.

(iii) *Fractional projection periods.* If for an age the number of years in the projection period determined under this paragraph (c)(3) is not a whole number, then the mortality rate for that age is determined by using linear interpolation between—

(A) The mortality rate for that age that would be determined under paragraph (c)(3)(i) of this section if the number of years in the projection period were the next lower whole number; and

(B) The mortality rate for that age that would be determined under paragraph (c)(3)(i) of this section if the number of years in the projection period were the next higher whole number.

(iv) *Example.* The following example illustrates how the mortality rates in the static mortality tables issued under the provisions of this paragraph (c) are calculated:

Example. At age 85, the projection period for a male is 6⅓ years (8 years minus ⅓ year for each of the 5 years above age 80). For a valuation date in 2018, the mortality rate in the static mortality table for an 85-year-old male is based on a projection of mortality improvement for 6⅓ years beyond 2018. Under paragraph (c)(3)(iii) of this section, the mortality rate for an 85-year-old male annuitant in the static mortality table for 2018 is ⅔ times the projected mortality rate for a male annuitant that age in 2024 plus ⅓ times the projected mortality rate for a male annuitant that age in 2025. Accordingly, the mortality rate for an 85-year-old male annuitant in the static mortality table for 2018 is 0.075196 (⅔ times the projected mortality rate for an 85-year old male annuitant in 2024 (0.075447) plus ⅓ times the projected mortality rate for an 85-year old male annuitant in 2025 (0.074693)).

(d) *Base mortality tables.* The following are the base mortality tables. The base year for these tables is 2006.

Age	Males			Females		
	Non-annuitant	Annuitant	Weighting factor for small plans	Non-annuitant	Annuitant	Weighting factor for small plans
0	0.008878	0.008878	0	0.007278	0.007278	0
1	0.000515	0.000515	0	0.000451	0.000451	0
2	0.000348	0.000348	0	0.000295	0.000295	0
3	0.000289	0.000289	0	0.000220	0.000220	0

Age	Males			Females		
	Non-annuitant	Annuitant	Weighting factor for small plans	Non-annuitant	Annuitant	Weighting factor for small plans
4	0.000225	0.000225	0	0.000165	0.000165	0
5	0.000197	0.000197	0	0.000149	0.000149	0
6	0.000177	0.000177	0	0.000137	0.000137	0
7	0.000156	0.000156	0	0.000127	0.000127	0
8	0.000132	0.000132	0	0.000117	0.000117	0
9	0.000107	0.000107	0	0.000109	0.000109	0
10	0.000090	0.000090	0	0.000102	0.000102	0
11	0.000095	0.000095	0	0.000105	0.000105	0
12	0.000142	0.000142	0	0.000121	0.000121	0
13	0.000187	0.000187	0	0.000137	0.000137	0
14	0.000230	0.000230	0	0.000151	0.000151	0
15	0.000274	0.000274	0	0.000165	0.000165	0
16	0.000318	0.000318	0	0.000177	0.000177	0
17	0.000364	0.000364	0	0.000187	0.000187	0
18	0.000412	0.000412	0	0.000196	0.000196	0
19	0.000463	0.000463	0	0.000202	0.000202	0
20	0.000510	0.000510	0	0.000202	0.000202	0
21	0.000552	0.000552	0	0.000197	0.000197	0
22	0.000587	0.000587	0	0.000191	0.000191	0
23	0.000599	0.000599	0	0.000190	0.000190	0
24	0.000594	0.000594	0	0.000188	0.000188	0
25	0.000545	0.000545	0	0.000186	0.000186	0
26	0.000510	0.000510	0	0.000186	0.000186	0
27	0.000486	0.000486	0	0.000188	0.000188	0
28	0.000472	0.000472	0	0.000192	0.000192	0
29	0.000468	0.000468	0	0.000198	0.000198	0
30	0.000470	0.000470	0	0.000209	0.000209	0
31	0.000480	0.000480	0	0.000222	0.000222	0
32	0.000495	0.000495	0	0.000238	0.000238	0
33	0.000514	0.000514	0	0.000257	0.000257	0
34	0.000534	0.000534	0	0.000278	0.000278	0
35	0.000557	0.000557	0	0.000301	0.000301	0
36	0.000581	0.000581	0	0.000325	0.000325	0
37	0.000611	0.000611	0	0.000355	0.000355	0
38	0.000648	0.000648	0	0.000389	0.000389	0
39	0.000694	0.000694	0	0.000428	0.000428	0
40	0.000750	0.000750	0	0.000471	0.000471	0
41	0.000814	0.000823	.0045	0.000518	0.000515	0
42	0.000890	0.000969	.0091	0.000570	0.000603	0
43	0.000982	0.001188	.0136	0.000628	0.000735	0
44	0.001088	0.001480	.0181	0.000691	0.000911	0
45	0.001207	0.001846	.0226	0.000758	0.001131	.0084
46	0.001342	0.002285	.0272	0.000831	0.001395	.0167
47	0.001487	0.002797	.0317	0.000908	0.001703	.0251
48	0.001643	0.003382	.0362	0.000986	0.002055	.0335
49	0.001807	0.004040	.0407	0.001065	0.002451	.0419
50	0.001979	0.004771	.0453	0.001151	0.002891	.0502
51	0.002159	0.005059	.0498	0.001242	0.002993	.0586
52	0.002351	0.005343	.0686	0.001344	0.003124	.0744
53	0.002539	0.005592	.0953	0.001458	0.003291	.0947
54	0.002741	0.005839	.1288	0.001588	0.003499	.1189
55	0.002967	0.006102	.2066	0.001735	0.003755	.1897
56	0.003231	0.006399	.3173	0.001902	0.004065	.2857
57	0.003548	0.006746	.3780	0.002091	0.004435	.3403
58	0.003932	0.007155	.4401	0.002302	0.004869	.3878
59	0.004396	0.007639	.4986	0.002537	0.005373	.4360
60	0.004954	0.008211	.5633	0.002795	0.005942	.4954
61	0.005616	0.008878	.6338	0.003080	0.006581	.5805
62	0.006392	0.009646	.7103	0.003388	0.007283	.6598
63	0.007291	0.010523	.7902	0.003724	0.008043	.7520
64	0.008320	0.011514	.8355	0.004089	0.008870	.8043
65	0.009486	0.012621	.8832	0.004482	0.009760	.8552
66	0.010668	0.013855	.9321	0.005004	0.010731	.9118
67	0.011973	0.015221	.9510	0.005575	0.011790	.9367
68	0.013414	0.016736	.9639	0.006205	0.012952	.9523
69	0.015006	0.018421	.9714	0.006898	0.014226	.9627
70	0.016761	0.020288	.9740	0.007662	0.015628	.9661
71	0.018690	0.022348	.9766	0.008507	0.017170	.9695
72	0.020824	0.024638	.9792	0.009438	0.018861	.9729
73	0.023176	0.027176	.9818	0.010470	0.020723	.9763

Age	Males			Females		
	Non-annuitant	Annuitant	Weighting factor for small plans	Non-annuitant	Annuitant	Weighting factor for small plans
74	0.025770	0.029992	.9844	0.011615	0.022780	.9797
75	0.028623	0.033113	.9870	0.012887	0.025057	.9830
76	0.031761	0.036585	.9896	0.014301	0.027590	.9864
77	0.035214	0.040457	.9922	0.015885	0.030438	.9898
78	0.039007	0.044778	.9948	0.017656	0.033653	.9932
79	0.043169	0.049605	.9974	0.019639	0.037296	.9966
80	0.047750	0.055022	1.0	0.021859	0.041440	1.0
81	0.049804	0.061087	1.0	0.023791	0.046181	1.0
82	0.053911	0.067902	1.0	0.027655	0.051564	1.0
83	0.060072	0.075550	1.0	0.033451	0.057714	1.0
84	0.068286	0.084162	1.0	0.041179	0.064709	1.0
85	0.078554	0.093775	1.0	0.050838	0.072601	1.0
86	0.090876	0.104507	1.0	0.062429	0.081490	1.0
87	0.105251	0.116487	1.0	0.075952	0.091444	1.0
88	0.121680	0.129770	1.0	0.091407	0.102470	1.0
89	0.140162	0.144470	1.0	0.108794	0.114635	1.0
90	0.160698	0.160698	1.0	0.128113	0.128113	1.0
91	0.177741	0.177741	1.0	0.142619	0.142619	1.0
92	0.195154	0.195154	1.0	0.157939	0.157939	1.0
93	0.212642	0.212642	1.0	0.173886	0.173886	1.0
94	0.230055	0.230055	1.0	0.190319	0.190319	1.0
95	0.247257	0.247257	1.0	0.207191	0.207191	1.0
96	0.265940	0.265940	1.0	0.225057	0.225057	1.0
97	0.284940	0.284940	1.0	0.243507	0.243507	1.0
98	0.304432	0.304432	1.0	0.262587	0.262587	1.0
99	0.324272	0.324272	1.0	0.282171	0.282171	1.0
100	0.344364	0.344364	1.0	0.302162	0.302162	1.0
101	0.364420	0.364420	1.0	0.322282	0.322282	1.0
102	0.384058	0.384058	1.0	0.342371	0.342371	1.0
103	0.403188	0.403188	1.0	0.362210	0.362210	1.0
104	0.421533	0.421533	1.0	0.381534	0.381534	1.0
105	0.438903	0.438903	1.0	0.400321	0.400321	1.0
106	0.455492	0.455492	1.0	0.418418	0.418418	1.0
107	0.470810	0.470810	1.0	0.435390	0.435390	1.0
108	0.484965	0.484965	1.0	0.451459	0.451459	1.0
109	0.498023	0.498023	1.0	0.466408	0.466408	1.0
110	0.509768	0.509768	1.0	0.480123	0.480123	1.0
111	0.512472	0.512472	1.0	0.492664	0.492664	1.0
112	0.509296	0.509296	1.0	0.503970	0.503970	1.0
113	0.506193	0.506193	1.0	0.507361	0.507361	1.0
114	0.503061	0.503061	1.0	0.503564	0.503564	1.0
115	0.500000	0.500000	1.0	0.500000	0.500000	1.0
116	0.500000	0.500000	1.0	0.500000	0.500000	1.0
117	0.500000	0.500000	1.0	0.500000	0.500000	1.0
118	0.500000	0.500000	1.0	0.500000	0.500000	1.0
119	0.500000	0.500000	1.0	0.500000	0.500000	1.0
120	1.000000	1.000000	1.0	1.000000	1.000000	1.0

(e) *Static tables for 2018.* The following static mortality tables are used pursuant to paragraph (a)(3) of this section for determining present value or making any computation under section 430 with respect to valuation dates occurring during 2018.

Age	Males			Females		
	Non-annuitant	Annuitant	Optional combined table for small plans	Non-annuitant	Annuitant	Optional combined table for small plans
0	0.002420	0.002420	0.002420	0.002234	0.002234	0.002234
1	0.000142	0.000142	0.000142	0.000140	0.000140	0.000140
2	0.000097	0.000097	0.000097	0.000092	0.000092	0.000092
3	0.000081	0.000081	0.000081	0.000070	0.000070	0.000070
4	0.000064	0.000064	0.000064	0.000053	0.000053	0.000053
5	0.000056	0.000056	0.000056	0.000048	0.000048	0.000048
6	0.000051	0.000051	0.000051	0.000045	0.000045	0.000045
7	0.000046	0.000046	0.000046	0.000042	0.000042	0.000042
8	0.000039	0.000039	0.000039	0.000039	0.000039	0.000039

Age	Males			Females		
	Non-annuitant	Annuitant	Optional combined table for small plans	Non-annuitant	Annuitant	Optional combined table for small plans
9	0.000032	0.000032	0.000032	0.000037	0.000037	0.000037
10	0.000027	0.000027	0.000027	0.000035	0.000035	0.000035
11	0.000029	0.000029	0.000029	0.000036	0.000036	0.000036
12	0.000044	0.000044	0.000044	0.000042	0.000042	0.000042
13	0.000058	0.000058	0.000058	0.000048	0.000048	0.000048
14	0.000072	0.000072	0.000072	0.000053	0.000053	0.000053
15	0.000087	0.000087	0.000087	0.000059	0.000059	0.000059
16	0.000102	0.000102	0.000102	0.000064	0.000064	0.000064
17	0.000118	0.000118	0.000118	0.000068	0.000068	0.000068
18	0.000135	0.000135	0.000135	0.000072	0.000072	0.000072
19	0.000153	0.000153	0.000153	0.000075	0.000075	0.000075
20	0.000170	0.000170	0.000170	0.000076	0.000076	0.000076
21	0.000192	0.000192	0.000192	0.000078	0.000078	0.000078
22	0.000214	0.000214	0.000214	0.000080	0.000080	0.000080
23	0.000229	0.000229	0.000229	0.000084	0.000084	0.000084
24	0.000238	0.000238	0.000238	0.000087	0.000087	0.000087
25	0.000230	0.000230	0.000230	0.000090	0.000090	0.000090
26	0.000226	0.000226	0.000226	0.000094	0.000094	0.000094
27	0.000226	0.000226	0.000226	0.000099	0.000099	0.000099
28	0.000230	0.000230	0.000230	0.000105	0.000105	0.000105
29	0.000238	0.000238	0.000238	0.000111	0.000111	0.000111
30	0.000249	0.000249	0.000249	0.000120	0.000120	0.000120
31	0.000263	0.000263	0.000263	0.000130	0.000130	0.000130
32	0.000278	0.000278	0.000278	0.000142	0.000142	0.000142
33	0.000294	0.000294	0.000294	0.000155	0.000155	0.000155
34	0.000309	0.000309	0.000309	0.000168	0.000168	0.000168
35	0.000323	0.000323	0.000323	0.000182	0.000182	0.000182
36	0.000336	0.000336	0.000336	0.000196	0.000196	0.000196
37	0.000350	0.000350	0.000350	0.000213	0.000213	0.000213
38	0.000366	0.000366	0.000366	0.000231	0.000231	0.000231
39	0.000385	0.000385	0.000385	0.000251	0.000251	0.000251
40	0.000410	0.000410	0.000410	0.000273	0.000273	0.000273
41	0.000438	0.000443	0.000438	0.000298	0.000296	0.000298
42	0.000474	0.000516	0.000474	0.000326	0.000344	0.000326
43	0.000518	0.000627	0.000519	0.000358	0.000419	0.000358
44	0.000573	0.000779	0.000577	0.000395	0.000520	0.000395
45	0.000636	0.000973	0.000644	0.000436	0.000651	0.000438
46	0.000712	0.001213	0.000726	0.000484	0.000813	0.000489
47	0.000798	0.001502	0.000820	0.000538	0.001010	0.000550
48	0.000896	0.001844	0.000930	0.000597	0.001245	0.000619
49	0.001005	0.002248	0.001056	0.000661	0.001522	0.000697
50	0.001128	0.002719	0.001200	0.000734	0.001844	0.000790
51	0.001265	0.002963	0.001350	0.000814	0.001961	0.000881
52	0.001418	0.003224	0.001542	0.000903	0.002099	0.000992
53	0.001580	0.003481	0.001761	0.001003	0.002263	0.001122
54	0.001761	0.003751	0.002017	0.001114	0.002454	0.001273
55	0.001964	0.004040	0.002393	0.001235	0.002673	0.001508
56	0.002200	0.004357	0.002884	0.001367	0.002921	0.001811
57	0.002474	0.004704	0.003317	0.001509	0.003200	0.002084
58	0.002796	0.005088	0.003805	0.001661	0.003512	0.002379
59	0.003174	0.005515	0.004341	0.001823	0.003860	0.002711
60	0.003613	0.005989	0.004951	0.001994	0.004238	0.003106
61	0.004122	0.006516	0.005639	0.002181	0.004659	0.003619
62	0.004705	0.007100	0.006406	0.002381	0.005119	0.004188
63	0.005364	0.007742	0.007243	0.002600	0.005616	0.004868
64	0.006111	0.008457	0.008071	0.002842	0.006165	0.005515
65	0.006940	0.009234	0.008966	0.003107	0.006766	0.006236
66	0.007779	0.010103	0.009945	0.003465	0.007430	0.007080
67	0.008697	0.011056	0.010940	0.003863	0.008170	0.007897
68	0.009709	0.012114	0.012027	0.004308	0.008993	0.008770
69	0.010836	0.013302	0.013231	0.004806	0.009912	0.009722
70	0.012093	0.014637	0.014571	0.005366	0.010945	0.010756
71	0.013486	0.016126	0.016064	0.006001	0.012111	0.011925
72	0.015044	0.017799	0.017742	0.006711	0.013412	0.013230
73	0.016794	0.019693	0.019640	0.007521	0.014886	0.014711
74	0.018751	0.021823	0.021775	0.008439	0.016552	0.016387
75	0.020950	0.024237	0.024194	0.009485	0.018443	0.018291
76	0.023428	0.026986	0.026949	0.010678	0.020600	0.020465
77	0.026183	0.030081	0.030051	0.012035	0.023061	0.022949
78	0.029308	0.033645	0.033622	0.013582	0.025888	0.025804

Age	Males			Females		
	Non-annuitant	Annuitant	Optional combined table for small plans	Non-annuitant	Annuitant	Optional combined table for small plans
79	0.032774	0.037661	0.037648	0.015347	0.029144	0.029097
80	0.036705	0.042295	0.042295	0.017347	0.032886	0.032886
81	0.038556	0.047291	0.047291	0.019058	0.036992	0.036992
82	0.042087	0.053009	0.053009	0.022345	0.041662	0.041662
83	0.047283	0.059466	0.059466	0.027251	0.047017	0.047017
84	0.054248	0.066860	0.066860	0.033811	0.053130	0.053130
85	0.062990	0.075196	0.075196	0.042053	0.060056	0.060056
86	0.073605	0.084646	0.084646	0.052009	0.067888	0.067888
87	0.086115	0.095308	0.095308	0.063725	0.076724	0.076724
88	0.100513	0.107196	0.107196	0.077205	0.086549	0.086549
89	0.116840	0.120431	0.120431	0.092462	0.097426	0.097426
90	0.135087	0.135087	0.135087	0.109484	0.109484	0.109484
91	0.150610	0.150610	0.150610	0.122541	0.122541	0.122541
92	0.166534	0.166534	0.166534	0.136397	0.136397	0.136397
93	0.182546	0.182546	0.182546	0.150811	0.150811	0.150811
94	0.198598	0.198598	0.198598	0.165818	0.165818	0.165818
95	0.214442	0.214442	0.214442	0.181360	0.181360	0.181360
96	0.232944	0.232944	0.232944	0.198746	0.198746	0.198746
97	0.251903	0.251903	0.251903	0.216930	0.216930	0.216930
98	0.271612	0.271612	0.271612	0.235921	0.235921	0.235921
99	0.291889	0.291889	0.291889	0.255617	0.255617	0.255617
100	0.312680	0.312680	0.312680	0.275938	0.275938	0.275938
101	0.333720	0.333720	0.333720	0.296628	0.296628	0.296628
102	0.354570	0.354570	0.354570	0.317471	0.317471	0.317471
103	0.375136	0.375136	0.375136	0.338385	0.338385	0.338385
104	0.395172	0.395172	0.395172	0.358868	0.358868	0.358868
105	0.413945	0.413945	0.413945	0.379183	0.379183	0.379183
106	0.432145	0.432145	0.432145	0.398878	0.398878	0.398878
107	0.449197	0.449197	0.449197	0.417703	0.417703	0.417703
108	0.465497	0.465497	0.465497	0.435384	0.435384	0.435384
109	0.480869	0.480869	0.480869	0.452108	0.452108	0.452108
110	0.495080	0.495080	0.495080	0.467928	0.467928	0.467928
111	0.500557	0.500557	0.500557	0.482562	0.482562	0.482562
112	0.500454	0.500454	0.500454	0.496164	0.496164	0.496164
113	0.500352	0.500352	0.500352	0.502110	0.502110	0.502110
114	0.500201	0.500201	0.500201	0.500952	0.500952	0.500952
115	0.500000	0.500000	0.500000	0.500000	0.500000	0.500000
116	0.500000	0.500000	0.500000	0.500000	0.500000	0.500000
117	0.500000	0.500000	0.500000	0.500000	0.500000	0.500000
118	0.500000	0.500000	0.500000	0.500000	0.500000	0.500000
119	0.500000	0.500000	0.500000	0.500000	0.500000	0.500000
120	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

(f) *Effective/applicability date*—(1) *In general.* Except as provided in paragraph (f)(2) of this section, this section applies to plan years beginning or after January 1, 2018.

(2) *Option to apply prior regulations in certain circumstances.* For a plan for which substitute mortality tables are not used pursuant to § 1.430(h)(3)–2 for a plan year beginning during 2018, mortality tables determined in accordance with § 1.430(h)(3)–1 as in effect on December 31, 2017 (as contained in 26 CFR part 1 revised April 1, 2017) may be used for purposes of applying the rules of section 430 for a valuation date occurring during 2018 if the plan sponsor—

(i) Concludes that the use of mortality tables determined in accordance with this section for the plan year would be administratively impracticable or would result in an adverse business impact that is greater than *de minimis;* and

(ii) Informs the actuary of the intent to apply the option under this paragraph (f)(2).

■ **Par. 3.** Section 1.430(h)(3)–2 is revised to read as follows:

§ 1.430(h)(3)–2 Plan-specific substitute mortality tables used to determine present value.

(a) *In general.* This section provides rules for the use of substitute mortality tables under section 430(h)(3)(C) in determining any present value or making any computation under section 430 in accordance with § 1.430(h)(3)–1(a)(1). To use substitute mortality tables for a plan, a plan sponsor must first obtain approval to use the tables in accordance with the procedures described in paragraph (b) of this section. Paragraph (c) of this section provides rules for the development of substitute mortality tables, including guidelines providing that a plan must have either fully or partially credible mortality information in order to use substitute mortality tables. Paragraph (d) of this section describes the requirements for full credibility. Paragraph (e) of this section describes the requirements for partial credibility. Paragraph (f) of this section provides special rules for newly-affiliated plans. Paragraph (g) of this section specifies the effective date and applicability date of this section. The Commissioner may, in revenue rulings and procedures, notices, or other guidance published in the Internal Revenue Bulletin (see § 601.601(d)(2)(ii)(b) of this chapter), provide additional guidance regarding approval and use of substitute mortality

tables under section 430(h)(3)(C) and related matters.

(b) *Procedures for obtaining approval to use substitute mortality tables*—(1) *Written request for approval to use substitute mortality tables*—(i) *General requirements.* To use substitute mortality tables, a plan sponsor must first submit a written request to the Commissioner demonstrating that those substitute mortality tables meet the requirements of section 430(h)(3)(C) and this section. This request must specify the first plan year, and the term of years (not more than 10), for which the tables are to apply.

(ii) *Time for written request.* Substitute mortality tables may not be used for a plan year unless the plan sponsor submits the written request described in paragraph (b)(1)(i) of this section at least 7 months before the first day of the first plan year for which the substitute mortality tables are to apply.

(2) *Commissioner's review of request*—(i) *In general.* During the 180-day period that begins on the date the plan sponsor submits a request for approval to use substitute mortality tables for a plan pursuant to this section, the Commissioner will determine whether the request for approval to use substitute mortality tables satisfies the requirements of this section (including any published guidance issued pursuant to paragraph (a) of this section), and will either approve or deny the request. The Commissioner will deny a request if the request fails to meet the requirements of this section or if the Commissioner determines that a substitute mortality table does not reflect the actual mortality experience of the applicable population.

(ii) *Request for additional information.* The Commissioner may request additional information with respect to the submission and deny a request to use substitute mortality tables if the additional information is not provided in a timely manner.

(iii) *Deemed approval.* Except as provided in paragraph (b)(2)(iv) of this section, if the Commissioner does not issue a denial within the 180-day review period, the request is deemed to have been approved.

(iv) *Extension of time permitted.* The Commissioner and a plan sponsor may, before the expiration of the 180-day review period, agree in writing to extend that period.

(c) *Development of substitute mortality tables*—(1) *Substitute mortality tables must be used for all plans in controlled group*—(i) *General rule.* Except as otherwise provided in this paragraph (c), substitute mortality tables are permitted to be used for a plan for a plan year only if, for that plan year (or any portion of that plan year), substitute mortality tables are also approved and used for each other pension plan subject to the requirements of section 430 that is maintained by the plan sponsor and by each member of the plan sponsor's controlled group. For purposes of this section, the term controlled group means any group that is treated as a single employer under paragraph (b), (c), (m), or (o) of section 414. See paragraph (c)(7) of this section for special rules applicable to multiple-employer plans.

(ii) *Treatment of plans without credible mortality information.* The rule of paragraph (c)(1)(i) of this section does not prohibit use of substitute mortality tables for one plan for a plan year if the only other plan or plans maintained by the plan sponsor (or by a member of the plan sponsor's controlled group) for which substitute mortality tables are not used are too small to have fully or partially credible mortality information for the plan year. For this purpose, the demonstration that neither males nor females under a plan have credible mortality information for a plan year must be made by analyzing the actual number of deaths over a period that is the same length as the longest experience study period used for any plan within the controlled group and that ends less than three years before the first day of the plan year.

(2) *Mortality experience requirements*—(i) *In general.* Substitute mortality tables must reflect the actual mortality experience of the pension plan for which the tables will be used, and that mortality experience must consist of credible mortality information as described in paragraph (c)(2)(ii) of this section. Separate substitute mortality tables must be established for each gender and, except as provided in paragraph (d)(6) of this section, a substitute mortality table is permitted to be established for a gender only if the plan has credible mortality information for that gender. See paragraph (d)(5) of this section for rules permitting the use of substitute mortality tables for separate populations within a gender in certain circumstances.

(ii) *Credible mortality information*—(A) *In general.* A plan has credible mortality information for a gender if and only if the mortality experience with respect to that gender satisfies the requirement for either full credibility (as described in paragraph (d) of this section) or partial credibility (as described in paragraph (e) of this section).

(B) *Simplified rule.* Whether there is credible mortality information for a gender may be determined by only taking into account people who are at least age 50 and less than age 100. If there is credible mortality information for a gender using this simplified rule, the entire gender (not just those who are at least age 50 and less than age 100) has credible mortality information.

(iii) *Gender without credible mortality information*—(A) *In general.* If, for the first plan year substitute mortality tables will be used for a plan, one gender has credible mortality information but the other gender does not have credible mortality information, then substitute mortality tables are established for the gender that has credible mortality information, and the mortality tables under § 1.430(h)(3)–1 are used for the gender that does not have credible mortality information. For a subsequent plan year, the plan sponsor may continue to use substitute mortality tables for the gender with credible mortality information without using substitute mortality tables for the other gender only if the other gender continues to lack credible mortality information for that subsequent plan year.

(B) *Demonstration of lack of credible mortality information for a gender.* The demonstration that a gender does not have credible mortality information (that is, the individuals of that gender had fewer than the minimum number of actual deaths to have partial credibility, as described in paragraph (e)(1) of this section) for a plan year must be made by analyzing the actual number of deaths over a period that is the same length as the period for the experience study on which the substitute mortality tables are based and that ends less than three years before the first day of the plan year.

(3) *Determination of substitute mortality tables*—(i) *Requirement to use generational mortality table.* A plan's substitute mortality tables must be generational mortality tables. A plan's substitute mortality tables are determined using the plan's base substitute mortality tables developed pursuant to paragraph (d) or (e) of this section and the mortality improvement factors described in paragraph (c)(3)(ii) of this section.

(ii) *Determination of mortality improvement factors.* The mortality improvement factor for an age and gender is the cumulative mortality improvement factor determined under § 1.430(h)(3)–1(a)(2)(i)(E) for that age and gender for the applicable period. The applicable period is the period beginning with the base year for the

base substitute mortality table determined under paragraph (d) or (e) of this section and ending in the calendar year in which the individual attains the age for which the probability of death is being determined. The base year for the base substitute mortality table is the calendar year that contains the day before the midpoint of the experience study period.

(4) *Disabled individuals.* Under section 430(h)(3)(D), separate mortality tables are permitted to be used for certain disabled individuals. If the separate mortality tables issued under section 430(h)(3)(D) for certain disabled individuals are used, then those disabled individuals are disregarded for all purposes under this section. Thus, if the mortality tables under section 430(h)(3)(D) are used for disabled individuals under a plan, mortality experience with respect to those individuals must be excluded in developing mortality rates for substitute mortality tables under this section.

(5) *Aggregation*—(i) *Permissive aggregation of plans.* A plan sponsor may use the same substitute mortality tables for two or more of its plans provided that the rules of this section are applied by treating those plans as a single plan. In such a case, the substitute mortality tables must be based on data collected with respect to those aggregated plans.

(ii) *Required aggregation of plans.* In general, plans are not required to be aggregated for purposes of applying the rules of this section. However, for purposes of this section, a plan is required to be aggregated with any plan that was previously spun off from that plan if a purpose of the spinoff is to avoid the use of substitute mortality tables for any of the plans that were involved in the spinoff.

(iii) *Special rule regarding experience study if aggregated plans have different plan years.* If two or more plans are aggregated pursuant to this paragraph (c)(5) and not all of the plans have the same plan year, then the experience study period may be a period that is not a multiple of 12 months, provided that—

(A) The period over which mortality experience is collected for each plan (the data study period) is a multiple of 12 months and is based on the plan year for that plan;

(B) The data study periods for all of the plans consist of the same number of years;

(C) The data study periods for all of the plans satisfy the experience study period requirements of paragraph (d)(2)(ii) of this section; and

(D) The data study periods for all of the plans have been selected to minimize the total period of time covered by the experience study period by overlapping (to the greatest extent possible) those data study periods.

(6) *Duration of use of tables*—(i) *General rule.* Except as provided in this paragraph (c)(6), substitute mortality tables are used for a plan for the term of consecutive plan years specified in the plan sponsor's written request for approval to use such tables under paragraph (b)(1) of this section and approved by the Commissioner, or a shorter period prescribed by the Commissioner in the approval to use substitute mortality tables. Following the end of the approved term of use, or following any early termination of use described in this paragraph (c)(6), the mortality tables specified in § 1.430(h)(3)–1 must be used for the plan unless approval under paragraph (b)(1) of this section has been received by the plan sponsor to use substitute mortality tables based on an updated experience study for a further term.

(ii) *Early termination of use of tables.* A plan's substitute mortality tables must not be used beginning with the earliest of—

(A) For a plan using a substitute mortality table for only one gender because of a lack of credible mortality information with respect to the other gender, the first plan year for which there is credible mortality information with respect to the gender that had lacked credible mortality information (unless an approved substitute mortality table is used for that gender);

(B) The first plan year for which the plan fails to satisfy the requirements of paragraph (c)(1) of this section (regarding use of substitute mortality tables for all plans in the controlled group), taking into account the rules of paragraph (f)(3) of this section (regarding the transition period for newly-affiliated plans);

(C) The second plan year following the plan year for which there is a significant change in individuals covered by the plan as described in paragraph (c)(6)(iii) of this section;

(D) The first plan year following the plan year for which a substitute mortality table used for a population is no longer accurately predictive of future mortality of that population, as determined by the Commissioner or as certified by the plan's actuary to the satisfaction of the Commissioner; or

(E) The date specified in guidance published in the Internal Revenue Bulletin (see § 601.601(d)(2)(ii)(b) of this chapter) in conjunction with a replacement of mortality tables specified under section 430(h)(3)(A) and § 1.430(h)(3)–1 (other than annual updates to the static mortality tables issued pursuant to § 1.430(h)(3)–1(a)(3) or changes to the mortality improvement rates pursuant to § 1.430(h)(3)–1(a)(2)(i)(C)).

(iii) *Significant change in coverage*—(A) *Change in coverage from time of experience study.* For purposes of applying the rules of paragraph (c)(6)(ii)(C) of this section, a significant change in the individuals covered by a substitute mortality table for a plan year occurs if the number of individuals covered by the substitute mortality table for the plan year is less than 80 percent or more than 120 percent of the average number of individuals in that population over the years covered by the experience study on which the substitute mortality tables are based. However, a change in coverage is not treated as significant if the plan's actuary certifies in writing to the satisfaction of the Commissioner that the substitute mortality tables used for the population continue to be accurately predictive of future mortality of that population (taking into account the effect of the change in the population).

(B) *Change in coverage from time of certification.* For purposes of applying the rules of paragraph (c)(6)(ii)(C) of this section, a significant change in the individuals covered by a substitute mortality table for a plan year occurs if the number of individuals covered by the substitute mortality table for the plan year is less than 80 percent or more than 120 percent of the number of individuals covered by the substitute mortality table in a plan year for which a certification described in paragraph (c)(6)(iii)(A) of this section was made on account of a prior change in coverage. However, a change in coverage is not treated as significant if the plan's actuary certifies in writing to the satisfaction of the Commissioner that the substitute mortality tables used by the plan with respect to the covered population continue to be accurately predictive of future mortality of that population (taking into account the effect of the change in the population).

(7) *Multiple-employer plans*—(i) *General rule.* In the case of a multiple-employer plan described in section 413(c), the plan administrator (as described in section 414(g)) is treated as the plan sponsor for purposes of this section. If approval is received to use substitute mortality tables by a plan, those tables must apply on a plan-wide basis (even if the plan is subject to the rules of section 413(c)(4)(A)).

(ii) *Application of controlled group consistency rules.* In the case of an

employer that participates in a multiple-employer plan, if the proportion of the plan's funding target attributable to the employees and former employees of the employer and members of its controlled group represents more than 50 percent of the plan's funding target, then the employer is treated as maintaining the plan for purposes of paragraph (c)(1) of this section. Thus, for a multiple-employer plan with credible mortality information that is treated as maintained by an employer under this paragraph (c)(7), unless substitute mortality tables are used for that plan, substitute mortality tables may not be used for any plan maintained by that employer or a member of its controlled group (and if substitute mortality tables are used for any other plan maintained by any member of the employer's controlled group, they must be used for the multiple-employer plan). By contrast, if the proportion of the plan's funding target attributable to the employees and former employees of the employer and members of its controlled group represents 50 percent or less of the funding target for a multiple-employer plan in which it participates, then the employer is not treated as maintaining the plan for purposes of paragraph (c)(1) of this section. Accordingly, whether substitute mortality tables may be used for other plans in such an employer's controlled group is independent of whether substitute mortality tables are used for the multiple-employer plan.

(d) *Full credibility*—(1) *In general.* The mortality experience with respect to a gender or other population within a plan has full credibility if the actual number of deaths for that population during the experience study period described in paragraph (d)(2) of this section is at least the full credibility threshold described in paragraph (d)(3) of this section. Paragraph (d)(4) of this section provides rules for the creation of a base substitute mortality table from the experience study, which apply if the mortality experience for the population has full credibility. Paragraph (d)(5) of this section provides rules regarding the use of separate substitute mortality tables for plan populations within a gender. Paragraph (d)(6) of this section provides an option to use the combined mortality experience of both genders to determine the existence and extent of credible mortality information and to develop a single mortality ratio for use in constructing substitute mortality tables.

(2) *Experience study period requirements*—(i) *General rule.* The base substitute mortality table for a gender or other population must be developed from an experience study of the mortality experience of that population that is collected over an experience study period. The experience study period must consist of 2, 3, 4, or 5 consecutive 12-month periods, and must be the same period for all populations except as provided in paragraph (c)(5)(iii) of this section.

(ii) *Requirement to use recent experience data*—(A) *General rule.* Except as provided in paragraph (d)(2)(ii)(B) of this section, the last day of the experience study period must be less than 3 years before the first day of the first plan year for which the substitute mortality tables are to apply. For example, if January 1, 2019, is the first day of the first plan year for which the substitute mortality tables will be used, then an experience study using calendar year data generally must include data collected for a period that ends no earlier than December 31, 2016.

(B) *Exception for submission between 1 and 2 years before effective date of table.* If the plan sponsor submits a request for approval to use of substitute mortality tables more than 1 year (and less than 2 years) before the first day of the first plan year for which the substitute mortality tables are to apply, then the experience study is not treated as failing to satisfy the rule in paragraph (d)(2)(ii)(A) of this section if the last day of the final year reflected in the experience data is less than 2 years before the date of submission. For example, if an application for approval to use of substitute mortality tables that would apply for plan years beginning on or after January 1, 2019 year is submitted in 2017, then an experience study using calendar year data may be based on data collected for a period that ends as early as December 31, 2015.

(iii) *Experience study based on benefit amount.* As provided in paragraph (d)(4)(i) of this section, the mortality rates under the base substitute mortality tables are amounts-weighted mortality rates that are derived from the experience study. An individual's benefit amount (which is used to determine amounts-weighted mortality rates and for other purposes under this paragraph (d)) is the individual's accrued benefit expressed in the form of an annual benefit commencing at normal retirement age (or at the current age, if later) if an individual has not commenced benefits and the individual's annual payment if the individual has commenced benefits. Because amounts-weighted mortality rates for a plan are determined using benefit amounts, the experience study used to develop a base substitute mortality table may not include periods before the plan was established.

(3) *Full credibility threshold*—(i) *Threshold number of deaths.* The full credibility threshold for a gender or other population is the product of 1,082 and the population's benefit dispersion factor. In calculating the population's benefit dispersion factor, for purposes of paragraphs (d)(3)(iii), (iv), and (v) of this section, the population is adjusted, as appropriate, for individuals who leave the population on account of a reason other than death.

(ii) *Population's benefit dispersion factor.* The population's benefit dispersion factor is equal to—

(A) The number of expected deaths for the population during the experience study period (as defined in paragraph (d)(3)(iii) of this section); multiplied by

(B) The sum of the mortality-weighted squares of the benefits (as defined in paragraph (d)(3)(iv) of this section); divided by

(C) The square of the sum of the mortality-weighted benefits (as defined in paragraph (d)(3)(v) of this section).

(iii) *Number of expected deaths.* For a population, the number of expected deaths during the experience study period is equal to the sum, for all years in the experience study period, of the expected number of deaths in the population during the year using the mortality rates from the standard mortality tables determined under paragraph (d)(4)(iii) of this section. This amount is equal to:

$$\sum_{t=1}^{E} \sum_{x=1}^{N_t} q_{xt}$$

Where E is equal to the number of years in the experience study period, t represents each year during the experience study period, x represents an individual in the population during year t, q_{xt} is the mortality rate for that individual's age and gender for the calendar year in which year t begins under the applicable standard mortality table determined under paragraph (d)(4)(iii) of this section, and N_t is equal to the number of individuals in the population in year t.

(iv) *Sum of the mortality-weighted squares of the benefits*—(A) *Determination.* For a population, the sum of the mortality-weighted squares of the benefits is the sum, for all years in the experience study period, for all individuals in the population at the beginning of the year, of the product of—

(*1*) The probability of death for the individual using the mortality rate for

the individual's age and gender from the standard mortality table determined under paragraph (d)(4)(iii) of this section; and

(*2*) The square of the benefit amount for the individual.

(B) *Expression as formula.* The sum of the mortality-weighted squares of the benefits for a population determined pursuant to paragraph (d)(3)(iv)(A) of this section is equal to:

$$\sum_{t=1}^{E} \sum_{x=1}^{N_t} q_{xt} b_{xt}^2$$

Where E is equal to the number of years in the experience study period, t represents each year during the experience study period, x represents an individual in the population during year t, q_{xt} is the mortality rate for that individual's age and gender for the calendar year in which year t begins under the applicable standard mortality table determined under paragraph (d)(4)(iii) of this section, b_{xt} is equal to the benefit amount for that individual for year t, and N_t is equal to the number of individuals in the population in year t.

(v) *Square of the sum of the mortality-weighted benefits*—(A) *Determination.* For a population, the square of the sum of the mortality-weighted benefits is equal to the square of the sum, for all years in the experience study period, for all individuals in the population at the beginning of the year, of the product of—

(*1*) The probability of death of the individual using the mortality rate for the individual's age and gender from the standard mortality table determined under paragraph (d)(4)(iii) of this section; and

(*2*) The benefit amount for the individual.

(B) *Expression as formula.* The square of the sum of the mortality-weighted benefits for a population determined pursuant to paragraph (d)(3)(v)(A) of this section is equal to:

$$\left(\sum_{t=1}^{E} \sum_{x=1}^{N_t} q_{xt} b_{xt} \right)^2$$

Where E is equal to the number of years in the experience study period, t represents each year during the experience study period, x represents an individual in the population during year t, q_{xt} is the mortality rate for that individual's age and gender for the calendar year in which t begins under the applicable standard mortality table determined under paragraph (d)(4)(iii) of this section, b_{xt} is equal to the benefit amount for that individual for year t, and N_t is equal to the number of individuals in the population in year t.

(4) *Development of mortality rates*—(i) *In general.* The mortality rates under the base substitute mortality tables must be amounts-weighted mortality rates that are derived from the experience study. Except as provided in paragraph (d)(4)(iv) of this section, the mortality rate for an age and gender is determined by multiplying the mortality rate for that age and gender from the standard mortality table determined under paragraph (d)(4)(iii) of this section by the mortality ratio determined under paragraph (d)(4)(ii) of this section. If the simplified rule of paragraph (c)(2)(ii)(B) of this section is used for the population, then the mortality ratio is determined only taking into account people who are at least 50 years old and less than 100 years old, but the mortality ratio is applied to all ages.

(ii) *Mortality ratio*—(A) *In general.* Except as provided in paragraph (d)(6) of this section, a mortality ratio is determined for a gender or other population within a gender, and is equal to the quotient determined by dividing—

(*1*) The sum, for all years in the experience study period, of the benefit amount for all individuals in the population at the beginning of the year who died during the year, by

(*2*) The sum, for all years in the experience study period, for all individuals in the population at the beginning of the year (adjusted, as appropriate, for individuals who leave on account of reason other than death), of the product of—

(*i*) The probability of death of the individual using the mortality rate for the individual's age and gender from the standard mortality table determined under paragraph (d)(4)(iii) of this section; and

(*ii*) The benefit amount for the individual.

(B) *Expression as formula.* For purposes of determining a mortality ratio as described in paragraph (d)(4)(ii)(A) of this section, the amount described in paragraph (d)(4)(ii)(A)(*2*) of this section is equal to:

$$\sum_{t=1}^{E} \sum_{x=1}^{N_t} q_{xt} b_{xt}$$

Where E is equal to the number of years in the experience study period, t represents each year during the experience study period, x represents an individual in the population during year t, q_{xt} is the mortality rate for that individual's age and gender for the calendar year in which t begins under the applicable standard mortality table determined under paragraph (d)(4)(iii) of this section, b_{xt} is equal to the benefit amount for that individual for year t, and N_t is equal to the number of individuals in the population in year t.

(iii) *Standard mortality table*—(A) *Projection of base table.* The standard mortality table for a year is the mortality table determined by applying cumulative mortality improvement factors determined under § 1.430(h)(3)–1(a)(2)(i)(E) to the base mortality table under § 1.430(h)(3)–1(d) for the period beginning with 2006 and ending in the base year for the base substitute mortality table determined under paragraph (c)(3)(ii) of this section. For purposes of the previous sentence, the cumulative mortality improvement factors are determined using the mortality improvement rates described in § 1.430(h)(3)–1(a)(2)(i)(C) that apply for the calendar year during which the plan sponsor submits the request for approval to use substitute mortality tables. If the plan sponsor submits such a request during 2017, then the cumulative mortality improvement factors are determined using the mortality improvement rates contained in the Mortality Improvement Scale MP–2016 Report (issued by the Retirement Plans Experience Committee (RPEC) of the Society of Actuaries and available at *www.soa.org/Research/Experience-Study/Pension/research-2016-mp.aspx*).

(B) *Selection of base table.* If the population consists solely of annuitants, the annuitant base mortality table set forth in § 1.430(h)(3)–1(d) must be used for purposes of paragraph (d)(4)(iii)(A) of this section. If the population consists solely of nonannuitants, the nonannuitant base mortality table set forth in § 1.430(h)(3)–1(d) must be used for that purpose. If the population includes both annuitants and nonannuitants, a combination of the annuitant and nonannuitant base tables set forth in § 1.430(h)(3)–1(d) must be used for that purpose. The combined table is constructed using the weighting factors for small plans that are set forth in § 1.430(h)(3)–1(d). The weighting factors are applied to develop the combined table using the following equation: Combined mortality rate = [nonannuitant rate * (1 − weighting

factor)] + [annuitant rate * weighting factor].

(iv) *Modification for ages 96 and older.* Mortality rates for ages 96 and older under the base substitute mortality table are determined using the rules of paragraph (d)(4)(i) of this section but substituting a modified mortality ratio for the mortality ratio determined under paragraph (d)(4)(ii) of this section. The modified mortality ratio is determined as follows—

(A) For ages 96 through 109, if the mortality ratio is greater than 1.0, the modified mortality ratio is equal to the mortality ratio for the population reduced by 1/15th of the excess of the mortality ratio over 1.0 for each year that the age exceeds 95.

(B) For ages 96 through 109, if the mortality ratio is less than 1.0, the modified mortality ratio is equal to the mortality ratio for the population increased by 1/15th of the excess of 1.0 over the mortality ratio for each year that the age exceeds 95.

(C) For ages 110 and older, the modified mortality ratio is equal to 1.0.

(v) *Change in number of individuals covered by table.* Experience data may not be used to develop a base table if the number of individuals in the population covered by the table (for example, the male annuitant population) as of the last day of the plan year before the year the request for approval to use the substitute mortality table is made is less than 80 percent or more than 120 percent of the average number of individuals in that population over the years covered by the experience study on which the substitute mortality tables are based, unless it is demonstrated to the satisfaction of the Commissioner that the experience data is accurately predictive of future mortality of that population (taking into account the effect of the change in individuals) after appropriate adjustments to the data are made (for example, excluding data from individuals with respect to a spun-off portion of the plan). For this purpose, a reasonable estimate of the number of individuals in the population covered by the table may be used.

(5) *Separate tables for specified populations*—(i) *In general.* Except as provided in this paragraph (d)(5), separate substitute mortality tables are permitted to be used for separate populations within a gender only if—

(A) All individuals of that gender are divided into separate populations;

(B) Each separate population has mortality experience that has full credibility as determined under the rules of paragraph (d)(5)(iii) of this section; and

(C) The separate base substitute mortality table for each separate population is developed applying the rules of paragraphs (d)(1) through (4) of this section using an experience study that takes into account solely members of that population.

(ii) *Annuitant and nonannuitant separate populations.* Notwithstanding paragraph (d)(5)(i)(B) of this section, a gender may be separated into separate populations of annuitants and nonannuitants for the purpose of developing and using substitute mortality tables, even if only one of those separate populations has credible mortality information. Similarly, if separate populations that satisfy paragraph (d)(5)(i)(B) of this section are established, then any of those populations may be further subdivided into separate annuitant and nonannuitant subpopulations, provided that at least one of the two resulting subpopulations has credible mortality information. The standard mortality tables under § 1.430(h)(3)–1 are used for a resulting subpopulation that does not have credible mortality information. For example, if the male hourly and salaried populations under a plan each have mortality experience with full credibility and the male salaried annuitant population has credible mortality information, then substitute mortality tables may be used for the plan with respect to the male salaried annuitant population even if the standard mortality tables under § 1.430(h)(3)–1 are used with respect to the male salaried nonannuitant population (because that nonannuitant population does not have credible mortality information).

(iii) *Credible mortality information for separate populations.* In determining whether the mortality experience for a separate population within a gender has full credibility, the rules of paragraph (d)(1) of this section must be applied to that separate population. In demonstrating that an annuitant (or nonannuitant) population within a gender or within a separate population does not have credible mortality information, the rules of paragraph (c)(2)(iii)(B) of this section are applied by substituting the annuitant (or nonannuitant) population for the gender.

(6) *Option to determine a single mortality ratio for both genders.* Base substitute mortality tables for a plan may be constructed by developing and applying a single mortality ratio for both genders, but only if the substitute mortality tables used for all plans maintained by members of the plan sponsor's controlled group (except for plans for which both the male and female populations, considered separately, have mortality experience with full credibility) are constructed in this manner. If the option under this paragraph (d)(6) is applied for a plan then, for all plans maintained by members of the plan sponsor's controlled group, whether both the male and female populations within the plan have credible mortality information (and, if that combined population's mortality experience does not have full credibility, the partial credibility weighting factor for the plan) is determined using the combined mortality experience for both genders.

(e) *Partial credibility*—(1) *In general.* The mortality experience with respect to a population has partial credibility if the actual number of deaths for that population during the experience study period described in paragraph (d)(2) of this section is at least equal to 100 and is less than the full credibility threshold described for the population in paragraph (d)(3) of this section. If the mortality experience for the population has partial credibility, then in lieu of creating a base substitute mortality table as described in paragraph (d) of this section, the base substitute mortality table is created as the sum of—

(i) The product of—

(A) The partial credibility weighting factor determined under paragraph (e)(2) of this section; and

(B) The mortality rates that are derived from the experience study determined under paragraph (d)(4)(i) of this section, and

(ii) The product of—

(A) One minus the partial credibility weighting factor described in paragraph (e)(2) of this section; and

(B) The mortality rate from the standard mortality tables described in paragraph (d)(4)(iii) of this section.

(2) *Partial credibility weighting factor.* The partial credibility weighting factor is equal to the square root of the fraction—

(i) The numerator of which is the actual number of deaths for the population during the experience study period, and

(ii) The denominator of which is the full credibility threshold for the population described in paragraph (d)(3) of this section.

(f) *Special rules for newly-affiliated plans*—(1) *In general.* This paragraph (f) provides special rules that provide temporary relief from certain rules in this section in the case of a controlled group that includes a newly-affiliated plan (as defined in paragraph (f)(2) of this section). Paragraph (f)(3) of this section provides a transition period

during which the requirement in paragraph (c)(1) of this section (that is, the requirement that all plans within the controlled group that have credible mortality information must use substitute mortality tables) is not applicable. Paragraph (f)(4) of this section provides special rules that permit the use of a shorter experience study period in the case of a newly-affiliated plan that excludes the mortality experience data for the period before the date the plan becomes a newly-affiliated plan.

(2) *Definition of newly-affiliated plan.* For purposes of this paragraph (f), a plan is a newly-affiliated plan if the plan sponsor becomes a member of the new controlled group in connection with a merger, acquisition, or similar transaction described in § 1.410(b)–2(f). A plan also is treated as a newly-affiliated plan for purposes of this section if the plan is established in connection with a transfer of assets and liabilities from another employer's plan in connection with a merger, acquisition, or similar transaction described in § 1.410(b)–2(f).

(3) *Transition period for newly-affiliated plans.* The use of substitute mortality tables for a plan within a controlled group is not prohibited merely because, during the transition period, substitute mortality tables are not used for a newly-affiliated plan that fails to demonstrate a lack of credible mortality information during that period. Similarly, during the transition period, the use of substitute mortality tables for a newly-affiliated plan is not prohibited merely because substitute mortality tables are not used for another plan within the controlled group that fails to demonstrate a lack of credible mortality information during that period. The transition period begins on the date of the transaction that results in the plan becoming a newly-affiliated plan and ends on the last day of the plan year that immediately follows the latest ending period described in section 410(b)(6)(C)(ii) with respect to that transaction for any of the plans in the controlled group.

(4) *Experience study period for newly-affiliated plan*—(i) *In general.* The mortality experience data for a newly-affiliated plan may either include or exclude mortality experience data for the period before the date the plan becomes a newly-affiliated plan. If a plan sponsor excludes mortality experience data for the period before the date the plan becomes a newly-affiliated plan, the exclusion must apply for all populations within the plan.

(ii) *Demonstration relating to lack of credible mortality information.* If the experience study for a newly-affiliated plan excludes mortality experience data for the period prior to the date the plan becomes a newly-affiliated plan, then the demonstration that the plan does not have credible mortality information for a plan year that begins after the transition period can be made using a shorter experience study period than would otherwise be permitted under paragraph (c)(2)(iii)(B) of this section, provided that the experience study period begins with the date the plan becomes a newly-affiliated plan and ends not more than one year and one day before the first day of the plan year.

(iii) *Demonstration relating to credible mortality information.* If the experience study for a newly-affiliated plan excludes mortality experience data for the period before the date the plan becomes a newly-affiliated plan and the plan fails to demonstrate that it does not have credible mortality information for the plan year under the rules of paragraph (f)(4)(ii) of this section, then other plans within the controlled group may continue to use substitute mortality tables only if substitute mortality tables are used for the newly-affiliated plan for the plan year. In such a case, the experience study period for the newly-affiliated plan may consist of a 12-month period.

(g) *Effective/applicability date*—(1) *General rule.* This section applies for plan years beginning on or after January 1, 2018. Except as provided in paragraph (g)(2) of this section, the substitute mortality table used for a plan for such a plan year must comply with the rules of paragraphs (a) through (f) of this section.

(2) *Transition rule for previously approved substitute mortality tables*—(i) *Applicability for 2018.* If a plan sponsor has received approval from the Commissioner to use substitute mortality tables for a plan year beginning in 2017, then that previous approval applies to a plan year beginning in 2018 provided that—

(A) The previous approval period had not ended;

(B) Substitute mortality tables are used for all plans in the plan sponsor's controlled group in accordance with the terms of that approval; and

(C) The projection factors provided in Projection Scale AA, as set forth in § 1.430(h)(3)–1(d) as in effect on December 31, 2017 (as contained in 26 CFR part 1 revised April 1, 2017) are applied to the base substitute mortality table.

(ii) *Applicability for later plan years.* If a plan sponsor is described in paragraph (g)(2)(i) of this section, then that previous approval applies to a later plan year provided that—

(A) The previous approval period had not ended;

(B) Substitute mortality tables are used for all plans in the plan sponsor's controlled group that have credible mortality information within the meaning of paragraph (c)(2)(ii) of this section; and

(C) The mortality improvement factors described in paragraph (c)(3)(ii) of this section are applied to the base substitute mortality table.

(3) *Transition rule for requests for approval to use substitute mortality tables.* A written request described in paragraph (b)(1)(i) of this section to use substitute mortality tables for a plan year that begins during 2018 does not fail to satisfy the timing requirement of paragraph (b)(1)(ii) of this section if it is submitted no later than February 28, 2018, provided that the plan sponsor agrees to a 90-day extension of the 180-day review period in accordance with paragraph (b)(2)(iv) of this section.

■ Par. 4. Section 1.431(c)(6)–1 is revised to read as follows:

§ 1.431(c)(6)–1 Mortality tables used to determine current liability.

(a) *Mortality tables used to determine current liability.* The mortality assumptions that apply to a defined benefit plan for the plan year pursuant to section 430(h)(3)(A) and § 1.430(h)(3)–1(a) are used to determine a multiemployer plan's current liability for purposes of applying the rules of section 431(c)(6). Either the generational mortality tables used pursuant to § 1.430(h)(3)–1(a)(2) or the static mortality tables used pursuant to § 1.430(h)(3)–1(a)(3) may be used for a multiemployer plan for this purpose. However, for this purpose, substitute mortality tables under § 1.430(h)(3)–2 may not be used for a multiemployer plan.

(b) *Effective/applicability date.* This section applies for plan years beginning on or after January 1, 2018. For rules that apply to plan years beginning before January 1, 2018 and on or after January 1, 2008, see § 1.431(c)(6)–1 (as contained in 26 CFR part 1 revised April 1, 2015).

■ Par. 5. Section 1.433(h)(3)–1 is added to read as follows:

§ 1.433(h)(3)–1 Mortality tables used to determine current liability.

(a) *Mortality tables used to determine current liability.* In accordance with section 433(h)(3)(B), the mortality assumptions that apply to a defined benefit plan for the plan year pursuant to section 430(h)(3)(A) and

§ 1.430(h)(3)–1(a) are used to determine a CSEC plan's current liability for purposes of applying the rules of section 433(c)(7)(C). Either the static mortality tables used pursuant to § 1.430(h)(3)–1(a)(3) or generational mortality tables used pursuant to § 1.430(h)(3)–1(a)(2) may be used for a CSEC plan for this purpose, but substitute mortality tables under § 1.430(h)(3)–2 may not be used for this purpose.

(b) *Effective/applicability date.* This section applies for plan years beginning on or after January 1, 2018.

Kirsten Wielobob,

Deputy Commissioner for Services and Enforcement.

Approved: August 21, 2017.

David Kautter,

Assistant Secretary of the Treasury for Tax Policy.

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DEPARTMENT OF LABOR

Mine Safety and Health Administration

30 CFR Parts 56 and 57

[Docket No. MSHA–2014–0030]

RIN 1219–AB87

Examinations of Working Places in Metal and Nonmetal Mines

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Final rule; stay of effective date; reinstatement of rules.

SUMMARY: The Mine Safety and Health Administration is staying the effective date of the Agency's January 23, 2017, final rule that amended standards for examination of working places in metal and nonmetal mines to June 2, 2018. MSHA also is reinstating the provisions of the working place examinations standards that were in effect as of October 1, 2017. This stay and reinstatement offers additional time for MSHA to provide stakeholders training and compliance assistance.

DATES: As of October 5, 2017, 30 CFR 56.18002 and 57.18002 are stayed until June 2, 2018, and 30 CFR 56.18002T and 57.18002T are added until June 2, 2018.

FOR FURTHER INFORMATION CONTACT: Sheila A. McConnell, Director, Office of Standards, Regulations, and Variances, MSHA, at *mcconnell.sheila.a@dol.gov* (email); 202–693–9440 (voice); or 202–693–9441 (facsimile).

SUPPLEMENTARY INFORMATION:

I. Stay of Effective Date

On January 23, 2017, MSHA published a final rule in the **Federal Register** (82 FR 7680) amending the Agency's standards for the examination of working places in metal and nonmetal (MNM) mines (January 2017 final rule). The final rule was scheduled to become effective on May 23, 2017. On May 22, 2017, MSHA published a final rule delaying the effective date to October 2, 2017 (82 FR 23139). On September 12, 2017, MSHA proposed to further delay the effective date of the final rule from October 2, 2017 to March 2, 2018 (82 FR 42765). The comment period for the proposed delay of the final rule's effective date closed on September 26, 2017.

In the same issue of the **Federal Register**, MSHA reopened the rulemaking record and proposed to amend the January 2017 final rule with regard to the timing of the working place examination and contents of the examination record (82 FR 42757). MSHA has scheduled four public hearings from October 24, 2017, to November 2, 2017, at various locations, to provide the members of the public an opportunity to present their views on the limited changes being proposed. The comment period for the proposed limited changes closes on November 13, 2017.

Most commenters on the proposed rule to delay the effective date of the final rule supported extending the date beyond October 2, 2017. One commenter who supported extending the effective date to March 2, 2018, stated that the extension of time would offer additional time for MSHA to provide stakeholders training and compliance assistance, would further permit MSHA to address issues raised by stakeholders during quarterly training calls and stakeholder meetings and compliance assistance visits, and would also provide MSHA more time to train its inspectors to help ensure consistency in MSHA enforcement. This commenter also supported a further delay of the effective date of the final rule, should such be required, if the Agency has yet to achieve its stated goals.

Many commenters stated that an extension beyond October 2, 2017 is necessary and appropriate and recommended an indefinite suspension of the effective date. The commenters maintained that, since substantive changes to the January 2017 final rule were proposed at the same time as the proposed delay, it is imprudent to establish any effective date until an amended final rule is promulgated and the substance of the rule is known. In addition, they acknowledged MSHA's stated intent to provide compliance assistance to industry and specific training to inspectors prior to the effective date. The commenters expressed concern that, for any compliance assistance measures to have any meaning, it is necessary for the exact terms of the final rule to be known before the final rule's effective date. Then, after the period of compliance assistance from MSHA, mine operators will be required to develop appropriate compliance programs to comply with the final rule. Given the uncertainty of the final rule's provisions and the compliance assistance efforts to be scheduled, the commenters believed that an appropriate effective date cannot be established.

Other commenters stated that the proposed delay to March 2, 2018, was arbitrary and does not increase the likelihood that MSHA will complete all of the compliance assistance, outreach, and training tasks in that timeframe, or that the MNM industry will be ready to comply on the new effective date. They recommended that MSHA establish an effective date that is six months after the date on which any changes to the final Examinations rule are published in the **Federal Register**.

MSHA agrees with commenters who support an extension beyond the proposed March 2, 2018 effective date so that the Agency will complete its stated goals by the effective date of the final rule. To ensure compliance readiness on that date, MSHA is developing compliance assistance materials to assist the industry. A stay beyond the proposed March 2, 2018, effective date will provide MSHA the time and flexibility to make these materials available to stakeholders and post them on MSHA's Web site (*www.msha.gov*); hold informational stakeholder meetings at various locations around the country; and focus on compliance assistance visits in other areas of the country, as well as ensure all issues at these meetings and visits are addressed. Additional time will also allow MSHA to train its inspectors to ensure consistent enforcement. MSHA will make the Agency's inspector training materials available to the mining community to assist miners and mine operators in effectively implementing the rule, thus enhancing the safety of miners.

Labor union commenters did not support the proposed delay in the effective date, stating that a delay was unnecessary and miners' health and safety would be affected by an extension. Labor also stated that the