

## Updated Static Mortality Tables for Defined Benefit Pension Plans for 2018

Notice 2017-60

### PURPOSE

This notice sets forth the mortality table that is used for purposes of determining minimum present value under § 417(e)(3) of the Internal Revenue Code (Code) and section 205(g)(3) of the Employee Retirement Income Security Act of 1974, Public Law No. 93-406, as amended, for distributions with annuity starting dates that occur during stability periods beginning in the 2018 calendar year. This mortality table is a modified unisex version of the mortality tables specified under § 430(h)(3)(A) of the Code, which have been revised pursuant to § 430(h)(3)(B) by T.D. 9826, for plan years beginning in 2018.

This notice also provides updated static mortality tables determined using the methodology in § 1.430(h)(3)-1 prior to its amendment by T.D. 9826. These updated static mortality tables apply for plan years beginning during 2017 with respect to valuation dates occurring during 2018. These updated static mortality tables also apply for the plan year beginning during 2018 if the option under § 1.430(h)(3)-1(f)(2) is used for the plan. The option under § 1.430(h)(3)-1(f)(2), which is available under certain circumstances for valuation dates occurring during 2018, is to apply mortality tables determined in accordance with regulations previously in effect.

### BACKGROUND

Section 412 of the Code provides minimum funding requirements that generally apply for defined benefit plans. Section 412(a)(2) provides that § 430 specifies the minimum funding requirements that generally apply to defined benefit plans that are not multiemployer plans. Section 430(a) defines the minimum required contribution for such a plan by reference to the plan's funding target for the plan year. Under § 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) provides rules regarding the mortality tables that are generally used under § 430. Under § 430(h)(3)(A), except as provided in § 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 § 430. Those tables are to be based on the actual experience of pension plans and projected trends in that experience. Section 430(h)(3)(B) requires the Secretary to revise any table in effect under § 430(h)(3)(A) at least every 10 years to reflect the actual experience of pension plans and projected trends in that experience.

Section 430(h)(3)(C) provides that, upon request by a plan sponsor and approval by the Secretary, substitute mortality tables that meet the applicable requirements may be used in lieu of the standard mortality tables provided under § 430(h)(3)(A). 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.

Section 417(e)(3) generally provides that the present value of certain accelerated forms of benefit 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 under § 430(h)(3)(A) (without regard to § 430(h)(3)(C) or (D)), modified as appropriate by the Secretary.

Section 1.430(h)(3)-1 was amended on October 5, 2017, by T.D. 9826, 82 F.R. xxxxx, to revise the mortality tables used under § 430(h)(3)(A) for plan years beginning on or after January 1, 2018. The mortality tables used under § 430(h)(3)(A) are based on the tables contained in the RP-2014 Mortality Tables Report,<sup>1</sup> adjusted for mortality improvement. Section 1.430(h)(3)-1 sets forth base mortality tables with a base year of 2006. For valuation dates during 2018, these base mortality tables are adjusted for mortality improvement using the mortality improvement rates contained in the Mortality Improvement Scale MP-2016 Report.<sup>2</sup>

Section 1.430(h)(3)-1(f)(2) provides under certain circumstances an option to apply mortality tables determined in accordance with regulations previously in effect for purposes of applying the rules of § 430 for the 2018 plan year. Under § 1.430(h)(3)-1(f)(2), 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 prior to amendment by T.D. 9826 (referred to in this notice as former § 1.430(h)(3)-1) may be used for purposes of applying the rules of § 430 for a valuation date occurring during 2018 if the plan sponsor: (1) concludes that use of mortality tables determined in accordance with § 1.430(h)(3)-1 for that 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 for the plan of the intent to apply the option under § 1.430(h)(3)-1(f)(2).

Former § 1.430(h)(3)-1 provided for mortality tables based on the tables contained in the RP-2000 Mortality Tables Report, adjusted for mortality

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<sup>1</sup> The RP-2014 Mortality Tables Report, as revised November 2014, is available at [www.soa.org/Research/Experience-Study/pension/research-2014-rp.aspx](http://www.soa.org/Research/Experience-Study/pension/research-2014-rp.aspx).

<sup>2</sup> The Mortality Improvement Scale MP-2016 Report is available at [www.soa.org/Research/Experience-Study/Pension/research-2016-mp.aspx](http://www.soa.org/Research/Experience-Study/Pension/research-2016-mp.aspx).

improvement. The regulations permitted plan sponsors to apply the projection of mortality improvement in either of two ways: (1) through use of static tables that were updated annually to reflect expected improvements in mortality, or (2) through use of generational tables. Former § 1.430(h)(3)-1(b)(1) generally required the use of separate tables for annuitant and nonannuitant periods for large plans (those with over 500 participants as of the valuation date). Sponsors of small plans (those with 500 or fewer participants as of the valuation date) were permitted to use combined tables that apply the same mortality rates to both annuitants and nonannuitants pursuant to former § 1.430(h)(3)-1(b)(2). Former § 1.430(h)(3)-1(a)(3) provided that the static mortality tables for valuation dates occurring in years after 2008 were to be provided in the Internal Revenue Bulletin.

Rev. Rul. 2007-67, 2007-2 CB 1047, provides that, except as otherwise stated in future guidance, the applicable mortality table under § 417(e)(3) is a static mortality table set forth in published guidance that is developed based on a fixed blend of 50 percent of the static male combined mortality rates and 50 percent of the static female combined mortality rates used under § 1.430(h)(3)-1. Rev. Rul. 2007-67 also provides that the applicable mortality table for a calendar year applies to distributions with annuity starting dates that occur during stability periods that begin during that calendar year.

## STATIC MORTALITY TABLES FOR 2018

### Section 430

Section 1.430(h)(3)-1(e) provides the static mortality tables that generally apply for 2018 under section 430(h)(3)(A).

Static mortality tables for 2018 determined in accordance with former § 1.430(h)(3)-1 are set forth in Appendix A of this Notice. These static mortality tables apply under § 430(h)(3)(A): (1) for valuation dates occurring during 2018 with respect to plan years beginning during 2017, and (2) with respect to plan years beginning during 2018 if the option under § 1.430(h)(3)-1(f)(2) is used for a plan.

### Section 417(e)(3)

The mortality table that applies under § 417(e)(3) for distributions with annuity starting dates occurring during stability periods beginning in 2018 is set forth in Appendix B of this Notice. The mortality rates in this table are derived from the mortality tables specified under § 430(h)(3)(A) for the 2018 plan year (which are set forth in § 1.430(h)(3)-1(e)) by following the procedures set forth in Rev. Rul. 2007-67. This mortality table applies to a plan for 2018 (including for purposes of § 1.430(d)-1(f)(4)(iii)(B)) regardless of whether the option under § 1.430(h)(3)-1(f)(2) is used for the plan.

**Drafting Information**

The principal authors of this notice are Arslan Malik and Linda S. F. Marshall of the Office of the Associate Chief Counsel (Tax Exempt and Government Entities). For further information regarding this notice, contact Arslan Malik or Linda Marshall at (202) 317-6700 (not a toll-free number).

## APPENDIX A

**STATIC MORTALITY TABLES DETERMINED UNDER FORMER  
§ 1.430(h)(3)-1(c) and (d) (APPLICABLE FOR VALUATION DATES IN 2018  
FOR PLAN YEARS BEGINNING IN 2017 OR IF THE OPTION UNDER  
§ 1.430(h)(3)-1(f)(2) IS USED)**

Age	MALE	MALE	MALE	FEMALE	FEMALE	FEMALE
	2018 Non- Annuitant Mortality Rate	2018 Annuitant Mortality Rate	2018 Optional Combined Table for Small Plans	2018 Non- Annuitant Mortality Rate	2018 Annuitant Mortality Rate	2018 Optional Combined Table for Small Plans
1	0.000327	0.000327	0.000327	0.000293	0.000293	0.000293
2	0.000221	0.000221	0.000221	0.000191	0.000191	0.000191
3	0.000183	0.000183	0.000183	0.000143	0.000143	0.000143
4	0.000143	0.000143	0.000143	0.000107	0.000107	0.000107
5	0.000131	0.000131	0.000131	0.000097	0.000097	0.000097
6	0.000125	0.000125	0.000125	0.000090	0.000090	0.000090
7	0.000120	0.000120	0.000120	0.000085	0.000085	0.000085
8	0.000111	0.000111	0.000111	0.000075	0.000075	0.000075
9	0.000107	0.000107	0.000107	0.000072	0.000072	0.000072
10	0.000109	0.000109	0.000109	0.000072	0.000072	0.000072
11	0.000112	0.000112	0.000112	0.000073	0.000073	0.000073
12	0.000117	0.000117	0.000117	0.000076	0.000076	0.000076
13	0.000123	0.000123	0.000123	0.000080	0.000080	0.000080
14	0.000135	0.000135	0.000135	0.000089	0.000089	0.000089
15	0.000143	0.000143	0.000143	0.000100	0.000100	0.000100
16	0.000151	0.000151	0.000151	0.000107	0.000107	0.000107
17	0.000160	0.000160	0.000160	0.000116	0.000116	0.000116
18	0.000168	0.000168	0.000168	0.000118	0.000118	0.000118
19	0.000176	0.000176	0.000176	0.000115	0.000115	0.000115
20	0.000183	0.000183	0.000183	0.000112	0.000112	0.000112
21	0.000196	0.000196	0.000196	0.000109	0.000109	0.000109
22	0.000208	0.000208	0.000208	0.000110	0.000110	0.000110
23	0.000227	0.000227	0.000227	0.000116	0.000116	0.000116
24	0.000244	0.000244	0.000244	0.000122	0.000122	0.000122
25	0.000270	0.000270	0.000270	0.000130	0.000130	0.000130
26	0.000310	0.000310	0.000310	0.000144	0.000144	0.000144
27	0.000324	0.000324	0.000324	0.000150	0.000150	0.000150
28	0.000333	0.000333	0.000333	0.000158	0.000158	0.000158
29	0.000349	0.000349	0.000349	0.000167	0.000167	0.000167
30	0.000376	0.000376	0.000376	0.000189	0.000189	0.000189
31	0.000423	0.000423	0.000423	0.000236	0.000236	0.000236
32	0.000476	0.000476	0.000476	0.000269	0.000269	0.000269
33	0.000535	0.000535	0.000535	0.000292	0.000292	0.000292
34	0.000595	0.000595	0.000595	0.000312	0.000312	0.000312
35	0.000655	0.000655	0.000655	0.000330	0.000330	0.000330
36	0.000713	0.000713	0.000713	0.000345	0.000345	0.000345

Age	MALE	MALE	MALE	FEMALE	FEMALE	FEMALE
	2018 Non-Annuitant Mortality Rate	2018 Annuitant Mortality Rate	2018 Optional Combined Table for Small Plans	2018 Non-Annuitant Mortality Rate	2018 Annuitant Mortality Rate	2018 Optional Combined Table for Small Plans
37	0.000766	0.000766	0.000766	0.000360	0.000360	0.000360
38	0.000790	0.000790	0.000790	0.000376	0.000376	0.000376
39	0.000810	0.000810	0.000810	0.000394	0.000394	0.000394
40	0.000828	0.000828	0.000828	0.000429	0.000429	0.000429
41	0.000847	0.000875	0.000847	0.000470	0.000470	0.000470
42	0.000872	0.000968	0.000873	0.000517	0.000517	0.000517
43	0.000902	0.001108	0.000905	0.000569	0.000569	0.000569
44	0.000938	0.001295	0.000944	0.000625	0.000625	0.000625
45	0.000979	0.001528	0.000991	0.000660	0.000668	0.000660
46	0.001015	0.001808	0.001037	0.000695	0.000754	0.000696
47	0.001053	0.002135	0.001087	0.000728	0.000883	0.000732
48	0.001092	0.002508	0.001143	0.000787	0.001055	0.000796
49	0.001133	0.002928	0.001206	0.000851	0.00127	0.000869
50	0.001174	0.003395	0.001275	0.000952	0.001527	0.000981
51	0.001215	0.003422	0.001325	0.001065	0.001643	0.001099
52	0.001257	0.003406	0.001404	0.001235	0.001861	0.001282
53	0.001346	0.003453	0.001547	0.001433	0.002141	0.001500
54	0.001444	0.003498	0.001709	0.001666	0.002481	0.001763
55	0.001608	0.003655	0.002031	0.001938	0.002889	0.002118
56	0.001815	0.003889	0.002473	0.002260	0.003377	0.002579
57	0.002060	0.004198	0.002868	0.002551	0.003869	0.003000
58	0.002347	0.004607	0.003342	0.002789	0.004341	0.003391
59	0.002592	0.005001	0.003793	0.003050	0.004880	0.003848
60	0.002865	0.005476	0.004336	0.003332	0.005470	0.004391
61	0.003268	0.006169	0.005107	0.003632	0.006104	0.005067
62	0.003594	0.006795	0.005868	0.003946	0.006783	0.005818
63	0.004064	0.007698	0.006936	0.004271	0.007507	0.006704
64	0.004413	0.008518	0.007843	0.004601	0.008288	0.007566
65	0.004756	0.009433	0.008887	0.004934	0.009143	0.008534
66	0.005259	0.010720	0.010349	0.005261	0.010069	0.009645
67	0.005583	0.011867	0.011559	0.005579	0.011063	0.010716
68	0.005695	0.012794	0.012538	0.005886	0.012149	0.011850
69	0.005972	0.014133	0.013900	0.006178	0.013368	0.013100
70	0.006026	0.015219	0.014980	0.006452	0.014770	0.014488
71	0.006827	0.016839	0.016605	0.007035	0.015984	0.015711
72	0.008428	0.018697	0.018483	0.008200	0.017778	0.017518
73	0.010830	0.020825	0.020643	0.009948	0.019270	0.019049
74	0.014033	0.023233	0.023089	0.012278	0.021358	0.021174
75	0.018037	0.026595	0.026484	0.015191	0.022993	0.022860
76	0.022841	0.029643	0.029572	0.018686	0.025332	0.025242
77	0.028446	0.033819	0.033777	0.022764	0.028612	0.028552
78	0.034852	0.038544	0.038525	0.027424	0.031540	0.031512
79	0.042059	0.043933	0.043928	0.032667	0.034821	0.034814



## APPENDIX B

**APPLICABLE MORTALITY TABLE FOR DISTRIBUTIONS SUBJECT TO  
§ 417(e)(3) WITH ANNUITY STARTING DATES OCCURRING IN  
STABILITY PERIODS BEGINNING IN 2018**

<b>Age</b>	<b>Mortality Rate</b>	<b>Age</b>	<b>Mortality Rate</b>	<b>Age</b>	<b>Mortality Rate</b>
0	0.002327				
1	0.000141	41	0.000368	81	0.042142
2	0.000095	42	0.000400	82	0.047336
3	0.000076	43	0.000439	83	0.053242
4	0.000059	44	0.000486	84	0.059995
5	0.000052	45	0.000541	85	0.067626
6	0.000048	46	0.000608	86	0.076267
7	0.000044	47	0.000685	87	0.086016
8	0.000039	48	0.000775	88	0.096873
9	0.000035	49	0.000877	89	0.108929
10	0.000031	50	0.000995	90	0.122286
11	0.000033	51	0.001116	91	0.136576
12	0.000043	52	0.001267	92	0.151466
13	0.000053	53	0.001442	93	0.166679
14	0.000063	54	0.001645	94	0.182208
15	0.000073	55	0.001951	95	0.197901
16	0.000083	56	0.002348	96	0.215845
17	0.000093	57	0.002701	97	0.234417
18	0.000104	58	0.003092	98	0.253767
19	0.000114	59	0.003526	99	0.273753
20	0.000123	60	0.004029	100	0.294309
21	0.000135	61	0.004629	101	0.315174
22	0.000147	62	0.005297	102	0.336021
23	0.000157	63	0.006056	103	0.356761
24	0.000163	64	0.006793	104	0.377020
25	0.000160	65	0.007601	105	0.396564
26	0.000160	66	0.008513	106	0.415512
27	0.000163	67	0.009419	107	0.433450
28	0.000168	68	0.010399	108	0.450441
29	0.000175	69	0.011477	109	0.466489
30	0.000185	70	0.012664	110	0.481504
31	0.000197	71	0.013995	111	0.491560
32	0.000210	72	0.015486	112	0.498309
33	0.000225	73	0.017176	113	0.501231



<b>Age</b>	<b>Mortality Rate</b>	<b>Age</b>	<b>Mortality Rate</b>	<b>Age</b>	<b>Mortality Rate</b>
34	0.000239	74	0.019081	114	0.500577
35	0.000253	75	0.021243	115	0.500000
36	0.000266	76	0.023707	116	0.500000
37	0.000282	77	0.026500	117	0.500000
38	0.000299	78	0.029713	118	0.500000
39	0.000318	79	0.033373	119	0.500000
40	0.000342	80	0.037591	120	1.000000