



# **VALUATION OF THE MILITARY RETIREMENT SYSTEM**

## **SEPTEMBER 30, 2018**



**DoD Office of the Actuary**  
**April 2020**

## ACTUARIAL CERTIFICATION

This report on the valuation of the Military Retirement System as of September 30, 2018, has been prepared in accordance with generally accepted actuarial principles, standards, and practices. In preparing the report, we have relied upon information maintained by other Department of Defense activities regarding plan provisions, finances, and participants. The purpose of the actuarial valuation documented in this report is to develop actuarial liability and funding amounts to support the Secretary of Defense and the DoD Board of Actuaries (“Board”) in meeting the requirements of Chapter 74, Title 10, United States Code. Use of these results for other purposes may not be appropriate. Any rates or parameters included in this report should not be used for other purposes without complete comprehension of the underlying derivation. Please contact the DoD Office of the Actuary for further information.

We have performed the valuation using methods and assumptions approved by the Board. In general, the decrement rates used in the valuation are based on Military Retirement System experience. The annual, long-term economic assumptions include a 2.75% rate of inflation, a 3.25% across-the-board salary increase, and a 5.00% interest rate. Unless otherwise stated, normal cost percentages (NCPs) shown in this report do not reflect budgetary reductions (“sequestration”).

The actuarial methods and assumptions used in the preparation of this report are reasonable, and the valuation results present a fair picture of the financial condition of the Military Retirement System for purposes of meeting the requirements of Chapter 74, Title 10, United States Code. Future report results may differ significantly from those presented and documented in this report for reasons that include changes in military benefits, military force structure, and the broader economic environment.

*Pete Zouras*

Pete Zouras \*

Chief Actuary

ASA, Enrolled Actuary No. 20-5314

[Peter.M.Zouras.civ@mail.mil](mailto:Peter.M.Zouras.civ@mail.mil)

*Pete Rossi*

Pete Rossi \*

Deputy Chief Actuary

FSA, CERA, FCA, MAAA

[Peter.G.Rossi4.civ@mail.mil](mailto:Peter.G.Rossi4.civ@mail.mil)

**To contact the office by mail or phone:**

Defense Human Resources Activity (DHRA)

Office of the Actuary (OACT)

4800 Mark Center Drive, Suite 03E25

Alexandria, VA 22350

Phone: (571) 372-1993

Website: <http://actuary.defense.gov/>

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\* Meets the qualification standards of the American Academy of Actuaries, and continuing professional development requirements of the Society of Actuaries, to render the actuarial opinion referenced above.

## USE OF THIS REPORT

- **Intended Audience:** Those seeking actuarial information about the Military Retirement System (MRS) or financial information about the Military Retirement Fund (MRF).

- **Report Limitations:** Stated in *Actuarial Certification* section of this report.

**\*\*\* Economic, demographic, and political forces impact the actuarial projections and valuation results and cannot be predicted precisely over long periods of time. \*\*\*\*\***

- For a high-level summary and bottom line results, refer to the *General Information and Key Results* section.
- For those new to the MRS, the main text and associated tables/figures can be found in the central section of this report (*Valuation of the MRS*).
- For those familiar with the MRS, the appendices and supplementary information provide additional technical and background information about DoD Office of the Actuary's work.
- In various places throughout this report, figures may not add exactly due to rounding.
- Many references to "active duty" personnel throughout the report also include full-time support reservists. Similarly, many references to "reservists" or "selected reservists" exclude full-time support reservists.

## ABBREVIATIONS AND COMMON TERMS

|                  |                                                                      |
|------------------|----------------------------------------------------------------------|
| <b>AEAN</b>      | Aggregate Entry-Age Normal cost method                               |
| <b>Board</b>     | DoD Board of Actuaries                                               |
| <b>BRS</b>       | Blended Retirement System                                            |
| <b>COLA</b>      | Cost-of-Living Adjustment                                            |
| <b>CPI</b>       | Consumer Price Index                                                 |
| <b>CSB/Redux</b> | Career Status Bonus Retirement System combined with the Redux System |
| <b>DIC</b>       | Dependency and Indemnity Compensation                                |
| <b>DoD</b>       | U.S. Department of Defense                                           |
| <b>FY</b>        | Fiscal Year                                                          |
| <b>GORG</b>      | Actuarial Projection Model used by DoD OACT                          |
| <b>MRF / MRS</b> | Military Retirement Fund / Military Retirement System                |
| <b>NCP</b>       | Normal Cost Percentage                                               |
| <b>P.L.</b>      | Public Law                                                           |
| <b>RSFPP</b>     | Retired Serviceman's Family Protection Plan                          |
| <b>OACT</b>      | DoD Office of the Actuary                                            |
| <b>OMB</b>       | U.S. Office of Management and Budget                                 |
| <b>PEBD</b>      | Pay Entry Base Date                                                  |
| <b>SBP</b>       | Survivor Benefit Plan                                                |
| <b>Services</b>  | Army, Navy, Air Force, Marines                                       |
| <b>SSIA</b>      | Special Survivor Indemnity Allowance                                 |
| <b>UFL</b>       | Unfunded Liability                                                   |
| <b>U.S.C.</b>    | United States Code                                                   |
| <b>VA</b>        | U.S. Department of Veterans Affairs                                  |

## GENERAL INFORMATION AND KEY RESULTS

### Military Retirement System – For Fiscal Year ending September 30, 2018

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**1. Name of Plan:**

Military Retirement System

**2. Name and Address of Plan Sponsor:**

Department of Defense

1400 Defense Pentagon

Washington, DC 20301-1400

Phone: (703) 571-3343

Website: <https://www.defense.gov/>

**3. Type of Plan:**

Defined Benefit

**4. Establishment of Funding Arrangement:**

Public Law 98-94 (currently Chapter 74 of Title 10, U.S.C.)

**5. Administrative Costs:**

Not borne by the Plan

**6. Funding Arrangement:**

Trust Fund

**7. Actuarial Cost Method:**

Aggregate Entry-Age Normal (AEAN)

**8. Oversight:**

DoD Board of Actuaries. The Board approves methods and assumptions used in the valuation. The current members of the Board (as of this valuation) are:

Mr. James F. Verlautz, Chairman

Ms. Marcia A. Dush

Mr. John H. Moore

**9. Plan Participant Information at *End of Plan Year*:**

|                                        | <u>Members</u><br>(in 000s) | <u>Annualized Pay</u><br>(\$ in billions) |
|----------------------------------------|-----------------------------|-------------------------------------------|
| Active Duty and Full-time Reservists:  | 1,383                       | \$59.79                                   |
| Selected Drilling Reservists:          | 717                         | \$7.92                                    |
| Non-Selected Reservists – w/ 20 years: | 203                         | -N/A-                                     |
| Nondisability Retirees:                | 1,878                       | \$53.40                                   |
| Disability Retirees:                   | 123                         | \$1.72                                    |
| Surviving Families:                    | 280                         | \$3.69                                    |

\*\*\* Only retirees and surviving families are paid from the Military Retirement Fund. \*\*\*

**GENERAL INFORMATION AND KEY RESULTS (Continued)**  
**Military Retirement System – For Fiscal Year ending September 30, 2018**

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**10. Valuation Input Data:**

Extracts from files maintained by the Defense Manpower Data Center (DMDC), and files submitted by the Defense Finance and Accounting Service (DFAS)

**11. Retirement Criteria:**

- A. Nondisabled Retirement from Active Duty – Immediate, after 20 years of service
- B. Disabled Retirement – Immediate, generally with no years of service requirement
- C. Nondisabled Retirement from Reserve Duty - Deferred to age 60 (or earlier in some cases) after 20 years of creditable service

**12. Actuarial Assumptions:**

A. Economic:

(Annual Rates)

- 1) Inflation – 2.75%
- 2) Salary – 3.25% (excludes promotion and longevity increases)
- 3) Interest – 5.00%

B. Demographic:

- 1) Mortality and other assumptions: Based on Plan experience.
- 2) Mortality Improvement: Based on Plan experience using methods and assumptions utilized by the Society of Actuaries (SOA).
- 3) Percent of a Typical New Entrant Cohort Serving 20 Or More Years:  
Full-time (FT) personnel: 19% ||| Part-time (PT) personnel: 14%

**13. Accounting Results During Fiscal Year 2018:**

(\$ in billions)

- A. Benefits paid to participants: \$ 58.9
- B. Contributions from Services: \$ 18.4
- C. Contributions from Treasury: \$ 89.7
- D. Investment Income: \$ 30.5

**14. Actuarial Results at End of Fiscal Year 2018:**

(\$ in billions)

- A. Present Value of Future Benefits: \$ 1,798.0
- B. Actuarial Accrued Liability: \$ 1,533.4
- C. Actuarial Value of Assets: \$ 813.9
- D. Unfunded Accrued Liability: \$ 719.6
- E. Funded Ratio (C./B.): 53%

**15. Normal Cost Percentages Applied to Fiscal Year 2020 Basic Pay:**

|            | <u>DoD</u> | <u>Treasury</u> | <u>Total</u> |
|------------|------------|-----------------|--------------|
| Full-time: | 31.0%      | 14.2%           | 45.2%        |
| Part-time: | 24.4%      | 3.8%            | 28.3%        |

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## **SUMMARY OF CHANGES FOR THE SEPTEMBER 30, 2018, VALUATION**

### **Changes in Actuarial Assumptions**

At its July 2018 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2018, valuation. For access to the official transcript of the meeting, follow this link: <https://actuary.defense.gov/External-Links/>.

#### *Survivor Rates*

The Board approved updates to the survivor rates. The net effect of the new rates is a -0.2% change to the full-time DoD NCP, and a -0.2% change to the part-time DoD NCP. The change led to an actuarial gain (i.e., decrease) of \$16.9 billion (or 1.1%) to the Fund. For the September 30, 2018, valuation, these assumptions are described in Appendix I.

#### *Permanent Disability Retiree Rates*

The Board approved updates to the permanent disability retiree rates. The net effect of the new rates is no change (to the 3<sup>rd</sup> decimal place) to the full- and part-time DoD NCPs, and increases the accrued liability by \$2.9 billion (or 0.2%). For the September 30, 2018, valuation, these assumptions are described in Appendix I.

#### *Military Mortality Improvement Factors*

The Board approved the use of mortality improvement factors based on military data using methods and assumptions underlying the Society of Actuaries' recent mortality improvement scales. They result in an increase to the full-time DoD NCP of +0.1%, and decrease the part-time NCP by -0.1%. The change led to an actuarial gain of \$20.0 billion (or 1.3%) to the Fund. For the September 30, 2018, valuation, mortality improvement factors are described in Appendix J.

#### *Male/Female Adjustment Factors*

The Board approved the use of new male/female adjustment factors which model the effect of expected future increases in the retiree population's percent female proportion. They result in no change (to the 3<sup>rd</sup> decimal place) to the full- or part-time DoD NCPs, and led to an actuarial loss (i.e., increase) of \$21.5 billion (or 1.4%) to the Fund. For the September 30, 2018, valuation, the male/female adjustment factors are described in Appendix J.

#### *Blended Retirement System Opt-in Rates*

The Board approved the use of updated BRS Opt-In rate assumptions based on reported data through May/June 2018. The new rates led to a +1.0% change to the full-time DoD NCP, and a +0.2% change to the part-time DoD NCPs, and led to an actuarial loss of \$8.2 billion (or 0.5%) to the Fund. For the September 30, 2018, valuation, these assumptions are described in Appendix F.



## **SUMMARY OF ANTICIPATED CHANGES FOR THE SEPTEMBER 30, 2019, VALUATION**

### **Changes in Actuarial Assumptions**

At its July 2019 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2019, valuation. For access to the official transcript of the meeting, follow this link: <https://actuary.defense.gov/External-Links/>.

#### *Retiree Divorce Rates*

The Board approved updates to the retiree divorce rates from FYs 2008-2009 to FYs 2017-2018. The net effect is no change (to the 3<sup>rd</sup> decimal place) to either the FY 2021 full- or part-time DoD NCPs, and is estimated to increase the 9/30/2018 accrued liability by \$1.1 billion (or 0.1%). For the September 30, 2018, valuation, these assumptions are described in Appendix I.

#### *Blended Retirement System Actual Opt-In Data*

The Board approved the use of actual BRS Opt-In data received from Defense Finance and Accounting Service (DFAS) over what was assumed in the 2018 valuation. The actual BRS data results in a +1.3% increase to the DoD full-time NCP, and increase the DoD part-time NCP by +0.1%, and lead to a \$4 billion (or 0.3%) estimated increase to the 9/30/2018 accrued liability. For the September 30, 2018, valuation, this data is described in Appendices C and F.

#### *Economic Assumptions (Long-Term Interest)*

The Board approved a new long-term interest rate assumption of 4.75% (vs. 5.00%). The new interest assumption increases the full-time DoD NCP by 2.5%, and increases the part-time DoD NCP by 2.3%. The change leads to an actuarial loss of \$67.4 billion (or 4.4%) to the Fund. For the September 30, 2018, valuation, this assumption is described in Appendices D and F.

### **Changes in Benefits**

#### *National Defense Authorization Act for FY 2020 (NDAA 2020)*

The NDAA for FY 2020 contained provisions to phase out (over three years) the offsetting of SBP benefits by Dependency and Indemnity Compensation (DIC). This leads to a 0.3% increase in the full-time DoD NCP, and a 0.2% increase in the part-time. The estimated increase in the 9/30/2019 accrued liability is \$13.5 billion (or 0.9%).

It also contained a provision to include 12304(b) activations to reserve duty statuses that reduce retirement from normal retirement age of 60. It results in no change to the full-time DoD NCP and raises the part-time DoD NCP by 0.1%. There is no change to the present value of future benefits as of 9/30/2019.

## **VALUATION OF THE MILITARY RETIREMENT SYSTEM**

### **Introduction**

The Military Retirement System provides benefits for retirement from active duty and from the reserves, disability retirement benefits, optional survivor coverage, and a special compensation program for certain disabled retirees. A detailed description of benefits can be found in Appendix A, and a history of the system is in Appendix B.

Public Law (P.L.) 98-94 (currently Chapter 74 of Title 10, U.S.C.) established that an aggregate entry-age normal cost funding method for the Military Retirement System starting October 1, 1984. Under this law, DoD pays the normal cost of the system and the Treasury Department makes payments from general revenues to amortize the unfunded liability, including any gains or losses that have arisen from assumption or benefit changes, or from actual experience differing from assumed experience. P.L. 108-136 modified this process such that DoD's normal cost contribution excludes the cost due to Concurrent Receipt benefits (refer to Appendix A for more information on Concurrent Receipt provisions). Treasury's total contribution includes an additional amount to fund the normal cost for Concurrent Receipt benefits.

P.L. 98-94 also established an independent three-member DoD Retirement Board of Actuaries who were appointed by the President. The Board is required to review valuations of the Military Retirement System; to determine the method of amortizing unfunded liabilities; to report annually to the Secretary of Defense; and to report to the President and the Congress on the status of the Military Retirement Fund at least every four years. The DoD Office of the Actuary provides all technical and administrative support to the Board. P.L. 110-181 eliminated the Retirement and Education Benefits Boards, and created a new single DoD Board of Actuaries appointed by the Secretary of Defense. Board duties with respect to the Retirement and Education Benefits Funds are similar, and the new law expands the Board's responsibilities to include oversight of any other Fund the Secretary of Defense deems necessary.

The terms of the Board members are fifteen years and a member can be removed only for misconduct or failure to perform the duties of the office. The current (as of the July 2018, public meeting) Board members are Mr. James Verlutz (Chairman), Ms. Marcia Dush, and Mr. John Moore. The DoD Chief Actuary is the Executive Secretary for the Board.

Military retired pay is based on "basic pay." This is the principal element of military compensation that all members receive; however, it is not analogous to private or public sector salaries for comparative purposes. Reasonable comparisons can be made to Regular Military Compensation (RMC). RMC is the sum of (1) basic pay, (2) the housing allowance, which varies by grade, location, and dependency status, (3) the subsistence allowance and, (4) the tax advantages accruing to allowances because they are not subject to federal income tax. Consequently, comparisons of military retired pay to other pension systems should recognize the relationship to RMC rather than to basic pay only. Appendix A contains a more complete description of this topic.

### **Valuation Data and Procedure**

The valuation input data were extracted from files maintained by the Defense Manpower Data Center (DMDC). Data on individual retirees and survivors come from official files submitted by the Defense Finance and Accounting Service (DFAS). Active data are obtained from the Active Duty Military Personnel (ADMP) Master File, and reserve data are obtained from the Reserve

Component Common Personnel Data System (RCCPDS) Master File. The DoD Office of the Actuary (OACT) reviews the data for reasonableness and consistency against figures provided by the DoD Comptroller, but does not audit the data and relies on the file suppliers for its accuracy and comprehensiveness.

Where applicable, dollar amounts include the subsequent January 1st, pay raise. These totals are summarized in Table 1.

TABLE 1  
INITIAL ACCOUNTING FIGURES AS OF SEPTEMBER 30

|                                                       | <u>2018</u>     | <u>2017</u>     |
|-------------------------------------------------------|-----------------|-----------------|
| Total Active Duty Personnel +<br>Full-Time Reservists | 1,382,518       | 1,369,314       |
| Total Annualized Basic Pay                            | \$59.79 billion | \$57.87 billion |
| BRS Non-Opt-In (estimated, see Note below)            | 610,455         | 506,966         |
| Total Annualized Basic Pay                            | \$35.87 billion | \$30.32 billion |
| BRS Opt-In (estimated, see Note below)                | 772,063         | 862,348         |
| Total Annualized Basic Pay                            | \$23.92 billion | \$27.55 billion |
| Total Selected Drilling Reservists                    | 716,997         | 732,150         |
| Total Annualized Basic Pay                            | \$7.92 billion  | \$7.87 billion  |
| BRS Non-Opt-In (estimated, see Note below)            | 552,968         | 529,981         |
| Total Annualized Basic Pay                            | \$6.64 billion  | \$6.25 billion  |
| BRS Opt-In (estimated, see Note below)                | 164,029         | 202,169         |
| Total Annualized Basic Pay                            | \$1.29 billion  | \$1.62 billion  |
| Total Non-Selected Reservists (with 20 years)         | 203,157         | 206,861         |
| Total Annualized Basic Pay                            | -N/A-           | -N/A-           |
| Total Number of Nondisability Retirees                | 1,878,093       | 1,878,351       |
| Total Annualized Retired Pay                          | \$53.40 billion | \$52.12 billion |
| Total Number of Disability Retirees                   | 123,261         | 118,662         |
| Total Annualized Retired Pay                          | \$1.72 billion  | \$1.61 billion  |
| Total Number of Surviving Families                    | 279,912         | 283,262         |
| Total Annualized Survivor Annuities                   | \$3.69 billion  | \$3.68 billion  |
| Total Number of SSIA Survivors                        | 65,460          | 66,703          |
| Total Annualized                                      | \$243 million   | \$248 million   |

Note: Personnel and pay allocations between those expected to opt-in to the Blended Retirement System (BRS) and those not expected to opt-in, are based on assumptions, not actual data. The “BRS” figures above for 2018 include 9 months of actual data for service members who were auto-enrolled due to having been hired after the start of the Open Season (i.e., December 31, 2017).

Some amounts do not reflect benefit increases described in Appendix A. Costs, liabilities, and outlays in this report, however, reflect these benefit increases unless otherwise stated. Only retirees and survivors are paid from the Military Retirement Fund. There is overlap between the Surviving Families and Special Survivor Indemnity Allowance (SSIA) counts; some people are in both.

Population and pay projections are generated by an actuarial projection model (GORGO<sup>1</sup>). GORGO is a deterministic model; use of a deterministic model assumes the average outcome will occur annually over a period of time. When projecting a large population such as the military, the law of large numbers manages certain risks.

Valuation results reflect additional minor adjustments to the projection made outside of GORGO. Further, the data on active duty personnel and drilling reservists are grouped into cells by age and number of years of service. Each cell contains the number and the average basic pay for personnel with that particular combination of age and length of service. Data on the retired population and surviving families are grouped into cells by age, and each cell contains the number and total net annualized retired pay or survivor annuity.

Separate data arrays are maintained in GORGO for each of the population categories listed in Table 2. These data arrays are displayed in Appendix C.

In GORGO, these starting populations are projected year by year into the future. Each year personnel are moved from one population category to another (e.g., from active to retired, or dropped from the system altogether) by means of decrement rates such as withdrawal, nondisability retirement, temporary disability, permanent disability, transfer, death with and without survivors, etc. The basic pay scale is assumed to increase at the valuation across-the-board salary increase assumption. Basic pay is also increased by individual promotion and longevity increases. Generally, retired pay and survivor annuities are increased by the valuation cost-of-living adjustments (COLA) assumption each year for retirees and survivors who receive a full COLA. At the end of each year, the number of people and the amounts paid in basic pay and benefits are saved, and the population is aged. After 100 years, when a relatively small portion (less than 0.02 percent) of basic pay and benefit expenditures are projected, the present values of the series of future benefit payments and future basic pay outlays are determined, using the valuation interest rate. Because no new entrants come into the system, the projection is said to be “closed group.”

There is also an option in GORGO for an “open group” projection in which new entrants are added each year to meet DoD projected endstrengths. Detailed results of an open group projection of the Military Retirement System appear in Appendix K.

An open group projection also appears in Table 8. This projection, which shows the past and projected flow of plan assets, includes the total basic payroll over the next 25 years, the normal cost contributions, the payments to amortize the unfunded liability, investment income, fund disbursements, and the fund balance. All of these items are discussed in detail throughout the text of this report. An overview of the GORGO process is illustrated in Figure 1.

---

<sup>1</sup> GORGO was named after a monster featured in a 1961 British science fiction movie based on a variation of *Godzilla*.

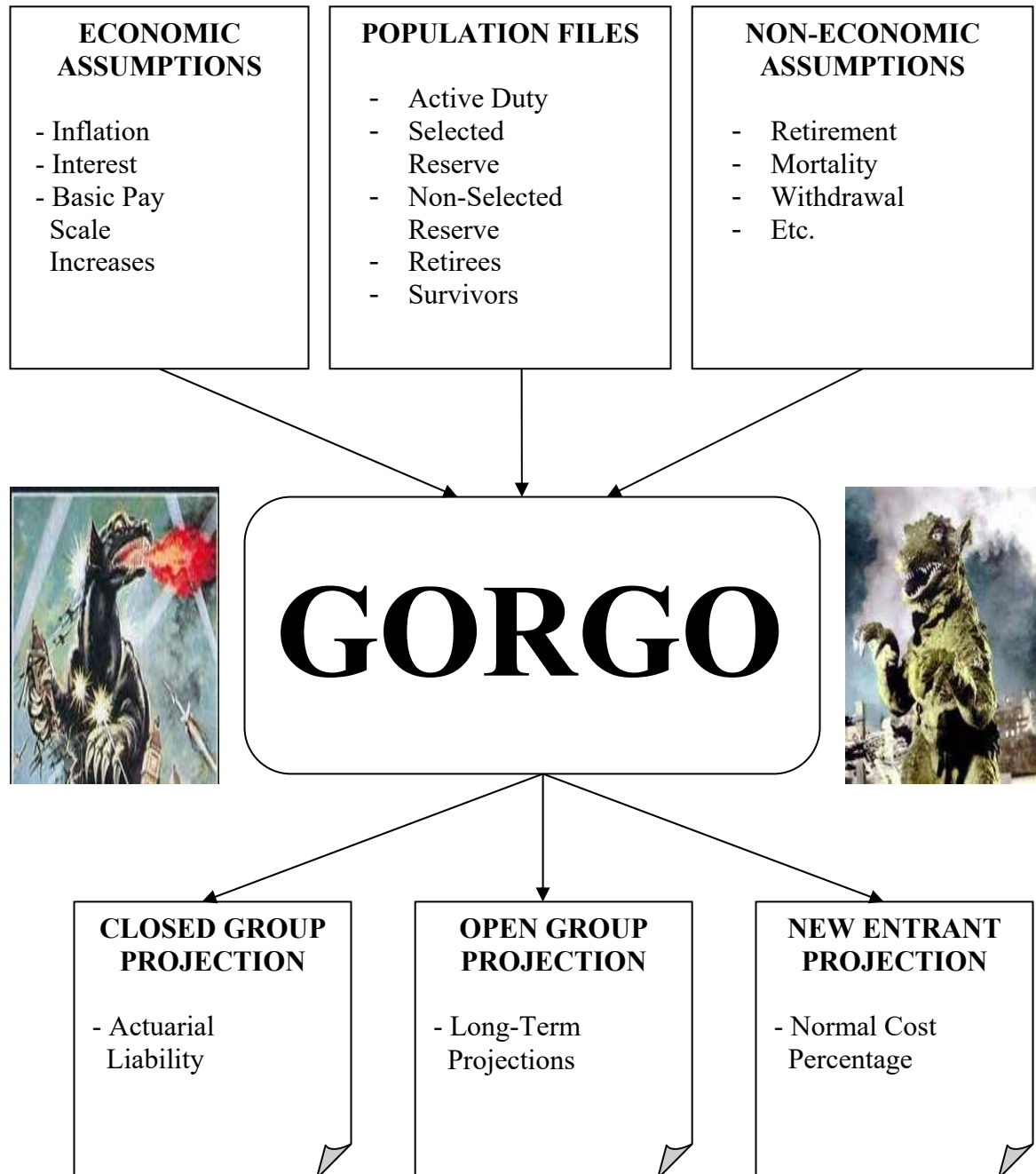
TABLE 2

GORGOPOLATION CATEGORIES

1. Active duty populations and basic pay, and benefit tier (BRS/Non-BRS)
  - a. Officer
  - b. Enlisted
2. Selected reserve populations, basic pay, career points, and benefit tier (BRS/Non-BRS)
  - a. Officer
  - b. Enlisted
3. Non-selected reserve (those who have completed 20 good years and have not reached paid retirement) populations, basic pay, accumulated retirement credit points, and benefit tier (BRS/Non-BRS)
  - a. Officer
  - b. Enlisted
4. Retiree populations, benefit tier (BRS/Non-BRS), retired pay, and survivor benefit coverage
  - a. Nondisabled officer (non-CSB electors)
  - b. Nondisabled enlisted (non-CSB electors)
  - c. Nondisabled officer (CSB electors)
  - d. Nondisabled enlisted (CSB electors)
  - e. Reserve officer
  - f. Reserve enlisted
  - g. Disabled officer (Permanent and Temporary)
  - h. Disabled enlisted (Permanent and Temporary)
5. Surviving families in a survivor benefit plan, total annuities, survivor benefit coverage, and benefit tier (BRS/Non-BRS)
  - a. Survivor Benefit Plan (SBP)
  - b. Reserve Component Survivor Benefit Plan (RCSBP)
  - c. Retired Serviceman's Family Protection Plan (RSFPP)
  - d. Death on active duty
  - e. Minimum income
6. Typical new entrant cohort population and benefit tier (BRS/Non-BRS)
  - a. Officer
  - b. Enlisted

FIGURE 1

GORGGO PROCESS OVERVIEW



Economic assumptions, i.e., the annual rate of inflation, the annual basic pay scale increases, and the annual valuation interest rate, were decided upon by the DoD Board of Actuaries after extensive analysis of past trends, current environment, and future expectations. A discussion of these considerations is contained in Appendix D.

The decrement rates and other non-economic assumptions can be categorized as follows:

1. Active duty decrement rates
2. Retiree and survivor decrement rates
3. Drilling and non-drilling (with 20 good years) reserve decrement rates
4. Actuarial projection model parameters
5. Other rates (e.g., mortality improvement)

The decrement rates and GORGO parameters are generally based on military-specific experience. The rates and descriptions of how they were derived appear in Appendices G through J. The actuarial projection model parameters, dealing with such matters as the survivor benefit elections, premium deductions, and member/beneficiary age differences, appear in Appendix F. In general, the valuation results are most sensitive to changes in the economic (e.g., long-term interest assumption) and retention assumptions, where retention refers to the active and reserve duty withdrawal/reentrant and separation rates – refer to Table 6B for analysis.

### **Assets**

The assets of the Military Retirement Fund (the Fund) are invested in special issue Treasury obligations bearing interest at rates determined by the Secretary of the Treasury taking into consideration current market yields for outstanding marketable U.S. obligations of comparable maturities. Each security issued to the Fund “mirrors” a security that has been issued to the public, i.e., it has the same maturity date, coupon rate, and other security-specific characteristics. The special issue “mirrored” security may have been issued recently, or at any time in the past. Under current procedures adopted by Treasury, the investment manager (DFAS Trust Funds Accounting & Reporting Division) is permitted to redeem long-term special issue securities at any time before maturity for their fair market value, which is based on the public issue bid price with the same maturity date, coupon rate, and other security-specific characteristics. However, Treasury policy encourages a buy-and-hold approach giving consideration to the needs of the Fund in determining the maturities of securities purchased.

The investment manager must follow the asset investment strategy approved by the DFAS Investment Board at their semiannual meetings. The current investment strategy includes investing the assets so that the Fund generates sufficient cash to fund benefit payments and expenses as they come due. Many considerations are taken into account when making investment decisions, including balancing various risks, targeting an expected average maturity of future investments of 20 years (which is reasonably close to the duration of the liabilities), and current and expected economic conditions. A large majority of purchases are in Treasury Inflation-Protected Securities (TIPS). This strategy hedges almost all of the inflationary pressures while minimizing liquidity risks to the Fund. Timing issues and the inconsistency between the TIPS calculation of inflation (CPI-U) and the Fund’s crediting of inflation (CPI-W) to retiree and survivor benefits leave some residual inflationary risks.

For purposes of determining the unfunded liability, the assets of the Fund are valued using the amortized cost method. Under this method, the yield to maturity of a security valued at any point in time is equal to the yield to maturity at the time of purchase. In the valuation of the Military Retirement System, the amortized cost value is referred to as the “actuarial value of assets.” The actuarial value of assets is determined by amortizing premium and discount over the life of the securities. The total investment return includes: the interest coupons received; the change in the amortized cost value during the year; and the inflation compensation accrued from the holdings of TIPS. The actuarial value of assets used in the determination of the unfunded liability includes the “accrued interest,” which is the amount of the next interest coupon payment that has accrued since the date of the last coupon payment (generally semiannual). The amount of the “accrued interest” is determined by multiplying the coupon payment by the ratio of the time that has elapsed since the last coupon payment date to the total time between coupon payments. Table 3 presents a statement of the actuarial value of assets; Table 4 presents a statement of changes in the actuarial value of assets. Other associated asset statements and disclosures are included in Appendix L.

In an open group projection of a retirement system where the total number of employees is held constant, the number of retirees and survivors on the rolls at year end, as well as the number withdrawing, retiring, dying, etc., each year, eventually levels out. When this occurs, the population is said to be “stationary.” In this report’s open group projection, DoD-projected endstrengths are used through the end of FY 2024 (as depicted in Table 8). Subsequently, the force size is held constant each year. However, the assumption of future mortality improvement results in a small increase in the retired population each year, so that the retired population is nearly, but not completely, stationary<sup>2</sup>.

When a population becomes stationary, the fund disbursements increase each year at the same rate as total pay, which in this valuation is 3.25 percent per year. If the method of funding the system is theoretically sound, the value of the assets in the Fund will also increase at this same rate, and thus will become a level percentage of pay. Otherwise, the fund would either increase indefinitely as a percent of pay, or decrease until it was zero. Practical considerations in this report’s open group projection, including (1) mortality improvement, and (2) the difference between the short-term economic assumptions and the ultimate economic assumptions (see Table 8 Footnote) and the fact that payments on future (after September 30, 2018) gains and losses implied by the short-term assumptions are not projected, cause the fund disbursements to grow at an ultimate rate different than 3.25 percent per year.

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<sup>2</sup> More precisely, the retired population would become nearly, but not completely stationary if the open group projection were extended many years beyond what is shown in this report.



TABLE 3

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF ACTUARIAL VALUE OF ASSETS  
(\$ in millions)

For the Plan Year Ended September 30:

|                                                     | <u>2018</u>      | <u>2017</u>      |
|-----------------------------------------------------|------------------|------------------|
| <u>Assets</u>                                       |                  |                  |
| 1) Investments, at book value:                      |                  |                  |
| U.S. Government securities <sup>1</sup>             | \$808,085        | \$728,492        |
| 2) Accounts receivable:                             |                  |                  |
| a) Accrued interest <sup>2</sup>                    | \$5,471          | \$5,141          |
| b) Due from military retirees<br>or their survivors | \$129            | \$133            |
| c) Intragovernmental                                | \$165            | \$0              |
| 3) Cash ('Fund Balance with Treasury'):             | <u>\$25</u>      | <u>\$329</u>     |
| <u>Actuarial value of assets</u>                    | <u>\$813,875</u> | <u>\$734,095</u> |

<sup>1</sup> Book value is determined by 1) amortizing premium and discount over the life of the securities using the effective interest method and 2) including additional inflation compensation from TIPS. Additional adjustment made as a result of FY 2011 National Defense Authorization Act (P.L. 111-383) regarding retired pay date as follows:

|                                        | <u>2018</u> | <u>2017</u>    |
|----------------------------------------|-------------|----------------|
| Investments, at book value (actual)    | \$808,085   | \$724,132      |
| October Expenditures paid in September | <u>\$0</u>  | <u>\$4,360</u> |
| Investments, at book value (adjusted)  | \$808,085   | \$728,492      |

<sup>2</sup> Includes accrued interest receivable and interest purchased.

TABLE 4

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF CHANGES IN ACTUARIAL VALUE OF ASSETS  
(\$ in millions)

|                                                                              | For the Plan Year Ended September 30: |                  |
|------------------------------------------------------------------------------|---------------------------------------|------------------|
|                                                                              | <u>2018</u>                           | <u>2017</u>      |
| 1) Actuarial value of assets at beginning of plan year:                      | \$734,095                             | \$664,363        |
| 2) Investment income:                                                        |                                       |                  |
| a) Interest/Inflation                                                        | \$35,554                              | \$26,335         |
| b) Net appreciation (depreciation) in book value of investments <sup>1</sup> | \$(5,019)                             | \$(5,122)        |
| 3) Contributions:                                                            |                                       |                  |
| a) From Services                                                             | \$18,400                              | \$18,300         |
| b) Appropriation to amortize the unfunded liability                          | \$82,877                              | \$81,192         |
| c) Appropriation for Treasury Normal Cost Contribution                       | \$6,837                               | \$6,822          |
| 4) Total additions (2 + 3):                                                  | \$138,649                             | \$122,527        |
| 5) Change in Accounts Receivable                                             | \$(4)                                 | \$4              |
| 6) Benefits paid to participants:                                            | <u>\$58,865</u>                       | <u>\$57,799</u>  |
| Actuarial value of assets (1 + 4 + 5 - 6):                                   | <u>\$813,875</u>                      | <u>\$734,095</u> |

<sup>1</sup> Investments bought, sold and held during the plan year ended September 30 appreciated (depreciated) in value as follows:

|                       | <u>2018</u> | <u>2017</u> |
|-----------------------|-------------|-------------|
| Amortized discount    | \$271       | \$227       |
| Amortized premium     | \$(5,290)   | \$(5,349)   |
| Gain (loss) on sale * | <u>\$0</u>  | <u>\$0</u>  |
|                       | \$(5,019)   | \$(5,122)   |

\* Gain (loss) on sale is only shown for informational purposes and is not included in the net appreciation (depreciation).

## **Normal Cost**

The aggregate entry-age normal cost percentage (NCP) is the level percentage of basic pay that must be contributed over the entire active career of a typical group of new entrants to pay for all the future retirement and survivor benefits of that group. It is determined by using the new-entrant cohort as the starting population in a GORGO projection. Their basic pay and benefits are projected over 100 years, and then discounted back to the present (i.e. valuation date). Mathematically, a NCP is calculated by dividing the present value of future benefits for the entire cohort by the present value of future basic pay, evaluated at the assumed interest rate.

There are four nondisability benefit formulas (for four distinct populations) within the Military Retirement System (see Appendix A). Retirement benefits are based on final basic pay (Final Pay) for military personnel who first became members of a uniformed service before September 8, 1980, and are based on the average of the highest 36 months (High-3) for those becoming members on or after this date. Additionally, active duty military personnel who first became members of a uniformed service on or after August 1, 1986, are High-3 unless they elect the Career Status Bonus (CSB), which provides a bonus in exchange for reduced (Redux) benefits<sup>3</sup>. Military personnel who first become a member of a uniformed service after December 31, 2017, will be under the new Blended Retirement System (BRS) which was enacted in NDAA 2016 and took effect January 1, 2018. Members who first entered the military before January 1, 2018, and who have served for fewer than 12 years as of December 31, 2017 (or less than 4,320 points for reservists), have the option to “opt-in” to BRS via an irrevocable election during a one-year (calendar year 2018) open season or remain in the High-3 system. Members who have served 12 or more years as of December 31, 2017 (or more than 4,320 points for reservists), are not permitted to opt-in to BRS and will receive benefits based on their current plan.

P.L. 99-661, enacted in November 1986, mandated that two separate NCPs be used for the valuation of the Military Retirement System. One NCP is for active duty personnel and full-time reservists (full-time) and one is for part-time reservists (part-time). Full-time and part-time NCPs are calculated for each of the separate benefit formulas. Only full-time personnel are under the CSB/Redux benefit formula, thus an analogous part-time NCP is not applicable (“N/A”). The FY 2018 NCPs are summarized below (with DoD NCPs in parentheses):

| <u>Benefit Formula</u> | <u>Full-Time</u> | <u>Part-Time</u> |
|------------------------|------------------|------------------|
| Final Pay              | 54.8% (38.3%)    | 31.1% (27.0%)    |
| High-3                 | 50.0% (35.0%)    | 29.4% (25.5%)    |
| CSB/Redux <sup>4</sup> | 49.3% (34.3%)    | -N/A-            |
| BRS                    | 38.5% (25.6%)    | 23.5% (20.0%)    |

P.L. 108-136 required the U.S. Department of Treasury to pay into the Fund at the beginning of each year the normal cost arising from increased Concurrent Receipt benefits. The NCPs shown above include the respective Total (‘DoD plus Treasury’) and DoD percentages. Table 6A displays the DoD and Treasury NCPs separately. The NCPs are further disaggregated in Table 5.

<sup>3</sup> The National Defense Authorization Act of FY 2016 (NDAA 2016, P.L. 114-92) sunsets the CSB/Redux benefit tier by not allowing any CSB elections after December 31, 2017.

<sup>4</sup> This NCP represents a blend of NCPs for CSB/Redux and HI-3 benefit formulas based on the CSB/ Redux Election Proportion (see Appendix F).

The FY 2019 weighted NCPs in Table 5 are calculated using the NCP weighting factors (see Appendix E), along with BRS opt-in rates (see Appendix F). The sum of the DoD and Treasury components of the weighted aggregate full-time NCP is 45.9 percent, and the weighted aggregate part-time NCP is 27.6 percent. Due to federal budget deadlines, the two NCPs used to determine the actual contributions to the Fund must be established in advance of implementation and may vary from those actually derived in a valuation.

Table 5 summarizes the components of the FY 2019 normal cost percentages. Note that the implemented NCPs in FY 2019 are the first to reflect the BRS benefit tier.

TABLE 5  
NORMAL COST AS A PERCENT OF BASIC PAY (NCPs)  
(DoD Normal Cost Percentage in Parentheses)

| <u>FULL-TIME</u>       | <u>FINAL PAY</u> | <u>HIGH-3</u>    | <u>CSB/REDUX</u> | <u>BRS</u>       | <u>FY 2019<br/>Weighted</u> |
|------------------------|------------------|------------------|------------------|------------------|-----------------------------|
| Nondisability benefits | 50.8 (35.9)      | 46.3 (32.8)      | 45.6 (32.1)      | 35.2 (23.8)      | 42.4 (29.6)                 |
| Disability benefits    | 1.9 (0.9)        | 1.8 (0.8)        | 1.8 (0.8)        | 1.7 (0.8)        | 1.7 (0.8)                   |
| Survivor benefits      | <u>2.1 (1.5)</u> | <u>1.9 (1.4)</u> | <u>1.9 (1.3)</u> | <u>1.6 (1.0)</u> | <u>1.8 (1.2)</u>            |
| Total                  | 54.8 (38.3)      | 50.0 (35.0)      | 49.3 (34.3)      | 38.5 (25.6)      | 45.9 (31.6)                 |
| <u>PART-TIME</u>       |                  |                  |                  |                  |                             |
| Nondisability benefits | 26.5 (23.7)      | 25.1 (22.5)      | -N/A-            | 19.6 (17.3)      | 23.5 (20.9)                 |
| Disability benefits    | 2.1 (1.1)        | 1.9 (1.0)        | -N/A-            | 1.9 (1.0)        | 1.9 (1.0)                   |
| Survivor benefits      | <u>2.5 (2.2)</u> | <u>2.4 (2.1)</u> | <u>-N/A-</u>     | <u>1.9 (1.6)</u> | <u>2.2 (1.9)</u>            |
| Total                  | 31.1 (27.0)      | 29.4 (25.5)      | -N/A-            | 23.5 (20.0)      | 27.6 (23.8)                 |

- Note that columns may not add exactly due to rounding of the separate NCP components.

- Only full-time personnel are under the CSB/Redux benefit formula, thus an analogous part-time NCP is not applicable (“N/A”).

As can be determined from this table, 92 percent of the full-time normal cost and 85 percent of the part-time normal cost stems from nondisability retirement. Based on current decrement rates, 19 percent of a typical group of new entrants attains 20 years of active duty service and becomes eligible for nondisability retirement from active duty. Specifically, 49 percent of new officers and 17 percent of new enlistees attain 20 years of active duty service.<sup>5</sup> It should be noted that some military personnel who begin their careers on active duty move to the reserves and retire from there. This is modeled through the allocation of a portion of the reserve benefit, in present values terms, to the full-time normal cost (see Appendix F). Based on current reserve decrement rates, 14 percent of a typical group of members entering the reserves for the first time (including members with prior

<sup>5</sup> As in past valuation reports, these percentages are stated from the perspective of a new entrant cohort still in active service at its first fiscal-year boundary (i.e., September 30). If losses prior to the first fiscal-year boundary are taken into account, the percentages would be reduced by approximately 15 percent (19 percent would become 16 percent). The stated percentages also reflect the effect of reentrants, i.e., members who appear in the active duty population one year without having been there the year before, who are not new entrants. Without the effect of reentrants, the proportion of a typical group of new entrants who attain 20 years of active duty service is reduced from 19 percent to 15 percent. The paygrade transfer rates have no effect.

The effect of reentrants on the reserve duty percentages is more pronounced relative to the above active duty figures due to the inherent nature of a reserve career (i.e., a higher proportion entering the reserves for the first time as a reentrant to the military).

active or non-drilling reserve time) become eligible for a reserve nondisability retirement (46% for officers, and 13% for enlisted). \*\*\* See footnote 5 for additional important details related to these percentages. \*\*\*

Table 9 lists the past and projected weighted aggregate full-time and part-time NCPs under current law in the normal cost columns. The columns are separated into the DoD and Treasury NCPs due to P.L. 108-136. In recent years both the full- and part-time sums of the DoD and Treasury component weighted aggregate percentages are (generally) at the level of the CSB/Redux normal cost percentages (High-3 for part-time) since virtually all non-retired personnel entered the uniformed service on or after August 1, 1986. With the passage of BRS, projected NCPs will eventually converge to the level of the BRS NCPs. As indicated in the Table 8 footnote, the Treasury Concurrent Receipt normal cost payments reflect amounts sequestered by fiscal year.

### **Amortization of Unfunded Liability**

Under P.L. 98-94, normal cost contributions began to be made by DoD on behalf of all military personnel on October 1, 1984. Since normal cost contributions had not been made for service prior to this date, there was an initial unfunded accrued liability, or “initial unfunded liability,” of \$528.7 billion as of September 30, 1984. If this amount had been deposited in the retirement fund on September 30, 1984, then it, together with the future normal cost payments to be made on behalf of all active duty personnel and drilling reservists over the balance of their active careers, plus investment earnings at the assumed rate, would have been sufficient to provide all expected retirement and survivor benefits for those in the system on that date.

The Board of Actuaries originally determined that the initial unfunded accrued liability of the system (\$528.7 billion) should be amortized with payments equal to 33 percent of the second preceding fiscal year’s basic payroll. It was originally projected that this method would amortize the initial unfunded liability over 60 years. However, economic assumption changes extended this amortization period well beyond 60 years. As a result, the Board revised the amortization method of the original unfunded liability in such a way that the amortization would have been completed in FY 2044. In more recent years, it was determined that the Military Retirement Fund was projected to have a negative balance for several years before becoming positive again. The Board decided to shorten the amortization period to 50 years in 1996. The Board again shortened the amortization period in 2007 to 42 years in order for the payments to cover the interest on the unfunded liability each year. The initial unfunded liability is now expected to be fully amortized in calendar year 2025 (FY 2026).

Changes in the unfunded liability can also arise because of: 1) modifications to benefit provisions, 2) changes in actuarial assumptions, and 3) deviations in actual experience from expected experience (gains and losses). The Board approved a method to amortize these changes over 30 years by payments that increase in absolute value at the same rate as the annual long-term basic pay scale assumption. A description of the methods and computations used to calculate the payment streams for changes in unfunded liability can be found in Appendix M.

## **Unfunded Accrued Liability as of September 30, 2018**

Table 6A summarizes the calculation of the unfunded accrued liability as of September 30, 2018. The present value of future benefits is obtained by projecting future benefits for the total covered population (closed group with no new entrants) as of September 30, 2018, and discounting these benefits back to the present (i.e. valuation date) at the assumed interest rate. The GORGO actuarial model projects benefits for the current active and retired populations over the duration of their lifetimes. Additional adjustments (generally minor) to the projection results are made outside of the GORGO model to capture the more complex law changes. The initial retirement benefits for military personnel are based on their total projected service at retirement, the applicable benefit formula, and assumed basic pay increases. Subsequent retirement benefits include assumed cost-of-living adjustments and the age 62 adjustment for those retiring under the CSB/Redux formula.

The present value of future normal cost contributions is obtained by (1) using GORGO to project future yearly full-time and part-time basic pay for the September 30, 2018, covered population, (2) multiplying the pay by the total projected (DoD and Treasury) full-time and part-time weighted aggregate entry-age NCPs, and (3) discounting the resulting normal costs back to September 30, 2018. For this closed group, the relative percentages of basic pay subject to the four separate benefit formulas will change over time as fewer members are covered under the CSB/Redux, High-3 and Final Pay formulas, and more are covered under BRS. The *weighted* full- and part-time NCPs that are multiplied against the future full- or part-time pay in each year reflect expected changing percentages of pay going to members covered by the multiple benefit formulas. This will change in future years as more personnel are covered under BRS. This weighted procedure is roughly equivalent in the aggregate to projecting separately the pay of each of the eight groups of active duty and selected reserve members and multiplying it by the individual group's NCP.

The sum of the DoD and Treasury components of the weighted aggregate entry-age NCPs for FY 2019 are 45.9 percent full-time and 27.6 percent part-time. Federal budget deadlines require the establishment of NCPs in advance of the valuation. Consequently, the percentages actually implemented in a fiscal year may vary from those derived in the valuation. These differences, which are small unless major actuarial assumptions or benefits are changed, are reflected in the unfunded liability by using the implemented normal cost in the first year of the projection.

Table 6B displays selected sensitivities in the estimated valuation cost figures due to changes in key economic and non-economic assumptions. The figures require the use of actuarial assumptions regarding future economic and demographic experience, which are typically disclosed as a single value. In an attempt to assess system financial risks, key underlying valuation assumptions were tested for their respective impacts. The absolute levels of change tested in Table 6B were selected to show directional magnitudes, not necessarily anticipated changes.

Deducting the present value of future normal costs and the actuarial asset value of the Fund from the present value of future benefits leaves an unfunded liability of \$719.6 billion as of September 30, 2018. This was greater than the expected unfunded liability of \$719.2 billion. The expected unfunded liability is what the unfunded liability would have been if all actuarial assumptions had been realized and all benefit formulas had remained unchanged. The fact that the actual unfunded liability is greater than expected means that there was a total FY 2018 loss of \$0.3 billion (\$719.6 billion minus \$719.2 billion). The components of this gain are outlined in Table 7. The total experience gain/loss is divided into five segments: (1) the loss due to the difference between the actual interest rate (3.8%) earned by the Fund in FY18 and the assumed interest rate

(5.00%); (2) the gain due to the actual January 1, 2019, COLA (2.8%) being different from that assumed (2.75%); (3) the gain due to the actual January 1, 2019, across-the-board salary (2.6%) increase being different from that assumed (3.25%); (4) the gain due to the difference between the actual and assumed non-economic experience; and (5) the loss due to the sequestration-required nonpayment of the October 1, 2018, Treasury Concurrent Receipt normal cost contribution. See the Summary of Changes for the September 30, 2018, Valuation for a more detailed discussion of the actuarial assumptions outlined in Table 7.

These changes in unfunded liability were used to calculate the October 1, 2019, unfunded liability payment. The total payment was determined to be \$91.873 billion. This total payment includes (1) a payment of \$98.057 billion to amortize the original unfunded liability, plus (2) an amount of \$6.361 billion to amortize changes in actuarial assumptions, plus (3) an amount of \$8.858 billion to amortize benefit changes, less (4) an amount of \$22.194 billion to amortize total combined experience gains and losses through FY 2018, plus (5) \$0.791 billion to amortize over one year the loss due to sequestration of the October 1, 2018, Treasury Concurrent Receipt normal cost contribution. The detailed calculations of these payment components can be found in Appendix M. Tables 10 and 11 show the projection of the unfunded liability payments and unfunded liability balances. As stated earlier, Tables 8 and 9 display all projected transactions to the Fund.

Starting in FY 2005, the total payment to be made by Treasury includes the amount required by P.L. 108-136 to pay for the increased normal cost due to Concurrent Receipt benefits in addition to the unfunded liability amortization amount. The total actuarially determined Treasury payment on October 1, 2019, is \$100.406 billion, equal to \$91.873 billion for the unfunded liability amortization *plus* \$9.305 billion for Concurrent Receipt benefits. Note that the difference in the actual contribution reflected a sequestration-mandated reduction to the \$9.305 billion, to \$8.533 billion. Detailed calculations of the total Treasury payment are also located in Appendix M.

TABLE 6A

MILITARY RETIREMENT SYSTEM  
ACTUARIAL STATUS INFORMATION  
(\$ in billions)

|    |                                                                                              | For the Plan Year Ended September 30: |                |
|----|----------------------------------------------------------------------------------------------|---------------------------------------|----------------|
|    |                                                                                              | <u>2018</u>                           | <u>2017</u>    |
| 1. | Present value of future benefits                                                             |                                       |                |
|    | a. Annuitants now on roll                                                                    | \$994.1                               | \$974.0        |
|    | b. Nonretired reservists                                                                     | \$201.1                               | \$200.3        |
|    | c. Active duty personnel <sup>1</sup>                                                        | <u>\$602.8</u>                        | <u>\$573.8</u> |
|    | TOTAL                                                                                        | \$1,798.0                             | \$1,748.1      |
| 2. | Present value of future normal cost contributions <sup>2</sup>                               | \$264.6                               | \$246.1        |
| 3. | Actuarial accrued liability (1. – 2.)                                                        | \$1,533.4                             | \$1,502.0      |
| 4. | Actuarial value of assets <sup>3</sup>                                                       | \$813.9                               | \$734.1        |
| 5. | Unfunded accrued liability (3. – 4.)                                                         | \$719.6                               | \$767.9        |
| 6. | Funded Ratio (4. / 3.)                                                                       | 53%                                   | 49%            |
| 7. | DoD normal cost percentage (NCP) <sup>4</sup> to be applied to basic pay in fiscal year      | <u>FY 2020</u>                        | <u>FY 2019</u> |
|    | a. Full-time (FT)                                                                            | 31.0%                                 | 30.4%          |
|    | b. Part-time (PT)                                                                            | 24.4%                                 | 24.7%          |
| 8. | Treasury normal cost percentage (NCP) <sup>5</sup> to be applied to basic pay in fiscal year | <u>FY 2020</u>                        | <u>FY 2019</u> |
|    | a. Full-time (FT)                                                                            | 14.2%                                 | 13.6%          |
|    | b. Part-time (PT)                                                                            | 3.8%                                  | 3.6%           |

Basic pay is only a portion of active duty military compensation. See The Military Retirement System: Benefits (Appendix A) for details.

<sup>1</sup> The future benefits of active duty personnel expected to retire as reservists are counted on line 1.b.

<sup>2</sup> The September 30, 2018, Present Value of Future Normal Cost (PVFNC) contributions reflects a reduction of \$753.681 million due to sequestration of the October 1, 2018, Treasury Concurrent Receipt normal cost contribution. The September 30, 2017, PVFNC reflects a reduction of \$667.945 million due to sequestration of the October 1, 2017, Treasury Concurrent Receipt normal cost contribution.

<sup>3</sup> The actuarial value of assets is determined using the amortized cost method from Table 4.

<sup>4</sup> Due to the need to establish the NCPs in advance of implementation (federal budget deadlines), the percentages actually used in a fiscal year may vary from the ones derived in the valuation.

<sup>5</sup> P.L. 108-136 requires the Department of Treasury to pay the normal cost resulting from the increase in benefits due to Concurrent Receipt.



TABLE 6B  
MILITARY RETIREMENT SYSTEM  
SENSITIVITY TESTS\*  
(\$ in billions)

**Long-Term Interest Assumption***[Baseline Interest = 5.00%]*

|                                         | <u>Baseline</u> | <u>1% LOWER</u> | <u>1% HIGHER</u> |
|-----------------------------------------|-----------------|-----------------|------------------|
| 1. Present value of future benefits     | \$ 1,798.0      | \$ 2,210.6      | \$ 1,497.2       |
| 2. Actuarial accrued liability          | \$ 1,533.4      | \$ 1,818.9      | \$ 1,309.1       |
| 3. Actuarial value of assets            | \$ 813.9        | \$ 813.9        | \$ 813.9         |
| 4. Unfunded accrued liability (2. – 3.) | \$ 719.6        | \$ 1,005.0      | \$ 495.2         |
| 5. Funded Ratio                         | 53%             | 45%             | 62%              |
| 6.a. FY 2020 FT NCP [DoD + Treasury]    | 45.2%           | 63.1%           | 33.2%            |
| 6.b. FY 2020 PT NCP [DoD + Treasury]    | 28.3%           | 46.0%           | 19.8%            |

**Retention Assumptions***[FT Baseline Retention = 'Withdrawal' rates, Appendix G]**[PT Baseline Retention = 'Separation' rates, Appendix H]*

|                                                  | <u>Baseline</u> | <u>25% LOWER</u> | <u>25% HIGHER</u> |
|--------------------------------------------------|-----------------|------------------|-------------------|
| 1. Present value of future benefits              | \$ 1,798.0      | \$ 1,876.4       | \$ 1,723.7        |
| 2. Actuarial accrued liability                   | \$ 1,533.4      | \$ 1,539.6       | \$ 1,528.0        |
| 3. Actuarial value of assets                     | \$ 813.9        | \$ 813.9         | \$ 813.9          |
| 4. Unfunded accrued liability (2. – 3.)          | \$ 719.6        | \$ 725.7         | \$ 714.1          |
| 5. Funded Ratio                                  | 53%             | 53%              | 53%               |
| 6.a. FY 2020 FT NCP [DoD + Treasury]             | 45.2%           | 51.5%            | 37.3%             |
| 6.b. FY 2020 PT NCP [DoD + Treasury]             | 28.3%           | 35.3%            | 20.2%             |
| 7.a. New Entrants eligible for FT retirement (%) | 19%             | 27%              | 12%               |
| 7.b. New Entrants eligible for PT retirement (%) | 14%             | 27%              | 6%                |

\* A sensitivity test is a process for assessing the impact of a change in an actuarial assumption on an actuarial measurement. As mentioned earlier in the *Valuation Data and Procedures* section of this report, the valuation results/measurements are most sensitive to changes in the economic (e.g., long-term interest) assumptions and retention assumptions. 'Baseline' figures are generally from Table 6A and other sections of this report. **The absolute levels of the changes (+/- 1% and +/- 25%, respectively) were selected to show potential directional magnitudes, not necessarily anticipated changes, assisting the report user to analyze system risks.**

TABLE 7  
MILITARY RETIREMENT SYSTEM  
FY 2018 CHANGE IN UNFUNDED LIABILITY  
(\$ in billions)

|    |                                               | For the Plan Year Ended<br>September 30, 2018 |             |
|----|-----------------------------------------------|-----------------------------------------------|-------------|
| 1. | Actual unfunded accrued liability (9/30/18)   | \$719.6                                       |             |
| 2. | Expected unfunded accrued liability (9/30/18) | \$719.2                                       |             |
| 3. | Total (gain)/loss                             | \$0.3                                         | 0.0%        |
| a. | Total experience (gain)/loss                  | <u>\$4.7</u>                                  | <u>0.3%</u> |
|    | Interest assumption                           | \$9.5                                         | 1.2%        |
|    | COLA assumption                               | \$0.5                                         | 0.0%        |
|    | Salary assumption                             | (\$3.0)                                       | 0.2%        |
|    | Non-economic experience                       | (\$3.1)                                       | 0.2%        |
|    | 10/1/18 unpaid contribution                   | \$0.8                                         | 0.0%        |
| b. | Total benefit change (gain)/loss              | <u>\$0.0</u>                                  | <u>0.0%</u> |
| c. | Total assumption change (gain)/loss           | <u>(\$4.4)</u>                                | <u>0.3%</u> |
|    | New BRS Opt-In Rates                          | \$8.2                                         | 0.5%        |
|    | Updated Survivor Rates                        | (\$16.9)                                      | 1.1%        |
|    | Updated Permanent Disability Retiree Rates    | \$2.9                                         | 0.2%        |
|    | New Military Mortality Improvement Factors    | (\$20.0)                                      | 1.3%        |
|    | New Male/Female Adjustment Factors            | \$21.5                                        | 1.4%        |

In this table, negative values represent actuarial gains and positive values represent actuarial losses.

Percentages shown are ratios of absolute values of each gain or loss component to the accrued liability (Table 6A, line 3), except the percentage for the experience (gain)/loss due to the interest assumption is the ratio to the actuarial value of assets (Table 6A, line 4).

The reasons for the experience (gain)/loss for: interest = 5.00% long-term assumed vs 3.8% FY18 fund yield; salary = 3.25% long-term assumed vs 2.6% Jan 2019 increase; COLA = 2.75% long-term assumed vs. 2.8% Jan 2019 COLA. The 10/1/18 unpaid contribution loss is due to sequestration of the Treasury Concurrent Receipt normal cost contribution.

TABLE 8  
MILITARY RETIREMENT SYSTEM  
PAST AND PROJECTED FLOW OF PLAN ASSETS<sup>1</sup>  
(In Billions of Dollars and as a Proportion of Payroll)

| Contributions Received |                            |                                         |         |                                              |         |                                                                    |          |                   |         |                                 |         |                                        |            |
|------------------------|----------------------------|-----------------------------------------|---------|----------------------------------------------|---------|--------------------------------------------------------------------|----------|-------------------|---------|---------------------------------|---------|----------------------------------------|------------|
| Fiscal Year            | Basic Payroll <sup>2</sup> | From DoD, for Normal Costs <sup>3</sup> |         | From Treasury, for Normal Costs <sup>3</sup> |         | From Treasury, for Amortization of Unfunded Liability <sup>4</sup> |          | Investment Income |         | Fund Disbursements <sup>5</sup> |         | Fund Balance, End of Year <sup>6</sup> |            |
|                        |                            |                                         |         |                                              |         |                                                                    |          |                   |         |                                 |         |                                        |            |
| 1985                   | \$33.5                     | \$17.0                                  | (50.7%) | ---                                          | ---     | \$9.5                                                              | (28.4%)  | \$1.1             | (3.3%)  | \$15.8                          | (47.2%) | \$11.8                                 | (35.2%)    |
| 1986                   | 35.4                       | 17.4                                    | (49.2)  | ---                                          | ---     | 10.5                                                               | (29.7)   | 2.5               | (7.1)   | 17.6                            | (49.7)  | 24.6                                   | (69.5)     |
| 1987                   | 36.4                       | 18.3                                    | (50.3)  | ---                                          | ---     | 10.5                                                               | (28.8)   | 3.6               | (9.9)   | 18.1                            | (49.7)  | 38.9                                   | (106.9)    |
| 1988                   | 37.3                       | 18.4                                    | (49.3)  | ---                                          | ---     | 10.3                                                               | (27.6)   | 5.0               | (13.4)  | 17.5                            | (46.9)  | 53.4                                   | (143.2)    |
| 1989                   | 38.6                       | 18.5                                    | (47.9)  | ---                                          | ---     | 9.8                                                                | (25.4)   | 6.1               | (15.8)  | 20.2                            | (52.3)  | 67.6                                   | (175.1)    |
| 1990                   | 39.8                       | 16.3                                    | (41.0)  | ---                                          | ---     | 10.6                                                               | (26.6)   | 7.3               | (18.3)  | 21.5                            | (54.0)  | 80.4                                   | (202.0)    |
| 1991                   | 42.3                       | 17.2                                    | (40.7)  | ---                                          | ---     | 10.8                                                               | (25.5)   | 8.5               | (20.1)  | 23.1                            | (54.6)  | 93.7                                   | (221.5)    |
| 1992                   | 41.1                       | 16.3                                    | (39.7)  | ---                                          | ---     | 11.2                                                               | (27.3)   | 9.4               | (22.9)  | 24.5                            | (59.6)  | 106.1                                  | (258.2)    |
| 1993                   | 38.9                       | 13.2                                    | (33.9)  | ---                                          | ---     | 12.3                                                               | (31.6)   | 10.0              | (25.7)  | 25.7                            | (66.1)  | 115.9                                  | (297.9)    |
| 1994                   | 38.3                       | 12.8                                    | (33.4)  | ---                                          | ---     | 11.9                                                               | (31.1)   | 10.3              | (26.9)  | 26.7                            | (69.7)  | 124.2                                  | (324.3)    |
| 1995                   | 37.1                       | 12.2                                    | (32.9)  | ---                                          | ---     | 11.5                                                               | (31.0)   | 10.9              | (29.4)  | 27.8                            | (74.9)  | 131.0                                  | (353.1)    |
| 1996                   | 36.7                       | 11.2                                    | (30.5)  | ---                                          | ---     | 10.7                                                               | (29.2)   | 11.3              | (30.8)  | 28.8                            | (78.5)  | 135.3                                  | (368.7)    |
| 1997                   | 36.8                       | 11.1                                    | (30.2)  | ---                                          | ---     | 15.2                                                               | (41.3)   | 11.9              | (32.3)  | 30.2                            | (82.1)  | 143.3                                  | (389.4)    |
| 1998                   | 37.1                       | 10.4                                    | (28.0)  | ---                                          | ---     | 15.1                                                               | (40.7)   | 12.2              | (32.9)  | 31.1                            | (83.8)  | 149.9                                  | (404.0)    |
| 1999                   | 37.6                       | 10.4                                    | (27.7)  | ---                                          | ---     | 15.3                                                               | (40.7)   | 12.4              | (33.0)  | 31.9                            | (84.8)  | 156.0                                  | (414.9)    |
| 2000                   | 39.0                       | 11.4                                    | (29.2)  | ---                                          | ---     | 15.3                                                               | (39.2)   | 12.7              | (32.6)  | 32.8                            | (84.1)  | 162.7                                  | (417.2)    |
| 2001                   | 40.9                       | 11.4                                    | (27.9)  | ---                                          | ---     | 16.1                                                               | (39.4)   | 13.2              | (32.3)  | 34.1                            | (83.4)  | 169.2                                  | (413.7)    |
| 2002                   | 44.7                       | 12.9                                    | (28.9)  | ---                                          | ---     | 17.0                                                               | (38.0)   | 12.4              | (27.7)  | 35.1                            | (78.5)  | 176.5                                  | (394.9)    |
| 2003                   | 52.0                       | 13.7                                    | (26.3)  | ---                                          | ---     | 17.9                                                               | (34.4)   | 10.0              | (19.2)  | 35.6                            | (68.5)  | 182.6                                  | (351.2)    |
| 2004                   | 53.6                       | 14.1                                    | (26.3)  | ---                                          | ---     | 18.2                                                               | (34.0)   | 10.1              | (18.8)  | 37.0                            | (69.0)  | 188.0                                  | (350.7)    |
| 2005                   | 56.3                       | 15.0                                    | (26.6)  | \$1.5                                        | (2.7%)  | 21.4                                                               | (38.0)   | 10.9              | (19.4)  | 39.0                            | (69.3)  | 197.9                                  | (351.5)    |
| 2006                   | 54.0                       | 13.9                                    | (25.7)  | 2.3                                          | (4.3)   | 23.2                                                               | (43.0)   | 12.3              | (22.8)  | 41.1                            | (76.1)  | 208.4                                  | (385.9)    |
| 2007                   | 56.4                       | 14.5                                    | (25.7)  | 2.5                                          | (4.4)   | 26.0                                                               | (46.1)   | 10.3              | (18.3)  | 43.5                            | (77.1)  | 218.2                                  | (386.9)    |
| 2008                   | 59.2                       | 16.1                                    | (27.2)  | 2.8                                          | (4.7)   | 46.2                                                               | (78.0)   | 15.6              | (26.4)  | 45.8                            | (77.4)  | 253.1                                  | (427.5)    |
| 2009                   | 63.0                       | 17.5                                    | (27.8)  | 3.7                                          | (5.9)   | 51.1                                                               | (81.1)   | 2.9               | (4.6)   | 50.0                            | (79.4)  | 278.4                                  | (441.9)    |
| 2010                   | 64.4                       | 20.4                                    | (31.7)  | 4.5                                          | (7.0)   | 58.6                                                               | (91.0)   | 10.4              | (16.1)  | 50.6                            | (78.6)  | 321.7                                  | (499.5)    |
| 2011                   | 66.9                       | 21.0                                    | (31.4)  | 5.0                                          | (7.5)   | 61.4                                                               | (91.8)   | 18.0              | (26.9)  | 51.0                            | (76.2)  | 376.1                                  | (562.2)    |
| 2012                   | 66.5                       | 21.9                                    | (32.9)  | 5.4                                          | (8.1)   | 64.8                                                               | (97.4)   | 12.5              | (18.8)  | 52.6                            | (79.1)  | 428.0                                  | (643.6)    |
| 2013                   | 66.3                       | 20.5                                    | (30.9)  | 6.8                                          | (10.3)  | 67.7                                                               | (102.1)  | 15.0              | (22.6)  | 54.5                            | (82.2)  | 483.5                                  | (729.3)    |
| 2014                   | 65.4                       | 20.5                                    | (31.3)  | 6.3                                          | (9.6)   | 72.9                                                               | (111.5)  | 17.1              | (26.1)  | 55.4                            | (84.7)  | 545.0                                  | (833.3)    |
| 2015                   | 64.3                       | 19.7                                    | (30.6)  | 6.2                                          | (9.6)   | 75.6                                                               | (117.6)  | 10.8              | (16.8)  | 56.7                            | (88.2)  | 600.6                                  | (934.1)    |
| 2016                   | 64.6                       | 19.5                                    | (30.2)  | 6.9                                          | (10.7)  | 79.3                                                               | (122.8)  | 15.3              | (23.7)  | 57.2                            | (88.5)  | 664.4                                  | (1,028.5)  |
| 2017                   | 65.4                       | 18.3                                    | (28.0)  | 6.8                                          | (10.4)  | 81.2                                                               | (124.1)  | 21.2              | (32.4)  | 57.8                            | (88.4)  | 734.1                                  | (1,122.5)  |
| 2018                   | 66.7                       | 18.4                                    | (27.6)  | 6.8                                          | (10.3)  | 82.9                                                               | (124.3)  | 30.5              | (45.8)  | 58.9                            | (88.4)  | 813.9                                  | (1,220.2)  |
| ↑ ACTUAL ↑             |                            |                                         |         |                                              |         |                                                                    |          |                   |         |                                 |         |                                        |            |
| ↓ PROJECTED ↓          |                            |                                         |         |                                              |         |                                                                    |          |                   |         |                                 |         |                                        |            |
| 2019                   | \$70.8                     | \$21.0                                  | (29.6%) | \$7.9                                        | (11.2%) | \$88.0                                                             | (124.4%) | \$44.5            | (62.9%) | \$60.7                          | (85.8%) | \$914.5                                | (1,292.5%) |
| 2020                   | 72.4                       | 21.9                                    | (30.2)  | 8.5                                          | (11.7)  | 91.9                                                               | (126.9)  | 49.7              | (68.7)  | 62.3                            | (86.0)  | 1,024.2                                | (1,414.1)  |
| 2021                   | 73.3                       | 21.9                                    | (29.9)  | 9.5                                          | (12.9)  | 94.9                                                               | (129.3)  | 55.4              | (75.5)  | 64.0                            | (87.3)  | 1,141.8                                | (1,557.0)  |
| 2022                   | 76.3                       | 22.6                                    | (29.6)  | 9.8                                          | (12.8)  | 97.1                                                               | (127.3)  | 61.4              | (80.4)  | 65.8                            | (86.3)  | 1,266.8                                | (1,660.3)  |
| 2023                   | 79.3                       | 23.2                                    | (29.3)  | 10.1                                         | (12.8)  | 100.3                                                              | (126.5)  | 67.7              | (85.5)  | 67.7                            | (85.4)  | 1,400.3                                | (1,766.4)  |
| 2024                   | 82.3                       | 23.8                                    | (29.0)  | 10.4                                         | (12.7)  | 103.5                                                              | (125.8)  | 74.6              | (90.6)  | 70.0                            | (85.0)  | 1,542.7                                | (1,874.5)  |
| 2025                   | 85.4                       | 24.5                                    | (28.7)  | 10.8                                         | (12.6)  | 106.9                                                              | (125.2)  | 81.8              | (95.8)  | 72.2                            | (84.5)  | 1,694.5                                | (1,984.4)  |
| 2026                   | 88.6                       | 25.2                                    | (28.4)  | 11.1                                         | (12.6)  | 110.4                                                              | (124.6)  | 89.6              | (101.1) | 74.3                            | (83.8)  | 1,856.5                                | (2,096.2)  |
| 2027                   | 91.8                       | 25.8                                    | (28.1)  | 11.5                                         | (12.5)  | -8.7                                                               | (-9.5)   | 91.7              | (99.8)  | 76.4                            | (83.2)  | 1,900.4                                | (2,069.0)  |
| 2028                   | 95.3                       | 26.5                                    | (27.9)  | 11.8                                         | (12.4)  | -9.0                                                               | (-9.5)   | 93.9              | (98.5)  | 78.8                            | (82.7)  | 1,944.9                                | (2,041.4)  |
| 2029                   | 98.4                       | 27.2                                    | (27.6)  | 12.2                                         | (12.4)  | -9.3                                                               | (-9.5)   | 96.0              | (97.6)  | 81.3                            | (82.7)  | 1,989.6                                | (2,021.9)  |
| 2030                   | 101.6                      | 27.8                                    | (27.3)  | 12.5                                         | (12.3)  | -9.6                                                               | (-9.4)   | 98.2              | (96.6)  | 84.0                            | (82.6)  | 2,034.6                                | (2,001.7)  |
| 2031                   | 105.0                      | 28.4                                    | (27.1)  | 12.9                                         | (12.3)  | -9.9                                                               | (-9.4)   | 100.4             | (95.7)  | 86.6                            | (82.5)  | 2,079.7                                | (1,981.0)  |
| 2032                   | 108.4                      | 29.1                                    | (26.8)  | 13.2                                         | (12.2)  | -2.8                                                               | (-2.6)   | 103.0             | (95.0)  | 89.4                            | (82.5)  | 2,132.8                                | (1,967.0)  |
| 2033                   | 111.9                      | 29.8                                    | (26.6)  | 13.6                                         | (12.1)  | 23.1                                                               | (20.6)   | 106.9             | (95.5)  | 92.4                            | (82.6)  | 2,213.7                                | (1,977.8)  |
| 2034                   | 115.5                      | 30.4                                    | (26.4)  | 14.0                                         | (12.1)  | 23.8                                                               | (20.6)   | 111.0             | (96.1)  | 95.4                            | (82.6)  | 2,297.5                                | (1,989.1)  |
| 2035                   | 119.2                      | 31.2                                    | (26.1)  | 14.4                                         | (12.0)  | 24.6                                                               | (20.6)   | 115.1             | (96.6)  | 98.2                            | (82.3)  | 2,384.6                                | (1,999.9)  |
| 2036                   | 123.1                      | 32.0                                    | (25.9)  | 14.8                                         | (12.0)  | 14.7                                                               | (11.9)   | 119.0             | (96.6)  | 100.9                           | (81.9)  | 2,464.1                                | (2,000.9)  |
| 2037                   | 127.2                      | 32.8                                    | (25.8)  | 15.2                                         | (12.0)  | 11.0                                                               | (8.6)    | 122.7             | (96.5)  | 103.7                           | (81.5)  | 2,542.1                                | (1,998.3)  |
| 2038                   | 131.4                      | 33.7                                    | (25.6)  | 15.7                                         | (11.9)  | 11.3                                                               | (8.6)    | 126.6             | (96.4)  | 106.4                           | (81.0)  | 2,623.0                                | (1,995.9)  |
| 2039                   | 135.7                      | 34.6                                    | (25.5)  | 16.2                                         | (11.9)  | 11.7                                                               | (8.6)    | 130.7             | (96.3)  | 109.3                           | (80.6)  | 2,706.8                                | (1,994.5)  |
| 2040                   | 140.1                      | 35.5                                    | (25.4)  | 16.6                                         | (11.9)  | 12.1                                                               | (8.6)    | 134.9             | (96.3)  | 112.2                           | (80.1)  | 2,793.6                                | (1,994.6)  |
| 2041                   | 144.6                      | 36.5                                    | (25.3)  | 17.1                                         | (11.9)  | 12.5                                                               | (8.6)    | 139.2             | (96.3)  | 115.2                           | (79.7)  | 2,883.8                                | (1,995.0)  |
| 2042                   | 149.2                      | 37.6                                    | (25.2)  | 17.7                                         | (11.8)  | 12.9                                                               | (8.6)    | 143.7             | (96.3)  | 118.1                           | (79.1)  | 2,977.5                                | (1,995.4)  |
| 2043                   | 154.0                      | 38.7                                    | (25.1)  | 18.2                                         | (11.8)  | 13.3                                                               | (8.6)    | 148.4             | (96.3)  | 121.1                           | (78.6)  | 3,075.0                                | (1,996.4)  |
| 2044                   | 159.0                      | 39.8                                    | (25.1)  | 18.8                                         | (11.8)  | 13.7                                                               | (8.6)    | 153.3             | (96.4)  | 124.1                           | (78.1)  | 3,176.5                                | (1,998.3)  |
| 2045                   | 164.1                      | 41.1                                    | (25.0)  | 19.4                                         | (11.8)  | 14.2                                                               | (8.6)    | 158.4             | (96.5)  | 127.1                           | (77.5)  | 3,282.3                                | (2,000.5)  |
| 2046                   | 169.4                      | 42.3                                    | (25.0)  | 20.0                                         | (11.8)  | 14.6                                                               | (8.6)    | 163.7             | (96.6)  | 130.2                           | (76.8)  | 3,392.8                                | (2,003.0)  |

Note: Treasury Normal Cost Contributions are net of actual and expected sequestered amounts by the following fiscal years (discussed further in Appendix M):

- FY 2014: 9.8%
- FY 2015: 9.5%
- FY 2016: 9.3%
- FY 2017: 9.1%
- FY 2018: 8.9%
- FY 2019: 8.7%
- FY 2020: 8.6%

TABLE 8 FOOTNOTES

**NOTE REGARDING OPEN GROUP PROJECTIONS:** The 25-year open group projection in this report is based on benefit provisions, data, methods and assumptions described herein. The values are displayed in future-year dollars. They are intended to provide the user with a general directional magnitude; uncertainty increases with the length of the projection period. Actual results are heavily dependent on the underlying assumptions being realized. Benefit changes, economic conditions, and other factors are not perfectly predictable. **Economic, demographic, and political forces cannot be precisely predicted over very long periods of time.**

In addition, the fundamental purpose of OACT's valuation is to produce actuarial liability and normal cost amounts, both of which are done on a closed group basis. In performing the valuation calculations, many assumptions represent long-run average expectations. This is appropriate for such liability and normal cost determinations. The open group projection uses many of the same long-run average assumptions as are used in the actuarial liability and normal cost calculations, but incorporates some adjustments for short-term expectations (e.g., the use of short-term economic assumptions for basic pay and COLA increases).

The projection in this publication is intentionally limited to 25 years. Additional projection years, as well as projections assuming different economic assumptions, may be available upon request.

- <sup>1</sup> P.L. 98-94 established the Military Retirement Fund. Under the law, DoD is responsible for the normal cost payment and Treasury is responsible for the payments on the unfunded liability. P.L. 108-136 assigned Treasury the responsibility of funding the normal cost resulting from increased benefits due to Concurrent Receipt, starting in FY 2005. There are no employee contributions to the Fund.
- <sup>2</sup> DoD-projected endstrengths are used through the end of FY 2024 and constant force strengths are used thereafter. Basic pay is only a portion of military compensation. See The Military Retirement System: Benefits in Appendix A for details. FYs 2014, 2015, 2016, 2017, 2018, 2019, and 2020 Treasury Normal Cost Payments reflect sequestered amounts of 9.8% in FY 2014, 9.5% in FY 2015, 9.3% in FY 2016, 9.1% in FY 2017, 8.9% in FY 2018, 8.7% in FY 2019, and 8.6% in FY 2020 (discussed further in Appendix M).
- <sup>3</sup> Due to federal budget deadlines, normal cost percentages are established in advance of implementation. The percentage actually used and displayed here may vary from the one derived in the valuation as of the end of the previous year. Starting in FY 1987, NCPs have been developed separately for the full-time and part-time basic payrolls. Beginning in FY 2008, the part-time NCP has been charged against mobilized reserve pay. However, this report includes mobilized reserve pay as part of the full-time payroll from FY 2008 through FY 2010.

TABLE 8 FOOTNOTES (Continued)

- <sup>4</sup> Reflects amortization payments for FY 2020 and thereafter determined in the September 30, 2018, valuation. The FY 2027 - FY 2032 payments depict negative values, implying the Fund will have to pay Treasury this amount. There is no mechanism allowing this case to occur under current law. OACT (and the Board) are monitoring this situation.
- <sup>5</sup> Disbursements are on a cash basis. Beginning in December 1984, entitlements obligated for a month have been paid at the beginning of the following month. Prior to this date, entitlements were paid at the end of the month of obligation. Consequently, FY 1985 disbursements include only 11 months of payments. The FY 2011 National Defense Authorization Act allowed for retired pay to be paid on the previous business day if the first of the month falls on a weekend or holiday. This is not accounted for in the projected Fund Disbursements or Balances in order to give the projection a smooth trajectory.
- <sup>6</sup> This fund balance (on a book value basis) reflects cash disbursements during the year. On September 30, 2018, assets in the Fund totaled \$813.9 billion.

**OTHER NOTES:** Mortality rates that are applied in the valuation to active/reserve duty members, retirees, and survivors, are subject to annual rates of improvement – see Appendix J. People and pay underlying the projection can be found in Appendix K. The table does not reflect future gains or losses due to short-term economic experience being different than assumed. Consequently, only payments on the total unfunded liability as of September 30, 2018, are reflected.

| ANNUAL ECONOMIC ASSUMPTIONS USED IN PROJECTIONS OF PLAN ASSETS |                    |                  |                  |                 |
|----------------------------------------------------------------|--------------------|------------------|------------------|-----------------|
|                                                                | <u>Fiscal Year</u> | <u>Full COLA</u> | <u>Basic Pay</u> | <u>Interest</u> |
| [Actual]                                                       | 2019               | 2.8%             | 2.6%             | 5.0%            |
|                                                                | 2020               | 1.8              | 3.1              | 5.0             |
|                                                                | 2021               | 2.3              | 3.7              | 5.0             |
|                                                                | 2022               | 2.3              | 3.7              | 5.0             |
|                                                                | 2023               | 2.3              | 3.7              | 5.0             |
|                                                                | 2024               | 2.3              | 3.7              | 5.0             |
|                                                                | 2025               | 2.3              | 3.7              | 5.0             |
|                                                                | 2026               | 2.3              | 3.7              | 5.0             |
|                                                                | 2027               | 2.3              | 3.7              | 5.0             |
|                                                                | 2028               | 2.75             | 3.7              | 5.0             |
| [Long-Term]                                                    | 2029+              | 2.75             | 3.25             | 5.0             |

Full COLA is equal to full cost-of-living increases to retiree and survivor annuities. Basic Pay is the rate at which the entire military pay table increases (hence excludes longevity or promotion-and-merit increases). They are applied on an across-the-board basis and typically occur each January 1<sup>st</sup>. Interest assumptions pertain to annual, aggregate Fund yield on all cash flows. The above COLA and Basic Pay assumptions are from the OMB; the interest (fund yield) is the Board of Actuaries long-term interest assumption. Long-term annual economic assumptions (used throughout the projection in the normal cost and unfunded liability calculations) are 2.75% COLA, 3.25% basic pay, and 5.0% interest.

TABLE 9

**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED PAYROLL AND NORMAL COST PAYMENTS**  
(In Billions of Dollars and as a Proportion of Payroll)

| Fiscal<br>Year | Payroll   |           |        | DoD Normal Cost Payments |         |           |         | Treasury Normal Cost Payments |         |           |        | Normal Cost Payments |         |
|----------------|-----------|-----------|--------|--------------------------|---------|-----------|---------|-------------------------------|---------|-----------|--------|----------------------|---------|
|                | Full-Time | Part-Time | Total  | Full-Time                |         | Part-Time |         | Full-Time                     |         | Part-Time |        | Total                |         |
| 1985           | \$30.6    | \$2.9     | \$33.5 | \$15.5                   | (50.7%) | \$1.5     | (50.7%) | \$0.0                         | ---     | \$0.0     | ---    | \$17.0               | (50.7%) |
| 1986           | 32.3      | 3.1       | 35.4   | 16.4                     | (50.7)  | 1.6       | (50.7)  | 0.0                           | ---     | 0.0       | ---    | 17.9                 | (50.7)  |
| 1987           | 33.4      | 3.0       | 36.4   | 17.4                     | (52.2)  | 0.8       | (26.4)  | 0.0                           | ---     | 0.0       | ---    | 18.2                 | (50.1)  |
| 1988           | 34.0      | 3.3       | 37.3   | 17.4                     | (51.2)  | 0.9       | (26.1)  | 0.0                           | ---     | 0.0       | ---    | 18.3                 | (49.0)  |
| 1989           | 35.0      | 3.6       | 38.6   | 17.6                     | (50.2)  | 0.9       | (25.7)  | 0.0                           | ---     | 0.0       | ---    | 18.5                 | (47.9)  |
| 1990           | 36.0      | 3.7       | 39.7   | 15.8                     | (43.9)  | 0.5       | (13.4)  | 0.0                           | ---     | 0.0       | ---    | 16.3                 | (41.1)  |
| 1991           | 38.6      | 3.7       | 42.3   | 16.7                     | (43.2)  | 0.5       | (13.3)  | 0.0                           | ---     | 0.0       | ---    | 17.2                 | (40.6)  |
| 1992           | 36.9      | 4.1       | 41.0   | 15.8                     | (42.7)  | 0.5       | (13.3)  | 0.0                           | ---     | 0.0       | ---    | 16.3                 | (39.8)  |
| 1993           | 35.1      | 3.8       | 38.9   | 12.8                     | (36.4)  | 0.4       | (10.6)  | 0.0                           | ---     | 0.0       | ---    | 13.2                 | (33.9)  |
| 1994           | 34.5      | 3.8       | 38.3   | 12.4                     | (36.0)  | 0.4       | (10.6)  | 0.0                           | ---     | 0.0       | ---    | 12.8                 | (33.5)  |
| 1995           | 33.4      | 3.8       | 37.2   | 11.9                     | (35.5)  | 0.4       | (10.5)  | 0.0                           | ---     | 0.0       | ---    | 12.3                 | (32.9)  |
| 1996           | 33.1      | 3.7       | 36.8   | 10.9                     | (32.9)  | 0.4       | (9.6)   | 0.0                           | ---     | 0.0       | ---    | 11.2                 | (30.6)  |
| 1997           | 33.2      | 3.7       | 36.9   | 10.8                     | (32.6)  | 0.4       | (9.6)   | 0.0                           | ---     | 0.0       | ---    | 11.2                 | (30.3)  |
| 1998           | 33.4      | 3.7       | 37.1   | 10.2                     | (30.5)  | 0.3       | (8.8)   | 0.0                           | ---     | 0.0       | ---    | 10.5                 | (28.3)  |
| 1999           | 33.7      | 3.9       | 37.6   | 10.2                     | (30.2)  | 0.3       | (8.7)   | 0.0                           | ---     | 0.0       | ---    | 10.5                 | (28.0)  |
| 2000           | 35.1      | 4.0       | 39.1   | 11.2                     | (31.8)  | 0.4       | (9.8)   | 0.0                           | ---     | 0.0       | ---    | 11.6                 | (29.5)  |
| 2001           | 36.7      | 4.2       | 40.9   | 10.9                     | (29.6)  | 0.6       | (14.1)  | 0.0                           | ---     | 0.0       | ---    | 11.5                 | (28.0)  |
| 2002           | 40.8      | 3.9       | 44.7   | 12.4                     | (30.3)  | 0.6       | (14.4)  | 0.0                           | ---     | 0.0       | ---    | 12.9                 | (28.9)  |
| 2003           | 47.8      | 4.2       | 52.0   | 13.1                     | (27.4)  | 0.6       | (14.6)  | 0.0                           | ---     | 0.0       | ---    | 13.7                 | (26.4)  |
| 2004           | 49.4      | 4.2       | 53.6   | 13.4                     | (27.1)  | 0.7       | (16.0)  | 0.0                           | ---     | 0.0       | ---    | 14.1                 | (26.2)  |
| 2005           | 52.0      | 4.3       | 56.3   | 14.3                     | (27.5)  | 0.7       | (16.7)  | 1.7                           | (3.3%)  | 0.0       | (0.8%) | 16.8                 | (29.8)  |
| 2006           | 49.7      | 4.3       | 54.0   | 13.2                     | (26.5)  | 0.7       | (16.7)  | 2.4                           | (4.9)   | 0.1       | (1.4)  | 16.4                 | (30.3)  |
| 2007           | 51.2      | 5.2       | 56.4   | 13.6                     | (26.5)  | 0.9       | (17.5)  | 2.5                           | (4.9)   | 0.1       | (1.5)  | 17.1                 | (30.3)  |
| 2008           | 53.5      | 5.7       | 59.2   | 15.5                     | (29.0)  | 1.1       | (19.1)  | 2.7                           | (5.0)   | 0.1       | (1.5)  | 19.4                 | (32.7)  |
| 2009           | 57.1      | 5.9       | 63.0   | 16.8                     | (29.4)  | 1.2       | (21.1)  | 4.0                           | (7.0)   | 0.1       | (2.3)  | 22.2                 | (35.2)  |
| 2010           | 58.3      | 6.1       | 64.4   | 18.9                     | (32.4)  | 1.5       | (24.5)  | 4.7                           | (8.0)   | 0.2       | (2.8)  | 25.2                 | (39.2)  |
| 2011           | 56.6      | 10.3      | 66.9   | 18.5                     | (32.7)  | 2.5       | (24.4)  | 4.6                           | (8.2)   | 0.3       | (3.2)  | 26.0                 | (38.9)  |
| 2012           | 57.3      | 9.2       | 66.5   | 19.7                     | (34.3)  | 2.2       | (24.3)  | 5.0                           | (8.8)   | 0.3       | (3.6)  | 27.3                 | (41.0)  |
| 2013           | 57.1      | 9.2       | 66.3   | 18.3                     | (32.1)  | 2.2       | (24.4)  | 6.4                           | (11.2)  | 0.3       | (3.2)  | 27.3                 | (41.1)  |
| 2014           | 57.0      | 8.4       | 65.4   | 18.5                     | (32.4)  | 2.1       | (24.5)  | 6.0                           | (11.7)  | 0.2       | (2.9)  | 26.8                 | (40.9)  |
| 2015           | 56.0      | 8.3       | 64.3   | 18.0                     | (32.2)  | 1.9       | (22.5)  | 6.0                           | (11.8)  | 0.2       | (2.7)  | 26.1                 | (40.6)  |
| 2016           | 56.3      | 8.3       | 64.6   | 17.7                     | (31.4)  | 1.9       | (23.0)  | 6.7                           | (13.1)  | 0.2       | (2.9)  | 26.5                 | (41.0)  |
| 2017           | 56.4      | 9.0       | 65.4   | 16.3                     | (28.9)  | 2.0       | (22.8)  | 6.6                           | (12.8)  | 0.3       | (3.3)  | 25.2                 | (38.5)  |
| 2018           | 57.5      | 9.2       | 66.7   | 16.3                     | (28.4)  | 2.1       | (22.6)  | 6.5                           | (12.5)  | 0.3       | (3.3)  | 25.2                 | (37.8)  |
| ↑ ACTUAL ↑     |           |           |        |                          |         |           |         |                               |         |           |        |                      |         |
| ↓ PROJECTED ↓  |           |           |        |                          |         |           |         |                               |         |           |        |                      |         |
| 2019           | \$61.2    | \$9.6     | \$70.8 | \$18.6                   | (30.4%) | \$2.4     | (24.7%) | \$7.6                         | (13.6%) | \$0.3     | (3.6%) | \$28.8               | (40.8%) |
| 2020           | 63.1      | 9.3       | 72.4   | 19.6                     | (31.0)  | 2.3       | (24.4)  | 8.2                           | (14.2)  | 0.3       | (3.8)  | 30.4                 | (41.9)  |
| 2021           | 64.7      | 8.6       | 73.3   | 19.9                     | (30.7)  | 2.1       | (24.2)  | 9.1                           | (14.1)  | 0.3       | (3.8)  | 31.4                 | (42.8)  |
| 2022           | 67.4      | 8.9       | 76.3   | 20.4                     | (30.3)  | 2.1       | (24.0)  | 9.4                           | (14.0)  | 0.3       | (3.8)  | 32.3                 | (42.4)  |
| 2023           | 70.0      | 9.3       | 79.3   | 21.0                     | (30.0)  | 2.2       | (23.8)  | 9.8                           | (13.9)  | 0.4       | (3.8)  | 33.3                 | (42.0)  |
| 2024           | 72.6      | 9.7       | 82.3   | 21.6                     | (29.7)  | 2.3       | (23.6)  | 10.1                          | (13.9)  | 0.4       | (3.8)  | 34.3                 | (41.7)  |
| 2025           | 75.4      | 10.0      | 85.4   | 22.1                     | (29.4)  | 2.4       | (23.4)  | 10.4                          | (13.8)  | 0.4       | (3.8)  | 35.3                 | (41.3)  |
| 2026           | 78.1      | 10.4      | 88.6   | 22.7                     | (29.1)  | 2.4       | (23.3)  | 10.7                          | (13.7)  | 0.4       | (3.8)  | 36.3                 | (41.0)  |
| 2027           | 81.0      | 10.9      | 91.8   | 23.3                     | (28.8)  | 2.5       | (23.1)  | 11.1                          | (13.7)  | 0.4       | (3.7)  | 37.3                 | (40.6)  |
| 2028           | 84.0      | 11.3      | 95.3   | 24.0                     | (28.5)  | 2.6       | (22.9)  | 11.4                          | (13.6)  | 0.4       | (3.7)  | 38.4                 | (40.3)  |
| 2029           | 86.7      | 11.7      | 98.4   | 24.5                     | (28.3)  | 2.7       | (22.8)  | 11.7                          | (13.5)  | 0.4       | (3.7)  | 39.3                 | (40.0)  |
| 2030           | 89.5      | 12.1      | 101.6  | 25.1                     | (28.0)  | 2.7       | (22.6)  | 12.1                          | (13.5)  | 0.4       | (3.7)  | 40.3                 | (39.7)  |
| 2031           | 92.4      | 12.6      | 105.0  | 25.6                     | (27.7)  | 2.8       | (22.5)  | 12.4                          | (13.4)  | 0.5       | (3.7)  | 41.3                 | (39.3)  |
| 2032           | 95.4      | 13.0      | 108.4  | 26.2                     | (27.4)  | 2.9       | (22.3)  | 12.8                          | (13.4)  | 0.5       | (3.7)  | 42.3                 | (39.0)  |
| 2033           | 98.5      | 13.5      | 111.9  | 26.8                     | (27.2)  | 3.0       | (22.2)  | 13.1                          | (13.3)  | 0.5       | (3.7)  | 43.4                 | (38.7)  |
| 2034           | 101.6     | 13.9      | 115.5  | 27.4                     | (27.0)  | 3.1       | (22.0)  | 13.5                          | (13.3)  | 0.5       | (3.7)  | 44.4                 | (38.5)  |
| 2035           | 104.8     | 14.4      | 119.2  | 28.0                     | (26.7)  | 3.2       | (21.9)  | 13.8                          | (13.2)  | 0.5       | (3.7)  | 45.5                 | (38.2)  |
| 2036           | 108.2     | 14.9      | 123.1  | 28.7                     | (26.5)  | 3.2       | (21.7)  | 14.2                          | (13.2)  | 0.5       | (3.7)  | 46.7                 | (38.0)  |
| 2037           | 111.8     | 15.4      | 127.2  | 29.5                     | (26.3)  | 3.3       | (21.6)  | 14.7                          | (13.1)  | 0.6       | (3.6)  | 48.0                 | (37.7)  |
| 2038           | 115.5     | 16.0      | 131.4  | 30.2                     | (26.2)  | 3.4       | (21.4)  | 15.1                          | (13.1)  | 0.6       | (3.6)  | 49.3                 | (37.5)  |
| 2039           | 119.2     | 16.5      | 135.7  | 31.1                     | (26.1)  | 3.5       | (21.2)  | 15.6                          | (13.1)  | 0.6       | (3.6)  | 50.7                 | (37.4)  |
| 2040           | 123.0     | 17.1      | 140.1  | 31.9                     | (26.0)  | 3.6       | (21.1)  | 16.0                          | (13.0)  | 0.6       | (3.6)  | 52.2                 | (37.2)  |
| 2041           | 126.9     | 17.7      | 144.6  | 32.8                     | (25.9)  | 3.7       | (20.9)  | 16.5                          | (13.0)  | 0.6       | (3.6)  | 53.7                 | (37.1)  |
| 2042           | 131.0     | 18.3      | 149.2  | 33.8                     | (25.8)  | 3.8       | (20.8)  | 17.0                          | (13.0)  | 0.7       | (3.6)  | 55.3                 | (37.0)  |
| 2043           | 135.1     | 18.9      | 154.0  | 34.8                     | (25.7)  | 3.9       | (20.7)  | 17.5                          | (13.0)  | 0.7       | (3.6)  | 56.9                 | (36.9)  |
| 2044           | 139.5     | 19.5      | 159.0  | 35.8                     | (25.7)  | 4.0       | (20.5)  | 18.1                          | (13.0)  | 0.7       | (3.6)  | 58.6                 | (36.9)  |
| 2045           | 143.9     | 20.2      | 164.1  | 36.9                     | (25.7)  | 4.1       | (20.4)  | 18.7                          | (13.0)  | 0.7       | (3.6)  | 60.4                 | (36.8)  |
| 2046           | 148.6     | 20.8      | 169.4  | 38.1                     | (25.6)  | 4.2       | (20.4)  | 19.3                          | (13.0)  | 0.7       | (3.6)  | 62.3                 | (36.8)  |

Note: Treasury Normal Cost Contributions are net of actual and expected sequestered amounts as discussed in Appendix M.

TABLE 10

**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED UNFUNDED LIABILITY PAYMENTS ON OCTOBER 1**  
**(\$ in billions)**

| Calendar<br>Year | Original<br>UFL | Assumption<br>Changes | Benefit<br>Changes | Actuarial<br>Experience | Total    |
|------------------|-----------------|-----------------------|--------------------|-------------------------|----------|
| 1984             | \$9.500         | \$0.000               | \$0.000            | \$0.000                 | \$9.500  |
| 1985             | \$10.500        | 0.000                 | 0.000              | 0.000                   | 10.500   |
| 1986             | \$11.042        | 0.000                 | 0.000              | -0.518                  | 10.524   |
| 1987             | \$11.679        | 0.000                 | -0.113             | -1.281                  | 10.285   |
| 1988             | \$12.003        | 0.135                 | -0.112             | -2.244                  | 9.782    |
| 1989             | \$16.300        | -2.116                | -0.132             | -3.456                  | 10.596   |
| 1990             | \$17.237        | -2.237                | -0.140             | -4.078                  | 10.782   |
| 1991             | \$18.228        | -2.366                | -0.148             | -4.508                  | 11.206   |
| 1992             | \$22.621        | -4.625                | -0.171             | -5.552                  | 12.273   |
| 1993             | \$23.865        | -4.880                | -0.180             | -6.897                  | 11.908   |
| 1994             | \$25.177        | -5.148                | -0.189             | -8.370                  | 11.470   |
| 1995             | \$27.746        | -6.619                | -0.079             | -10.349                 | 10.699   |
| 1996             | \$33.456        | -6.917                | -0.042             | -11.346                 | 15.151   |
| 1997             | \$36.227        | -8.529                | 0.048              | -12.627                 | 15.119   |
| 1998             | \$37.676        | -8.870                | 0.050              | -13.606                 | 15.250   |
| 1999             | \$39.183        | -9.201                | 0.052              | -14.732                 | 15.302   |
| 2000             | \$42.098        | -9.984                | 0.335              | -16.360                 | 16.089   |
| 2001             | \$43.571        | -9.862                | 0.472              | -17.134                 | 17.047   |
| 2002             | \$45.096        | -10.059               | 0.661              | -17.770                 | 17.928   |
| 2003             | \$46.674        | -10.741               | 0.977              | -18.721                 | 18.189   |
| 2004             | \$46.857        | -10.959               | 4.627              | -19.167                 | 21.358   |
| 2005             | \$48.614        | -11.337               | 6.081              | -20.178                 | 23.180   |
| 2006             | \$50.437        | -11.238               | 6.313              | -19.464                 | 26.048   |
| 2007             | \$66.711        | -7.642                | 6.430              | -19.312                 | 46.187   |
| 2008             | \$69.213        | -5.076                | 7.026              | -20.038                 | 51.125   |
| 2009             | \$70.379        | -1.241                | 7.100              | -17.619                 | 58.619   |
| 2010             | \$73.018        | -1.012                | 7.367              | -17.969                 | 61.404   |
| 2011             | \$75.757        | 0.171                 | 7.643              | -18.820                 | 64.751   |
| 2012             | \$78.598        | 0.386                 | 7.930              | -19.181                 | 67.733   |
| 2013             | \$81.373        | 3.150                 | 8.211              | -19.849                 | 72.885   |
| 2014             | \$84.221        | 2.594                 | 8.498              | -19.751                 | 75.562   |
| 2015             | \$87.169        | 3.770                 | 8.796              | -20.446                 | 79.289   |
| 2016             | \$90.024        | 4.459                 | 7.724              | -21.015                 | 81.192   |
| 2017             | \$92.950        | 3.736                 | 7.904              | -21.713                 | 82.877   |
| 2018             | \$94.971        | 6.383                 | 8.214              | -21.572                 | 87.996   |
| ↑ ACTUAL ↑       |                 |                       |                    |                         |          |
| ↓ PROJECTED ↓    |                 |                       |                    |                         |          |
| 2019             | \$98.057        | \$6.361               | \$8.858            | -\$21.403               | \$91.873 |
| 2020             | 101.244         | 6.568                 | 9.146              | -22.105                 | 94.853   |
| 2021             | 104.535         | 6.782                 | 9.443              | -23.660                 | 97.100   |
| 2022             | 107.932         | 7.002                 | 9.750              | -24.429                 | 100.255  |
| 2023             | 111.440         | 7.229                 | 10.067             | -25.223                 | 103.513  |
| 2024             | 115.062         | 7.464                 | 10.394             | -26.043                 | 106.877  |
| 2025             | 118.802         | 7.707                 | 10.732             | -26.890                 | 110.351  |
| 2026             | 0.000           | 7.958                 | 11.080             | -27.763                 | -8.725   |
| 2027             | 0.000           | 8.216                 | 11.441             | -28.666                 | -9.009   |
| 2028             | 0.000           | 8.483                 | 11.812             | -29.597                 | -9.302   |
| 2029             | 0.000           | 8.759                 | 12.196             | -30.559                 | -9.604   |
| 2030             | 0.000           | 9.043                 | 12.593             | -31.553                 | -9.917   |
| 2031             | 0.000           | 9.337                 | 13.002             | -25.155                 | -2.816   |
| 2032             | 0.000           | 9.641                 | 13.424             | 0.000                   | 23.065   |
| 2033             | 0.000           | 9.954                 | 13.861             | 0.000                   | 23.815   |
| 2034             | 0.000           | 10.278                | 14.311             | 0.000                   | 24.589   |
| 2035             | 0.000           | 10.612                | 4.042              | 0.000                   | 14.654   |
| 2036             | 0.000           | 10.957                | 0.000              | 0.000                   | 10.957   |
| 2037             | 0.000           | 11.313                | 0.000              | 0.000                   | 11.313   |
| 2038             | 0.000           | 11.680                | 0.000              | 0.000                   | 11.680   |
| 2039             | 0.000           | 12.060                | 0.000              | 0.000                   | 12.060   |
| 2040             | 0.000           | 12.452                | 0.000              | 0.000                   | 12.452   |
| 2041             | 0.000           | 12.857                | 0.000              | 0.000                   | 12.857   |
| 2042             | 0.000           | 13.274                | 0.000              | 0.000                   | 13.274   |
| 2043             | 0.000           | 13.706                | 0.000              | 0.000                   | 13.706   |
| 2044             | 0.000           | 14.151                | 0.000              | 0.000                   | 14.151   |
| 2045             | 0.000           | 14.612                | 0.000              | 0.000                   | 14.612   |
| 2046             | 0.000           | 0.642                 | 0.000              | 0.000                   | 0.642    |

Note: Actuarial Experience includes impact of sequestered Treasury Normal Cost payments.

TABLE 11

**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED UNFUNDED LIABILITY BALANCE ON SEPTEMBER 30 (Before Payment)**  
**(\$ in billions)**

| Calendar<br>Year | Original<br>UFL | Assumption<br>Changes | Benefit<br>Changes | Actuarial<br>Experience | Total     |
|------------------|-----------------|-----------------------|--------------------|-------------------------|-----------|
| 1984             | \$528.700       | \$0.000               | \$0.000            | \$0.000                 | \$528.700 |
| 1985             | 553.500         | 0.000                 | 0.000              | -13.800                 | 539.700   |
| 1986             | 578.800         | 0.000                 | -3.000             | -34.200                 | 541.600   |
| 1987             | 605.200         | 3.600                 | -2.998             | -59.500                 | 546.302   |
| 1988             | 632.700         | -50.062               | -3.076             | -81.180                 | 498.382   |
| 1989             | 664.173         | -53.711               | -3.172             | -94.562                 | 512.728   |
| 1990             | 693.224         | -55.207               | -3.253             | -102.283                | 532.481   |
| 1991             | 723.306         | -97.578               | -3.331             | -111.879                | 510.518   |
| 1992             | 757.959         | -102.353              | -3.421             | -139.327                | 512.858   |
| 1993             | 790.488         | -105.057              | -3.494             | -167.942                | 513.995   |
| 1994             | 824.120         | -130.691              | -0.968             | -201.052                | 491.409   |
| 1995             | 852.872         | -134.017              | -0.832             | -217.255                | 500.768   |
| 1996             | 880.822         | -159.859              | 0.897              | -231.424                | 490.436   |
| 1997             | 902.444         | -162.883              | 1.000              | -244.673                | 495.888   |
| 1998             | 922.521         | -164.057              | 1.014              | -259.976                | 499.503   |
| 1999             | 942.360         | -169.827              | 6.583              | -277.940                | 501.176   |
| 2000             | 959.626         | -164.942              | 9.414              | -284.168                | 519.931   |
| 2001             | 974.873         | -162.970              | 13.075             | -285.393                | 539.585   |
| 2002             | 989.509         | -170.593              | 19.216             | -293.105                | 545.027   |
| 2003             | 1,003.439       | -172.248              | 94.231             | -297.115                | 628.308   |
| 2004             | 1,016.562       | -171.288              | 125.272            | -304.415                | 666.132   |
| 2005             | 1,030.312       | -165.769              | 128.261            | -290.020                | 702.784   |
| 2006             | 1,043.054       | -126.439              | 131.332            | -282.660                | 765.287   |
| 2007             | 1,052.174       | -89.221               | 140.140            | -279.068                | 824.025   |
| 2008             | 1,044.591       | -27.990               | 142.047            | -254.441                | 904.207   |
| 2009             | 1,031.462       | -19.974               | 142.785            | -245.726                | 908.548   |
| 2010             | 1,016.346       | 2.415                 | 143.487            | -258.786                | 903.461   |
| 2011             | 997.569         | 8.208                 | 143.947            | -252.478                | 897.246   |
| 2012             | 974.816         | 68.621                | 144.141            | -254.041                | 933.537   |
| 2013             | 945.510         | 58.240                | 143.703            | -262.357                | 885.095   |
| 2014             | 911.665         | 81.894                | 142.944            | -268.738                | 867.765   |
| 2015             | 872.953         | 96.068                | 127.811            | -280.383                | 816.450   |
| 2016             | 827.038         | 80.674                | 124.563            | -289.710                | 742.564   |
| 2017             | 775.707         | 140.441               | 131.072            | -279.349                | 767.871   |
| 2018             | 716.895         | 139.147               | 129.327            | -265.801                | 719.567   |
| ↑ ACTUAL ↑       |                 |                       |                    |                         |           |
| ↓ PROJECTED ↓    |                 |                       |                    |                         |           |
| 2019             | \$653.020       | \$139.402             | \$127.168          | -\$255.668              | \$663.922 |
| 2020             | 582.711         | 139.693               | 124.226            | -245.979                | 600.652   |
| 2021             | 505.540         | 139.781               | 120.834            | -235.067                | 531.088   |
| 2022             | 421.056         | 139.649               | 116.960            | -221.978                | 455.688   |
| 2023             | 328.780         | 139.280               | 112.571            | -207.426                | 373.205   |
| 2024             | 228.207         | 138.653               | 107.629            | -191.313                | 283.176   |
| 2025             | 118.802         | 137.749               | 102.097            | -173.534                | 185.114   |
| 2026             | 0.000           | 136.544               | 95.933             | -153.976                | 78.501    |
| 2027             | 0.000           | 135.015               | 89.096             | -132.524                | 91.587    |
| 2028             | 0.000           | 133.139               | 81.537             | -109.050                | 105.626   |
| 2029             | 0.000           | 130.889               | 73.212             | -83.426                 | 120.675   |
| 2030             | 0.000           | 128.236               | 64.067             | -55.510                 | 136.793   |
| 2031             | 0.000           | 125.153               | 54.047             | -25.155                 | 154.045   |
| 2032             | 0.000           | 121.607               | 43.097             | 0.000                   | 164.704   |
| 2033             | 0.000           | 117.564               | 31.157             | 0.000                   | 148.721   |
| 2034             | 0.000           | 112.991               | 18.161             | 0.000                   | 131.152   |
| 2035             | 0.000           | 107.848               | 4.042              | 0.000                   | 111.891   |
| 2036             | 0.000           | 102.098               | 0.000              | 0.000                   | 102.098   |
| 2037             | 0.000           | 95.698                | 0.000              | 0.000                   | 95.698    |
| 2038             | 0.000           | 88.605                | 0.000              | 0.000                   | 88.605    |
| 2039             | 0.000           | 80.771                | 0.000              | 0.000                   | 80.771    |
| 2040             | 0.000           | 72.146                | 0.000              | 0.000                   | 72.146    |
| 2041             | 0.000           | 62.679                | 0.000              | 0.000                   | 62.679    |
| 2042             | 0.000           | 52.313                | 0.000              | 0.000                   | 52.313    |
| 2043             | 0.000           | 40.991                | 0.000              | 0.000                   | 40.991    |
| 2044             | 0.000           | 28.649                | 0.000              | 0.000                   | 28.649    |
| 2045             | 0.000           | 15.223                | 0.000              | 0.000                   | 15.223    |
| 2046             | 0.000           | 0.642                 | 0.000              | 0.000                   | 0.642     |

Note: Actuarial Experience includes impact of sequestered Treasury Normal Cost payments.



## **The Military Retirement Fund Transaction Process**

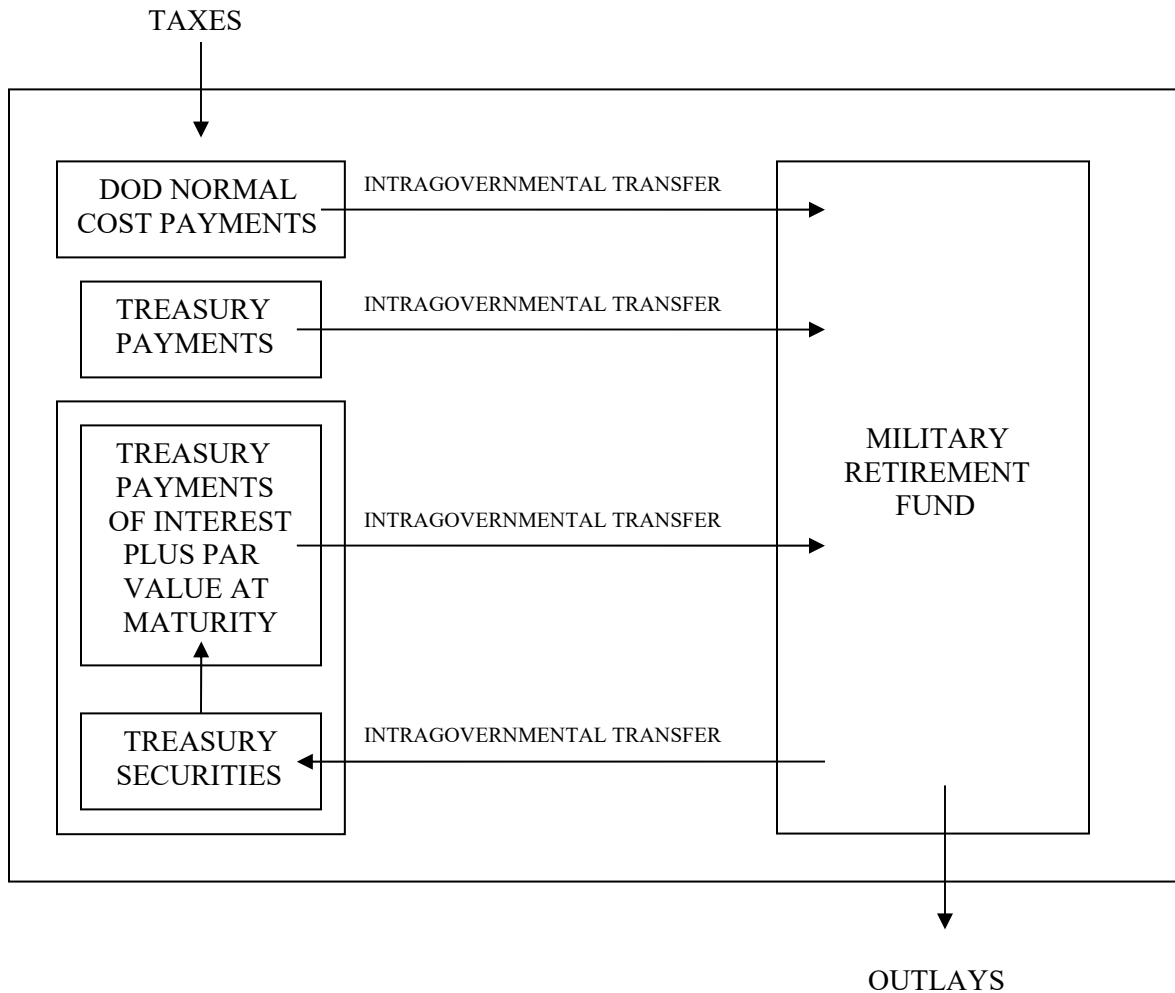
The description of deficit, debt, and funding impact contained in this section are applicable under the current practices of the federal government regarding budget accounting and tax policy. These practices do not provide for increases in taxes to fund the Military Retirement System beyond what is required to pay benefits to retirees and survivors each year, but do result in increases in the national debt.

A nonrevolving trust fund was created inside the Unified Budget of the federal government for the monies of the Military Retirement System. This fund has three sources of income: (1) normal cost payments made by DoD, (2) unfunded liability and Concurrent Receipt normal cost payments made by Treasury, and (3) interest earnings on investments in government securities made by Treasury and the payment of the par values of these securities at maturity. All three of these items are intragovernmental transfers consisting of debits from one government account and credits to another.

The Fund has two types of payouts: (1) payments to retirees and survivors of retirees and (2) purchases of U.S. Treasury securities. The purchase of a Treasury security is also an intragovernmental transfer, while a payment to a retiree or a survivor is not.

Figure 2 on the following page depicts this process. The only transactions in a particular year that directly affect the deficit of the Unified Budget are those that pass in or out of the government, such as tax collections (“in”) and retiree or survivor payments (“out”). The intragovernmental transfers are debits and credits within the federal budget, with no direct effect on the deficit. The following examples illustrate the process:

- If DoD debits \$25 billion in normal cost payments and the Fund credits the \$25 billion, the net direct federal budget deficit effect is zero.
- If the Fund purchases \$80 billion in securities (debit) and the Treasury sells \$80 billion in securities (credit), the net direct federal budget deficit effect is zero.
- If the Treasury pays \$30 billion interest (debit) and the Fund earns \$30 billion interest (credit), the net direct federal budget deficit effect is zero.
- Disregarding all other government programs, if the government collects \$55 billion in tax revenues (credit) and pays \$60 billion to retirees (debit), the net direct federal budget deficit effect is \$5 billion.

**FIGURE 2****MILITARY RETIREMENT SYSTEM  
UNIFIED BUDGET**

All of the intragovernmental transfers in Figure 2 will always generate both a credit and an associated equal debit within the Unified Budget. Consequently, under current federal budget accounting practices, contributions to the Fund beyond what are required to pay benefits to retirees and survivors that year have no impact on the total federal deficit. Just as in the pay-as-you-go method, the only transactions that directly affect the deficit in the retirement system accounting process are payments to retirees and survivors (i.e. outlays).

On the other hand, the purchase of securities by the Fund does increase the national debt, specifically the portion of the debt held by the government. The portion held by the public will not change. However, the total debt will increase and this requires an increase in the statutory borrowing authority (debt ceiling).

Suppose that in the year 2018 the amount needed to pay retirees was \$60 billion and the Military Retirement Fund had grown to \$815 billion. The following transactions would take place:

- Fund redeems \$60 billion in Treasury securities (credit).
- Treasury pays \$60 billion to Fund (debit).
- Net federal surplus zero.

Since no budget surplus can be derived from using fund money, the government still has a need for \$60 billion to pay retirees—the same need it would have under the pay-as-you-go system. Accordingly, the Fund cannot transfer liabilities from one tax year to another.

However, funding does have an effect on the DoD budget. With the normal cost payments (except for Concurrent Receipt) in the DoD budget, policymakers now consider the impact on future retirement costs when they make manpower decisions, and this could have a significant impact on future federal budgets. For example, if a decision were made today to double the size of the active duty and reserve forces, the DoD budget would automatically have an immediate increase in retirement funding obligations. Under the pay-as-you-go method, the retirement expenses would not necessarily be considered in the initial decision since they would not emerge for 20 years.

In their prior quadrennial reports to the President and Congress, the DoD Board has noted that the establishment of the Fund does not represent actual advance funding. Real advance funding could be achieved by investing the assets outside the Unified Budget, for example, in stocks or corporate bonds, or in bonds of state and local municipalities or quasi-federal government agencies (like Fannie Mae or Freddie Mac). Instead, the accrual accounting procedure now in place is essentially an internal cost accounting system. While the nation has not technically set aside money to pay the benefits of those who have served in uniform, the Fund can be viewed as earmarking future tax receipts for the benefit of military retirees. As such, the existence of the Fund promotes a measure of “psychological security” for military members.

Along these same lines, the DoD Board has frequently noted two common misconceptions about the Fund:

1) ***The Fund represents government tax receipts that have been accumulated in the past.***

Actually, the Fund represents future tax receipts that will be allocated to pay principal and interest on government bonds being held by the Fund.

2) ***The financial and actuarial status of the Fund can be measured by prospective short-term (or medium-term) cash flows.*** Rather, the entire present value of the liabilities must be compared to the sum of the Fund and prospective contributions. A year-by-year projection of cash flow is also needed to measure the Fund’s ability to pay annual benefits. Comparing the past and projected dollars as a proportion of payroll (as shown in Table 8) is another key measure of sustainability.

The current financing procedure, although carried out by allocating no more tax dollars than needed to pay benefits to military retirees as they come due, has nonetheless contributed to a more accurate allocation of resources within the defense budget and to formal recognition--in the national debt--of the government's obligation to pay retirement benefits to military members and eligible survivors/annuitants. This represents more responsible fiscal practice than would obtain under a pay-as-you-go system.

The fact that costs are fully recognized in advance provides greater benefit security over the long term. Also, when there is a Fund, the system is not as dependent on obtaining the necessary appropriation from Congress each year in order to pay benefits for that year. This can provide additional benefit security in the short run.

The actuarially based costs of the retirement system are reasonable given the plan provisions, and the system is considered sustainable assuming continuing willingness of the government to pay the required costs.

APPENDIX A

THE MILITARY RETIREMENT SYSTEM: BENEFITS

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## THE MILITARY RETIREMENT SYSTEM: BENEFITS

As of September 30, 2018

### Summary

The Military Retirement System applies to members of the Army, Navy, Marine Corps, and Air Force. However, most of the provisions also apply to retirement systems for members of the Coast Guard (administered by the Department of Homeland Security), officers of the Public Health Service (administered by the Department of Health and Human Services), and officers of the National Oceanic and Atmospheric Administration (administered by the Department of Commerce). Only those members in plans administered by the Department of Defense (DoD) are included in this report.

Generally, the system is a funded, noncontributory defined benefit plan that includes nondisability retired pay, disability retired pay, retired pay for reserve service, survivor annuity programs, and special compensation programs for certain disabled retirees. The Service Secretaries may approve immediate nondisability retired pay at any age with credit of at least 20 years of active duty service. Reserve retirees generally must be at least 60 years old and have at least 20 qualifying years of service before retired pay commences, with certain exceptions. Public Law (P.L.) 110-181 allows for a day-for-day reduction (in 90 day continuous periods) in the reserve retirement eligibility age from age 60 (to an age no lower than 50) for every 3 months served in a contingency operation or national emergency, for service after enactment. There is no vesting of benefits before retirement.

There are distinct nondisability benefit formulas related to four populations within the Military Retirement System. A summary is displayed in Tables B-1 and B-2 (see Appendix B).

- 1) **Final Pay:** Military personnel who first became members of a uniformed service before September 8, 1980, have retired pay equal to final basic pay times a multiplier. The multiplier is equal to 2.5 percent times years of service.
- 2) **High-3 (HI-3):** If the retiree first became a member of a uniformed service on or after September 8, 1980, the average of the highest 36 months of basic pay is used instead of final basic pay.
- 3) **Career Status Bonus (CSB)/Redux:** Those who first became a member of a uniformed service on or after August 1, 1986, may choose between a High-3 and CSB/Redux retirement. Those who elect CSB/Redux receive the Career Status Bonus outlined below, also have retired pay computed on a base of the average of their highest 36 months of basic pay, but are subject to a multiplier penalty if they retire with less than 30 years of service; however, at age 62, their retired pay is recomputed without the penalty. Members make their election during the fifteenth year of service and may receive the Career Status Bonus of \$30,000 in either a lump-sum or installments. Those who elect CSB/Redux generally must remain continuously on active duty until they complete 20 years of active duty service or forfeit a portion of the \$30,000 (exceptions include death and disability retirement). The National Defense Authorization Act for FY 2016 (NDAA 2016, P.L. 114-92) sunsets the CSB/Redux benefit tier by not allowing any CSB elections after December 31, 2017, and repeals all aspects of the Bipartisan Budget Act (BBA) 2013.

4) **Blended Retirement System (BRS):** Members who first become a member of a uniformed service after December 31, 2017, are covered under the new Blended Retirement System (BRS) which was enacted in NDAA 2016 and took effect January 1, 2018. Members who first entered the military before January 1, 2018, and who have served for fewer than 12 years (or for reservists, who have fewer than 4,320 points) as of December 31, 2017, have the option to “opt-in” to BRS via an irrevocable election during the one-year (calendar year 2018) open season or remain in the High-3 system. Members who have served 12 or more years as of December 31, 2017, are not permitted to opt-in to BRS and will receive benefits based on their current plan. As a result of NDAA 2016, members with 12 or more but fewer than 15 years of service as of December 31, 2017, will not have the opportunity to opt-in to BRS or to elect the CSB and will automatically remain in the High-3 system<sup>1</sup>. The BRS lowers the nondisabled retired pay multiplier from 2.5 percent per year to 2.0 percent and includes automatic and matching government contributions to member Thrift Savings Plan (TSP) accounts and a mandatory mid-career continuation bonus if the member agrees to serve additional time. The BRS also provides members the choice of receiving a portion (either 25 percent or 50 percent) of their retired pay entitlement from when the member is eligible to begin receiving retired pay to normal Social Security retirement age (usually 67) as a discounted lump sum instead of an annuity. For additional information, see Table B-1 or refer to the DoD Office of Military Compensation website (<http://militarypay.defense.gov/>).

Retired pay and survivor annuity benefits are automatically adjusted annually to protect the purchasing power of initial retired pay. The benefits associated with members first entering the armed services before August 1, 1986, or those entering on or after that date who do not take the CSB, have their benefits adjusted annually by the percentage increase in the average Consumer Price Index (CPI). Refer to the section “Cost-of-Living Increases” in this appendix for more information on the CPI. Receiving a benefit adjustment based on the percentage increase in the CPI is commonly referred to as full CPI protection. Benefits associated with members entering on or after August 1, 1986, who elect the \$30,000 CSB bonus payment are annually increased by the percentage change in the CPI minus 1 percent (except when the change in the CPI is less than or equal to 1 percent), but at the military member’s age 62, or when the member would have been age 62 for a survivor annuity, the benefits are restored to the amount that would have been payable had full CPI protection been in effect. This restoral is in combination with the elimination of the multiplier penalty for retiring with less than 30 years of service. However, after this restoral, partial indexing (CPI minus 1 percent) continues for future retired pay and survivor annuity payments.

The FY 2011 NDAA (P.L. 111-383) required “amounts of retired pay and retainer pay due a retired member of the uniformed services shall be paid on the first day of each month beginning after the month in which the right to such pay accrues.” This means that when the first day of the month falls on a non-business day (weekend/holiday), the pay must be paid the preceding business day. This legislation did not apply to survivor annuitant pay and Combat-Related Special Compensation, which were included in later legislation. This results in retirees receiving 13 payments in some fiscal years and 11 payments in others, with 12 payments

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<sup>1</sup> Because of breaks in service and technical differences in the definition of qualifying years of service under BRS compared to CSB/Redux, it’s not possible to precisely define this group based solely on dates of entry, but generally it will include members who joined the service after December 31, 2002, and on or before December 31, 2005.

occurring in a typical fiscal year. Note that annual fiscal year amounts shown throughout this report represent 12 monthly payments without regard to the 2011 NDAA. Comments regarding this law are also noted in the Table 8 footnotes in the main text.

### **Nondisability Retirement From Active Service**

The current system allows voluntary retirement upon completion of at least 20 years of service at any age, subject to Service Secretary approval. The military retiree receives immediate retired pay calculated as (base pay) times (a multiplier). Base pay is equal to terminal basic pay if the retiree first became a member of a uniformed service before September 8, 1980. It is equal to the average of the highest 36 months of basic pay for all other members. Refer to the prior section for a description of the four benefit tiers of nondisability retirement.

As of September 2018, 1.47 million nondisability retirees from active duty and full-time reserves were receiving an annualized retired pay entitlement totaling \$46.7 billion. Included in this number are a reported 75,678 nondisabled retirees who elected CSB/Redux.

### **Disability Retirement**

A military member in an active component or on active duty for more than 30 days who is found unfit for duty is entitled to disability retired pay if the disability:

- (1) based upon accepted medical principles, is of a permanent nature and stable;
- (2) was incurred while entitled to basic pay (or while on authorized absence in a status not entitled to basic pay);
- (3) is neither the result of the member's intentional misconduct nor willful neglect;
- (4) was not incurred during a period of unauthorized absence; and
- (5) either:
  - (a) the member has at least 20 years of service; or
  - (b) the disability is rated at least 30 percent under the Department of Veterans Affairs Schedule of Rating Disabilities (VASRD) and one of the following conditions is met:
    - (i) the disability was not noted at the time of the member's entrance on active duty (unless clear and unmistakable evidence demonstrates that the disability existed before the member's entrance on active duty and was not aggravated by active military service);
    - (ii) the disability is the proximate result of performing active duty;
    - (iii) the disability incurred in the line of duty in time of war or national emergency; or
    - (iv) the disability was incurred in the line of duty after September 14, 1978.

Under certain conditions generally similar to the above, members on active duty for 30 days or less or on inactive-duty training are also entitled to disability retired pay for disabilities incurred or aggravated in the line of duty.

In disability retirement, the member may elect to receive retired pay equal to either:

- (1) the accrued nondisability retirement benefit regardless of eligibility to retire; or
- (2) base pay multiplied by the rated percent of disability.



Except for members with a multiplier under (1) that is greater than 75 percent (which will equate to different years of service depending on whether the member is under BRS), the benefit cannot be more than 75 percent of base pay. Only the excess of (1) over (2) is subject to federal income taxes if the member had service on or before September 24, 1975. If not a member of a uniformed service on September 24, 1975, disability retired pay is tax-exempt only for those disabilities that are combat or hazardous duty related. Base pay is equal to final basic pay if the retiree first became a member of a uniformed service before September 8, 1980; otherwise, base pay is equal to the average of the highest 36 months of basic pay.

Members whose disabilities may not be permanent are placed on a temporary-disability retired list and receive disability retirement pay just as if they were permanently disabled. However, they must be physically examined every 18 months for any change in disability. A final determination must be made within five years, except that for retirees placed on this list after December, 31, 2016 the final determination must be made within three years<sup>2</sup>. The temporary disability pay is calculated like the permanent disability retired pay, except that it can be no less than 50 percent of base pay.

Members who elected the CSB/Redux retirement option, but who retire for disability, are not subject to the reduced CSB/Redux retired pay multiplier and are awarded retired pay based on the disability retired rules outlined above. However, such members continue to be subject to the reduced CPI (with age 62 restoral) as Career Status Bonus recipients. Members who are under BRS and who retire for disability do not have the option of receiving a portion of retired pay as a discounted lump sum.

As of September 2018, 123,000 disability retirees were receiving an annualized retired pay entitlement totaling \$1.72 billion. Included in this number are a reported 4,217 disability retirees who elected CSB/Redux.

### **Reserve Retirement**

Members of the Reserve Components may retire after 20 qualifying years of creditable service. However, reserve retired pay is not payable until age 60 unless the member performs certain types of active duty or active service specified in NDAA 2008 (P.L. 110-181), in which case the age is reduced below 60 by three months for every 90 days of such service within any two consecutive fiscal years. However, the age cannot be reduced below 50, and eligibility for subsidized retiree health benefits remains at age 60 even if the eligibility age for retired pay is reduced. For members not under BRS, retired pay is computed as retired pay base times 2.5 percent times years of service. For members under BRS (as explained below) the 2.5 percent multiplier is reduced to 2.0 percent. If the reservist was first a member of a uniformed service before September 8, 1980, retired pay base is defined as the active duty basic pay in effect for the retiree's grade and years of service at the time that retired pay begins. If the reservist first became a member of the armed services on or after September 8, 1980, retired pay base is the average basic pay for the member's grade in the highest 36 months computed as if he/she was on active duty for the entire period preceding the age at which retired pay commences. The years of service are determined by using a point system, where 360 points convert to a year of service.

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<sup>2</sup> The 2017 National Defense Authorization Act lowered the maximum length on the temporary-disability retired list from 5 years to 3 years, with grandfathering for those currently on the list.

Typically, one point is awarded for one day of active duty service (e.g. active duty training) or one inactive duty training (IDT) drill attendance. Reservists may perform two IDT periods in one day thereby receiving two retirement points per day. In addition, 15 points are awarded for completion of one year's membership in an active reserve status. A creditable year of service is one in which the member earned at least 50 points. A member generally cannot retire with less than 20 creditable years, although points earned in non-creditable years are used in the retirement calculation. Beginning with years of service that include October 30, 2007, non-active duty points are limited in any year to no more than 130. Lesser limitations have applied in the past.

Reservists who first became a member on or before December 31, 2017, and had fewer than 4,320 points (equating to 360 points per year multiplied by 12 years of service) as of that date are eligible to opt-in to BRS. Reservists who first become a member of the uniformed service after December 31, 2017, are automatically under BRS. For reserve retirement under BRS, the discounted lump sum option covers the period from the date the member first became eligible to receive retired pay (i.e., 60 or earlier if certain qualifying service is performed) to normal Social Security retirement age (usually 67).

As of September 2018, 412,000 reserve retirees were receiving an annualized retired pay entitlement totaling \$6.7 billion.

### **Survivor Benefits**

Legislation originating in 1953 provided optional survivor benefits. It was later referred to as the Retired Servicemen's Family Protection Plan (RSFPP). The plan proved to be expensive to the participants and inadequate since the survivor annuities were never adjusted for inflation and could not be more than 50 percent of retired pay. RSFPP was designed to be self-supporting in the sense that the present value of the reductions to retired pay equaled the present value of the survivor annuities.

On September 21, 1972, RSFPP was replaced by the Survivor Benefit Plan (SBP) for new retirees. RSFPP still covers those servicemen retired before 1972 who did not convert to the new plan or who retained RSFPP in conjunction with SBP. RSFPP continues to pay survivor annuities.

Retired pay is reduced, before taxes, for the member's cost of SBP. Total SBP costs are shared by the government and the retiree, so the reductions in retired pay are only a portion of the total cost of the SBP program.

The SBP survivor annuity is 55 percent of the member's base amount. The base amount is elected by the member, but cannot be less than \$300 or more than the member's full gross monthly retired pay, with one exception. If the member elects CSB/Redux and is subject to a penalty for service under 30 years in the calculation of retired pay, the maximum base amount is equal to the full retired pay without the penalty. However, the annuity for a survivor of a CSB/Redux retiree is subject to the reduced CPI.

When the plan started in 1972, benefits for those 62 and older were reduced by the amount of Social Security for which the survivor would be eligible based on the member's

military pay. In 1985, that reduction formula was changed so all annuitants 62 and over received a reduced flat rate of 35 percent of the member's base. Beginning October 1, 2005, the age 62 reduced rate was phased out in 5 percent increments. On April 1, 2008, the survivor benefit reduction at age 62 was fully eliminated and the rate of 55 percent of the member's elected base became standard for all survivors, regardless of age.

During FY 1987, SBP's treatment of survivor remarriages changed. Prior to the change, a surviving spouse remarrying before age 60 had the survivor annuity suspended. The change lowered the age to 55. If the remarriage ends in divorce or death, the annuity is reinstated.

Members who die on active duty are generally assumed to have retired with full disability on the day they died and to have elected full SBP coverage for spouses, former spouses, and/or children. If it is more beneficial for the survivors to have elected child only because of Dependency and Indemnity Compensation (DIC) offsets, the family has the option to make that election instead. If the death does not occur in the line of duty, the SBP benefit is based on the member's years of service, rather than assuming a full disability retirement. Insurable interest elections may be applicable in some cases. These benefits have been improved and expanded over the history of the program.

The surviving spouse (or dependent children, if there is no surviving spouse or if the spouse subsequently dies) of a reservist who dies in the line of duty while performing IDT service is entitled to an SBP annuity. Due to NDAA 2017, effective December 23, 2016 reservists who die in the line of duty while performing IDT receive an SBP annuity equivalent to what they would have received if they had died in the line of duty on active duty (i.e., the annuity assumes the reservist retired with 100% disability rating and elected full SBP on the date of death). Prior to this legislation, the annuity was based on the reservist's years of service.

SBP annuities generally are reduced by any VA survivor benefits (Dependency and Indemnity Compensation (DIC)), and all premiums relating to the reductions are returned to the survivor. The FY 2008 NDAA enacted, and subsequent legislation extended, a temporary Special Survivor Indemnity Allowance (SSIA) that pays a monthly amount (\$50 in FY 2009 grading up to \$310 in FY 2017 and FY 2018) to survivors with a DIC offset. Prior to NDAA 2018 the authority for the allowance ended in May 2018; the NDAA 2018 made it a permanent benefit with annual COLA increases.

As a result of the "Sharp Case" ruling, the SBP benefit of survivors with entitlement to both DIC and SBP who remarry after age 57 is not reduced by DIC benefits received.

As with retired pay, SBP annuities and premiums are increased annually with cost-of-living adjustments (COLAs). These COLAs are either full or partial CPI increases, depending on the benefit formula covering the member. If a member who elected the CSB/Redux retirement option dies before age 62, the survivor is subject to partial COLAs and his/her annuity is increased on what would have been the member's 62nd birthday to the amount that would have been payable had full COLAs been in effect. Partial COLAs continue annually thereafter.

For reserve retirees, the retired pay reductions applicable under SBP apply for survivor coverage after a reservist turns 60 (or earlier if they have certain active service) and begins to receive retired pay. Reserve Component Survivor Benefit Program (RCSBP) provides annuities to survivors of reservists who die before age 60 (or earlier if they have certain active service), provided they attained 20 years of qualified service and elected to participate in the program (or were within their 90-day election window after receiving their “20-year letter”). However, if the death occurs either on active or inactive duty as described above, the survivor receives an annuity under SBP. The added cost of RCSBP coverage is borne completely by reservists through deductions from future retired pay.

Beginning October 1, 2008, a paid-up provision eliminated the reduction in retired pay for premiums for SBP and RSFPP coverage for participants age 70 or older whose retired pay has been reduced for at least 360 months.

On June 26, 2013, the U.S. Supreme Court ruled to overturn the Defense of Marriage Act (DOMA). While not a change to Title 10 U.S. military benefits per se, the ruling has the effect of allowing legal spouses of same-sex marriages to be eligible to receive SBP benefits.

SBP premiums for members who elect lump sums under BRS will be equivalent to what they would have been without the lump sum, and consequently, the survivors' annuities will be equivalent to what they would have been without the lump sum. The maximum base amount will be equal to unreduced retired pay (i.e., ignoring the lump sum), premiums will be deducted only from monthly retired pay received, and SBP benefits will commence upon the retiree's death.

As of September 2018, 321,000 survivors of military members were receiving an annualized annuity and/or SSIA entitlements totaling \$3.9 billion. Included in these totals, there are 65,000 SSIA survivors receiving \$0.2 billion (approximately 24,000 receive survivor pay as well).

### **Temporary Early Retirement Authority (TERA)**

The FY 1993 NDAA (P.L. 102-484) granted temporary authority for the military services to offer early retirements to members with more than 15 but less than 20 years of service. The retired pay was calculated in the usual way except that there was a reduction of 1 percent for every year below 20 years of service. Part or all of this reduction can be restored at age 62 if the retired member works in a qualified public service job during the period from the date of retirement to the date on which the retiree would have completed 20 years of service. Unlike members who leave military service before 20 years with voluntary separation incentives or special separation benefits, these early retirees are generally treated like regular military retirees for the purposes of other retirement benefits. This authority originally expired on September 1, 2002.

The FY 2012 NDAA (P.L. 112-81) reinstated TERA, from January 2012 through December 2018, but without the qualified public service provision. The FY 2017 NDAA further extended TERA through December 2025.

As of September 2018, 68,500 TERA retirees were receiving an annualized retired pay entitlement totaling \$1.3 billion.

### **Cost-of-Living Increases**

All nondisability retirement, disability retirement, and most survivor annuities are adjusted annually for inflation. Cost-of-living adjustments (COLAs) are automatically scheduled to occur every 12 months, on December 1st, to be reflected in checks issued at the beginning of January.

The “full” COLA effective December 1 is computed by calculating the percentage increase in the average CPI of the third quarter of the prior calendar year to the third quarter of the current calendar year. The increase is based on the Urban Wage Earner and Clerical Worker Consumer Price Index (CPI-W) and is rounded to the nearest tenth of one percent. Recent retirees/annuitants receive a prorated COLA depending on their date of retirement/eligibility.

The benefits of retirees (and most survivors) are increased annually with the full COLA, except for those first entering a uniformed service on or after August 1, 1986, who elect CSB/Redux. Their benefits are increased annually with a partial COLA equal to the full COLA minus 1 percent (except if the full COLA is less than or equal to 1 percent). A one-time restoral is given to a partial COLA recipient on the first day of the month after the retiree’s 62nd birthday. At this time, retired pay (or the survivor benefit if the retiree is deceased) is increased to the amount that would have been payable had full COLAs been in effect. Annual partial COLAs continue after this restoral. Note that the FY 2016 NDAA sunsets the CSB/Redux benefit tier by not allowing any CSB elections after December 31, 2017.

### **Relationship with Veterans Administration Benefits**

The Department of Veterans Affairs (VA) provides compensation for Service-connected and certain non-Service-connected disabilities. These VA benefits can be in place of or in combination with DoD retired pay, but through December 31, 2003, were not fully additive. Since VA benefits are exempt from federal income taxes, it is often to the advantage of a member to elect them. Through 2003, retired pay earned from DoD for military service was offset by any payment received from VA for a VA-rated disability. Beginning with the FY 2004 NDAA (P.L. 108-136), a series of legislation has been enacted that increasingly reduces or eliminates the offset to military retired pay due to receipt of VA disability compensation. Members with a combined VA disability rating of 50% or greater who have at least 20 years of service will have their offset eliminated under the Concurrent Retirement and Disability Pay (CRDP) program. The CRDP program has a ten-year phase-in schedule that began in 2004; however, the offset is already fully eliminated for members whose disabilities are rated total or make the individual unemployable. Members whose disability meets certain combat-related criteria can elect to receive payments against the offset under the Combat Related Special Compensation (CRSC) program. Under CRSC, members are not subject to a phase-in schedule, are not required to have at least 20 years of service (per P.L. 110-181), and are not required to have at least a 50% VA disability rating. Although CRSC amounts are calculated based on retired pay lost due to offset and are paid from the Military Retirement Fund, CRSC is not technically considered retired pay. CRSC payments are tax exempt. A member may not participate in both the CRDP and CRSC programs simultaneously, but may change from one to the other during an annual "open season."

For members who elect lump sums under BRS and qualify for VA disability compensation: (1) if the member is not eligible for CRDP or CRSC, the VA will withhold disability payments until the amount withheld equals the lump sum amount, after which VA disability payments, as an offset to retired pay, may be paid; (2) if the member is eligible for CRDP, no withholding of VA disability payments is required, and the retiree may receive VA disability compensation and retired pay without offset; and (3) if eligible for CRSC, the procedures for withholding VA disability payments are more complicated and relate to the portion of the total VA entitlement considered combat-related.

VA benefits also offset (or reduce) survivor pay through the Dependency and Indemnity Compensation (DIC) program. DIC benefits are payable to survivors of veterans who die from Service-connected causes. Although SBP annuities are generally reduced by the amount of any DIC benefit, all SBP premiums relating to the reduction in benefits are returned to the survivor. The FY 2008 NDAA enacted, and subsequent legislation extended, a temporary Special Survivor Indemnity Allowance (SSIA) that pays a monthly amount (\$50 in FY 2009 grading up to \$310 in FY 2017 and FY 2018) to survivors with a DIC offset. Prior to NDAA 2018 the authority for the allowance ended in May 2018; the NDAA 2018 made it a permanent benefit with annual COLA increases.

As a result of the “Sharp Case” ruling, the SBP benefit of widows with entitlement to both DIC and SBP who remarry after age 57 is not reduced by DIC benefits received.

As of September 2018, there were 652,000 CRDP members and 93,000 CRSC members. These members were paid an additional monthly amount of \$1.1 billion and \$91 million, respectively. As of September 2018, there were 65,000 survivors receiving annualized SSIA benefits of \$243 million.

### **Interrelationship with Other Federal Service**

For military retirement purposes, no credit is given for other federal service, except where cross-service transferability is allowed. Military service is generally creditable toward the federal civilian retirement systems if military retired pay is waived. However, a deposit (equal to a percentage of post-1956 basic pay) must be made to the Civil Service Retirement and Disability Fund in order to receive credit. Military service is not generally creditable under both systems (but is for reservists and certain disability retirees). Military retirees may qualify separately for Civil Service retirement and receive concurrent pay from both systems.

### **Relationship of Retired Pay to Military Compensation**

Basic pay is the only element of military compensation upon which nondisability retired pay is based and entitlement is determined. Basic pay is the principal element of military compensation that all members receive, but it is not representative of salary levels in the public and private sectors for comparative purposes. Reasonable comparisons can be made to regular military compensation (RMC). RMC is the sum of (1) basic pay, (2) the housing allowance, which varies by grade, location, and dependency status, (3) the subsistence allowance and, (4) the tax advantages accruing to the housing and subsistence allowances because they are not subject to federal income tax. Basic pay represents approximately 70 percent of RMC for all retirement eligible members. For the 20-year retiree, basic pay is approximately 68 percent of

RMC. Consequently, a member retired with 20-years of service and entitled to 50 percent of basic pay, only receives 34 percent of RMC. Further, such 20-year retirees (except for those who first entered service prior to September 8, 1980) receive a percentage (50 percent, or 40 percent for those under CSB/Redux or BRS) of their high 36-month average of basic pay, typically less than final basic pay. For a 30-year retiree, basic pay is approximately 74 percent of RMC and such members if entitled to 75 percent of basic pay, would only receive 55 percent of RMC. Again, note that most members currently retiring with 30 years will actually receive a percentage (75 percent, or 60 percent for those under BRS) of their high 36-month average, rather than of their final basic pay. P.L. 109-364 allows certain members, who retire on or after January 1, 2007 with sufficient years of service (greater than 37.5 years under BRS and 30 years under the other benefit formulas) to retire with entitlements exceeding 75 percent of their high 36-month average of basic pay. These relationships should be considered when military retired pay is compared to compensation under other retirement systems.

### **Social Security Benefits**

Many military members and their families receive monthly benefits indexed to the CPI from Social Security. As full participants in the Social Security system, military personnel are in general entitled to the same benefits and are subject to the same eligibility criteria and rules as other employees. Details concerning the benefits are covered in other publications.

Beginning in 1946, Congress enacted a series of amendments to the Social Security Act that extended some benefits to military personnel and their survivors. These “gratuitous” benefits were reimbursed out of the general fund of the U.S. Treasury. The Servicemen’s and Veterans’ Survivor Benefits Act brought members of the military into the contributory Social Security system effective January 1, 1957.

For the Old Age, Survivors, and Disability Insurance (OASDI) program, military members must contribute the employee portion of the OASDI payroll tax, with the federal government contributing the matching employer contribution. Only the basic pay of a military member constitutes wages for Social Security purposes. One feature of OASDI unique to military personnel grants a noncontributory wage credit of (i) \$300 for each quarter between 1956 and 1978 in which such personnel received military wages and (ii) up to \$1,200 per year after 1977 (\$100 of credit for each \$300 of wages up to a maximum credit of \$1,200). The purpose of this credit is to take into account elements of compensation such as quarters and subsistence not included in wages for Social Security benefit calculation purposes. Under the 1983 Social Security amendments, the cost of the additional benefits resulting from the noncontributory wage credits for past service was met by a lump sum payment from general revenues, while the cost for future service will be met by payment of combined employer-employee tax on such credits as the service occurs. Payments for these wage credits ended in 2002.

Members of the military are also required to pay the Hospital Insurance (HI) payroll tax, with the federal government contributing the matching employer contribution. Medicare eligibility occurs at age 65, or earlier if the employee is disabled.

## **Performance Measures**

During FY 2018, the Fund made monthly disbursements to approximately 2.3 million retirees and survivors.

There are many ways to measure the funding progress and performance of a pension plan. Table A-1 shows a few common measures, specifically 1) Percent Funded, 2) Asset-to-Annuitant Liability Ratio, and 3) Effective Fund Yield. The table footnotes show the associated derivation of each performance measure. Note that for a variety of reasons including investment and other constraints, the Fund's results for these "performance measures" cannot be reasonably compared to many other pension systems.



**TABLE A-1**  
**MILITARY RETIREMENT FUND PERFORMANCE MEASURES**  
**(\$ in billions)**

| End of Fiscal Year | Accrued Liability (1) | Assets (2) | Annuitant Liability On Roll (3) | Unfunded Accrued Liability (4) | Percent Funded (5) | Asset-to-Annuitant Liability Ratio (6) | Fund Effective Yield (7) |
|--------------------|-----------------------|------------|---------------------------------|--------------------------------|--------------------|----------------------------------------|--------------------------|
| 1984               | \$528.7               | \$0        | \$310.0                         | \$528.7                        | 0.0%               | ---                                    | ---                      |
| 1985               | 551.5                 | 11.8       | 322.7                           | 539.7                          | 2.1                | 3.7%                                   | 14.3%                    |
| 1986               | 566.2                 | 24.6       | 321.4                           | 541.6                          | 4.3                | 7.7                                    | 11.8                     |
| 1987               | 585.2                 | 38.9       | 326.3                           | 546.3                          | 6.6                | 11.9                                   | 11.0                     |
| 1988               | 551.8                 | 53.4       | 329.4                           | 498.4                          | 9.7                | 16.2                                   | 10.5                     |
| 1989               | 580.3                 | 67.6       | 345.8                           | 512.7                          | 11.6               | 19.5                                   | 10.1                     |
| 1990               | 612.9                 | 80.4       | 367.5                           | 532.5                          | 13.1               | 21.9                                   | 9.9                      |
| 1991               | 604.2                 | 93.7       | 372.9                           | 510.5                          | 15.5               | 25.1                                   | 9.8                      |
| 1992               | 619.0                 | 106.1      | 392.7                           | 512.9                          | 17.1               | 27.0                                   | 9.5                      |
| 1993               | 629.9                 | 115.9      | 409.3                           | 514.0                          | 18.4               | 28.3                                   | 9.1                      |
| 1994               | 615.6                 | 124.2      | 409.9                           | 491.4                          | 20.2               | 30.3                                   | 8.7                      |
| 1995               | 631.8                 | 131.0      | 431.3                           | 500.8                          | 20.7               | 30.4                                   | 8.6                      |
| 1996               | 625.8                 | 135.3      | 432.2                           | 490.5                          | 21.6               | 31.3                                   | 8.6                      |
| 1997               | 639.2                 | 143.3      | 444.9                           | 495.9                          | 22.4               | 32.2                                   | 8.5                      |
| 1998               | 649.4                 | 149.9      | 452.9                           | 499.5                          | 23.1               | 33.1                                   | 8.4                      |
| 1999               | 657.2                 | 156.0      | 442.7                           | 501.2                          | 23.7               | 35.2                                   | 8.1                      |
| 2000               | 682.6                 | 162.7      | 459.8                           | 519.9                          | 23.8               | 35.4                                   | 8.0                      |
| 2001               | 708.8                 | 169.2      | 487.3                           | 539.6                          | 23.9               | 34.7                                   | 8.0                      |
| 2002               | 721.6                 | 176.5      | 467.2                           | 545.1                          | 24.5               | 37.8                                   | 7.2                      |
| 2003               | 810.9                 | 182.6      | 519.8                           | 628.3                          | 22.5               | 35.1                                   | 5.5                      |
| 2004               | 854.1                 | 188.0      | 556.3                           | 666.1                          | 22.0               | 33.8                                   | 5.4                      |
| 2005               | 900.6                 | 197.9      | 592.2                           | 702.7                          | 22.0               | 33.4                                   | 5.5                      |
| 2006               | 973.7                 | 208.4      | 636.3                           | 765.3                          | 21.4               | 32.8                                   | 5.9                      |
| 2007               | 1,042.3               | 218.2      | 677.3                           | 824.1                          | 20.9               | 32.2                                   | 4.7                      |
| 2008               | 1,157.3               | 253.1      | 750.6                           | 904.2                          | 21.9               | 33.7                                   | 6.2                      |
| 2009               | 1,186.9               | 278.4      | 751.8                           | 908.5                          | 23.5               | 37.0                                   | 1.0                      |
| 2010               | 1,225.2               | 321.7      | 768.0                           | 903.5                          | 26.3               | 41.9                                   | 3.2                      |
| 2011               | 1,273.3               | 376.1      | 807.3                           | 897.2                          | 29.5               | 46.6                                   | 4.9                      |
| 2012               | 1,361.5               | 428.0      | 854.6                           | 933.5                          | 31.4               | 50.1                                   | 2.9                      |
| 2013               | 1,368.6               | 483.5      | 869.5                           | 885.1                          | 35.3               | 55.6                                   | 3.1                      |
| 2014               | 1,412.8               | 545.0      | 911.3                           | 867.8                          | 38.6               | 59.8                                   | 3.2                      |
| 2015               | 1,417.0               | 600.6      | 919.2                           | 816.4                          | 42.4               | 65.3                                   | 1.8                      |
| 2016               | 1,407.0               | 664.4      | 914.1                           | 742.6                          | 47.2               | 72.7                                   | 2.3                      |
| 2017               | 1,502.0               | 734.1      | 974.0                           | 767.9                          | 48.9               | 75.4                                   | 2.9                      |
| 2018               | 1,533.4               | 813.9      | 994.1                           | 719.6                          | 53.1               | 81.9                                   | 3.8                      |

**NOTES:**

- (1) From Table 6A, Item 3 in main text.  
(2) From Table 6A, Item 4 in main text.  
(3) From Table 6A, Item 1.a in main text.  
(4) = (1) - (2)  
(5) = (2) / (1) x 100  
(6) = (2) / (3) x 100  
(7) Discussed in Appendix D.

APPENDIX B

THE MILITARY RETIREMENT SYSTEM: HISTORY

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## THE MILITARY RETIREMENT SYSTEM: HISTORY<sup>1</sup>

The history of the Uniformed Services Military Retirement System in the United States extends back to the early days of the country. The history detailed in this appendix provides the user with a useful context when evaluating the status of the current system. The extensive legislative history has been an interplay of the separate retired pay plan motivations. When available, the Public Law (P.L.) reference is provided. Over the course of its history, the Military Retirement System has been scrutinized by numerous committees, commissions, and groups. Since the end of World War II, a number of military compensation studies have been conducted under the general sponsorship of the Department of Defense, the President, and Congress, including: Hook, Strauss, Cordiner, Gorham/Randall, Quadrennial Review of Military Compensation, Gates, Military Compensation and Retirement Modernization Commission, etc. These studies continue to the present day – see recent legislation enacted: *Blended Retirement System* (BRS). Much discussion typically occurs as a result of the study findings. It should be noted that while there may be superficial resemblance between the Military Retirement System (MRS) and other retirement systems, there exist substantial differences, including between the MRS and the retirement plan of federal civil servants. Of significance, MRS retired members are subject to active duty recall.

### **History of Retired Pay – Active Duty and Disability**

The legislative history of the nondisability (regular service) and disability retired pay have been a collaborative effort of lawmakers. The two programs are highly correlated given the possible end states of a regular service career. Before discussing the regular service retired pay history, below are the motivations driving the two distinct retirement types:

- 1) The principal motivations guiding the nondisability retired pay evolution of the Military Retirement System have been to ensure that (1) continued service in the armed forces is competitive with the alternatives; (2) promotion opportunities are kept open for young and able members; (3) some measure of economic security is made available to members after retirement from a military career; (4) a pool of experienced personnel is available for recall in times of war or national emergency. Much of the history to be discussed focuses on officers. The legislative history for enlisted personnel is much shorter. The objectives can be achieved for the enlisted force by an administrative policy of “judicious non-acceptance of reenlistments.”

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<sup>1</sup> Much of the information in this appendix can be found in *Military Compensation Background Papers*, Seventh Edition (November 2011), Department of Defense – Under Secretary of Defense for Personnel and Readiness. For a more in-depth discussion of the early history of military pensions, refer to *History of Military Pension Legislation in the United States*, William H. Glasson, New York, N.Y. 1900, Digitized by Google.

2) The guiding motivation behind disability retired pay is to authorize continuing payments to members separated from active service due to physical disability causes in service for their country. Members should not be left to cope with the effects of these disabilities on their own. A measure of economic security will be provided for duties exposing members to wartime hazards and career military service. Early reports showed rationale for separation other than physical disability as well: "An officer may possess a strong mind and a robust frame, yet, if his moral perception of right or wrong be so blunted and debased as to render him unreliable, he could hardly be ranked as the capable officer."

Provisions for the maintenance of disabled military members date to colonial days. Not surprisingly, the English pension law is a precursor to the American colonial pension legislation. The pilgrims at Plymouth provided in 1636 that any man sent forth as a soldier and returned maimed should be maintained by the colony during his life. In order to obtain enlistments in military expeditions against the Indians the colonies promised to care for those who were disabled and had no means of earning a livelihood as well as providing aid for the indigent families of those fallen in conflict. Some of these precedents were continued in the first national pension law of August 26, 1776, which promised half pay for life, or during disability, to the disabled. After the Revolutionary War, a full disability pension for a noncommissioned officer or private soldier was fixed at five dollars per month, with commissioned officers being paid at one-half of their monthly pay. Initially, the States administered disability pensions. However, in 1790, the Secretary of War became the principal pension administrator. In 1805, disability pensions were extended to those who received wounds in military service who subsequently became disabled.

Pensions based on service by itself were more controversial. Payments of half pay for life had been promised in 1780 by Congress for officers who served to the end of the War. However, the resulting claims were initially settled for less than full value and with a considerable amount of controversy. With the number of veterans declining and the treasury increasing, Congress became more generous. In 1818, an act was passed providing relief to Revolutionary War veterans in need. By 1832, it became full pay for life, regardless of need. In 1836, widows were included. This same pattern was followed for Service pensions for subsequent wars, with each war treated separately.

In 1849, the Bureau of Pensions was transferred to the newly established Department of the Interior, where it was to remain until the Veterans Administration (VA) was created in 1930. In 1855, authorization was given for involuntary separation with partial pay of Navy officers adjudged incapable, but not necessarily disabled. The outbreak of the Civil War brought further changes when it became necessary to retire older officers no longer fit for field duty. The vehicle was the act of August 3, 1861, the first major nondisability retirement act, which provided for the voluntary retirement of regular officers of all branches of Service after 40 years of duty, at the discretion of the President. Subsequent acts in 1861 and 1862 provided for involuntary retirements for age or years of service.

The 1861 act also established a military disability retirement system that covered the regular officers of all branches of Service. Army and Marine Corps officers were to be paid an amount equal to their “pay proper” plus four rations. Navy officers were paid slightly more. The act of March 2, 1867, authorized disability retirement for enlisted personnel of the Navy and Marine Corps.

Congress established two enduring retirement principles while reducing forces to a peacetime basis in 1870. The first permitted voluntary retirement of officers after 30 years of service upon approval by the President, and the second eliminated the ration commutation by fixing retired pay at 75 percent of the officer’s pay. The 75 percent applied to Army and Marine Corps officers, both disabled and nondisabled, and was extended to the Navy in 1873.

In 1885, the first nondisability retirement law for Army and Marine Corps enlistees was enacted. Paralleling the officer retirement laws, it provided for voluntary retirement at 30 years of service with 75 percent of pay of the grade in which retired, plus an allowance in lieu of fuel, quarters, and food. The law was extended to the Navy in 1899.

By the middle of World War I, the limit on the number of officers who could be placed on the retired list was causing stagnating promotion in the Navy. To alleviate the problem, Congress established selection boards for promotion to Rear Admiral, Captain, and Commanders on the basis of age-in-grade in 1916 (P.L. 64-241). Service-in-grade replaced age-in-grade in 1926 (P.L. 69-413). Those officers not selected for promotion were retired at 2 ½ percent of pay per year of service, not to exceed 75 percent of pay. This was the first recognition of length of service as well as grade in the computation of retired pay.

The act of 1916 (P.L. 64-241) also created the Fleet Naval Reserve, to provide a pool of experienced personnel who could be recalled to active duty in an emergency. While technically different than retirement, the practical effect was that it was possible for enlistees of the Navy and Marine Corps to “retire” with as little as 16 years of service (raised to 20 in 1925) and become entitled to “retainer pay.”

By 1938 (P.L. 75-706), the Navy was again experiencing stagnating promotion caused by the large influx of officers throughout World War I. Almost all of these officers were in the same age and years of service groups. To remedy the situation, Congress extended the selection board process to all grades above Lieutenant (junior grade); set limits on years of service for Lieutenant Commanders through Captains; and provided for voluntary retirement at 20 years of service at the discretion of the President.

Following World War II, allegations of unfairness, inequity, and inefficiency in the existing disability retirement system became extensive. A new system for disability retirement was created by the Career Compensation Act of 1949 (P.L. 81-351). Under this system, all disabilities had to be rated under the standard schedule of rating disabilities in use by the VA, and the resultant ratings became a factor in disability retired pay entitlement and taxability. The new system covered officer and enlisted personnel of both the regular and reserve components, and it authorized temporary as well as permanent disability retirements. The disability

retirement system remains basically unchanged from the way it was enacted in 1949. Much legislation has been passed recently, as well as additional process improvements, in an attempt to modernize the disability system.

Meanwhile, the Officer Personnel Act of 1947 (P.L. 80-381) brought the Army and Air Force under a selection process similar to the Navy system. It also provided that those officers who failed promotion and were not eligible to retire would receive severance pay of two months per year of service, but not exceeding two years' pay.

Standardized nondisability retirement laws for all Services were brought about by the Army and Air Force Vitalization and Retirement Equalization Act of 1948 (P.L. 80-810). The act established 20 years as the minimum requirement for voluntary retirement, thereby placing the Army and Air Force on a par with the Navy. It also provided for the removal of substandard officers with severance pay equal to one month's pay per year of service, but not exceeding one year's pay. This law resulted, for the first time in history, in uniform voluntary retirement authority among the officers of all branches of service.

P.L. 96-513 changed the retired pay formula for persons who first became a service member after September 7, 1980. For this group, the 2 ½ percent times years of service is multiplied by the average of the highest 36 months of pay, rather than by final pay. This is sometimes referred to as the High-3 (HI-3) formula, where the highest 36 months of pay generally occurs within the highest 3 years of average annual pay. This first major change to retired pay computation since 1948 was endorsed in findings by various committees and commissions.

P.L. 99-348, enacted July 1, 1986, made extensive changes in retired pay formula for persons entering service after July 31, 1986. These persons are credited with 2 percent for each of the first twenty years of service, 3 ½ percent for each of the next 10 years, and 2 ½ percent thereafter. At the member's age 62, the annuity is recomputed to equal the annuity that would have been in effect if a level 2 ½ percent had been used for each year of service. In addition, the cost-of-living adjustment for this group no longer keeps up with inflation, as described later. This is referred to as the Redux benefit formula.

P.L. 106-65, enacted October 1, 1999, enhanced benefits for military members previously covered by the Redux benefit formula (those who entered service on or after August 1, 1986) by converting these members to the HI-3 formula. At the 15 year-of-service mark, these (full-time) members now have the choice of: (1) remaining in HI-3, or (2) electing the Career Status Bonus, which is not paid out of the Military Retirement Fund, and converting to the Redux benefit formula. Those who elect the bonus must commit to remaining continuously in service until completing 20 years or forfeit a portion of the \$30,000. Part-time reservists previously covered by Redux do not have the option of electing the bonus, and so remain under the HI-3 benefit formula. This is referred to as the Career Status Bonus (CSB)/Redux benefit formula. The four different retirement systems currently in effect for members of the uniformed services are summarized in Table B-1.

P.L. 108-136, enacted November 23, 2003, provides a phase-out of the offset to military retired pay due to receipt of VA disability compensation for members whose combined disability rating is 50% or greater, effective January 1, 2004. Members retired under disability provisions must have at least 20 years of service. P.L. 108-136 also expands eligibility under the Combat Related Special Compensation program to include qualified retirees at any combined percentage rating for certain combat-related disabilities compensated by the VA. Through 2003, retired pay earned from DoD for military service was offset by any payment received from Veterans Affairs for a VA-rated disability. These VA benefits were in place of or in combination with DoD retired pay but were not fully additive. Thus the law is commonly referred to as Concurrent Receipt.

Subsequent to P.L. 108-136, a series of legislation has been enacted that increasingly reduces or eliminates the offset to military retired pay due to receipt of VA disability compensation. This is described further in Appendix A.

P.L. 109-364, enacted October 17, 2006, eliminated the 75 percent multiplier cap for nondisability retirements with sufficient years of service for members retiring after December 31, 2006, and P.L. 111-383, enacted January 7, 2011, removed the cap for disability retirements after the date of enactment. A member can now retire with a retired pay multiplier greater than 100 percent if their years of service are high enough. The various percentage multipliers by year of service and benefit system are shown in Table B-2. P.L. 109-364 also removed a reduction to the rate of basic pay used in the computation of retired pay for general and flag officers (those with pay grades of O-7 through O-10) retiring after September 30, 2006.

P.L. 114-92 established the “Blended Retirement System (BRS),” a major reform to military compensation. The BRS lowers the nondisabled retired pay multiplier from 2.50% per year to 2.00% and allows for multiple retired pay distribution options. The BRS provides members (except for those who retire on disability) the choice of receiving a portion (either 25 percent or 50 percent) of their retired pay entitlement from when the member is eligible to begin receiving retired pay to normal Social Security retirement age (usually 67) as a discounted lump sum instead of an annuity. The newly established compensation system is supplemented with a Thrift Savings Plan (TSP) account government match and a mandatory mid-career continuation bonus. The changes apply to all members first entering service after December 31, 2017. Members with fewer than 12 completed years of service as of December 31, 2017, have the option to fully participate in the BRS via an irrevocable election during a one year (calendar year 2018) open season. Additionally, P.L. 114-92 sunsets the CSB/Redux benefit tier by not allowing any CSB elections after December 31, 2017, and repeals all aspects of the Bipartisan Budget Act (BBA) 2013.

### **History of Retired Pay – Reserve Duty**

The motivation behind the reserve duty retirement (non-regular service) is to establish a nondisability retirement system to authorize retired pay for service in the reserve components. This provides an incentive for qualified personnel to retain membership and continue training in

these components, providing a pool of skilled, trained, and readily available manpower to assist active duty forces in times of national emergency.

Title III of the Army and Air Force Vitalization and Retirement Equalization Act of 1948 (P.L. 80-810) created a nondisability retirement program for reserve personnel. The above motivation was explained as part of the House Report accompanying the legislation. The reserve retirement system remained basically unchanged from the original 1948 legislation until 1993. Those modifications made over that time were more corrective than substantive.

The National Defense Authorization Act for Fiscal Year 1993 (P.L. 102-484) adopted two provisions intended to induce Selected Reserves members to apply for transfer to the retired reserve through temporary special retirement mechanisms. Subsequent legislation authorizes further downsizing of the military during the mid-1990's, which was extended until October 1, 2001.

P.L. 107-314 permanently reduced the required reserve service eligibility years for retired pay from eight years to six years. This law also authorized an additional 10 percent in retired pay, not to exceed 75 percent, for enlisted members (active or reserve) credited with extraordinary heroism in the line of duty during their career.

P.L. 110-181, enacted January 28, 2008, reduces the retirement age for a reserve retirement below age 60 by three months for each aggregate of 90 days of certain active service performed (after the date of enactment) within any two (2) consecutive fiscal years with a limit of 10 years. Eligibility for subsidized retiree health benefits remains at age 60 even if the eligibility age for retired pay is reduced.

P.L. 114-92, BRS, described in the previous section, also applies to Reserves with some differences, e.g., the eligibility threshold for opting in to BRS for Reserves is based on creditable points.

### **Adjustments – Cost-of-Living**

Cost-of-living adjustments provide a mechanism for adjusting retired pay entitlements to compensate for the effects of inflation. The ideal system is one that protects the initial value of pay to insure that members who retire from the military do not have the purchasing power of their pay eroded by inflation.

Prior to 1958, retired pay was generally increased in direct proportion to changes in active duty pay. The practice was discontinued with the act of May 1958 (P.L. 85-422), when it was realized that a single 6 percent cost-of-living increase would cost only \$35 million, as opposed to \$65 million for linking the retired pay to active duty pay. The 6 percent approximated the increase in the cost of living since 1955 when retired pay was last increased. In 1963, a permanent system of increasing retired pay (P.L. 88-132) based on a formula geared to increases in the cost-of-living was adopted. In 1965, the adjustment mechanism was modified slightly (P.L. 89-132). This system granted cost-of-living increases whenever the Consumer



Price Index (CPI) went up at least 3 percent and remained up for three months. The benefit increase was equal to the percentage rise in the CPI. In 1969 (P.L. 91-179), an additional 1 percent was added to compensate for the fact that five months elapsed between the time that the index increased 3 percent and the time that benefits increased.

Effective March 1977, cost-of-living adjustments (COLAs) were scheduled to occur every six months, on March 1 and September 1. This would be reflected in checks issued those months and the additional 1 percent was eliminated (P.L. 94-440). The cost-of-living increase, effective March 1, was computed by calculating the percentage increase (adjusted to the nearest tenth of a percent) in the CPI from the previous June to the previous December. Similarly, the cost-of-living increase effective September 1 was obtained by calculating the percentage increase in the June CPI over the CPI from the previous December.

In August 1981 (P.L. 97-35), once-a-year cost-of-living increases were implemented by eliminating the September increase. Full annual cost-of-living increases were given in March of each year based on the percentage increase in the CPI between the two previous Decembers.

In August 1982, P.L. 97-253 created a temporary deviation to the calculation and timing of the cost-of-living increase. Consequently, in FY 1983, the increase was delayed until April and the full increase of 3.9 percent was given only to survivors, disabled persons and nondisabled persons over age 61. Nondisabled retirees under age 62 received 3.3 percent instead of 3.9 percent.

P.L. 98-270, enacted in April 1984, eliminated the FY 1984 increase and modified the permanent law. Under the modified system, the COLA equals the percentage increase in the average of the CPIs for July, August, and September over the averaged indexes for the same three months of the prior year. These increases become effective for entitlements earned in December. P.L. 98-369 directed that entitlements for a particular month should be paid at the beginning of the subsequent month rather than at the end of the month of entitlement and became effective with the December 1984 adjustment. P.L. 111-383 required amounts of retired and retainer pay (excluding survivor annuitant pay and Combat Related Special Compensation) due a retired member of the uniformed services shall be paid on the first day of each month beginning after the month in which the right to such pay accrues; unless the first falls on a non-business day, then the payment is made on the preceding business day.

P.L. 99-348, enacted July 1, 1986, changed the cost-of-living increase for members entering the service after July 31, 1986. Their retiree and survivor benefits are increased annually by the full cost-of-living adjustment minus 1 percent (except if the full adjustment is less than or equal to 1 percent). A one-time catch-up is given on the first day of the month after the retiree's 62nd birthday. At this time, the retiree benefit (or survivor benefit if the retiree is deceased) is increased to the amount that would have been payable had full adjustments been made. Annual partial increases continue after this catch-up. For persons entering the service prior to August 1, 1986, full COLAs are still applied to the retiree and survivor benefits. P.L. 106-65 called for full COLAs to be applied to the retiree and survivor benefits of post-July 31, 1986, entrants who decline the CSB/Redux and retire under the HI-3 benefit formula.

As discussed above, P.L. 114-92 sunsets the CSB/Redux benefit tier by not allowing any CSB elections after December 31, 2017, and repeals all aspects of the Bipartisan Budget Act (BBA) 2013.

Retired pay cost-of-living increases from 1958 to the present time are shown in Table B-3. Additional discussion regarding cost-of-living increases can be found in Appendix D.

### **Adjustments – Basic Pay**

Basic pay scale increases are analogous to retired pay cost-of-living increases for the current active duty and drilling reserve population. These increases are typically credited and paid at the beginning of the calendar year. The annual basic pay scale increases are designed to establish a crude comparability with the private sector and American economy in general.

The Act of 1790 provided funds for “militia employed in the service of the United States” payable to “the troops of the United States.” Although the components of the pay system, basic pay plus allowances, have changed throughout its history, the system itself has been remarkably enduring. However, the proliferation of special allowances has caused confusion and complexity surrounding compensation.

The Career Compensation Act of 1949 (P.L. 81-351) revamped the military compensation structure to provide pay that was equitable to personnel yet responsive to the needs of the United States in attracting and retaining the necessary personnel following World War II. The Uniformed Services Pay Act of 1958 (P.L. 85-422) was the beginning of regular basic pay adjustments intended to make personnel pay more competitive.

In the Act of 1967 (P.L. 90-207) Congress adopted new basic pay rate adjustment mechanisms. The adjustments were to be a “comparable increase” to the general schedule compensation for federal classified employees (Civil Service employees). This legislation resulted in a more systematic procedure for increasing basic pay rates as opposed to the prior methods which were solely dependent on Congressional discretion. The military-civilian pay adjustment remains loosely linked through present day.

The Department of Defense Authorization Act of 1981 (P.L. 96-342) granted personnel substantial basic pay adjustments with the intent of further convergence between military and civilian wages. The legislation also allowed the President greater flexibility in adjusting military compensation by allocating greater increases to “career” members. In the years that followed, Congress expressed dissatisfaction with the pay adjustment mechanisms shown in the military-civilian link. The Senate proposed linking military pay to the Employment Cost Index (ECI) as a method to correct the military-civilian pay inequity. This discussion continued for some years.

Beginning in 2000 (P.L. 106-65), legislative change responded to the military-civilian pay inequity by tying basic pay increases to the ECI plus an additional 0.5 percent for the five years that follow (through FY 2006). After FY 2006, the increases are tied directly to ECI;

however, covenants are embedded within the law which gives the President the authority to propose an alternate adjustment. Subsequent legislation used targeted basic pay scale increases to be granted for specific pay grades and ranks in order to meet the necessary retention and recruitment needs.

Basic pay scale increases from 1958 to the present time are shown in Table B-4. Additional discussion regarding basic pay scale increases can be found in Appendix D.

### **Funding of Retirement Benefits**

Prior to 1935, the Navy had a pension fund which provided payments to persons retired for disability whenever there was a sufficient amount in the fund. The income to the fund consisted of the government's share of the proceeds from the sale of enemy or pirate ships captured by the Navy, and from interest received on fund investments. This fund was abolished in 1935, and the Military Retirement System moved to an unfunded or "pay-as-you-go" basis. P.L. 98-94 (currently Chapter 74 of Title 10, U.S.C.), signed in September 1983, established a Military Retirement Fund starting October 1, 1984. Under this accrual accounting system, funds are allocated for the individual services via the Department of Defense annually by Congress. These funds are transferred to the Military Retirement Fund in an amount sufficient, along with the Treasury contributions resulting from P.L. 108-136 and interest earnings, to cover the expected retirement costs associated with the current active duty force. This system helps to apprise all stakeholders of the total costs of manpower decisions made each year.

As explained by Congress (House Report No. 98-107 – Committee on Armed Services – p. 225), the reasons for adoption of the Department of Defense Military Retirement Fund were as follows:

"Most retirement plans in the private sector are funded, either partially or fully, and the trend--as a result of the Employee Retirement and Income Security Act (ERISA)--is toward full funding. Security of a retirement plan, *i.e.*, the probability that promised benefits will be paid, is generally related to the method of funding. Full funding provides greater security than partial funding.

Of course, the security of payments from the Federal government is not generally related to the method of funding. From the Federal government's perspective, the issue of funding is primarily a matter of timing. Should funds be raised by taxing and borrowing when the obligation becomes due, or should funds be set aside through taxing and borrowing when the obligation is incurred?"

This funding law stated that DoD will make normal cost payments into the Fund and the Treasury Department will make payments from general revenues to amortize the unfunded liability. P.L. 99-661, enacted in November 1986, mandated that two separate normal cost percentages (NCPs) be used to compute the normal cost payment of the Military Retirement System. One NCP is for active-duty personnel and full-time reservists and the second NCP is for drilling reservists (part-time). These normal cost payments are designed to be sufficient to pay for the future retirement benefits for a cohort of new entrants. The unfunded liability exists primarily because such payments were not made in the past, although deviations of actual compared to expected experience increase or decrease the unfunded liability over time.

P.L. 108-136, enacted November 2003, required the Department of Treasury to pay the normal cost arising from the increased benefits due to Concurrent Receipt at the beginning of each fiscal year. Beginning with FY 2005, Treasury includes the annual normal cost payment along with the unfunded liability payment in the October 1<sup>st</sup> contribution.

The original funding law also established an independent three-member DoD Retirement Board of Actuaries, appointed by the President (changed to the Secretary of Defense as part of the 2008 National Defense Authorization Act (P.L. 110-181)). House Report No. 98-107 – Committee on Armed Services – p. 227, states:

“Care must be exercised to minimize the ability to manipulate the interest rate. The committee recommends that an independent Board of Actuaries be established and that they, alone, be charged with the responsibility for determining the interest rate and other actuarial assumptions in accordance with generally accepted actuarial principles and practices.”

The Board is required to approve methods and assumptions for determining the normal cost and unfunded liability; to review valuations of the Military Retirement System; to determine the method of amortizing unfunded liabilities; to annually report to the Secretary of Defense; and to report to the President and Congress on the status of the Fund not less than every four years. P.L. 110-181 renamed the Board the “DoD Board of Actuaries,” and added oversight of other funds deemed to be necessary by the Secretary of Defense.

TABLE B-1

**MILITARY RETIREMENT SYSTEM PROPERTIES**  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

| Benefit System                                     | Final Pay                                                                           | High-3 (HI-3)                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Career Status Bonus (CSB)/Redux                                                                                                                                                                              | Blended Retirement System (BRS)                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applies to Members Who Joined a Uniformed Service: | <ul style="list-style-type: none"> <li>• <u>before September 8, 1980</u></li> </ul> | <ul style="list-style-type: none"> <li>• <u>on or after September 8, 1980 and before August 1, 1986</u></li> <li>• <u>on or after August 1, 1986 and before January 1, 2003</u> who did not elect to accept the Career Status Bonus (CSB) at the 15-year anniversary</li> <li>• <u>on or after January 1, 2003 and before January 1, 2006</u></li> <li>• <u>on or after January 1, 2006 and before January 1, 2018</u> who do not elect to participate in BRS</li> </ul> | <ul style="list-style-type: none"> <li>• <u>on or after August 1, 1986 and before January 1, 2003</u> who elect to accept the Career Status Bonus (CSB) with additional 5-year service obligation</li> </ul> | <ul style="list-style-type: none"> <li>• <u>on or after January 1, 2018</u></li> <li>• <u>on or after January 1, 2006 and before January 1, 2018</u> who elect to participate in BRS</li> </ul>                                                                                                                                                                                                                                                            |
| Retired Pay Computation Basis                      | Final basic pay rate                                                                | Highest 36 months of basic pay rate                                                                                                                                                                                                                                                                                                                                                                                                                                      | Highest 36 months of basic pay rate                                                                                                                                                                          | Highest 36 months of basic pay rate                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Multiplier                                         | 2.5% per year of service                                                            | 2.5% per year of service                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2.5% per year of service less 1% for each year of service less than 30 (restored at age 62)                                                                                                                  | 2.0% per year of service                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Cost-of-Living Adjustment Mechanism                | Full CPI-W                                                                          | Full CPI-W                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Full CPI-W minus 1% (one-time catch-up at age 62)                                                                                                                                                            | Full CPI-W                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional Benefit(s)                              | ---                                                                                 | ---                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• \$30,000 Career Status Bonus (CSB) payable at 15-year anniversary upon assumption of 5-year obligation to remain on continuous active duty</li> </ul>               | <ul style="list-style-type: none"> <li>• Choice of receiving a portion (either 25% or 50%) of the retired pay entitlement from retirement age to normal Social Security retirement age (usually 67) as a discounted lump sum instead of an annuity</li> <li>• Automatic and matching Government contributions to Thrift Savings Plan (TSP) account</li> <li>• Mandatory mid-career continuation bonus if member agrees to serve additional time</li> </ul> |

**Notes:** - Due to breaks in service and technical differences in the definition of qualifying years of service under BRS compared to CSB/Redux, it's not possible to precisely define which systems cover the appropriate members based solely on dates of entry. These dates should be considered to be approximates.

- For additional up-to-date information related to BRS, refer to the DoD Office of Military Compensation website: <http://militarypay.defense.gov/>

TABLE B-2

**MILITARY RETIREMENT SYSTEM MULTIPLIERS**  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

| Years of Service | Final Pay/Hi-3 Multiplier | CSB/Redux Multiplier |              | BRS Multiplier |
|------------------|---------------------------|----------------------|--------------|----------------|
|                  |                           | Before Age 62        | After Age 62 |                |
| 20               | 50.0 %                    | 40.0 %               | 50.0 %       | 40.0 %         |
| 21               | 52.5                      | 43.5                 | 52.5         | 42.0           |
| 22               | 55.0                      | 47.0                 | 55.0         | 44.0           |
| 23               | 57.5                      | 50.5                 | 57.5         | 46.0           |
| 24               | 60.0                      | 54.0                 | 60.0         | 48.0           |
| 25               | 62.5                      | 57.5                 | 62.5         | 50.0           |
| 26               | 65.0                      | 61.0                 | 65.0         | 52.0           |
| 27               | 67.5                      | 64.5                 | 67.5         | 54.0           |
| 28               | 70.0                      | 68.0                 | 70.0         | 56.0           |
| 29               | 72.5                      | 71.5                 | 72.5         | 58.0           |
| 30               | 75.0                      | 75.0                 | 75.0         | 60.0           |
| 31               | 77.5                      | 77.5                 | 77.5         | 62.0           |
| 32               | 80.0                      | 80.0                 | 80.0         | 64.0           |
| 33               | 82.5                      | 82.5                 | 82.5         | 66.0           |
| 34               | 85.0                      | 85.0                 | 85.0         | 68.0           |
| 35               | 87.5                      | 87.5                 | 87.5         | 70.0           |
| 36               | 90.0                      | 90.0                 | 90.0         | 72.0           |
| 37               | 92.5                      | 92.5                 | 92.5         | 74.0           |
| 38               | 95.0                      | 95.0                 | 95.0         | 76.0           |
| 39               | 97.5                      | 97.5                 | 97.5         | 78.0           |
| 40               | 100.0                     | 100.0                | 100.0        | 80.0           |
| 41               | 102.5                     | 102.5                | 102.5        | 82.0           |
| 42               | 105.0                     | 105.0                | 105.0        | 84.0           |
| 43               | 107.5                     | 107.5                | 107.5        | 86.0           |
| 44               | 110.0                     | 110.0                | 110.0        | 88.0           |
| 45               | 112.5                     | 112.5                | 112.5        | 90.0           |
| 46               | 115.0                     | 115.0                | 115.0        | 92.0           |
| 47               | 117.5                     | 117.5                | 117.5        | 94.0           |
| 48               | 120.0                     | 120.0                | 120.0        | 96.0           |
| 49               | 122.5                     | 122.5                | 122.5        | 98.0           |
| 50               | 125.0                     | 125.0                | 125.0        | 100.0          |
| 51               | 127.5                     | 127.5                | 127.5        | 102.0          |
| -                | -                         | -                    | -            | -              |

TABLE B-3

**MILITARY RETIRED PAY COST-OF-LIVING INCREASES  
(JUNE 1958 TO PRESENT)**

| <u>Date of Increase</u> |                  | <u>Percentage Increase</u> | <u>Cumulative % From<br/>Date of Increase</u> |
|-------------------------|------------------|----------------------------|-----------------------------------------------|
| 6/1/58                  |                  | 6.0 %                      | 834.6 %                                       |
| 10/1/63                 |                  | 5.0                        | 781.7                                         |
| 9/1/65                  |                  | 4.4                        | 739.7                                         |
| 12/1/66                 |                  | 3.7                        | 704.3                                         |
| 4/1/68                  |                  | 3.9                        | 675.6                                         |
| 2/1/69                  |                  | 4.0                        | 646.5                                         |
| 11/1/69                 |                  | 5.3                        | 617.8                                         |
| 8/1/70                  |                  | 5.6                        | 581.6                                         |
| 6/1/71                  |                  | 4.5                        | 545.5                                         |
| 7/1/72                  | one percent over | 4.8                        | 517.7                                         |
| 7/1/73                  | inflation was    | 6.1                        | 489.4                                         |
| 1/1/74                  | added during     | 5.5                        | 455.5                                         |
| 7/1/74                  | these years      | 6.3                        | 426.6                                         |
| 1/1/75                  |                  | 7.3                        | 395.4                                         |
| 8/1/75                  |                  | 5.1                        | 361.7                                         |
| 3/1/76                  |                  | 5.4                        | 339.2                                         |
| 3/1/77                  |                  | 4.8                        | 316.7                                         |
| 9/1/77                  |                  | 4.3                        | 297.7                                         |
| 3/1/78                  |                  | 2.4                        | 281.3                                         |
| 9/1/78                  | twice-a-year     | 4.9                        | 272.3                                         |
| 3/1/79                  | increases        | 3.9                        | 254.9                                         |
| 9/1/79                  |                  | 6.9                        | 241.6                                         |
| 3/1/80                  |                  | 6.0                        | 219.6                                         |
| 9/1/80                  |                  | 7.7                        | 201.5                                         |
| 3/1/81                  | once-a-year      | 4.4                        | 179.9                                         |
| 3/1/82                  | increases        | 8.7                        | 168.1                                         |
| 4/1/83                  | (Dec to Dec)     | 3.9 (1)                    | 146.7                                         |
| 12/1/84                 |                  | 3.5 (2)                    | 137.4                                         |
| 12/1/85                 |                  | 0.0 (3)                    | 129.4                                         |
| 12/1/86                 | once-a-year      | 1.3                        | 129.4                                         |
| 12/1/87                 | increases (3rd   | 4.2                        | 126.4                                         |
| 12/1/88                 | qtr to 3rd qtr)  | 4.0                        | 117.3                                         |
| 12/1/89                 |                  | 4.7                        | 108.9                                         |
| 12/1/90                 |                  | 5.4                        | 99.6                                          |
| 12/1/91                 |                  | 3.7                        | 89.3                                          |
| 12/1/92                 |                  | 3.0                        | 82.6                                          |
| 3/1/94                  |                  | 2.6 (4)                    | 77.3                                          |
| 3/1/95                  |                  | 2.8 (5)                    | 72.8                                          |
| 3/1/96                  |                  | 2.6 (6)                    | 68.1                                          |
| 12/1/96                 |                  | 2.9                        | 63.8                                          |
| 12/1/97                 |                  | 2.1                        | 59.2                                          |
| 12/1/98                 |                  | 1.3                        | 55.9                                          |
| 12/1/99                 |                  | 2.4                        | 53.9                                          |
| 12/1/00                 |                  | 3.5                        | 50.3                                          |
| 12/1/01                 |                  | 2.6                        | 45.2                                          |
| 12/1/02                 |                  | 1.4                        | 41.5                                          |
| 12/1/03                 |                  | 2.1                        | 39.6                                          |
| 12/1/04                 |                  | 2.7                        | 36.7                                          |
| 12/1/05                 |                  | 4.1                        | 33.1                                          |
| 12/1/06                 |                  | 3.3                        | 27.9                                          |
| 12/1/07                 |                  | 2.3                        | 23.8                                          |
| 12/1/08                 |                  | 5.8                        | 21.0                                          |
| 12/1/09                 |                  | 0.0                        | 14.4                                          |
| 12/1/10                 |                  | 0.0                        | 14.4                                          |
| 12/1/11                 |                  | 3.6                        | 14.4                                          |
| 12/1/12                 |                  | 1.7                        | 10.4                                          |
| 12/1/13                 |                  | 1.5                        | 8.6                                           |
| 12/1/14                 |                  | 1.7                        | 7.0                                           |
| 12/1/15                 |                  | 0.0                        | 5.2                                           |
| 12/1/16                 |                  | 0.3                        | 5.2                                           |
| 12/1/17                 |                  | 2.0                        | 4.9                                           |
| 12/1/18                 |                  | 2.8                        | 2.8                                           |

(1) Nondisabled retirees under age 62 received 3.3%.

(2) Starting December 1984, entitlements earned in a particular month are paid at the beginning of the next month.

(3) A cost-of-living adjustment of 3.1%, scheduled for 12/1/85, was suspended as a consequence of P.L. 99-177.

(4) Disabled retirees and survivors received 2.6% on 12/1/93.

(5) Disabled retirees and survivors received 2.8% on 12/1/94.

(6) Disabled retirees and survivors received 2.6% on 12/1/95.

**TABLE B-4**  
**MILITARY BASIC PAY SCALE INCREASES**  
**(JUNE 1958 TO PRESENT)**

| <u>Date of Increase</u> | <u>Percentage Increase</u> | <u>Cumulative % From<br/>Date of Increase</u> |
|-------------------------|----------------------------|-----------------------------------------------|
| 6/1/58                  | 8.3 %                      | 1429.8 %                                      |
| 10/1/63                 | 14.2                       | 1312.5                                        |
| 9/1/64                  | 2.3                        | 1136.9                                        |
| 9/1/65                  | 10.4                       | 1109.1                                        |
| 7/1/66                  | 3.2                        | 995.2                                         |
| 10/1/67                 | 5.6                        | 961.2                                         |
| 7/1/68                  | 6.9                        | 905.0                                         |
| 7/1/69                  | 12.6                       | 840.1                                         |
| 1/1/70                  | 8.1                        | 734.9                                         |
| 1/1/71                  | 7.9                        | 672.3                                         |
| 11/14/71                | 11.6                       | 615.8                                         |
| 1/1/72                  | 7.2                        | 541.4                                         |
| 10/1/72                 | 6.7                        | 498.3                                         |
| 10/1/73                 | 6.2                        | 460.7                                         |
| 10/1/74                 | 5.5                        | 428.0                                         |
| 10/1/75                 | 5.0                        | 400.5                                         |
| 10/1/76                 | 3.6                        | 376.6                                         |
| 10/1/77                 | 6.2                        | 360.1                                         |
| 10/1/78                 | 5.5                        | 333.2                                         |
| 10/1/79                 | 7.0                        | 310.6                                         |
| 10/1/80                 | 11.7                       | 283.8                                         |
| 10/1/81                 | 14.3 (1)                   | 243.6                                         |
| 10/1/82                 | 4.0 (2)                    | 200.6                                         |
| 1/1/84                  | 4.0 (2)                    | 189.0                                         |
| 1/1/85                  | 4.0                        | 177.9                                         |
| 10/1/85                 | 3.0                        | 167.2                                         |
| 1/1/87                  | 3.0                        | 159.4                                         |
| 1/1/88                  | 2.0                        | 151.9                                         |
| 1/1/89                  | 4.1                        | 146.9                                         |
| 1/1/90                  | 3.6                        | 137.2                                         |
| 1/1/91                  | 4.1                        | 129.0                                         |
| 1/1/92                  | 4.2                        | 120.0                                         |
| 1/1/93                  | 3.7                        | 111.1                                         |
| 1/1/94                  | 2.2                        | 103.6                                         |
| 1/1/95                  | 2.6                        | 99.2                                          |
| 1/1/96                  | 2.4                        | 94.1                                          |
| 1/1/97                  | 3.0                        | 89.6                                          |
| 1/1/98                  | 2.8                        | 84.1                                          |
| 1/1/99                  | 3.6                        | 79.0                                          |
| 1/1/00                  | 4.8 (3)                    | 72.8                                          |
| 1/1/01                  | 3.7 (3)                    | 64.9                                          |
| 1/1/02                  | 4.6 (3)                    | 59.0                                          |
| 1/1/03                  | 4.1 (3)                    | 52.0                                          |
| 1/1/04                  | 3.7 (3)                    | 46.0                                          |
| 1/1/05                  | 3.5                        | 40.8                                          |
| 1/1/06                  | 3.1                        | 36.1                                          |
| 1/1/07                  | 2.2 (3)                    | 32.0                                          |
| 1/1/08                  | 3.5                        | 29.1                                          |
| 1/1/09                  | 3.9                        | 24.8                                          |
| 1/1/10                  | 3.4                        | 20.1                                          |
| 1/1/11                  | 1.4                        | 16.1                                          |
| 1/1/12                  | 1.6                        | 14.5                                          |
| 1/1/13                  | 1.7                        | 12.7                                          |
| 1/1/14                  | 1.0                        | 10.8                                          |
| 1/1/15                  | 1.0 (4)                    | 9.7                                           |
| 1/1/16                  | 1.3 (4)                    | 8.7                                           |
| 1/1/17                  | 2.1                        | 7.3                                           |
| 1/1/18                  | 2.4                        | 5.1                                           |
| 1/1/19                  | 2.6                        | 2.6                                           |

(1) Basic pay increases for enlisted personnel ranged from 10% for E-1; 10.7% for E-2, E-3; 13% for E-4; 16.5% for E-5, E-6; and 17% for E-7, E-8, E-9. For officers, the increase was 14.3%.

(2) Except for E-1 with less than 4 months service.

(3) The increases do not include additional targeted pay increases.

(4) Excludes General and Flag Officers (O-7 through O-10), who did not receive a pay increase.

APPENDIX C  
VALUATION DATA

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## **VALUATION DATA NOTES**

The following are relevant notes to the valuation data displayed in this appendix:

- These population- and pay-related data represent the appropriate beginning counts (“inputs”) to Closed Group and Open Group projections.
- Valuation input data were extracted from files maintained by the Defense Manpower Data Center (DMDC). Data on individual retirees and survivors came from official files submitted by the Defense Finance and Accounting Service (DFAS). Active data were obtained from the Active Duty Military Personnel (ADMP) Master File, and reserve data were obtained from the Reserve Component Common Personnel Data System Master File, the official source for all component strengths and statistics, respectively.
- Active Duty and Selected Reserve personnel data were not further adjusted to match the official end strength totals supplied by the DoD Comptroller. They were each within about 0.1% of aggregate end strength totals.
- The DoD Office of the Actuary (OACT) reviews the data for reasonableness and consistency, but does not audit the data and relies on the file suppliers for its accuracy and comprehensiveness.
- Table-specific notes are included at the bottom of the valuation data tables.
- Some totals may not add due to rounding.

## DoD Officers Active Duty Personnel by Years of Service and Age for FY 2018 Valuation

| Age   | Years of Active Service (YAS) |        |        |        |        |        |        |        |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |         |        | Total |
|-------|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|--------|-------|
|       | 0                             | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30+   |         |        |       |
| 16    | 0                             | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 17    | 0                             | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 18    | 0                             | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 19    | 2                             | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 20    | 5                             | 2      | 5      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 21    | 37                            | 10     | 4      | 1      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 0      |       |
| 22    | 2,249                         | 68     | 27     | 8      | 2      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 2,354  |       |
| 23    | 4,259                         | 2,496  | 89     | 35     | 7      | 7      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 6,884  |       |
| 24    | 2,009                         | 4,783  | 2,246  | 74     | 26     | 30     | 6      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,175  |       |
| 25    | 783                           | 2,484  | 4,243  | 2,288  | 88     | 42     | 34     | 17     | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,979  |       |
| 26    | 664                           | 1,056  | 2,207  | 4,284  | 2,004  | 84     | 53     | 65     | 26     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,444 |       |
| 27    | 650                           | 806    | 931    | 2,398  | 3,898  | 1,837  | 110    | 69     | 61     | 41    | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,803 |       |
| 28    | 502                           | 834    | 810    | 969    | 2,086  | 3,664  | 1,818  | 129    | 116    | 101   | 62    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 11,092 |       |
| 29    | 370                           | 530    | 832    | 740    | 836    | 1,977  | 3,480  | 1,543  | 159    | 114   | 149   | 100   | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,831 |       |
| 30    | 290                           | 415    | 542    | 737    | 665    | 870    | 1,816  | 2,542  | 1,576  | 159   | 154   | 211   | 327   | 179   | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,321 |       |
| 31    | 211                           | 295    | 444    | 507    | 682    | 754    | 883    | 1,618  | 2,566  | 1,337 | 201   | 211   | 347   | 179   | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,216 |       |
| 32    | 142                           | 222    | 273    | 396    | 472    | 745    | 714    | 871    | 1,530  | 2,560 | 1,280 | 241   | 294   | 384   | 221   | 4     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,351 |       |
| 33    | 122                           | 186    | 243    | 277    | 375    | 504    | 697    | 721    | 848    | 1,418 | 2,367 | 1,328 | 276   | 350   | 529   | 269   | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,515 |       |
| 34    | 96                            | 111    | 162    | 186    | 251    | 386    | 512    | 652    | 708    | 821   | 1,211 | 2,217 | 1,280 | 332   | 476   | 562   | 352   | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 10,321 |       |
| 35    | 68                            | 115    | 141    | 149    | 189    | 248    | 344    | 454    | 641    | 594   | 671   | 1,156 | 2,105 | 1,161 | 401   | 497   | 604   | 337   | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,879  |       |
| 36    | 43                            | 70     | 97     | 126    | 148    | 207    | 245    | 365    | 460    | 607   | 563   | 614   | 1,100 | 1,997 | 1,214 | 438   | 474   | 663   | 382   | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,817  |       |
| 37    | 49                            | 51     | 88     | 101    | 96     | 150    | 216    | 251    | 336    | 405   | 519   | 576   | 1,064 | 1,843 | 1,162 | 373   | 457   | 695   | 408   | 4     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,362  |       |
| 38    | 29                            | 39     | 50     | 77     | 89     | 126    | 143    | 180    | 232    | 326   | 362   | 513   | 539   | 592   | 1,108 | 1,754 | 1,152 | 381   | 490   | 670   | 379   | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,232  |       |
| 39    | 21                            | 34     | 33     | 51     | 50     | 97     | 134    | 145    | 199    | 229   | 261   | 348   | 444   | 543   | 731   | 1,151 | 1,650 | 1,075 | 454   | 542   | 665   | 310   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 9,168  |       |
| 40    | 27                            | 22     | 39     | 34     | 49     | 67     | 91     | 113    | 149    | 155   | 215   | 247   | 343   | 418   | 545   | 666   | 1,029 | 1,643 | 1,110 | 359   | 400   | 526   | 209   | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 8,459  |       |
| 41    | 24                            | 30     | 34     | 30     | 40     | 49     | 69     | 90     | 116    | 132   | 167   | 154   | 242   | 291   | 462   | 560   | 678   | 1,005 | 1,621 | 1,060 | 312   | 384   | 155   | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 8,099  |       |
| 42    | 22                            | 22     | 34     | 31     | 25     | 46     | 43     | 70     | 79     | 89    | 110   | 138   | 198   | 254   | 326   | 445   | 495   | 621   | 994   | 1,477 | 826   | 312   | 348   | 329   | 127   | 0     | 0     | 0     | 0     | 0     | 0     | 0       | 7,462  |       |
| 43    | 7                             | 24     | 19     | 27     | 39     | 56     | 58     | 74     | 73     | 90    | 103   | 139   | 189   | 266   | 335   | 441   | 468   | 569   | 953   | 1,145 | 779   | 286   | 281   | 301   | 136   | 2     | 0     | 0     | 0     | 0     | 0     | 0       | 6,887  |       |
| 44    | 8                             | 21     | 18     | 25     | 42     | 27     | 40     | 51     | 83     | 63    | 82    | 104   | 119   | 145   | 217   | 281   | 325   | 438   | 483   | 536   | 731   | 946   | 676   | 211   | 250   | 272   | 107   | 0     | 0     | 0     | 0     | 0       | 6,291  |       |
| 45    | 8                             | 13     | 13     | 15     | 27     | 27     | 18     | 35     | 49     | 60    | 68    | 78    | 111   | 132   | 173   | 197   | 272   | 306   | 395   | 464   | 453   | 577   | 857   | 607   | 200   | 248   | 263   | 102   | 0     | 0     | 0     | 0       | 5,750  |       |
| 46    | 4                             | 1      | 7      | 12     | 18     | 26     | 33     | 37     | 45     | 49    | 61    | 65    | 86    | 105   | 156   | 161   | 225   | 248   | 288   | 389   | 349   | 382   | 558   | 816   | 539   | 188   | 223   | 227   | 127   | 0     | 0     | 0       | 5,430  |       |
| 47    | 7                             | 9      | 6      | 8      | 18     | 18     | 33     | 31     | 42     | 52    | 47    | 52    | 83    | 120   | 104   | 146   | 193   | 202   | 230   | 259   | 285   | 323   | 358   | 483   | 782   | 543   | 188   | 166   | 232   | 113   | 1     | 0       | 5,137  |       |
| 48    | 5                             | 8      | 5      | 11     | 12     | 21     | 40     | 38     | 44     | 35    | 61    | 61    | 67    | 89    | 123   | 127   | 163   | 162   | 211   | 271   | 194   | 236   | 296   | 307   | 470   | 724   | 471   | 154   | 161   | 232   | 96    | 0       | 4,897  |       |
| 49    | 1                             | 4      | 6      | 6      | 8      | 12     | 25     | 29     | 36     | 41    | 54    | 46    | 76    | 69    | 101   | 128   | 137   | 134   | 161   | 175   | 172   | 183   | 206   | 261   | 413   | 508   | 382   | 127   | 148   | 204   | 0     | 0       | 4,025  |       |
| 50    | 3                             | 1      | 3      | 8      | 7      | 14     | 13     | 15     | 22     | 33    | 32    | 31    | 57    | 59    | 78    | 100   | 130   | 116   | 152   | 110   | 105   | 129   | 145   | 182   | 217   | 317   | 400   | 299   | 89    | 260   | 0     | 0       | 3,258  |       |
| 51    | 0                             | 2      | 6      | 3      | 11     | 7      | 14     | 9      | 17     | 26    | 35    | 32    | 35    | 45    | 60    | 58    | 101   | 124   | 117   | 115   | 97    | 96    | 89    | 93    | 91    | 155   | 159   | 254   | 307   | 238   | 244   | 0       | 2,640  |       |
| 52    | 1                             | 2      | 4      | 4      | 6      | 6      | 12     | 11     | 17     | 26    | 27    | 33    | 30    | 36    | 44    | 46    | 84    | 88    | 94    | 87    | 68    | 50    | 60    | 75    | 93    | 99    | 117   | 148   | 177   | 305   | 296   | 0       | 2,169  |       |
| 53    | 0                             | 2      | 0      | 3      | 5      | 6      | 8      | 16     | 12     | 11    | 23    | 20    | 30    | 32    | 44    | 46    | 39    | 46    | 82    | 73    | 57    | 51    | 45    | 65    | 44    | 78    | 97    | 94    | 87    | 188   | 345   | 0       | 1,651  |       |
| 54    | 1                             | 1      | 4      | 2      | 6      | 6      | 6      | 9      | 9      | 14    | 11    | 23    | 24    | 26    | 34    | 54    | 45    | 56    | 54    | 64    | 44    | 46    | 39    | 54    | 46    | 61    | 63    | 76    | 75    | 334   | 0     | 1,337   |        |       |
| 55    | 1                             | 0      | 2      | 1      | 2      | 2      | 7      | 8      | 17     | 9     | 8     | 15    | 12    | 19    | 25    | 35    | 36    | 34    | 41    | 38    | 40    | 36    | 30    | 35    | 28    | 21    | 36    | 50    | 52    | 63    | 248   | 0       | 954    |       |
| 56    | 1                             | 1      | 1      | 1      | 0      | 1      | 4      | 5      | 7      | 7     | 11    | 8     | 11    | 17    | 20    | 25    | 27    | 30    | 40    | 51    | 32    | 25    | 29    | 28    | 22    | 37    | 25    | 31    | 34    | 43    | 187   | 0       | 765    |       |
| 57    | 0                             | 1      | 2      | 2      | 3      | 2      | 4      | 2      | 6      | 5     | 8     | 7     | 12    | 6     | 13    | 23    | 14    | 34    | 29    | 38    | 14    | 11    | 25    | 19    | 15    | 16    | 19    | 36    | 22    | 37    | 140   | 0       | 570    |       |
| 58    | 1                             | 0      | 1      | 0      | 1      | 0      | 3      | 4      | 1      | 6     | 6     | 6     | 12    | 11    | 12    | 12    | 8     | 10    | 29    | 28    | 21    | 18    | 14    | 15    | 14    | 22    | 19    | 14    | 15    | 19    | 112   | 0       | 438    |       |
| 59    | 1                             | 0      | 0      | 0      | 0      | 0      | 3      | 1      | 2      | 0     | 1     | 7     | 4     | 2     | 11    | 9     | 9     | 17    | 21    | 21    | 12    | 8     | 13    | 4     | 10    | 13    | 20    | 11    | 7     | 10    | 295   | 0       | 0      |       |
| 60+   | 0                             | 0      | 2      | 1      | 1      | 1      | 4      | 3      | 2      | 4     | 5     | 9     | 9     | 11    | 11    | 16    | 18    | 20    | 26    | 33    | 28    | 20    | 27    | 25    | 13    | 23    | 28    | 20    | 23    | 25    | 123   | 0       | 534    |       |
| Total | 12,725                        | 14,774 | 13,674 | 13,630 | 12,276 | 12,108 | 11,732 | 10,664 | 10,088 | 9,603 | 8,924 | 8,698 | 8,784 | 8,684 | 9,352 | 9,330 | 9,076 | 8,722 | 8,772 | 8,215 | 6,439 | 5,423 | 4,657 | 3,955 | 3,492 | 3,252 | 2,662 | 2,152 | 1,749 | 1,587 | 2,668 | 247,868 | 0      |       |

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 35.5

Average YAS: 11.4

## DoD Enlisted Active Duty Personnel by Years of Service and Age for FY 2018 Valuation

| Age   | Years of Active Service (YAS) |         |         |         |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |       |       |       |       |       |       |       |       |     | Total |           |    |
|-------|-------------------------------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-----------|----|
|       | 0                             | 1       | 2       | 3       | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29  |       | 30+       |    |
| 16    | 0                             | 0       | 0       | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0         |    |
| 17    | 106                           | 0       | 0       | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 106       |    |
| 18    | 16,616                        | 61      | 0       | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 16,677    |    |
| 19    | 40,872                        | 14,017  | 38      | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 54,927    |    |
| 20    | 28,708                        | 36,669  | 11,807  | 24      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 77,208    |    |
| 21    | 16,997                        | 27,821  | 31,993  | 10,203  | 5      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 86,618    |    |
| 22    | 11,448                        | 16,405  | 24,672  | 27,761  | 5,756  | 6      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 86,048    |    |
| 23    | 8,736                         | 11,189  | 14,922  | 21,544  | 17,238 | 4,791  | 5      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 78,426    |    |
| 24    | 7,006                         | 8,551   | 10,287  | 13,052  | 15,046 | 14,487 | 3,259  | 3      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 71,691    |    |
| 25    | 5,415                         | 6,808   | 8,009   | 8,955   | 9,872  | 13,539 | 10,246 | 2,376  | 2      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 65,223    |    |
| 26    | 3,994                         | 5,206   | 6,376   | 6,861   | 7,198  | 9,250  | 10,015 | 7,843  | 1,799  | 3      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 58,545    |    |
| 27    | 2,961                         | 3,979   | 4,922   | 5,434   | 5,475  | 6,852  | 7,017  | 8,129  | 5,829  | 1,966  | 20     | 1      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 52,586    |    |
| 28    | 2,169                         | 2,856   | 3,679   | 4,238   | 4,355  | 5,331  | 5,151  | 5,684  | 6,788  | 5,652  | 2,248  | 25     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 48,376    |    |
| 29    | 1,595                         | 2,161   | 2,621   | 3,160   | 3,446  | 4,180  | 4,053  | 4,220  | 5,176  | 5,634  | 5,555  | 2,108  | 17     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 43,925    |    |
| 30    | 1,092                         | 1,567   | 1,767   | 2,081   | 2,518  | 3,199  | 3,389  | 3,352  | 3,870  | 4,205  | 4,882  | 5,294  | 2,144  | 17     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 39,377    |    |
| 31    | 781                           | 1,148   | 1,399   | 1,616   | 1,822  | 2,327  | 2,557  | 2,865  | 3,234  | 3,380  | 3,614  | 4,529  | 5,387  | 1,813  | 11     | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 36,483    |    |
| 32    | 588                           | 827     | 976     | 1,102   | 1,374  | 1,754  | 1,949  | 2,104  | 2,696  | 2,617  | 2,820  | 3,408  | 4,866  | 4,892  | 2,695  | 5      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 34,074    |    |
| 33    | 432                           | 657     | 686     | 757     | 962    | 1,260  | 1,445  | 1,648  | 2,177  | 2,209  | 2,313  | 2,652  | 3,665  | 4,360  | 5,369  | 2,189  | 8      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 32,811    |    |
| 34    | 367                           | 543     | 545     | 567     | 628    | 901    | 1,107  | 1,228  | 1,555  | 1,772  | 1,770  | 2,181  | 2,716  | 2,787  | 4,766  | 5,170  | 2,265  | 13     | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 30,880    |    |
| 35    | 285                           | 434     | 429     | 442     | 440    | 635    | 796    | 998    | 1,252  | 1,217  | 1,320  | 1,704  | 2,014  | 2,198  | 3,238  | 4,106  | 5,066  | 2,482  | 22     | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 29,077    |    |
| 36    | 135                           | 377     | 337     | 357     | 380    | 491    | 563    | 734    | 976    | 1,001  | 1,062  | 1,288  | 1,695  | 1,719  | 2,476  | 2,944  | 3,796  | 5,137  | 2,636  | 17     | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 28,121    |    |
| 37    | 86                            | 143     | 293     | 260     | 327    | 392    | 422    | 492    | 723    | 756    | 859    | 1,022  | 1,240  | 1,371  | 1,847  | 2,149  | 2,595  | 3,786  | 5,139  | 2,339  | 7      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 26,250    |    |
| 38    | 49                            | 69      | 145     | 232     | 256    | 321    | 310    | 370    | 551    | 556    | 647    | 732    | 975    | 1,048  | 1,486  | 1,600  | 1,921  | 2,504  | 3,712  | 5,058  | 1,553  | 4     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 24,080    |    |
| 39    | 50                            | 73      | 79      | 100     | 217    | 243    | 262    | 306    | 408    | 385    | 502    | 579    | 730    | 795    | 1,133  | 1,266  | 1,558  | 1,796  | 2,459  | 3,773  | 3,154  | 975   | 3     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 20,848    |    |
| 40    | 38                            | 49      | 60      | 41      | 74     | 190    | 208    | 234    | 336    | 346    | 335    | 455    | 572    | 596    | 882    | 991    | 1,176  | 1,329  | 1,689  | 2,374  | 2,178  | 2,097 | 683   | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 16,934    |    |
| 41    | 18                            | 42      | 50      | 32      | 44     | 87     | 203    | 190    | 265    | 240    | 281    | 320    | 416    | 506    | 658    | 778    | 886    | 964    | 1,227  | 1,638  | 1,387  | 1,661 | 1,521 | 473   | 1     | 0     | 0     | 0     | 0     | 0   | 0     | 13,893    |    |
| 42    | 2                             | 30      | 50      | 38      | 43     | 49     | 97     | 180    | 204    | 195    | 223    | 286    | 310    | 375    | 512    | 529    | 685    | 790    | 922    | 1,211  | 933    | 1,081 | 1,240 | 1,126 | 311   | 1     | 0     | 0     | 0     | 0   | 0     | 11,445    |    |
| 43    | 7                             | 13      | 25      | 25      | 39     | 43     | 56     | 145    | 211    | 156    | 174    | 204    | 256    | 268    | 397    | 438    | 567    | 652    | 728    | 874    | 633    | 668   | 768   | 917   | 700   | 284   | 1     | 0     | 0     | 0   | 0     | 9,251     |    |
| 44    | 2                             | 13      | 11      | 21      | 29     | 32     | 54     | 100    | 130    | 144    | 166    | 209    | 202    | 253    | 324    | 383    | 417    | 496    | 551    | 731    | 498    | 510   | 568   | 557   | 567   | 634   | 181   | 0     | 0     | 0   | 0     | 7,784     |    |
| 45    | 3                             | 3       | 12      | 7       | 23     | 26     | 40     | 89     | 113    | 109    | 132    | 167    | 202    | 183    | 274    | 303    | 355    | 376    | 436    | 518    | 397    | 359   | 379   | 385   | 362   | 504   | 373   | 115   | 2     | 0   | 0     | 6,251     |    |
| 46    | 1                             | 4       | 7       | 12      | 23     | 21     | 35     | 69     | 92     | 113    | 93     | 163    | 168    | 200    | 218    | 258    | 258    | 321    | 351    | 407    | 242    | 304   | 290   | 296   | 259   | 315   | 285   | 302   | 133   | 2   | 0     | 5,243     |    |
| 47    | 7                             | 2       | 11      | 15      | 16     | 16     | 27     | 65     | 91     | 95     | 94     | 136    | 151    | 201    | 221    | 214    | 240    | 277    | 311    | 361    | 212    | 215   | 237   | 217   | 141   | 185   | 182   | 228   | 289   | 155 | 0     | 4,613     |    |
| 48    | 1                             | 3       | 12      | 10      | 14     | 15     | 29     | 51     | 70     | 78     | 78     | 121    | 117    | 172    | 175    | 232    | 241    | 255    | 286    | 287    | 201    | 167   | 182   | 146   | 146   | 134   | 122   | 138   | 232   | 286 | 39    | 4,011     |    |
| 49    | 3                             | 11      | 6       | 6       | 23     | 30     | 19     | 47     | 49     | 73     | 70     | 91     | 97     | 116    | 166    | 188    | 214    | 223    | 250    | 232    | 126    | 139   | 129   | 121   | 92    | 91    | 75    | 79    | 137   | 204 | 85    | 3,192     |    |
| 50    | 1                             | 3       | 4       | 4       | 5      | 20     | 11     | 29     | 53     | 54     | 46     | 78     | 76     | 74     | 102    | 182    | 160    | 154    | 186    | 118    | 104    | 106   | 84    | 54    | 70    | 68    | 50    | 76    | 111   | 67  | 57    | 2,337     |    |
| 51    | 1                             | 2       | 8       | 9       | 7      | 13     | 15     | 22     | 40     | 49     | 59     | 53     | 67     | 87     | 103    | 147    | 175    | 169    | 156    | 79     | 66     | 75    | 62    | 49    | 49    | 36    | 60    | 57    | 50    | 35  | 1,824 |           |    |
| 52    | 3                             | 1       | 2       | 4       | 4      | 6      | 5      | 11     | 21     | 22     | 45     | 61     | 60     | 54     | 54     | 81     | 90     | 113    | 138    | 124    | 93     | 62    | 58    | 52    | 34    | 29    | 35    | 34    | 37    | 35  | 35    | 1,403     |    |
| 53    | 1                             | 1       | 7       | 2       | 8      | 4      | 10     | 7      | 11     | 15     | 29     | 32     | 23     | 28     | 54     | 56     | 86     | 108    | 124    | 112    | 78     | 56    | 39    | 46    | 20    | 30    | 19    | 18    | 21    | 33  | 15    | 1,094     |    |
| 54    | 0                             | 0       | 4       | 7       | 3      | 6      | 7      | 6      | 9      | 7      | 18     | 23     | 34     | 35     | 44     | 63     | 70     | 74     | 97     | 97     | 60     | 46    | 36    | 32    | 31    | 27    | 20    | 18    | 16    | 23  | 22    | 935       |    |
| 55    | 0                             | 0       | 1       | 7       | 2      | 3      | 9      | 8      | 9      | 15     | 12     | 17     | 13     | 32     | 39     | 40     | 53     | 67     | 77     | 61     | 54     | 29    | 28    | 21    | 23    | 16    | 12    | 12    | 16    | 18  | 13    | 707       |    |
| 56    | 1                             | 2       | 0       | 1       | 1      | 1      | 6      | 5      | 9      | 5      | 9      | 15     | 16     | 20     | 32     | 48     | 39     | 49     | 44     | 53     | 25     | 27    | 26    | 17    | 11    | 8     | 10    | 6     | 11    | 9   | 11    | 517       |    |
| 57    | 1                             | 0       | 1       | 1       | 1      | 2      | 4      | 3      | 3      | 3      | 6      | 9      | 5      | 17     | 15     | 29     | 29     | 33     | 42     | 28     | 14     | 14    | 17    | 14    | 9     | 10    | 2     | 3     | 3     | 8   | 4     | 331       |    |
| 58    | 0                             | 0       | 1       | 1       | 1      | 0      | 2      | 3      | 3      | 7      | 3      | 4      | 3      | 12     | 8      | 19     | 19     | 31     | 30     | 23     | 12     | 13    | 11    | 13    | 6     | 8     | 0     | 5     | 4     | 5   | 4     | 251       |    |
| 59    | 0                             | 0       | 0       | 1       | 1      | 0      | 1      | 2      | 0      | 2      | 3      | 2      | 3      | 6      | 6      | 14     | 21     | 17     | 19     | 22     | 13     | 7     | 8     | 4     | 11    | 4     | 6     | 5     | 4     | 2   | 2     | 185       |    |
| 60+   | 0                             | 0       | 0       | 0       | 0      | 1      | 1      | 0      | 1      | 3      | 3      | 0      | 2      | 0      | 4      | 3      | 7      | 9      | 15     | 10     | 8      | 3     | 3     | 0     | 0     | 0     | 3     | 1     | 2     | 2   | 3     | 6         | 92 |
| Total | 150,581                       | 141,739 | 125,850 | 108,091 | 77,858 | 70,519 | 53,381 | 43,611 | 38,739 | 33,076 | 29,482 | 27,978 | 28,227 | 24,217 | 26,715 | 24,382 | 22,971 | 22,233 | 21,633 | 20,695 | 12,096 | 8,608 | 6,408 | 4,583 | 2,827 | 2,402 | 1,428 | 1,075 | 1,040 | 944 | 360   | 1,134,650 |    |

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 27.9

Average YAS: 6.7

## All DoD Active Duty Personnel by Years of Service and Age for FY 2018 Valuation

| Age | Years of Active Service (YAS) |        |        |        |        |        |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |     |     |     |     | Total |        |
|-----|-------------------------------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-------|--------|
|     | 0                             | 1      | 2      | 3      | 4      | 5      | 6      | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    | 25  | 26  | 27  | 28  | 29  |       | 30+    |
| 16  | 0                             | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 0      |
| 17  | 106                           | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 106    |
| 18  | 16,616                        | 61     | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 16,677 |
| 19  | 40,874                        | 14,017 | 38     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 54,929 |
| 20  | 28,713                        | 36,671 | 11,812 | 24     | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 77,220 |
| 21  | 17,033                        | 27,830 | 31,597 | 10,204 | 5      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 86,670 |
| 22  | 13,697                        | 16,472 | 24,700 | 27,768 | 5,758  | 6      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 88,402 |
| 23  | 12,993                        | 13,686 | 15,010 | 21,579 | 17,246 | 4,799  | 5      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 85,320 |
| 24  | 9,015                         | 13,334 | 13,126 | 15,072 | 14,517 | 3,266  | 3      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 80,866 |
| 25  | 6,198                         | 9,292  | 12,252 | 11,243 | 9,960  | 13,582 | 10,280 | 2,393 | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 75,202 |
| 26  | 4,658                         | 6,262  | 8,583  | 11,145 | 9,202  | 9,335  | 10,068 | 7,908 | 1,825 | 3     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 68,989 |
| 27  | 3,611                         | 4,785  | 5,853  | 7,852  | 9,373  | 8,689  | 7,127  | 8,198 | 5,890 | 2,008 | 21    | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 63,389 |
| 28  | 2,671                         | 3,690  | 4,489  | 5,207  | 6,641  | 8,994  | 6,969  | 5,812 | 6,905 | 5,753 | 2,311 | 25    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 59,468 |
| 29  | 1,964                         | 2,691  | 3,453  | 3,901  | 4,282  | 6,157  | 7,532  | 5,763 | 5,335 | 5,249 | 5,703 | 2,209 | 18    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 54,756 |
| 30  | 1,383                         | 1,983  | 2,309  | 2,817  | 3,183  | 4,068  | 5,205  | 6,293 | 5,246 | 4,364 | 5,036 | 5,505 | 2,286 | 20    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 49,698 |
| 31  | 992                           | 1,443  | 1,843  | 2,122  | 2,504  | 3,081  | 3,440  | 4,483 | 5,799 | 4,717 | 3,815 | 4,740 | 5,714 | 1,992 | 13    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 46,699 |
| 32  | 731                           | 1,049  | 1,249  | 1,498  | 1,846  | 2,499  | 2,663  | 2,977 | 4,226 | 5,177 | 4,100 | 3,649 | 5,160 | 5,276 | 2,317 | 9     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 44,425 |
| 33  | 555                           | 843    | 930    | 1,033  | 1,337  | 1,765  | 2,141  | 2,569 | 3,026 | 3,627 | 4,680 | 3,980 | 3,941 | 4,710 | 5,919 | 2,458 | 10    | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 43,326 |
| 34  | 463                           | 654    | 707    | 753    | 879    | 1,287  | 1,619  | 1,880 | 2,263 | 2,993 | 2,981 | 4,397 | 3,996 | 3,119 | 5,242 | 5,732 | 2,617 | 19    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 41,201 |
| 35  | 353                           | 549    | 570    | 591    | 629    | 882    | 1,140  | 1,452 | 1,893 | 1,810 | 1,991 | 2,860 | 4,118 | 3,359 | 3,640 | 4,603 | 5,670 | 2,819 | 27    | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 38,956 |
| 36  | 178                           | 448    | 434    | 483    | 528    | 698    | 808    | 1,099 | 1,436 | 1,608 | 1,625 | 1,901 | 2,794 | 3,716 | 3,690 | 3,382 | 4,270 | 5,800 | 3,018 | 22    | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 37,938 |
| 37  | 135                           | 194    | 381    | 361    | 423    | 542    | 638    | 743   | 1,059 | 1,161 | 1,378 | 1,541 | 1,816 | 2,436 | 3,691 | 3,311 | 2,968 | 4,242 | 5,834 | 2,747 | 11    | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 35,612 |
| 38  | 78                            | 108    | 195    | 309    | 325    | 447    | 453    | 550   | 782   | 882   | 1,009 | 1,246 | 1,514 | 1,641 | 2,594 | 3,354 | 3,073 | 2,885 | 4,201 | 5,728 | 1,933 | 5     | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 33,312 |
| 39  | 71                            | 107    | 112    | 152    | 268    | 340    | 396    | 451   | 607   | 615   | 763   | 927   | 1,173 | 1,338 | 1,864 | 2,417 | 3,209 | 2,871 | 2,913 | 4,315 | 3,820 | 1,285 | 3     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 30,016 |
| 40  | 65                            | 71     | 99     | 75     | 123    | 257    | 299    | 347   | 485   | 502   | 550   | 703   | 915   | 1,014 | 1,426 | 1,657 | 2,205 | 2,972 | 2,799 | 2,733 | 2,579 | 2,624 | 892   | 1     | 0     | 0   | 0   | 0   | 0   | 0   | 0     | 25,393 |
| 41  | 42                            | 72     | 84     | 62     | 85     | 136    | 272    | 280   | 381   | 372   | 448   | 474   | 659   | 798   | 1,120 | 1,339 | 1,565 | 1,969 | 2,848 | 2,698 | 1,699 | 2,052 | 1,905 | 628   | 3     | 0   | 0   | 0   | 0   | 0   | 0     | 21,992 |
| 42  | 24                            | 52     | 84     | 69     | 68     | 95     | 140    | 250   | 283   | 284   | 333   | 424   | 508   | 629   | 838   | 974   | 1,180 | 1,411 | 1,916 | 2,688 | 1,779 | 1,393 | 1,588 | 1,455 | 438   | 1   | 0   | 0   | 0   | 0   | 0     | 18,997 |
| 43  | 14                            | 37     | 44     | 52     | 66     | 82     | 112    | 204   | 235   | 229   | 264   | 307   | 395   | 457   | 663   | 773   | 1,008 | 1,120 | 1,297 | 1,827 | 1,778 | 1,447 | 1,054 | 1,198 | 1,001 | 420 | 3   | 0   | 0   | 0   | 0     | 16,138 |
| 44  | 10                            | 34     | 29     | 46     | 71     | 89     | 94     | 151   | 213   | 207   | 248   | 313   | 321   | 398   | 542   | 664   | 742   | 935   | 1,034 | 1,257 | 1,229 | 1,456 | 1,244 | 768   | 817   | 906 | 288 | 0   | 0   | 0   | 0     | 14,075 |
| 45  | 11                            | 16     | 25     | 22     | 50     | 53     | 58     | 124   | 162   | 170   | 201   | 245   | 313   | 316   | 447   | 500   | 627   | 683   | 832   | 983   | 830   | 937   | 1,236 | 992   | 562   | 752 | 636 | 217 | 2   | 0   | 0     | 12,001 |
| 46  | 5                             | 5      | 14     | 24     | 41     | 47     | 68     | 106   | 137   | 163   | 154   | 228   | 254   | 306   | 374   | 419   | 483   | 569   | 640   | 796   | 591   | 686   | 848   | 1,112 | 798   | 503 | 508 | 529 | 260 | 2   | 0     | 10,673 |
| 47  | 14                            | 11     | 17     | 23     | 34     | 34     | 60     | 96    | 134   | 147   | 141   | 188   | 234   | 321   | 325   | 360   | 433   | 479   | 542   | 620   | 497   | 538   | 595   | 700   | 923   | 728 | 370 | 394 | 521 | 268 | 1     | 9,750  |
| 48  | 6                             | 11     | 17     | 21     | 26     | 36     | 69     | 90    | 114   | 113   | 139   | 182   | 184   | 261   | 298   | 359   | 404   | 417   | 467   | 558   | 395   | 403   | 478   | 453   | 616   | 858 | 593 | 292 | 393 | 518 | 135   | 8,908  |
| 49  | 4                             | 15     | 12     | 12     | 31     | 42     | 44     | 76    | 85    | 114   | 124   | 137   | 173   | 185   | 267   | 316   | 351   | 357   | 411   | 407   | 298   | 311   | 312   | 327   | 353   | 504 | 583 | 461 | 264 | 352 | 289   | 7,217  |
| 50  | 4                             | 4      | 7      | 12     | 12     | 34     | 24     | 44    | 75    | 87    | 78    | 109   | 134   | 133   | 180   | 282   | 291   | 270   | 338   | 296   | 248   | 209   | 235   | 229   | 236   | 287 | 385 | 450 | 375 | 200 | 327   | 5,595  |
| 51  | 1                             | 3      | 8      | 11     | 20     | 14     | 27     | 24    | 39    | 66    | 84    | 91    | 88    | 112   | 147   | 161   | 248   | 299   | 286   | 271   | 176   | 162   | 164   | 155   | 140   | 204 | 195 | 314 | 364 | 288 | 301   | 4,464  |
| 52  | 4                             | 3      | 6      | 8      | 10     | 12     | 17     | 22    | 38    | 48    | 72    | 94    | 90    | 98    | 150   | 174   | 201   | 232   | 211   | 112   | 118   | 127   | 127   | 128   | 152   | 182 | 214 | 340 | 331 | 340 | 331   | 3,572  |
| 53  | 1                             | 3      | 7      | 5      | 13     | 10     | 18     | 23    | 23    | 26    | 52    | 52    | 53    | 60    | 98    | 102   | 125   | 154   | 207   | 185   | 135   | 107   | 84    | 111   | 64    | 108 | 116 | 112 | 108 | 221 | 360   | 2,745  |
| 54  | 1                             | 1      | 8      | 9      | 9      | 12     | 13     | 15    | 18    | 21    | 29    | 46    | 58    | 61    | 78    | 117   | 115   | 130   | 151   | 161   | 104   | 92    | 75    | 86    | 77    | 73  | 81  | 81  | 92  | 98  | 356   | 2,272  |
| 55  | 1                             | 0      | 3      | 8      | 4      | 5      | 16     | 16    | 26    | 24    | 20    | 32    | 25    | 51    | 64    | 75    | 89    | 101   | 118   | 99    | 94    | 65    | 58    | 56    | 51    | 37  | 48  | 62  | 68  | 81  | 261   | 1,661  |
| 56  | 2                             | 3      | 1      | 2      | 1      | 2      | 10     | 10    | 16    | 12    | 20    | 23    | 27    | 37    | 52    | 71    | 66    | 79    | 84    | 104   | 57    | 52    | 55    | 45    | 33    | 45  | 35  | 37  | 45  | 52  | 198   | 1,282  |
| 57  | 1                             | 1      | 3      | 4      | 4      | 4      | 6      | 6     | 9     | 8     | 14    | 16    | 17    | 23    | 28    | 42    | 43    | 67    | 72    | 67    | 28    | 25    | 42    | 33    | 24    | 26  | 21  | 39  | 25  | 45  | 144   | 901    |
| 58  | 1                             | 0      | 2      | 1      | 2      | 0      | 5      | 7     | 4     | 13    | 9     | 10    | 15    | 23    | 20    | 31    | 27    | 41    | 59    | 51    | 33    | 31    | 25    | 28    | 20    | 30  | 19  | 19  | 19  | 24  | 116   | 689    |
| 59  | 1                             | 0      | 0      | 1      | 1      | 1      | 4      | 3     | 2     | 2     | 3     | 10    | 6     | 8     | 17    | 23    | 30    | 34    | 40    | 43    | 25    | 15    | 21    | 8     | 21    | 17  | 26  | 16  | 11  | 12  | 79    | 480    |
| 60+ | 0                             | 0      | 2      | 1      | 1      | 2      | 5      | 3     | 3     | 7     | 8     | 9     | 11    | 11    | 15    | 19    | 25    | 29    | 41    | 44    |       |       |       |       |       |     |     |     |     |     |       |        |

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 29.3

Average YAS: 7.6

## DoD Officers Average Monthly Active Duty Basic Pay by Active Years of Service and Age for FY 2018 Valuation

| Age | Years of Active Service (YAS) |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |          |          |          |          |          |          |          |          |          |         |
|-----|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
|     | 0                             | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14      | 15      | 16      | 17      | 18      | 19      | 20      | 21      | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30+      | Avg      |         |
| 16  |                               | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 17  |                               | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 18  |                               | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 19  | \$3,116                       | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 20  | \$3,134                       | \$3,116 | \$3,977 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 21  | \$3,178                       | \$3,179 | \$3,852 | \$3,900 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 22  | \$3,196                       | \$3,258 | \$3,539 | \$3,938 | \$3,733 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 23  | \$3,196                       | \$3,231 | \$3,642 | \$3,993 | \$3,859 | \$3,814 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 24  | \$3,262                       | \$3,219 | \$3,290 | \$4,248 | \$4,013 | \$4,004 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 25  | \$3,262                       | \$4,145 | \$4,195 | \$4,803 | \$4,759 | \$4,209 | \$4,141 | \$4,141 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 26  | \$3,560                       | \$3,518 | \$4,288 | \$4,847 | \$5,526 | \$4,968 | \$4,641 | \$4,275 | \$4,709 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 27  | \$3,800                       | \$3,717 | \$4,253 | \$4,918 | \$5,526 | \$5,139 | \$4,908 | \$4,626 | \$4,226 | \$5,084 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 28  | \$3,844                       | \$3,960 | \$4,383 | \$4,918 | \$5,528 | \$5,667 | \$5,890 | \$5,262 | \$4,946 | \$4,643 | \$4,853 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 29  | \$3,827                       | \$3,980 | \$4,596 | \$5,006 | \$5,451 | \$5,691 | \$5,910 | \$5,894 | \$5,379 | \$4,910 | \$4,835 | \$4,861 | \$4,662 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 30  | \$3,976                       | \$4,076 | \$4,635 | \$5,120 | \$5,525 | \$5,551 | \$5,890 | \$5,929 | \$5,460 | \$5,070 | \$4,994 | \$5,072 | \$5,584 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 31  | \$4,189                       | \$4,206 | \$4,673 | \$5,185 | \$5,552 | \$5,570 | \$5,812 | \$5,960 | \$6,184 | \$6,140 | \$5,514 | \$5,032 | \$5,209 | \$5,529 | \$5,534 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 32  | \$4,137                       | \$4,255 | \$4,697 | \$5,229 | \$5,626 | \$5,577 | \$5,836 | \$5,998 | \$6,157 | \$6,242 | \$5,701 | \$5,032 | \$5,209 | \$5,534 | \$5,534 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 33  | \$4,125                       | \$4,250 | \$4,616 | \$5,166 | \$5,582 | \$5,582 | \$5,828 | \$5,975 | \$6,199 | \$6,160 | \$5,630 | \$5,237 | \$5,419 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599 | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  | \$5,599  |         |
| 34  | \$4,216                       | \$4,486 | \$5,182 | \$5,538 | \$5,759 | \$5,796 | \$6,065 | \$6,107 | \$6,260 | \$6,260 | \$6,443 | \$6,705 | \$6,937 | \$7,199 | \$7,353 | \$7,187 | \$6,610 | \$6,213 | \$6,232 | \$5,938 | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 35  | \$4,216                       | \$4,486 | \$5,182 | \$5,538 | \$5,759 | \$5,796 | \$6,065 | \$6,107 | \$6,260 | \$6,260 | \$6,443 | \$6,705 | \$6,937 | \$7,199 | \$7,353 | \$7,187 | \$6,610 | \$6,213 | \$6,232 | \$5,938 | \$0     | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 36  | \$4,131                       | \$4,449 | \$5,271 | \$5,621 | \$5,828 | \$5,937 | \$6,122 | \$6,205 | \$6,471 | \$6,507 | \$6,886 | \$6,876 | \$7,259 | \$7,376 | \$7,350 | \$6,280 | \$6,349 | \$6,349 | \$6,643 | \$6,643 | \$6,683 | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 37  | \$4,164                       | \$4,498 | \$5,131 | \$5,516 | \$5,964 | \$5,881 | \$6,355 | \$6,354 | \$6,527 | \$6,604 | \$6,985 | \$7,033 | \$7,163 | \$7,333 | \$7,604 | \$7,516 | \$6,657 | \$6,489 | \$6,736 | \$6,821 | \$7,091 | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 38  | \$4,025                       | \$5,093 | \$5,540 | \$5,704 | \$5,851 | \$6,282 | \$6,500 | \$6,324 | \$6,587 | \$6,608 | \$7,025 | \$7,099 | \$7,360 | \$7,493 | \$7,732 | \$7,885 | \$6,795 | \$6,632 | \$6,838 | \$6,838 | \$7,039 | \$8,074 | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 39  | \$4,488                       | \$5,431 | \$5,541 | \$5,908 | \$6,094 | \$6,472 | \$6,406 | \$6,680 | \$6,775 | \$7,046 | \$7,240 | \$7,443 | \$7,381 | \$7,476 | \$7,648 | \$8,083 | \$8,102 | \$7,164 | \$7,026 | \$7,102 | \$7,162 | \$0     | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0     |
| 40  | \$4,501                       | \$5,410 | \$5,257 | \$5,807 | \$6,061 | \$6,266 | \$6,493 | \$6,624 | \$6,784 | \$6,931 | \$7,134 | \$7,243 | \$7,424 | \$7,497 | \$7,524 | \$7,649 | \$8,038 | \$8,332 | \$8,393 | \$7,232 | \$7,174 | \$7,259 | \$7,446  | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 41  | \$4,495                       | \$5,149 | \$5,528 | \$5,863 | \$6,359 | \$6,203 | \$6,701 | \$6,692 | \$6,769 | \$6,837 | \$7,191 | \$7,352 | \$7,468 | \$7,541 | \$7,619 | \$7,729 | \$7,944 | \$8,279 | \$8,559 | \$8,421 | \$7,402 | \$7,306 | \$7,420  | \$7,545  | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 42  | \$4,579                       | \$4,730 | \$5,653 | \$5,698 | \$5,808 | \$6,388 | \$6,571 | \$6,591 | \$6,897 | \$7,063 | \$7,213 | \$7,290 | \$7,424 | \$7,585 | \$7,722 | \$7,774 | \$8,017 | \$8,123 | \$8,482 | \$8,672 | \$8,719 | \$7,542 | \$7,495  | \$7,604  | \$7,727  | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 43  | \$4,290                       | \$4,862 | \$5,560 | \$6,024 | \$6,221 | \$6,324 | \$6,611 | \$6,643 | \$6,994 | \$7,040 | \$7,354 | \$7,552 | \$7,616 | \$7,714 | \$7,835 | \$8,152 | \$8,172 | \$8,368 | \$8,581 | \$8,956 | \$8,900 | \$7,874 | \$7,633  | \$7,805  | \$7,874  | \$9,221  | \$0      | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 44  | \$4,814                       | \$5,176 | \$5,591 | \$5,911 | \$6,782 | \$6,725 | \$6,705 | \$6,936 | \$6,972 | \$7,320 | \$7,426 | \$7,678 | \$7,728 | \$7,887 | \$7,887 | \$8,047 | \$8,237 | \$8,341 | \$8,604 | \$8,477 | \$8,932 | \$9,140 | \$9,500  | \$8,031  | \$7,866  | \$7,921  | \$8,225  | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 45  | \$4,283                       | \$5,117 | \$5,551 | \$5,802 | \$6,224 | \$6,746 | \$6,669 | \$6,609 | \$6,915 | \$7,097 | \$7,361 | \$7,441 | \$7,810 | \$7,861 | \$7,885 | \$8,047 | \$8,237 | \$8,283 | \$8,665 | \$8,661 | \$8,806 | \$9,089 | \$9,810  | \$9,921  | \$8,284  | \$7,996  | \$8,249  | \$8,169  | \$0      | \$0      | \$0      | \$0      |         |
| 46  | \$4,773                       | \$7,706 | \$5,910 | \$5,998 | \$6,923 | \$6,666 | \$7,176 | \$6,896 | \$7,051 | \$7,041 | \$7,374 | \$7,634 | \$7,716 | \$7,824 | \$7,901 | \$8,104 | \$8,295 | \$8,395 | \$8,638 | \$8,705 | \$8,947 | \$9,592 | \$10,104 | \$10,087 | \$8,511  | \$8,471  | \$8,670  | \$0      | \$0      | \$0      | \$0      | \$0      |         |
| 47  | \$4,263                       | \$5,754 | \$5,739 | \$6,315 | \$7,248 | \$6,963 | \$6,786 | \$7,347 | \$7,210 | \$6,659 | \$7,621 | \$7,731 | \$8,109 | \$8,064 | \$8,108 | \$8,374 | \$8,532 | \$8,584 | \$8,717 | \$9,140 | \$9,165 | \$9,404 | \$9,432  | \$9,818  | \$10,861 | \$10,493 | \$10,522 | \$8,889  | \$8,851  | \$8,767  | \$9,008  | \$9,320  |         |
| 48  | \$5,306                       | \$5,423 | \$5,905 | \$6,562 | \$7,138 | \$6,851 | \$7,221 | \$6,701 | \$7,134 | \$7,247 | \$7,431 | \$7,607 | \$7,701 | \$8,084 | \$8,111 | \$8,297 | \$8,582 | \$8,614 | \$8,740 | \$8,895 | \$9,015 | \$9,342 | \$9,404  | \$9,881  | \$10,108 | \$10,361 | \$10,923 | \$10,767 | \$9,324  | \$9,070  | \$9,418  | \$9,532  |         |
| 49  | \$7,991                       | \$4,899 | \$7,133 | \$6,305 | \$6,837 | \$7,085 | \$7,227 | \$7,307 | \$7,156 | \$7,609 | \$7,551 | \$8,329 | \$8,286 | \$8,379 | \$8,204 | \$8,565 | \$8,756 | \$8,866 | \$8,927 | \$8,981 | \$9,164 | \$9,493 | \$9,641  | \$9,881  | \$10,081 | \$10,361 | \$10,923 | \$10,767 | \$9,324  | \$9,070  | \$9,418  | \$9,532  |         |
| 50  | \$5,327                       | \$5,201 | \$6,989 | \$7,158 | \$7,463 | \$7,509 | \$7,039 | \$7,776 | \$7,703 | \$7,335 | \$7,351 | \$8,432 | \$8,295 | \$8,533 | \$8,595 | \$8,479 | \$8,719 | \$8,962 | \$8,940 | \$9,376 | \$9,351 | \$9,493 | \$9,978  | \$9,978  | \$9,953  | \$10,390 | \$10,631 | \$11,036 | \$9,521  | \$9,723  | \$9,744  | \$9,744  |         |
| 51  | \$0                           | \$4,344 | \$7,666 | \$5,928 | \$7,869 | \$7,040 | \$7,508 | \$7,552 | \$7,555 | \$7,148 | \$7,725 | \$7,865 | \$8,409 | \$8,197 | \$8,592 | \$8,647 | \$8,753 | \$8,539 | \$9,100 | \$8,992 | \$9,226 | \$9,404 | \$9,428  | \$9,859  | \$9,928  | \$10,366 | \$10,067 | \$10,415 | \$10,971 | \$11,472 | \$11,421 | \$9,830  | \$9,929 |
| 52  | \$3,188                       | \$6,873 | \$5,491 | \$6,918 | \$8,720 | \$7,907 | \$7,708 | \$7,726 | \$7,261 | \$7,850 | \$7,821 | \$8,370 | \$8,204 | \$8,432 | \$8,469 | \$8,689 | \$9,000 | \$8,847 | \$9,101 | \$9,185 | \$9,777 | \$9,415 | \$9,993  | \$9,724  | \$10,399 | \$10,478 | \$10,939 | \$10,729 | \$11,472 | \$11,421 | \$9,830  | \$9,929  |         |
| 53  | \$4,232                       | \$8,431 | \$5,542 | \$7,412 | \$7,661 | \$7,026 | \$7,963 | \$7,810 | \$7,111 | \$7,806 | \$8,076 | \$8,183 | \$8,345 | \$8,465 | \$8,605 | \$8,725 | \$8,592 | \$9,253 | \$9,325 | \$9,384 | \$9,281 | \$9,793 | \$9,821  | \$10,235 | \$10,409 | \$10,719 | \$10,939 | \$11,071 | \$11,051 | \$11,400 | \$10,172 | \$10,172 |         |
| 54  | \$4,252                       | \$5,831 | \$5,962 | \$8,111 | \$8,067 | \$9,191 | \$7,338 | \$7,028 | \$8,610 | \$7,737 | \$8,548 | \$8,045 | \$8,111 | \$8,213 | \$8,389 | \$8,464 | \$8,484 | \$8,504 | \$8,532 | \$8,564 | \$8,596 | \$8,627 | \$8,658  | \$8,689  | \$8,720  | \$8,751  | \$8,782  | \$8,813  | \$8,844  | \$8,875  | \$8,906  | \$8,937  |         |
| 55  | \$5,971                       | \$0     | \$9,221 | \$8,521 | \$8,597 | \$7,918 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |          |          |          |          |          |          |          |          |          |         |

## DoD Enlisted Average Monthly Active Duty Basic Pay by Active Years of Service and Age for FY 2018 Valuation

| Age | Years of Active Service (YAS) |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|-----|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|     | 0                             | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14      | 15      | 16      | 17      | 18      | 19      | 20      | 21      | 22      | 23      | 24      | 25      | 26      | 27      | 28      | 29      | 30+     | Avg     |         |         |
| 16  | \$0                           | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     |         |
| 17  | \$1,732                       | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     |         |
| 18  | \$1,757                       | \$1,953 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$1,732 |         |
| 19  | \$1,791                       | \$1,959 | \$2,216 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$1,758 |         |
| 20  | \$1,841                       | \$1,975 | \$2,204 | \$2,456 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$1,834 |         |
| 21  | \$1,858                       | \$1,995 | \$2,216 | \$2,493 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$1,960 |         |
| 22  | \$1,880                       | \$2,005 | \$2,233 | \$2,447 | \$2,626 | \$2,816 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,009 |         |
| 23  | \$1,914                       | \$2,019 | \$2,245 | \$2,447 | \$2,634 | \$2,818 | \$3,002 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,246 |         |
| 24  | \$1,934                       | \$2,040 | \$2,262 | \$2,459 | \$2,646 | \$2,828 | \$3,015 | \$3,201 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,443 |         |
| 25  | \$1,953                       | \$2,063 | \$2,281 | \$2,473 | \$2,655 | \$2,822 | \$3,009 | \$3,195 | \$3,379 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,543 |         |
| 26  | \$1,964                       | \$2,083 | \$2,303 | \$2,490 | \$2,673 | \$2,853 | \$3,039 | \$3,213 | \$3,384 | \$3,565 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,635 |         |
| 27  | \$1,984                       | \$2,121 | \$2,334 | \$2,522 | \$2,696 | \$2,872 | \$3,048 | \$3,223 | \$3,394 | \$3,568 | \$3,736 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,749 |         |
| 28  | \$1,998                       | \$2,150 | \$2,359 | \$2,539 | \$2,722 | \$2,898 | \$3,074 | \$3,249 | \$3,424 | \$3,598 | \$3,772 | \$3,946 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,883 |         |
| 29  | \$2,011                       | \$2,181 | \$2,386 | \$2,571 | \$2,750 | \$2,902 | \$3,078 | \$3,253 | \$3,428 | \$3,602 | \$3,776 | \$3,950 | \$4,124 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$2,943 |         |
| 30  | \$2,023                       | \$2,189 | \$2,428 | \$2,612 | \$2,790 | \$2,930 | \$3,105 | \$3,280 | \$3,454 | \$3,628 | \$3,802 | \$3,976 | \$4,150 | \$4,324 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,159 |         |
| 31  | \$2,054                       | \$2,243 | \$2,455 | \$2,628 | \$2,804 | \$2,960 | \$3,135 | \$3,310 | \$3,484 | \$3,658 | \$3,832 | \$4,006 | \$4,180 | \$4,354 | \$4,528 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,295 |         |
| 32  | \$2,055                       | \$2,207 | \$2,497 | \$2,662 | \$2,834 | \$2,989 | \$3,162 | \$3,335 | \$3,508 | \$3,681 | \$3,854 | \$4,027 | \$4,199 | \$4,372 | \$4,545 | \$4,718 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,446 |         |
| 33  | \$2,076                       | \$2,181 | \$2,471 | \$2,636 | \$2,807 | \$2,961 | \$3,134 | \$3,307 | \$3,480 | \$3,652 | \$3,825 | \$4,000 | \$4,173 | \$4,346 | \$4,519 | \$4,692 | \$4,865 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,596 |         |
| 34  | \$2,099                       | \$2,258 | \$2,558 | \$2,718 | \$2,883 | \$3,047 | \$3,211 | \$3,375 | \$3,539 | \$3,703 | \$3,867 | \$4,031 | \$4,195 | \$4,359 | \$4,523 | \$4,687 | \$4,851 | \$5,015 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,747 |         |
| 35  | \$2,094                       | \$2,255 | \$2,577 | \$2,809 | \$2,995 | \$3,180 | \$3,365 | \$3,550 | \$3,735 | \$3,920 | \$4,105 | \$4,290 | \$4,475 | \$4,660 | \$4,845 | \$5,030 | \$5,215 | \$5,399 | \$5,584 | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$0     | \$3,897 |         |
| 36  | \$2,171                       | \$2,253 | \$2,617 | \$2,786 | \$3,043 | \$3,102 | \$3,264 | \$3,430 | \$3,595 | \$3,761 | \$3,926 | \$4,091 | \$4,256 | \$4,421 | \$4,586 | \$4,751 | \$4,916 | \$5,081 | \$5,246 | \$5,411 | \$5,576 | \$5,741 | \$5,906 | \$6,071 | \$6,236 | \$6,401 | \$6,566 | \$6,731 | \$6,896 | \$7,061 | \$7,226 | \$7,391 | \$4,070 |         |
| 37  | \$2,305                       | \$2,343 | \$2,587 | \$2,833 | \$2,999 | \$3,092 | \$3,333 | \$3,360 | \$3,597 | \$3,631 | \$3,868 | \$3,902 | \$4,139 | \$4,173 | \$4,410 | \$4,444 | \$4,681 | \$4,715 | \$4,952 | \$4,986 | \$5,223 | \$5,257 | \$5,494 | \$5,528 | \$5,765 | \$5,799 | \$6,036 | \$6,070 | \$6,307 | \$6,341 | \$6,578 | \$6,612 | \$4,215 |         |
| 38  | \$2,320                       | \$2,688 | \$2,725 | \$2,761 | \$3,008 | \$3,033 | \$3,360 | \$3,621 | \$3,665 | \$3,911 | \$4,053 | \$4,162 | \$4,270 | \$4,379 | \$4,488 | \$4,597 | \$4,706 | \$4,815 | \$4,924 | \$5,033 | \$5,142 | \$5,251 | \$5,360 | \$5,469 | \$5,578 | \$5,687 | \$5,796 | \$5,905 | \$6,014 | \$6,123 | \$6,232 | \$6,341 | \$4,346 |         |
| 39  | \$2,319                       | \$2,668 | \$3,102 | \$3,035 | \$2,967 | \$3,102 | \$3,441 | \$3,455 | \$3,594 | \$3,678 | \$3,848 | \$3,932 | \$4,192 | \$4,282 | \$4,378 | \$4,438 | \$4,496 | \$4,556 | \$4,616 | \$4,676 | \$4,736 | \$4,796 | \$4,856 | \$4,916 | \$4,976 | \$5,036 | \$5,096 | \$5,156 | \$5,216 | \$5,276 | \$5,336 | \$5,396 | \$4,453 |         |
| 40  | \$2,167                       | \$2,405 | \$2,845 | \$3,075 | \$3,088 | \$3,153 | \$3,460 | \$3,609 | \$3,745 | \$3,881 | \$4,017 | \$4,152 | \$4,287 | \$4,422 | \$4,557 | \$4,692 | \$4,827 | \$4,962 | \$5,097 | \$5,232 | \$5,367 | \$5,502 | \$5,637 | \$5,772 | \$5,907 | \$6,042 | \$6,177 | \$6,312 | \$6,447 | \$6,582 | \$6,717 | \$6,852 | \$4,566 |         |
| 41  | \$2,700                       | \$2,707 | \$2,877 | \$3,525 | \$3,742 | \$3,309 | \$3,356 | \$3,507 | \$3,681 | \$3,896 | \$4,016 | \$4,149 | \$4,266 | \$4,332 | \$4,448 | \$4,520 | \$4,602 | \$4,674 | \$4,748 | \$4,822 | \$4,896 | \$4,970 | \$5,044 | \$5,118 | \$5,192 | \$5,266 | \$5,340 | \$5,414 | \$5,488 | \$5,562 | \$5,636 | \$5,710 | \$5,784 | \$6,666 |
| 42  | \$3,014                       | \$2,922 | \$3,385 | \$3,272 | \$3,814 | \$3,883 | \$3,737 | \$3,612 | \$3,831 | \$4,042 | \$4,075 | \$4,143 | \$4,242 | \$4,342 | \$4,442 | \$4,542 | \$4,642 | \$4,742 | \$4,842 | \$4,942 | \$5,042 | \$5,142 | \$5,242 | \$5,342 | \$5,442 | \$5,542 | \$5,642 | \$5,742 | \$5,842 | \$5,942 | \$6,042 | \$6,142 | \$6,242 | \$6,342 |
| 43  | \$3,162                       | \$4,480 | \$3,254 | \$3,289 | \$3,647 | \$3,805 | \$3,723 | \$3,552 | \$3,716 | \$3,691 | \$3,970 | \$4,157 | \$4,252 | \$4,348 | \$4,444 | \$4,540 | \$4,636 | \$4,732 | \$4,828 | \$4,924 | \$5,020 | \$5,116 | \$5,212 | \$5,308 | \$5,404 | \$5,500 | \$5,596 | \$5,692 | \$5,788 | \$5,884 | \$5,980 | \$6,076 | \$6,172 | \$6,268 |
| 44  | \$3,574                       | \$3,536 | \$3,764 | \$3,343 | \$3,522 | \$3,804 | \$3,585 | \$3,710 | \$3,691 | \$3,970 | \$4,157 | \$4,252 | \$4,348 | \$4,444 | \$4,540 | \$4,636 | \$4,732 | \$4,828 | \$4,924 | \$5,020 | \$5,116 | \$5,212 | \$5,308 | \$5,404 | \$5,500 | \$5,596 | \$5,692 | \$5,788 | \$5,884 | \$5,980 | \$6,076 | \$6,172 | \$6,268 | \$6,364 |
| 45  | \$3,361                       | \$3,669 | \$4,105 | \$4,374 | \$3,953 | \$3,682 | \$3,595 | \$3,646 | \$3,739 | \$3,720 | \$3,900 | \$4,022 | \$4,305 | \$4,435 | \$4,579 | \$4,786 | \$4,942 | \$5,098 | \$5,254 | \$5,410 | \$5,566 | \$5,722 | \$5,878 | \$6,034 | \$6,190 | \$6,346 | \$6,502 | \$6,658 | \$6,814 | \$6,970 | \$7,126 | \$7,282 | \$7,438 | \$7,594 |
| 46  | \$3,990                       | \$3,962 | \$3,910 | \$3,887 | \$3,863 | \$4,163 | \$3,736 | \$3,723 | \$3,703 | \$3,842 | \$4,041 | \$4,257 | \$4,455 | \$4,653 | \$4,851 | \$5,049 | \$5,247 | \$5,445 | \$5,643 | \$5,841 | \$6,039 | \$6,237 | \$6,435 | \$6,633 | \$6,831 | \$7,029 | \$7,227 | \$7,425 | \$7,623 | \$7,821 | \$8,019 | \$8,217 | \$8,415 | \$8,613 |
| 47  | \$3,151                       | \$3,302 | \$3,761 | \$4,112 | \$4,645 | \$4,315 | \$3,784 | \$4,133 | \$3,751 | \$4,001 | \$4,149 | \$4,297 | \$4,445 | \$4,593 | \$4,741 | \$4,889 | \$5,037 | \$5,185 | \$5,333 | \$5,481 | \$5,629 | \$5,777 | \$5,925 | \$6,073 | \$6,221 | \$6,369 | \$6,517 | \$6,665 | \$6,813 | \$6,961 | \$7,109 | \$7,257 | \$7,405 | \$7,553 |
| 48  | \$3,543                       | \$4,012 | \$4,112 | \$4,645 | \$4,315 | \$3,784 | \$4,133 | \$3,751 | \$4,001 | \$4,149 | \$4,297 | \$4,445 | \$4,593 | \$4,741 | \$4,889 | \$5,037 | \$5,185 | \$5,333 | \$5,481 | \$5,629 | \$5,777 | \$5,925 | \$6,073 | \$6,221 | \$6,369 | \$6,517 | \$6,665 | \$6,813 | \$6,961 | \$7,109 | \$7,257 | \$7,405 | \$7,553 | \$7,701 |
| 49  | \$3,830                       | \$3,555 | \$4,094 | \$4,241 | \$4,032 | \$4,330 | \$4,365 | \$3,781 | \$3,870 | \$4,018 | \$4,166 | \$4,314 | \$4,462 | \$4,610 | \$4,758 | \$4,906 | \$5,054 | \$5,202 | \$5,350 | \$5,498 | \$5,646 | \$5,794 | \$5,942 | \$6,090 | \$6,238 | \$6,386 | \$6,534 | \$6,682 | \$6,830 | \$6,978 | \$7,126 | \$7,274 | \$7,422 | \$7,570 |
| 50  | \$3,397                       | \$3,615 | \$4,539 | \$4,968 | \$4,280 | \$4,245 | \$4,339 | \$4,363 | \$3,721 | \$4,090 | \$4,180 | \$4,348 | \$4,484 | \$4,703 | \$4,848 | \$5,067 | \$5,286 | \$5,505 | \$5,724 | \$5,943 | \$6,162 | \$6,381 | \$6,600 | \$6,819 | \$7,038 | \$7,257 | \$7,476 | \$7,695 | \$7,914 | \$8,133 | \$8,352 | \$8,571 | \$8,790 | \$9,009 |
| 51  | \$3,990                       | \$3,376 | \$4,413 | \$4,343 | \$4,139 | \$3,866 | \$4,578 | \$4,704 | \$4,197 | \$4,133 | \$4,286 | \$4,375 | \$4,636 | \$5,027 | \$5,104 | \$4,944 | \$5,016 | \$5,147 | \$5,279 | \$5,410 | \$5,542 | \$5,673 | \$5,804 | \$5,935 | \$6,066 | \$6,197 | \$6,328 | \$6,459 | \$6,590 | \$6,721 | \$6,852 | \$6,983 | \$7,114 | \$7,245 |
| 52  | \$2,926                       | \$4,047 | \$3,527 | \$3,554 | \$3,581 | \$4,145 | \$4,148 | \$4,053 | \$4,366 | \$4,576 | \$4,101 | \$4,357 | \$4,602 | \$4,847 | \$5,092 | \$5,337 | \$5,582 | \$5,827 | \$6,072 | \$6,317 | \$6,562 | \$6,807 | \$7,052 | \$7,297 | \$7,542 | \$7,787 | \$8,032 | \$8,277 | \$8,522 | \$8,767 | \$9,012 | \$9,257 | \$9,5   |         |



**DoD Officers Selected Reserve Personnel by PEBD Years of Service and Age for FY 2018 Valuation**

[illegible]

Notes: Age is age nearest birthday as of the end of the fiscal year.





**All DoD Selected Reserve Personnel by PEBD Years of Service and Age for FY 2018 Valuation**

[illegible]

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 31.6

Notes: Age is age nearest birthday as of the end of the fiscal year.

**DoD Officers Annualized Average Monthly Selected Reserve Personnel Basic Pay by PEBD Years of Service and Age for FY 2018 Valuation**

[illegible]

Notes: Basic pay figures reflect the January, 2019, increase of 2.6%. Age is age nearest birthday as of the end of the fiscal year. Constructed using the 'Average Points Per Year' rates displayed in Appendix I, with assumed 13-point deduction for average points earned per year as part of reserve component membership.

**DoD Enlisted Annualized Average Monthly Selected Reserve Personnel Basic Pay by PEBD Years of Service and Age for FY 2018 Valuation**

[illegible]

Notes: Basic pay figures reflect the January, 2019, increase of 2.6%. Age is age nearest birthday as of the end of the fiscal year. Constructed using the Average Points Per Year rates displayed in Appendix H with assumed 13-point deduction for average points earned per year as part of reserve component membership.

## DoD Office of the Actuary

Notes: Basic pay figures reflect the January, 2019, increase of 2.6%. Age is age nearest birthday as of the end of the fiscal year. Constructed using the 'Average Points Per Year' rates displayed in Appendix H, with assumed 13-point deduction for average points earned per year as part of reserve component membership.

Notes: Basic pay figures reflect the January, 2019, increase of 2.6%. Age is age nearest birthday as of the end of the fiscal year. Constructed using the 'Average Points Per Year' sites displayed.

## DoD Officers Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2018 Valuation

| Age   | Completed Pay Entry Base Date (PEBD) Years Of Service (YOS) |    |     |     |     |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |     |        | Total |
|-------|-------------------------------------------------------------|----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|--------|-------|
|       | <19                                                         | 19 | 20  | 21  | 22  | 23  | 24    | 25    | 26    | 27    | 28    | 29    | 30    | 31    | 32    | 33    | 34    | 35    | 36    | 37    | 38    | 39    | 40  | 41+ |        |       |
| <37   | 0                                                           | 0  | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0      |       |
| 37    | 0                                                           | 11 | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 11     |       |
| 38    | 0                                                           | 1  | 22  | 4   | 0   | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 28     |       |
| 39    | 0                                                           | 1  | 26  | 38  | 4   | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 69     |       |
| 40    | 0                                                           | 2  | 13  | 37  | 36  | 7   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 96     |       |
| 41    | 0                                                           | 1  | 13  | 42  | 52  | 42  | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 153    |       |
| 42    | 0                                                           | 1  | 38  | 26  | 36  | 60  | 60    | 12    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 234    |       |
| 43    | 0                                                           | 3  | 61  | 70  | 33  | 41  | 89    | 78    | 8     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 383    |       |
| 44    | 0                                                           | 0  | 29  | 96  | 91  | 59  | 82    | 107   | 95    | 12    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 570    |       |
| 45    | 0                                                           | 3  | 18  | 46  | 152 | 140 | 55    | 83    | 135   | 80    | 13    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 725    |       |
| 46    | 0                                                           | 4  | 24  | 35  | 81  | 165 | 124   | 82    | 117   | 136   | 130   | 19    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 919    |       |
| 47    | 0                                                           | 1  | 11  | 37  | 48  | 74  | 168   | 211   | 114   | 122   | 197   | 217   | 31    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 1,232  |       |
| 48    | 0                                                           | 0  | 9   | 31  | 42  | 54  | 145   | 248   | 258   | 135   | 184   | 267   | 231   | 17    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 1,624  |       |
| 49    | 0                                                           | 2  | 7   | 17  | 35  | 45  | 52    | 130   | 304   | 381   | 160   | 227   | 259   | 281   | 32    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 1,934  |       |
| 50    | 0                                                           | 1  | 6   | 10  | 19  | 40  | 49    | 61    | 151   | 357   | 476   | 193   | 223   | 371   | 299   | 36    | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 2,292  |       |
| 51    | 0                                                           | 2  | 5   | 5   | 14  | 24  | 39    | 48    | 73    | 184   | 494   | 582   | 220   | 303   | 397   | 314   | 58    | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 2,763  |       |
| 52    | 0                                                           | 0  | 5   | 11  | 11  | 17  | 22    | 50    | 71    | 105   | 255   | 639   | 686   | 298   | 369   | 332   | 339   | 36    | 0     | 0     | 0     | 0     | 0   | 0   | 3,247  |       |
| 53    | 0                                                           | 0  | 3   | 6   | 10  | 22  | 21    | 33    | 58    | 101   | 123   | 330   | 687   | 746   | 344   | 315   | 375   | 367   | 40    | 0     | 0     | 0     | 0   | 0   | 3,583  |       |
| 54    | 0                                                           | 2  | 1   | 6   | 7   | 15  | 20    | 34    | 44    | 64    | 103   | 200   | 378   | 828   | 864   | 292   | 347   | 442   | 373   | 45    | 0     | 0     | 0   | 0   | 4,065  |       |
| 55    | 0                                                           | 1  | 3   | 7   | 5   | 10  | 16    | 27    | 37    | 60    | 95    | 151   | 239   | 473   | 903   | 884   | 342   | 392   | 437   | 426   | 36    | 0     | 0   | 0   | 4,545  |       |
| 56    | 0                                                           | 0  | 1   | 4   | 10  | 10  | 13    | 19    | 26    | 23    | 56    | 117   | 168   | 229   | 476   | 975   | 858   | 298   | 361   | 392   | 311   | 35    | 0   | 0   | 4,384  |       |
| 57    | 0                                                           | 0  | 2   | 3   | 18  | 12  | 12    | 13    | 26    | 29    | 47    | 87    | 121   | 188   | 298   | 502   | 825   | 897   | 381   | 395   | 373   | 257   | 18  | 0   | 4,506  |       |
| 58    | 0                                                           | 0  | 0   | 6   | 6   | 6   | 15    | 13    | 22    | 24    | 49    | 55    | 73    | 137   | 221   | 289   | 420   | 932   | 862   | 332   | 330   | 323   | 220 | 16  | 4,353  |       |
| 59    | 0                                                           | 0  | 1   | 3   | 6   | 4   | 11    | 13    | 14    | 29    | 32    | 56    | 54    | 87    | 151   | 215   | 243   | 506   | 805   | 837   | 302   | 262   | 287 | 251 | 4,172  |       |
| 60    | 0                                                           | 1  | 1   | 1   | 2   | 1   | 5     | 11    | 10    | 12    | 23    | 25    | 35    | 36    | 55    | 96    | 129   | 193   | 281   | 530   | 374   | 127   | 125 | 268 | 2,343  |       |
| 61    | 0                                                           | 0  | 0   | 1   | 0   | 0   | 0     | 0     | 3     | 2     | 0     | 4     | 4     | 2     | 5     | 6     | 8     | 7     | 14    | 20    | 32    | 25    | 8   | 15  | 156    |       |
| 62    | 0                                                           | 0  | 0   | 0   | 0   | 0   | 1     | 0     | 0     | 1     | 0     | 0     | 4     | 2     | 0     | 1     | 0     | 5     | 2     | 2     | 10    | 16    | 15  | 13  | 72     |       |
| 63+   | 0                                                           | 0  | 0   | 0   | 0   | 0   | 0     | 2     | 0     | 4     | 4     | 2     | 5     | 9     | 4     | 5     | 5     | 2     | 5     | 7     | 7     | 24    | 36  | 224 | 346    |       |
| Total | 0                                                           | 37 | 301 | 543 | 720 | 847 | 1,002 | 1,276 | 1,567 | 1,862 | 2,442 | 3,171 | 3,420 | 4,009 | 4,420 | 4,264 | 3,951 | 4,077 | 3,563 | 2,988 | 1,776 | 1,070 | 710 | 788 | 48,805 |       |

Average PEBD Years of Service: 31.9

Average Age: 53.9

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
 Age is age nearest birthday as of the end of the fiscal year.

## DoD Enlisted Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2018 Valuation

| Age   | Completed Pay Entry Base Date (PEBD) Years Of Service (YOS) |     |       |       |       |       |       |       |       |       |       |       |       |       |        |       |        |        |        |        |       |       |       |       |         | Total |
|-------|-------------------------------------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|--------|-------|-------|-------|-------|---------|-------|
|       | <19                                                         | 19  | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30    | 31    | 32     | 33    | 34     | 35     | 36     | 37     | 38    | 39    | 40    | 41+   |         |       |
| <37   | 0                                                           | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0       |       |
| 37    | 0                                                           | 113 | 16    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 129     |       |
| 38    | 0                                                           | 37  | 162   | 34    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 233     |       |
| 39    | 0                                                           | 32  | 245   | 344   | 40    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 660     |       |
| 40    | 0                                                           | 18  | 158   | 432   | 386   | 35    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 1,029   |       |
| 41    | 0                                                           | 16  | 113   | 326   | 515   | 358   | 31    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 1,360   |       |
| 42    | 0                                                           | 4   | 86    | 197   | 430   | 571   | 404   | 47    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 1,740   |       |
| 43    | 0                                                           | 9   | 52    | 168   | 272   | 407   | 660   | 486   | 49    | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 2,104   |       |
| 44    | 0                                                           | 4   | 50    | 113   | 191   | 269   | 603   | 769   | 585   | 44    | 0     | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 2,629   |       |
| 45    | 0                                                           | 12  | 35    | 113   | 148   | 200   | 388   | 640   | 877   | 481   | 67    | 0     | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 2,962   |       |
| 46    | 0                                                           | 5   | 34    | 78    | 132   | 181   | 271   | 470   | 742   | 895   | 812   | 101   | 0     | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 3,721   |       |
| 47    | 0                                                           | 3   | 32    | 87    | 113   | 181   | 228   | 358   | 584   | 893   | 1,291 | 1,085 | 112   | 0     | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 4,968   |       |
| 48    | 0                                                           | 7   | 36    | 73    | 117   | 161   | 228   | 351   | 439   | 696   | 1,102 | 1,632 | 1,236 | 70    | 0      | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 6,149   |       |
| 49    | 0                                                           | 5   | 25    | 56    | 88    | 118   | 183   | 286   | 387   | 467   | 720   | 1,274 | 1,727 | 1,298 | 113    | 0     | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 6,748   |       |
| 50    | 0                                                           | 9   | 20    | 58    | 100   | 108   | 148   | 203   | 288   | 394   | 570   | 920   | 1,335 | 1,977 | 1,422  | 131   | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 7,683   |       |
| 51    | 0                                                           | 7   | 16    | 42    | 59    | 96    | 139   | 210   | 227   | 311   | 392   | 614   | 902   | 1,513 | 2,049  | 1,456 | 259    | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 8,293   |       |
| 52    | 0                                                           | 4   | 24    | 37    | 69    | 85    | 126   | 177   | 218   | 276   | 352   | 537   | 699   | 1,134 | 1,668  | 1,760 | 1,799  | 183    | 0      | 0      | 0     | 0     | 0     | 0     | 9,150   |       |
| 53    | 0                                                           | 3   | 21    | 31    | 62    | 84    | 125   | 151   | 201   | 237   | 358   | 456   | 582   | 811   | 1,206  | 1,423 | 2,308  | 1,744  | 174    | 0      | 0     | 0     | 0     | 0     | 9,978   |       |
| 54    | 0                                                           | 4   | 24    | 44    | 63    | 71    | 120   | 162   | 188   | 224   | 291   | 369   | 491   | 694   | 967    | 1,106 | 1,892  | 2,510  | 1,976  | 251    | 0     | 0     | 0     | 0     | 11,450  |       |
| 55    | 0                                                           | 3   | 10    | 32    | 70    | 77    | 120   | 126   | 186   | 229   | 253   | 380   | 455   | 597   | 807    | 948   | 1,349  | 1,985  | 2,592  | 2,142  | 232   | 0     | 0     | 0     | 12,594  |       |
| 56    | 0                                                           | 3   | 14    | 52    | 66    | 74    | 96    | 134   | 172   | 207   | 246   | 270   | 370   | 510   | 652    | 778   | 1,070  | 1,418  | 1,991  | 2,715  | 2,118 | 157   | 0     | 0     | 13,114  |       |
| 57    | 0                                                           | 2   | 10    | 34    | 65    | 89    | 88    | 104   | 135   | 181   | 193   | 243   | 324   | 414   | 517    | 580   | 864    | 1,122  | 1,522  | 1,957  | 2,942 | 1,860 | 129   | 0     | 13,377  |       |
| 58    | 0                                                           | 2   | 7     | 22    | 50    | 83    | 71    | 86    | 123   | 200   | 197   | 221   | 262   | 363   | 421    | 513   | 720    | 936    | 1,159  | 1,528  | 2,200 | 2,429 | 1,509 | 137   | 13,240  |       |
| 59    | 0                                                           | 3   | 7     | 10    | 31    | 45    | 74    | 81    | 112   | 111   | 153   | 167   | 182   | 274   | 334    | 432   | 557    | 653    | 842    | 1,030  | 1,497 | 1,804 | 2,087 | 1,705 | 12,191  |       |
| 60    | 0                                                           | 0   | 3     | 7     | 11    | 29    | 32    | 40    | 51    | 64    | 74    | 74    | 103   | 155   | 178    | 211   | 249    | 320    | 417    | 541    | 620   | 733   | 997   | 1,993 | 6,902   |       |
| 61    | 0                                                           | 0   | 0     | 0     | 1     | 3     | 0     | 3     | 6     | 3     | 4     | 6     | 12    | 14    | 8      | 22    | 15     | 22     | 21     | 33     | 36    | 41    | 57    | 188   | 495     |       |
| 62    | 0                                                           | 0   | 0     | 0     | 0     | 2     | 0     | 0     | 1     | 2     | 4     | 0     | 0     | 3     | 9      | 9     | 2      | 9      | 18     | 13     | 17    | 19    | 22    | 135   | 262     |       |
| 63+   | 0                                                           | 0   | 0     | 0     | 0     | 0     | 2     | 0     | 0     | 5     | 8     | 6     | 8     | 10    | 18     | 24    | 31     | 39     | 37     | 29     | 64    | 64    | 82    | 764   | 1,191   |       |
| Total | 0                                                           | 306 | 1,202 | 2,391 | 3,081 | 3,330 | 4,139 | 4,887 | 5,574 | 5,922 | 7,089 | 8,355 | 8,802 | 9,837 | 10,368 | 9,387 | 11,115 | 10,941 | 10,749 | 10,238 | 9,726 | 7,107 | 4,883 | 4,923 | 154,352 |       |

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
 Age is age nearest birthday as of the end of the fiscal year.

Average Age: 53.3

Average PEBD Years of Service: 32.2

## All DoD Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2018 Valuation

| Age   | Completed Pay Entry Base Date (PEBD) Years Of Service (YOS) |     |       |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |       |       |       | Total   |
|-------|-------------------------------------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|
|       | <19                                                         | 19  | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29     | 30     | 31     | 32     | 33     | 34     | 35     | 36     | 37     | 38     | 39    | 40    | 41+   |         |
| <37   | 0                                                           | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0       |
| 37    | 0                                                           | 124 | 16    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 140     |
| 38    | 0                                                           | 38  | 185   | 38    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 261     |
| 39    | 0                                                           | 33  | 271   | 381   | 44    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 729     |
| 40    | 0                                                           | 20  | 171   | 469   | 423   | 42    | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 1,125   |
| 41    | 0                                                           | 17  | 126   | 368   | 567   | 401   | 33    | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 1,513   |
| 42    | 0                                                           | 5   | 125   | 223   | 467   | 631   | 464   | 59    | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 1,974   |
| 43    | 0                                                           | 12  | 113   | 238   | 305   | 448   | 749   | 564   | 57    | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 2,487   |
| 44    | 0                                                           | 4   | 79    | 209   | 282   | 327   | 685   | 876   | 680   | 56    | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 3,199   |
| 45    | 0                                                           | 15  | 53    | 159   | 300   | 340   | 443   | 723   | 1,012 | 561   | 80    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 3,687   |
| 46    | 0                                                           | 9   | 58    | 113   | 213   | 346   | 396   | 552   | 859   | 1,031 | 942   | 120    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 4,640   |
| 47    | 0                                                           | 4   | 43    | 124   | 161   | 256   | 396   | 568   | 699   | 1,015 | 1,489 | 1,301  | 143    | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 6,200   |
| 48    | 0                                                           | 7   | 45    | 104   | 159   | 215   | 374   | 600   | 697   | 831   | 1,287 | 1,900  | 1,467  | 87     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 7,773   |
| 49    | 0                                                           | 7   | 32    | 73    | 123   | 163   | 235   | 417   | 691   | 847   | 880   | 1,501  | 1,986  | 1,580  | 145    | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 8,682   |
| 50    | 0                                                           | 10  | 26    | 68    | 119   | 148   | 197   | 264   | 439   | 751   | 1,046 | 1,113  | 1,558  | 2,348  | 1,721  | 167    | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 9,975   |
| 51    | 0                                                           | 9   | 21    | 47    | 73    | 120   | 178   | 258   | 300   | 496   | 886   | 1,195  | 1,122  | 1,816  | 2,447  | 1,770  | 317    | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 11,056  |
| 52    | 0                                                           | 4   | 29    | 48    | 80    | 102   | 148   | 227   | 289   | 381   | 608   | 1,175  | 1,384  | 1,433  | 2,037  | 2,092  | 2,138  | 219    | 0      | 0      | 0      | 0     | 0     | 0     | 12,397  |
| 53    | 0                                                           | 3   | 24    | 37    | 72    | 106   | 146   | 184   | 259   | 338   | 481   | 786    | 1,269  | 1,558  | 1,550  | 1,738  | 2,683  | 2,111  | 214    | 0      | 0      | 0     | 0     | 0     | 13,561  |
| 54    | 0                                                           | 6   | 25    | 50    | 70    | 86    | 140   | 196   | 232   | 288   | 394   | 569    | 869    | 1,522  | 1,831  | 1,398  | 2,239  | 2,952  | 2,349  | 296    | 0      | 0     | 0     | 0     | 15,515  |
| 55    | 0                                                           | 4   | 13    | 39    | 75    | 87    | 136   | 153   | 223   | 289   | 348   | 531    | 694    | 1,071  | 1,710  | 1,832  | 1,691  | 2,377  | 3,029  | 2,568  | 268    | 0     | 0     | 0     | 17,139  |
| 56    | 0                                                           | 3   | 15    | 56    | 76    | 84    | 109   | 153   | 198   | 230   | 302   | 387    | 539    | 739    | 1,128  | 1,753  | 1,928  | 1,716  | 2,352  | 3,107  | 2,429  | 192   | 0     | 0     | 17,498  |
| 57    | 0                                                           | 2   | 12    | 37    | 83    | 101   | 100   | 117   | 161   | 210   | 241   | 330    | 445    | 602    | 816    | 1,082  | 1,689  | 2,019  | 1,903  | 2,352  | 3,315  | 2,118 | 147   | 0     | 17,883  |
| 58    | 0                                                           | 2   | 7     | 28    | 56    | 89    | 86    | 99    | 145   | 224   | 246   | 276    | 335    | 500    | 642    | 802    | 1,140  | 1,868  | 2,021  | 1,860  | 2,530  | 2,752 | 1,730 | 154   | 17,593  |
| 59    | 0                                                           | 3   | 8     | 13    | 37    | 49    | 85    | 94    | 126   | 140   | 185   | 223    | 236    | 361    | 485    | 647    | 800    | 1,159  | 1,647  | 1,867  | 1,994  | 2,066 | 2,374 | 1,957 | 16,363  |
| 60    | 0                                                           | 1   | 4     | 8     | 13    | 30    | 37    | 51    | 61    | 76    | 97    | 99     | 138    | 191    | 233    | 307    | 378    | 513    | 698    | 1,071  | 999    | 860   | 1,122 | 2,262 | 9,245   |
| 61    | 0                                                           | 0   | 0     | 1     | 1     | 3     | 0     | 3     | 9     | 5     | 4     | 10     | 16     | 16     | 13     | 28     | 23     | 29     | 35     | 53     | 68     | 66    | 65    | 203   | 651     |
| 62    | 0                                                           | 0   | 0     | 0     | 0     | 2     | 1     | 0     | 1     | 3     | 4     | 0      | 7      | 5      | 9      | 4      | 2      | 14     | 20     | 15     | 27     | 35    | 37    | 148   | 334     |
| 63+   | 0                                                           | 0   | 0     | 0     | 0     | 0     | 2     | 2     | 0     | 8     | 12    | 8      | 14     | 19     | 21     | 30     | 36     | 41     | 43     | 36     | 72     | 88    | 119   | 988   | 1,537   |
| Total | 0                                                           | 343 | 1,502 | 2,934 | 3,801 | 4,177 | 5,141 | 6,162 | 7,142 | 7,784 | 9,531 | 11,526 | 12,223 | 13,846 | 14,788 | 13,651 | 15,066 | 15,018 | 14,312 | 13,225 | 11,503 | 8,177 | 5,594 | 5,711 | 203,157 |

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.

Average Age: 53.4

Average PEBD Years of Service: 32.1

32.1

Average PEBD Years of Service:

Average Age:

53.4

Notes:

Data taken from the actuarial valuation file created by the DoD Office of the Actuary.

Age is age nearest birthday as of the end of the fiscal year.



## DoD Retired Military Valuation Data as of Year-End FY 2018

All Officers

| Age | Number       |               |               |                 | Average Annual Net Retired Pay |              |             |          | Average Annual Net Retired Pay |              |             |          |
|-----|--------------|---------------|---------------|-----------------|--------------------------------|--------------|-------------|----------|--------------------------------|--------------|-------------|----------|
|     | Non-Disabled | Perm Disabled | Temp Disabled | Reserve Retired | TERA Non-Dis                   | TERA Res Ret | CSB Non-Dis | CSB Dis  | TERA Non-Dis                   | TERA Res Ret | CSB Non-Dis | CSB Dis  |
| 16  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 17  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 18  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 19  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 20  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 21  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | \$0      | \$0                            | \$0          | \$0         | \$0      |
| 22  | 0            | 1             | 1             | 0               | 0                              | 0            | 0           | \$8,301  | \$0                            | \$0          | \$0         | \$0      |
| 23  | 0            | 1             | 1             | 0               | 0                              | 0            | 0           | \$5,998  | \$9,402                        | \$0          | \$0         | \$0      |
| 24  | 1            | 6             | 9             | 0               | 0                              | 0            | 0           | \$6,348  | \$13,135                       | \$0          | \$0         | \$0      |
| 25  | 0            | 14            | 12            | 0               | 0                              | 0            | 0           | \$5,316  | \$6,854                        | \$0          | \$0         | \$0      |
| 26  | 0            | 15            | 19            | 0               | 0                              | 0            | 0           | \$6,548  | \$9,233                        | \$0          | \$0         | \$0      |
| 27  | 0            | 27            | 25            | 0               | 0                              | 0            | 0           | \$7,839  | \$8,082                        | \$0          | \$0         | \$0      |
| 28  | 0            | 39            | 30            | 0               | 0                              | 0            | 0           | \$7,045  | \$8,340                        | \$0          | \$0         | \$0      |
| 29  | 0            | 88            | 33            | 0               | 0                              | 0            | 0           | \$8,281  | \$11,665                       | \$0          | \$0         | \$0      |
| 30  | 0            | 88            | 32            | 0               | 0                              | 0            | 0           | \$8,554  | \$11,881                       | \$0          | \$0         | \$0      |
| 31  | 0            | 108           | 26            | 0               | 0                              | 0            | 0           | \$9,443  | \$12,890                       | \$0          | \$0         | \$0      |
| 32  | 0            | 159           | 34            | 0               | 0                              | 0            | 0           | \$10,942 | \$13,962                       | \$0          | \$0         | \$0      |
| 33  | 0            | 184           | 48            | 0               | 0                              | 0            | 0           | \$11,249 | \$16,015                       | \$0          | \$0         | \$0      |
| 34  | 0            | 199           | 44            | 0               | 0                              | 0            | 0           | \$10,952 | \$17,028                       | \$0          | \$0         | \$0      |
| 35  | 4            | 249           | 53            | 0               | 0                              | 4            | 0           | \$11,896 | \$15,191                       | \$0          | \$0         | \$0      |
| 36  | 7            | 257           | 50            | 0               | 0                              | 7            | 1           | \$17,640 | \$12,455                       | \$0          | \$13,121    | \$30,792 |
| 37  | 15           | 278           | 50            | 0               | 343                            | 15           | 2           | \$23,678 | \$12,438                       | \$0          | \$13,406    | \$23,930 |
| 38  | 66           | 311           | 53            | 0               | 430                            | 32           | 4           | \$30,855 | \$14,011                       | \$0          | \$17,185    | \$12,777 |
| 39  | 268          | 336           | 56            | 0               | 660                            | 74           | 6           | \$32,945 | \$15,155                       | \$0          | \$23,105    | \$20,956 |
| 40  | 493          | 307           | 44            | 0               | 844                            | 121          | 13          | \$34,221 | \$18,018                       | \$0          | \$27,939    | \$28,078 |
| 41  | 799          | 387           | 48            | 0               | 1,234                          | 250          | 54          | \$35,157 | \$18,371                       | \$0          | \$29,584    | \$27,262 |
| 42  | 1,287        | 318           | 52            | 0               | 1,657                          | 362          | 88          | \$37,124 | \$20,264                       | \$0          | \$33,617    | \$29,923 |
| 43  | 1,990        | 346           | 50            | 0               | 2,386                          | 376          | 138         | \$40,264 | \$22,261                       | \$0          | \$37,494    | \$29,926 |
| 44  | 2,680        | 377           | 60            | 0               | 3,117                          | 299          | 189         | \$42,298 | \$31,579                       | \$0          | \$39,848    | \$30,451 |
| 45  | 3,339        | 393           | 50            | 0               | 3,782                          | 248          | 251         | \$43,929 | \$26,940                       | \$0          | \$42,024    | \$33,155 |
| 46  | 3,884        | 448           | 43            | 0               | 4,375                          | 207          | 317         | \$45,240 | \$27,206                       | \$0          | \$43,319    | \$34,193 |
| 47  | 4,776        | 458           | 41            | 0               | 5,275                          | 189          | 422         | \$46,435 | \$27,832                       | \$0          | \$44,750    | \$38,558 |
| 48  | 5,685        | 522           | 44            | 0               | 6,251                          | 128          | 505         | \$48,139 | \$29,760                       | \$0          | \$46,534    | \$39,311 |
| 49  | 6,210        | 500           | 28            | 0               | 6,738                          | 91           | 609         | \$49,486 | \$28,615                       | \$0          | \$47,883    | \$35,813 |
| 50  | 6,420        | 438           | 31            | 1               | 6,890                          | 65           | 484         | \$50,842 | \$29,650                       | \$45,104     | \$49,461    | \$36,725 |
| 51  | 6,891        | 424           | 18            | 0               | 7,333                          | 36           | 320         | \$52,356 | \$31,314                       | \$0          | \$51,125    | \$40,867 |
| 52  | 7,389        | 406           | 23            | 5               | 7,823                          | 38           | 233         | \$53,212 | \$30,224                       | \$47,966     | \$51,998    | \$43,995 |
| 53  | 8,084        | 421           | 16            | 8               | 8,529                          | 23           | 169         | \$54,320 | \$31,632                       | \$42,600     | \$53,173    | \$31,865 |
| 54  | 8,726        | 422           | 15            | 14              | 9,177                          | 33           | 0           | \$55,018 | \$31,435                       | \$47,901     | \$53,927    | \$46,786 |
| 55  | 9,072        | 405           | 16            | 57              | 9,550                          | 43           | 87          | \$54,636 | \$30,427                       | \$42,139     | \$53,547    | \$42,066 |
| 56  | 8,894        | 380           | 8             | 71              | 9,353                          | 72           | 64          | \$55,676 | \$28,299                       | \$46,672     | \$54,496    | \$27,817 |
| 57  | 8,872        | 358           | 10            | 144             | 9,384                          | 105          | 43          | \$56,133 | \$31,580                       | \$46,739     | \$55,036    | \$41,184 |
| 58  | 8,907        | 334           | 6             | 222             | 9,469                          | 219          | 31          | \$56,310 | \$32,791                       | \$45,141     | \$55,208    | \$29,039 |
| 59  | 9,037        | 333           | 1             | 394             | 9,765                          | 431          | 0           | \$55,940 | \$30,225                       | \$42,449     | \$54,518    | \$34,968 |
| 60  | 9,323        | 314           | 7             | 1,753           | 11,397                         | 711          | 14          | \$55,467 | \$30,042                       | \$33,391     | \$51,368    | \$21,904 |
| 61  | 9,740        | 330           | 0             | 4,956           | 15,026                         | 1,076        | 255         | \$54,890 | \$27,121                       | \$30,687     | \$46,297    | \$39,336 |
| 62  | 9,909        | 310           | 3             | 5,260           | 15,482                         | 1,307        | 13          | \$54,174 | \$30,798                       | \$29,616     | \$45,363    | \$10,360 |
| 63  | 10,255       | 279           | 2             | 5,435           | 15,971                         | 1,555        | 8           | \$53,226 | \$32,012                       | \$29,746     | \$44,864    | \$0      |
| 64  | 10,276       | 299           | 0             | 5,281           | 15,856                         | 1,499        | 7           | \$53,196 | \$28,184                       | \$28,707     | \$44,568    | \$0      |
| 65  | 10,486       | 307           | 0             | 5,296           | 16,089                         | 1,310        | 3           | \$53,064 | \$31,921                       | \$28,502     | \$44,576    | \$35,005 |
| 66  | 10,444       | 295           | 0             | 5,662           | 16,401                         | 1,014        | 4           | \$52,589 | \$30,220                       | \$0          | \$27,748    | \$39,931 |
| 67  | 10,200       | 279           | 0             | 5,513           | 15,992                         | 745          | 7           | \$52,080 | \$32,814                       | \$27,168     | \$43,156    | \$32,973 |
| 68  | 10,355       | 302           | 0             | 5,990           | 16,647                         | 462          | 1           | \$51,895 | \$34,021                       | \$0          | \$33,884    | \$18,443 |
| 69  | 10,891       | 340           | 0             | 6,839           | 18,070                         | 365          | 0           | \$51,572 | \$30,905                       | \$24,976     | \$41,118    | \$0      |
| 70  | 11,583       | 346           | 0             | 7,874           | 19,803                         | 290          | 107         | \$50,994 | \$30,210                       | \$24,494     | \$40,094    | \$17,727 |

## DoD Retired Military Valuation Data as of Year-End FY 2018

All Officers

| Age   | Number       |               |               |                 | TERRA   |         |         |         | CSB |              |               |               | Average Annual Net Retired Pay |          |          |          | TERRA    |          |              |               | CSB           |                 |       |         |         |         |     |
|-------|--------------|---------------|---------------|-----------------|---------|---------|---------|---------|-----|--------------|---------------|---------------|--------------------------------|----------|----------|----------|----------|----------|--------------|---------------|---------------|-----------------|-------|---------|---------|---------|-----|
|       | Non Disabled | Perm Disabled | Temp Disabled | Reserve Retired | Total   | Non-Dis | Res Ret | Non-Dis | Dis | Non Disabled | Perm Disabled | Temp Disabled | Reserve Retired                | Total    | Non-Dis  | Res Ret  | Non-Dis  | Dis      | Non Disabled | Perm Disabled | Temp Disabled | Reserve Retired | Total | Non-Dis | Res Ret | Non-Dis | Dis |
| 71    | 12,371       | 450           | 0             | 8,607           | 21,428  | 249     | 91      | 0       | 0   | 0            | \$51,184      | \$30,333      | \$0                            | \$24,711 | \$40,113 | \$36,113 | \$17,370 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 72    | 13,019       | 550           | 0             | 9,076           | 22,645  | 199     | 96      | 0       | 0   | 0            | \$52,098      | \$29,153      | \$0                            | \$24,529 | \$40,491 | \$37,133 | \$16,684 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 73    | 8,976        | 402           | 0             | 6,468           | 15,846  | 120     | 51      | 0       | 0   | 0            | \$52,763      | \$28,584      | \$0                            | \$25,055 | \$41,026 | \$37,152 | \$18,883 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 74    | 8,975        | 412           | 0             | 6,320           | 15,707  | 77      | 40      | 0       | 0   | 0            | \$52,920      | \$30,651      | \$0                            | \$24,441 | \$41,347 | \$38,700 | \$17,989 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 75    | 9,002        | 382           | 0             | 5,920           | 15,304  | 67      | 35      | 0       | 0   | 0            | \$52,571      | \$30,959      | \$0                            | \$24,059 | \$40,967 | \$39,831 | \$14,440 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 76    | 8,806        | 390           | 0             | 5,813           | 15,009  | 57      | 38      | 0       | 0   | 0            | \$52,401      | \$31,546      | \$0                            | \$23,277 | \$41,234 | \$41,818 | \$12,623 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 77    | 7,546        | 273           | 0             | 4,604           | 12,423  | 34      | 27      | 0       | 0   | 0            | \$52,542      | \$34,934      | \$0                            | \$23,372 | \$42,046 | \$38,227 | \$15,655 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 78    | 7,485        | 271           | 0             | 4,048           | 11,804  | 12      | 30      | 0       | 0   | 0            | \$53,037      | \$39,500      | \$0                            | \$23,147 | \$42,933 | \$49,289 | \$15,400 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 79    | 7,385        | 232           | 0             | 3,731           | 11,348  | 11      | 31      | 0       | 0   | 0            | \$53,132      | \$40,336      | \$0                            | \$22,338 | \$42,381 | \$51,649 | \$17,064 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 80    | 6,855        | 204           | 0             | 3,656           | 10,715  | 9       | 35      | 0       | 0   | 0            | \$54,445      | \$40,066      | \$0                            | \$21,760 | \$43,002 | \$50,839 | \$16,626 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 81    | 6,419        | 180           | 0             | 3,433           | 10,032  | 8       | 27      | 0       | 0   | 0            | \$54,757      | \$39,676      | \$0                            | \$21,535 | \$43,187 | \$40,956 | \$15,449 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 82    | 5,970        | 163           | 0             | 3,164           | 9,297   | 6       | 13      | 0       | 0   | 0            | \$55,683      | \$42,185      | \$0                            | \$21,190 | \$43,695 | \$42,198 | \$13,540 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 83    | 5,522        | 157           | 0             | 2,931           | 8,610   | 7       | 12      | 0       | 0   | 0            | \$56,981      | \$42,386      | \$0                            | \$21,094 | \$44,743 | \$44,261 | \$12,649 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 84    | 5,582        | 146           | 0             | 2,874           | 8,602   | 6       | 16      | 0       | 0   | 0            | \$57,428      | \$45,625      | \$0                            | \$21,460 | \$45,428 | \$54,215 | \$11,408 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 85    | 4,973        | 133           | 0             | 2,491           | 7,597   | 4       | 8       | 0       | 0   | 0            | \$58,043      | \$47,474      | \$0                            | \$21,287 | \$45,682 | \$42,515 | \$19,004 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 86    | 4,725        | 133           | 0             | 2,404           | 7,262   | 5       | 3       | 0       | 0   | 0            | \$59,401      | \$43,820      | \$0                            | \$20,249 | \$45,324 | \$50,181 | \$21,995 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 87    | 4,155        | 143           | 0             | 2,324           | 6,622   | 3       | 3       | 0       | 0   | 0            | \$60,210      | \$47,286      | \$0                            | \$19,766 | \$44,829 | \$29,424 | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 88    | 3,773        | 118           | 0             | 2,327           | 6,218   | 1       | 0       | 0       | 0   | 0            | \$61,102      | \$45,252      | \$0                            | \$19,141 | \$44,539 | \$45,610 | \$18,329 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 89    | 3,049        | 134           | 0             | 1,992           | 5,175   | 1       | 2       | 0       | 0   | 0            | \$62,658      | \$49,004      | \$0                            | \$19,328 | \$45,757 | \$37,908 | \$20,068 | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 90    | 2,392        | 108           | 0             | 1,543           | 4,043   | 1       | 4       | 0       | 0   | 0            | \$66,025      | \$38,999      | \$0                            | \$18,597 | \$43,067 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 91    | 1,560        | 71            | 0             | 956             | 2,587   | 1       | 0       | 0       | 0   | 0            | \$66,065      | \$40,382      | \$0                            | \$18,093 | \$42,246 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 92    | 1,037        | 57            | 0             | 792             | 1,886   | 1       | 0       | 0       | 0   | 0            | \$66,057      | \$36,246      | \$0                            | \$17,713 | \$43,128 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 93    | 976          | 55            | 0             | 817             | 1,848   | 0       | 0       | 0       | 0   | 0            | \$63,860      | \$36,832      | \$0                            | \$19,036 | \$42,355 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 94    | 951          | 63            | 0             | 891             | 1,905   | 0       | 0       | 0       | 0   | 0            | \$64,046      | \$35,659      | \$0                            | \$19,503 | \$41,875 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 95    | 788          | 86            | 0             | 725             | 1,599   | 0       | 0       | 0       | 0   | 0            | \$63,071      | \$45,896      | \$0                            | \$21,736 | \$42,274 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 96    | 643          | 79            | 0             | 628             | 1,350   | 0       | 0       | 0       | 0   | 0            | \$62,162      | \$42,078      | \$0                            | \$20,495 | \$43,040 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 97    | 547          | 83            | 0             | 471             | 1,101   | 0       | 0       | 0       | 0   | 0            | \$62,842      | \$32,409      | \$0                            | \$21,759 | \$38,872 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 98    | 413          | 67            | 0             | 365             | 845     | 0       | 0       | 0       | 0   | 0            | \$58,815      | \$44,059      | \$0                            | \$21,067 | \$42,828 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 99    | 260          | 42            | 0             | 246             | 548     | 0       | 0       | 0       | 0   | 0            | \$69,700      | \$23,508      | \$0                            | \$24,866 | \$48,955 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 100   | 164          | 28            | 0             | 171             | 363     | 0       | 0       | 0       | 0   | 0            | \$52,949      | \$0           | \$0                            | \$26,837 | \$39,893 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 101   | 88           | 15            | 0             | 74              | 177     | 0       | 0       | 0       | 0   | 0            | \$69,956      | \$87,900      | \$0                            | \$21,040 | \$44,195 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 102   | 35           | 8             | 0             | 46              | 89      | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 103   | 31           | 4             | 0             | 23              | 58      | 0       | 0       | 0       | 0   | 0            | \$44,400      | \$0           | \$0                            | \$31,140 | \$35,560 | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     | \$0 |
| 104   | 14           | 1             | 0             | 11              | 26      | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 105   | 7            | 0             | 0             | 7               | 14      | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 106   | 1            | 1             | 0             | 3               | 5       | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 107   | 0            | 0             | 0             | 0               | 0       | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 108   | 1            | 0             | 0             | 2               | 3       | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 109   | 0            | 0             | 0             | 0               | 0       | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| 110   | 0            | 0             | 0             | 0               | 0       | 0       | 0       | 0       | 0   | 0            | \$0           | \$0           | \$0                            | \$0      | \$0      | \$0      | \$0      | \$0      | \$0          | \$0           | \$0           | \$0             | \$0   | \$0     | \$0     | \$0     |     |
| Total | 371,754      | 19,379        | 1,184         | 150,729         | 543,046 | 14,681  | 2,708   | 4,272   | 442 |              | \$53,350      | \$28,685      | \$26,038                       | \$24,964 | \$44,531 | \$31,897 | \$19,954 | \$39,935 | \$33,832     |               |               |                 |       |         |         |         |     |
| 60+   | 257,958      | 9,042         | 12            | 149,813         | 416,825 | 11,213  | 2,705   | 65      | 5   |              | \$53,941      | \$33,842      | \$51,711                       | \$24,843 | \$43,047 | \$32,142 | \$19,912 | \$49,169 | \$18,701     |               |               |                 |       |         |         |         |     |
| 62+   | 238,895      | 8,398         | 5             | 143,104         | 390,402 | 9,426   | 2,407   | 43      | 2   |              | \$53,849      | \$34,248      | \$51,899                       | \$24,536 | \$42,679 | \$32,837 | \$19,610 | \$51,204 | \$5,180      |               |               |                 |       |         |         |         |     |
| 65+   | 208,455      | 7,510         | 0             | 127,128         | 343,093 | 5,065   | 1,514   | 15      | 1   |              | \$53,889      | \$34,715      | \$0                            | \$23,930 | \$42,369 | \$34,393 | \$18,625 | \$46,735 | \$0          |               |               |                 |       |         |         |         |     |

Notes: Age is retiree's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only retirees receiving payment from DoD.

Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.

Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.

TERA and CSB numbers and payments are included in the appropriate categories.

Pay amounts do not include the 12/1/18 cost of living increase of 2.8%.

## DoD Retired Military Valuation Data as of Year-End FY 2018

All Enlisted

| Age | Number       |               |                 |        | Average Annual Net Retired Pay |               |               |          | TERRA           |               |               |               | CSB      |             |
|-----|--------------|---------------|-----------------|--------|--------------------------------|---------------|---------------|----------|-----------------|---------------|---------------|---------------|----------|-------------|
|     | Non-Disabled | Temp Disabled | Reserve Retired | Total  | TERRA Non-Dis                  | TERRA Res Ret | TERRA Non-Dis | Total    | Reserve Retired | TERRA Non-Dis | TERRA Res Ret | TERRA Non-Dis | CSB Dis  | CSB Non-Dis |
| 16  | 0            | 0             | 0               | 0      | 0                              | 0             | 0             | \$0      | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 17  | 0            | 0             | 0               | 0      | 0                              | 0             | 0             | \$0      | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 18  | 0            | 0             | 0               | 0      | 0                              | 0             | 0             | \$0      | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 19  | 0            | 1             | 0               | 9      | 0                              | 0             | \$11,817      | \$10,518 | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 20  | 0            | 10            | 0               | 31     | 0                              | 0             | \$8,995       | \$7,883  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 21  | 0            | 32            | 0               | 78     | 0                              | 0             | \$5,546       | \$6,589  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 22  | 0            | 56            | 0               | 153    | 0                              | 0             | \$3,674       | \$8,616  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 23  | 0            | 79            | 0               | 202    | 0                              | 0             | \$3,192       | \$7,208  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 24  | 0            | 155           | 0               | 297    | 0                              | 0             | \$3,117       | \$6,403  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 25  | 0            | 239           | 0               | 427    | 0                              | 0             | \$3,705       | \$6,192  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 26  | 0            | 335           | 0               | 524    | 0                              | 0             | \$3,604       | \$5,541  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 27  | 1            | 583           | 0               | 780    | 0                              | 0             | \$2,761       | \$5,281  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 28  | 0            | 843           | 0               | 1,097  | 0                              | 0             | \$3,029       | \$6,070  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 29  | 0            | 1,111         | 0               | 1,340  | 0                              | 0             | \$3,479       | \$5,185  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 30  | 0            | 1,414         | 0               | 1,651  | 0                              | 0             | \$3,752       | \$5,679  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 31  | 1            | 1,810         | 0               | 2,070  | 0                              | 0             | \$3,899       | \$5,986  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 32  | 1            | 2,323         | 0               | 2,602  | 0                              | 0             | \$4,306       | \$7,313  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 33  | 3            | 2,635         | 0               | 2,908  | 2                              | 0             | \$4,497       | \$7,932  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 34  | 12           | 2,962         | 0               | 3,268  | 12                             | 0             | \$5,039       | \$8,069  | \$0             | \$0           | \$0           | \$0           | \$1,454  | \$0         |
| 35  | 70           | 2,997         | 0               | 3,317  | 69                             | 0             | \$5,397       | \$8,762  | \$0             | \$0           | \$0           | \$0           | \$10,359 | \$0         |
| 36  | 148          | 2,971         | 0               | 3,380  | 146                            | 0             | \$5,979       | \$9,288  | \$0             | \$0           | \$0           | \$0           | \$0      | \$0         |
| 37  | 324          | 2,710         | 0               | 3,262  | 320                            | 0             | \$15,759      | \$6,286  | \$0             | \$0           | \$0           | \$0           | \$19,363 | \$15,622    |
| 38  | 1,257        | 2,521         | 0               | 3,989  | 630                            | 0             | \$19,150      | \$6,663  | \$0             | \$0           | \$0           | \$0           | \$20,266 | \$15,683    |
| 39  | 3,668        | 2,383         | 0               | 6,249  | 911                            | 0             | \$21,137      | \$7,650  | \$0             | \$0           | \$0           | \$0           | \$2,556  | \$13,876    |
| 40  | 6,242        | 2,231         | 0               | 8,672  | 958                            | 0             | \$21,895      | \$8,320  | \$0             | \$0           | \$0           | \$0           | \$904    | \$16,182    |
| 41  | 8,195        | 2,069         | 0               | 10,568 | 939                            | 0             | \$22,402      | \$9,717  | \$0             | \$0           | \$0           | \$0           | \$981    | \$17,859    |
| 42  | 9,698        | 2,090         | 0               | 11,977 | 757                            | 0             | \$23,014      | \$11,009 | \$0             | \$0           | \$0           | \$0           | \$1,244  | \$19,191    |
| 43  | 11,534       | 2,019         | 0               | 13,726 | 548                            | 0             | \$23,414      | \$12,033 | \$0             | \$0           | \$0           | \$0           | \$1,512  | \$20,129    |
| 44  | 13,478       | 2,032         | 0               | 15,668 | 383                            | 0             | \$23,926      | \$13,161 | \$0             | \$0           | \$0           | \$0           | \$1,464  | \$22,547    |
| 45  | 15,154       | 1,977         | 0               | 17,268 | 258                            | 0             | \$24,345      | \$13,747 | \$0             | \$0           | \$0           | \$0           | \$1,385  | \$22,950    |
| 46  | 16,866       | 2,079         | 0               | 19,074 | 184                            | 0             | \$24,790      | \$14,221 | \$0             | \$0           | \$0           | \$0           | \$1,254  | \$26,493    |
| 47  | 19,340       | 2,091         | 0               | 21,532 | 138                            | 0             | \$24,951      | \$14,843 | \$0             | \$0           | \$0           | \$0           | \$1,148  | \$26,448    |
| 48  | 21,347       | 2,149         | 0               | 23,598 | 113                            | 0             | \$25,087      | \$14,569 | \$0             | \$0           | \$0           | \$0           | \$1,152  | \$30,306    |
| 49  | 21,507       | 1,930         | 0               | 23,540 | 62                             | 0             | \$25,269      | \$14,909 | \$0             | \$0           | \$0           | \$0           | \$993    | \$27,841    |
| 50  | 22,664       | 1,814         | 0               | 24,546 | 48                             | 0             | \$25,733      | \$15,137 | \$0             | \$0           | \$0           | \$0           | \$760    | \$26,490    |
| 51  | 24,452       | 1,681         | 0               | 26,186 | 43                             | 0             | \$25,987      | \$14,823 | \$30,126        | \$0           | \$0           | \$0           | \$772    | \$33,668    |
| 52  | 26,903       | 1,666         | 0               | 28,622 | 52                             | 0             | \$26,110      | \$14,289 | \$25,258        | \$0           | \$0           | \$0           | \$845    | \$33,999    |
| 53  | 29,245       | 1,644         | 0               | 30,924 | 171                            | 0             | \$26,440      | \$13,666 | \$25,473        | \$0           | \$0           | \$0           | \$870    | \$40,469    |
| 54  | 32,043       | 1,638         | 0               | 33,717 | 370                            | 0             | \$25,905      | \$14,364 | \$26,013        | \$0           | \$0           | \$0           | \$13,120 | \$737       |
| 55  | 34,035       | 1,628         | 0               | 35,707 | 835                            | 0             | \$25,365      | \$14,281 | \$23,820        | \$0           | \$0           | \$0           | \$1,052  | \$27,440    |
| 56  | 35,636       | 1,665         | 0               | 37,355 | 1,583                          | 0             | \$25,053      | \$14,484 | \$23,856        | \$0           | \$0           | \$0           | \$902    | \$34,500    |
| 57  | 36,893       | 1,536         | 0               | 38,504 | 2,796                          | 0             | \$24,704      | \$14,184 | \$24,744        | \$0           | \$0           | \$0           | \$847    | \$26,897    |
| 58  | 37,498       | 1,461         | 0               | 39,120 | 3,819                          | 0             | \$24,108      | \$13,281 | \$24,562        | \$0           | \$0           | \$0           | \$372    | \$31,968    |
| 59  | 36,770       | 1,415         | 0               | 39,252 | 4,397                          | 0             | \$23,817      | \$13,445 | \$24,521        | \$0           | \$0           | \$0           | \$619    | \$0         |
| 60  | 35,522       | 1,291         | 0               | 37,033 | 4,687                          | 0             | \$23,529      | \$13,606 | \$21,715        | \$0           | \$0           | \$0           | \$891    | \$0         |
| 61  | 34,547       | 1,382         | 0               | 36,359 | 4,576                          | 0             | \$23,231      | \$13,913 | \$14,789        | \$0           | \$0           | \$0           | \$584    | \$0         |
| 62  | 32,783       | 1,322         | 0               | 34,638 | 3,888                          | 0             | \$23,106      | \$13,913 | \$13,168        | \$0           | \$0           | \$0           | \$520    | \$0         |
| 63  | 31,676       | 1,315         | 0               | 33,494 | 2,954                          | 0             | \$23,126      | \$14,059 | \$12,654        | \$0           | \$0           | \$0           | \$1,165  | \$0         |
| 64  | 31,103       | 1,333         | 0               | 33,688 | 2,171                          | 0             | \$23,063      | \$13,800 | \$12,309        | \$0           | \$0           | \$0           | \$1,779  | \$0         |
| 65  | 29,683       | 1,296         | 0               | 31,437 | 1,493                          | 0             | \$23,025      | \$13,911 | \$12,234        | \$0           | \$0           | \$0           | \$1,016  | \$0         |
| 66  | 29,453       | 1,364         | 0               | 31,020 | 1,062                          | 0             | \$23,271      | \$13,756 | \$12,097        | \$0           | \$0           | \$0           | \$1,732  | \$0         |
| 67  | 26,749       | 1,348         | 0               | 28,982 | 417                            | 0             | \$23,389      | \$13,555 | \$11,669        | \$0           | \$0           | \$0           | \$1,732  | \$0         |
| 68  | 25,461       | 1,603         | 0               | 27,982 | 658                            | 0             | \$23,726      | \$12,251 | \$11,648        | \$0           | \$0           | \$0           | \$15,857 | \$7,490     |
| 69  | 25,486       | 1,991         | 0               | 27,957 | 497                            | 0             | \$24,079      | \$10,313 | \$11,447        | \$0           | \$0           | \$0           | \$16,342 | \$7,434     |
| 70  | 25,321       | 2,269         | 0               | 27,959 | 410                            | 0             | \$24,447      | \$9,373  | \$11,129        | \$0           | \$0           | \$0           | \$16,789 | \$7,150     |
|     |              |               |                 |        |                                |               |               | \$18,873 | \$11,235        | \$17,279      | \$7,184       |               |          |             |

## DoD Retired Military Valuation Data as of Year-End FY 2018

All Enlisted

| Age   | Number       |               |               |                 |           | Average Annual Net Retired Pay |               |             |         |              | TERRA         |               |                 |          |               | CSB           |             |          |         |     |
|-------|--------------|---------------|---------------|-----------------|-----------|--------------------------------|---------------|-------------|---------|--------------|---------------|---------------|-----------------|----------|---------------|---------------|-------------|----------|---------|-----|
|       | Non-Disabled | Perm Disabled | Temp Disabled | Reserve Retired | Total     | TERRA Non-Dis                  | TERRA Res Ret | CSB Non-Dis | CSB Dis | Non-Disabled | Perm Disabled | Temp Disabled | Reserve Retired | Total    | TERRA Non-Dis | TERRA Res Ret | CSB Non-Dis | CSB Dis  | Non-Dis | Dis |
| 71    | 25,051       | 2,366         | 0             | 16,477          | 43,894    | 352                            | 387           | 0           | 0       | \$24,916     | \$9,438       | \$0           | \$11,303        | \$18,972 | \$17,745      | \$7,430       | \$0         | \$0      | \$0     | \$0 |
| 72    | 24,381       | 2,005         | 0             | 16,194          | 42,580    | 287                            | 344           | 0           | 0       | \$25,264     | \$10,135      | \$0           | \$10,945        | \$19,106 | \$18,543      | \$7,210       | \$0         | \$0      | \$0     | \$0 |
| 73    | 16,728       | 1,276         | 0             | 11,108          | 29,112    | 169                            | 227           | 0           | 0       | \$25,286     | \$11,909      | \$0           | \$10,953        | \$19,602 | \$18,602      | \$7,342       | \$0         | \$0      | \$0     | \$0 |
| 74    | 16,682       | 1,076         | 0             | 10,155          | 27,913    | 115                            | 192           | 0           | 0       | \$25,342     | \$13,197      | \$0           | \$10,950        | \$19,638 | \$19,646      | \$7,103       | \$0         | \$0      | \$0     | \$0 |
| 75    | 17,614       | 881           | 0             | 9,486           | 27,981    | 102                            | 160           | 0           | 0       | \$25,295     | \$14,819      | \$0           | \$10,827        | \$20,060 | \$19,961      | \$7,767       | \$0         | \$0      | \$0     | \$0 |
| 76    | 18,771       | 829           | 0             | 8,923           | 28,523    | 68                             | 148           | 0           | 0       | \$25,087     | \$15,740      | \$0           | \$10,716        | \$20,319 | \$19,918      | \$7,340       | \$0         | \$0      | \$0     | \$0 |
| 77    | 16,997       | 702           | 0             | 6,928           | 24,627    | 48                             | 119           | 0           | 0       | \$24,962     | \$15,723      | \$0           | \$10,260        | \$20,798 | \$20,798      | \$6,755       | \$0         | \$0      | \$0     | \$0 |
| 78    | 16,127       | 602           | 0             | 5,796           | 22,525    | 26                             | 78            | 0           | 0       | \$24,789     | \$17,929      | \$0           | \$10,097        | \$20,825 | \$21,706      | \$6,610       | \$0         | \$0      | \$0     | \$0 |
| 79    | 15,452       | 486           | 0             | 5,606           | 21,544    | 16                             | 87            | 0           | 0       | \$24,618     | \$17,777      | \$0           | \$10,019        | \$20,665 | \$22,635      | \$5,971       | \$0         | \$0      | \$0     | \$0 |
| 80    | 15,651       | 494           | 0             | 5,552           | 21,497    | 25                             | 95            | 0           | 0       | \$24,747     | \$18,049      | \$0           | \$9,806         | \$20,873 | \$21,848      | \$6,431       | \$0         | \$0      | \$0     | \$0 |
| 81    | 16,263       | 448           | 0             | 5,123           | 21,834    | 8                              | 112           | 0           | 0       | \$24,989     | \$18,340      | \$0           | \$9,738         | \$21,274 | \$17,975      | \$5,545       | \$0         | \$0      | \$0     | \$0 |
| 82    | 15,283       | 405           | 0             | 4,658           | 20,346    | 8                              | 88            | 0           | 0       | \$25,371     | \$17,871      | \$0           | \$9,857         | \$21,670 | \$21,469      | \$5,554       | \$0         | \$0      | \$0     | \$0 |
| 83    | 14,156       | 379           | 0             | 4,275           | 18,810    | 2                              | 95            | 0           | 0       | \$25,462     | \$18,096      | \$0           | \$9,927         | \$21,783 | \$24,359      | \$6,394       | \$0         | \$0      | \$0     | \$0 |
| 84    | 12,403       | 396           | 0             | 3,528           | 16,327    | 0                              | 52            | 0           | 0       | \$25,444     | \$18,283      | \$0           | \$10,200        | \$22,052 | \$20,947      | \$5,947       | \$0         | \$0      | \$0     | \$0 |
| 85    | 10,931       | 373           | 0             | 2,813           | 14,117    | 0                              | 50            | 0           | 0       | \$25,850     | \$17,254      | \$0           | \$10,671        | \$22,598 | \$20,598      | \$6,175       | \$0         | \$0      | \$0     | \$0 |
| 86    | 9,822        | 426           | 0             | 2,504           | 12,752    | 0                              | 7             | 0           | 0       | \$26,125     | \$16,595      | \$0           | \$10,398        | \$22,718 | \$22,598      | \$5,569       | \$0         | \$0      | \$0     | \$0 |
| 87    | 8,807        | 440           | 0             | 2,323           | 11,570    | 0                              | 3             | 0           | 0       | \$26,195     | \$15,275      | \$0           | \$10,352        | \$22,597 | \$22,597      | \$9,069       | \$0         | \$0      | \$0     | \$0 |
| 88    | 8,008        | 447           | 0             | 2,050           | 10,505    | 0                              | 1             | 0           | 0       | \$25,911     | \$16,832      | \$0           | \$10,245        | \$22,467 | \$22,467      | \$5,133       | \$0         | \$0      | \$0     | \$0 |
| 89    | 6,576        | 419           | 0             | 1,521           | 8,516     | 0                              | 0             | 0           | 0       | \$26,018     | \$17,004      | \$0           | \$10,380        | \$22,781 | \$22,781      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 90    | 4,709        | 301           | 0             | 1,100           | 6,110     | 0                              | 0             | 0           | 0       | \$25,884     | \$17,496      | \$0           | \$10,799        | \$22,755 | \$22,755      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 91    | 3,374        | 188           | 0             | 648             | 4,210     | 0                              | 0             | 0           | 0       | \$25,680     | \$19,062      | \$0           | \$11,161        | \$23,149 | \$23,149      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 92    | 2,141        | 96            | 0             | 534             | 2,771     | 0                              | 0             | 0           | 0       | \$25,171     | \$19,877      | \$0           | \$11,108        | \$22,278 | \$22,278      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 93    | 1,559        | 72            | 0             | 401             | 2,032     | 0                              | 0             | 0           | 0       | \$25,132     | \$19,864      | \$0           | \$11,276        | \$22,211 | \$22,211      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 94    | 1,197        | 66            | 0             | 312             | 1,575     | 0                              | 0             | 0           | 0       | \$25,436     | \$20,625      | \$0           | \$11,079        | \$22,391 | \$22,391      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 95    | 869          | 31            | 0             | 211             | 1,111     | 0                              | 0             | 0           | 0       | \$24,917     | \$21,756      | \$0           | \$11,056        | \$22,196 | \$22,196      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 96    | 596          | 32            | 0             | 141             | 769       | 0                              | 0             | 0           | 0       | \$24,012     | \$19,512      | \$0           | \$10,916        | \$21,424 | \$21,424      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 97    | 374          | 28            | 0             | 115             | 517       | 0                              | 0             | 0           | 0       | \$24,063     | \$26,283      | \$0           | \$11,192        | \$21,320 | \$21,320      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 98    | 268          | 16            | 0             | 69              | 353       | 0                              | 0             | 0           | 0       | \$24,635     | \$29,353      | \$0           | \$10,119        | \$22,011 | \$22,011      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 99    | 186          | 15            | 0             | 44              | 245       | 0                              | 0             | 0           | 0       | \$25,223     | \$25,899      | \$0           | \$12,047        | \$22,898 | \$22,898      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 100   | 97           | 6             | 0             | 24              | 127       | 0                              | 0             | 0           | 0       | \$24,860     | \$34,084      | \$0           | \$11,641        | \$22,798 | \$22,798      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 101   | 44           | 1             | 0             | 15              | 60        | 0                              | 0             | 0           | 0       | \$22,260     | \$5,172       | \$0           | \$11,974        | \$19,404 | \$19,404      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 102   | 27           | 0             | 0             | 9               | 36        | 0                              | 0             | 0           | 0       | \$23,635     | \$0           | \$0           | \$12,947        | \$20,963 | \$20,963      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 103   | 15           | 0             | 0             | 6               | 21        | 0                              | 0             | 0           | 0       | \$21,262     | \$0           | \$0           | \$12,688        | \$18,812 | \$18,812      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 104   | 9            | 2             | 0             | 2               | 13        | 0                              | 0             | 0           | 0       | \$22,345     | \$2,464       | \$0           | \$6,533         | \$16,854 | \$16,854      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 105   | 1            | 0             | 0             | 0               | 1         | 0                              | 0             | 0           | 0       | \$30,768     | \$0           | \$0           | \$0             | \$30,768 | \$30,768      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 106   | 1            | 0             | 0             | 0               | 1         | 0                              | 0             | 0           | 0       | \$15,984     | \$0           | \$0           | \$0             | \$15,984 | \$15,984      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 107   | 1            | 0             | 0             | 0               | 1         | 0                              | 0             | 0           | 0       | \$21,072     | \$0           | \$0           | \$0             | \$21,072 | \$21,072      | \$0           | \$0         | \$0      | \$0     | \$0 |
| 108   | 0            | 0             | 0             | 0               | 0         | 0                              | 0             | 0           | 0       | \$0          | \$0           | \$0           | \$0             | \$0      | \$0           | \$0           | \$0         | \$0      | \$0     | \$0 |
| 109   | 0            | 0             | 0             | 0               | 0         | 0                              | 0             | 0           | 0       | \$0          | \$0           | \$0           | \$0             | \$0      | \$0           | \$0           | \$0         | \$0      | \$0     | \$0 |
| 110   | 0            | 0             | 0             | 0               | 0         | 0                              | 0             | 0           | 0       | \$0          | \$0           | \$0           | \$0             | \$0      | \$0           | \$0           | \$0         | \$0      | \$0     | \$0 |
| Total | 1,093,940    | 96,923        | 5,775         | 261,670         | 1,458,308 | 45,027                         | 6,128         | 410         | 71,400  | \$24,537     | \$10,985      | \$11,845      | \$11,340        | \$21,218 | \$15,071      | \$7,455       | \$1,028     | \$23,096 | \$0     | \$0 |
| 60+   | 628,955      | 31,818        | 17            | 261,006         | 921,796   | 24,483                         | 6,122         | 0           | 746     | \$24,301     | \$13,424      | \$26,403      | \$11,310        | \$20,247 | \$15,643      | \$7,451       | \$686       | \$0      | \$0     | \$0 |
| 62+   | 558,886      | 29,145        | 4             | 245,740         | 833,775   | 15,220                         | 5,561         | 0           | 361     | \$24,416     | \$13,395      | \$32,865      | \$11,172        | \$20,127 | \$15,996      | \$7,323       | \$826       | \$0      | \$0     | \$0 |
| 65+   | 463,324      | 25,175        | 0             | 210,240         | 698,739   | 6,207                          | 4,340         | 0           | 67      | \$24,687     | \$13,312      | \$0           | \$10,964        | \$20,148 | \$16,556      | \$7,189       | \$698       | \$0      | \$0     | \$0 |

Notes: Age is retiree's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only retirees receiving payment from DoD.

Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.

Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.

TERA and CSB numbers and payments are included in the appropriate categories.

Pay amounts do not include the 12/1/18 cost of living increase of 2.8%.

## DoD Retired Military Valuation Data as of Year-End FY 2018

AllDoD

| Age | Number       |               |               |                 | Average Annual Net Retired Pay |              |             |         | CSB      |          |          |          |
|-----|--------------|---------------|---------------|-----------------|--------------------------------|--------------|-------------|---------|----------|----------|----------|----------|
|     | Non-Disabled | Perm Disabled | Temp Disabled | Reserve Retired | TERA Non-Dis                   | TERA Res Ret | CSB Non-Dis | CSB Dis | Non-Dis  | Res Ret  | Dis      | Dis      |
| 16  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 17  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 18  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 19  | 0            | 0             | 0             | 0               | 0                              | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 20  | 0            | 10            | 21            | 0               | 31                             | 0            | 0           | 0       | \$10,518 | \$7,883  | \$0      | \$0      |
| 21  | 0            | 32            | 46            | 0               | 78                             | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 22  | 0            | 57            | 97            | 0               | 154                            | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 23  | 0            | 80            | 124           | 0               | 204                            | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 24  | 1            | 161           | 144           | 0               | 306                            | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 25  | 0            | 253           | 200           | 0               | 453                            | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 26  | 0            | 350           | 208           | 0               | 558                            | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 27  | 1            | 610           | 221           | 0               | 832                            | 0            | 1           | 0       | \$0      | \$0      | \$0      | \$0      |
| 28  | 0            | 882           | 284           | 0               | 1,166                          | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 29  | 0            | 1,199         | 262           | 0               | 1,461                          | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 30  | 0            | 1,502         | 269           | 0               | 1,771                          | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 31  | 1            | 1,918         | 285           | 0               | 2,204                          | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 32  | 1            | 2,482         | 312           | 0               | 2,795                          | 0            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 33  | 3            | 3,819         | 318           | 0               | 3,140                          | 2            | 0           | 0       | \$0      | \$0      | \$0      | \$0      |
| 34  | 12           | 3,161         | 338           | 0               | 3,511                          | 12           | 0           | 2       | \$16,830 | \$14,881 | \$1,454  | \$1,454  |
| 35  | 74           | 3,246         | 303           | 0               | 3,623                          | 73           | 0           | 2       | \$16,715 | \$14,881 | \$1,454  | \$1,454  |
| 36  | 155          | 3,228         | 311           | 0               | 3,694                          | 153          | 0           | 4       | \$16,054 | \$14,881 | \$1,454  | \$1,454  |
| 37  | 339          | 2,988         | 278           | 0               | 3,605                          | 335          | 0           | 13      | \$16,109 | \$14,881 | \$1,454  | \$1,454  |
| 38  | 1,323        | 2,832         | 264           | 0               | 4,419                          | 662          | 0           | 175     | \$19,734 | \$17,470 | \$2,264  | \$2,264  |
| 39  | 3,936        | 2,719         | 245           | 0               | 6,900                          | 985          | 0           | 699     | \$21,941 | \$19,487 | \$2,454  | \$2,454  |
| 40  | 6,735        | 2,538         | 243           | 0               | 9,516                          | 1,079        | 0           | 1,303   | \$22,797 | \$19,884 | \$2,913  | \$2,913  |
| 41  | 8,994        | 2,556         | 252           | 0               | 11,802                         | 1,189        | 0           | 1,928   | \$23,535 | \$20,122 | \$3,413  | \$3,413  |
| 42  | 10,985       | 2,408         | 241           | 0               | 13,634                         | 1,119        | 0           | 2,312   | \$24,667 | \$21,292 | \$3,375  | \$3,375  |
| 43  | 13,524       | 2,365         | 223           | 0               | 16,112                         | 924          | 0           | 3,346   | \$25,464 | \$22,663 | \$2,801  | \$2,801  |
| 44  | 16,138       | 2,169         | 218           | 0               | 18,785                         | 682          | 0           | 4,284   | \$26,073 | \$24,858 | \$1,215  | \$1,215  |
| 45  | 18,493       | 2,370         | 187           | 0               | 21,050                         | 506          | 0           | 5,343   | \$27,881 | \$24,895 | \$2,986  | \$2,986  |
| 46  | 20,750       | 2,527         | 172           | 0               | 23,449                         | 391          | 0           | 6,254   | \$28,618 | \$26,165 | \$2,453  | \$2,453  |
| 47  | 24,116       | 2,549         | 142           | 0               | 26,807                         | 327          | 0           | 7,398   | \$29,205 | \$27,760 | \$1,445  | \$1,445  |
| 48  | 27,032       | 2,671         | 146           | 0               | 29,849                         | 241          | 0           | 8,731   | \$30,935 | \$28,858 | \$2,077  | \$2,077  |
| 49  | 27,717       | 2,450         | 111           | 0               | 30,278                         | 153          | 0           | 9,188   | \$30,695 | \$27,644 | \$3,051  | \$3,051  |
| 50  | 29,084       | 2,252         | 99            | 1               | 31,436                         | 113          | 0           | 7,453   | \$31,275 | \$31,421 | \$0      | \$0      |
| 51  | 31,343       | 2,105         | 70            | 1               | 33,519                         | 79           | 0           | 5,055   | \$31,784 | \$30,298 | \$1,486  | \$1,486  |
| 52  | 34,292       | 2,072         | 76            | 5               | 36,445                         | 90           | 0           | 3,328   | \$31,950 | \$30,826 | \$1,124  | \$1,124  |
| 53  | 37,329       | 2,065         | 47            | 12              | 39,453                         | 194          | 1           | 2,369   | \$32,242 | \$29,441 | \$2,801  | \$2,801  |
| 54  | 40,769       | 2,060         | 44            | 21              | 42,894                         | 403          | 0           | 1,753   | \$32,136 | \$31,788 | \$3,348  | \$3,348  |
| 55  | 43,107       | 2,033         | 42            | 75              | 45,257                         | 878          | 1           | 1,269   | \$31,525 | \$29,259 | \$2,276  | \$2,276  |
| 56  | 44,530       | 2,045         | 28            | 105             | 46,708                         | 1,655        | 0           | 939     | \$31,169 | \$30,573 | \$5,136  | \$5,136  |
| 57  | 45,765       | 1,894         | 27            | 202             | 47,888                         | 2,901        | 1           | 701     | \$30,797 | \$30,464 | \$3,333  | \$3,333  |
| 58  | 46,405       | 1,795         | 17            | 372             | 48,589                         | 4,038        | 1           | 463     | \$30,289 | \$32,108 | \$1,819  | \$1,819  |
| 59  | 45,807       | 1,748         | 7             | 786             | 48,348                         | 4,828        | 5           | 350     | \$30,154 | \$29,698 | \$1,446  | \$1,446  |
| 60  | 44,845       | 1,605         | 17            | 5,256           | 51,723                         | 5,398        | 2           | 219     | \$30,168 | \$34,253 | \$4,085  | \$4,085  |
| 61  | 44,287       | 1,712         | 3             | 16,719          | 62,721                         | 5,652        | 1           | 188     | \$30,194 | \$32,042 | \$1,848  | \$1,848  |
| 62  | 42,692       | 1,632         | 4             | 17,538          | 61,866                         | 5,195        | 1           | 140     | \$30,317 | \$33,478 | \$3,161  | \$3,161  |
| 63  | 41,931       | 1,594         | 4             | 17,406          | 60,935                         | 4,509        | 0           | 88      | \$30,488 | \$37,720 | \$7,232  | \$7,232  |
| 64  | 41,379       | 1,632         | 1             | 16,532          | 59,544                         | 3,670        | 0           | 94      | \$30,546 | \$38,778 | \$8,232  | \$8,232  |
| 65  | 40,169       | 1,603         | 0             | 16,733          | 58,505                         | 2,803        | 0           | 36      | \$30,867 | \$21,979 | \$8,888  | \$8,888  |
| 66  | 39,897       | 1,659         | 0             | 18,682          | 60,238                         | 2,076        | 0           | 555     | \$30,946 | \$17,289 | \$13,657 | \$13,657 |
| 67  | 36,949       | 1,627         | 0             | 18,495          | 57,071                         | 1,606        | 0           | 493     | \$31,309 | \$16,274 | \$15,035 | \$15,035 |
| 68  | 35,816       | 1,905         | 0             | 19,724          | 57,445                         | 1,120        | 0           | 417     | \$31,870 | \$15,987 | \$15,883 | \$15,883 |
| 69  | 36,377       | 2,331         | 0             | 21,796          | 60,504                         | 862          | 0           | 459     | \$32,310 | \$15,474 | \$16,836 | \$16,836 |
| 70  | 36,904       | 2,615         | 0             | 23,533          | 63,052                         | 700          | 0           | 498     | \$32,779 | \$15,672 | \$17,101 | \$17,101 |

## DoD Retired Military Valuation Data as of Year-End FY 2018

AllDoD

| Age   | Number    |               |               |                 |           | Average Annual Net Retired Pay |       |         |             |         | CSB          |          |          |
|-------|-----------|---------------|---------------|-----------------|-----------|--------------------------------|-------|---------|-------------|---------|--------------|----------|----------|
|       | Non-Dis   | Perm Disabled | Temp Disabled | Reserve Retired | Total     | Non-Dis                        | TERA  | Res Ret | CSB Non-Dis | CSB Dis | TERA Res Ret | Non-Dis  | Dis      |
| 71    | 37,422    | 2,816         | 0             | 25,084          | 65,322    | 601                            | 478   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 72    | 37,700    | 2,558         | 0             | 25,270          | 65,528    | 486                            | 440   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 73    | 25,700    | 1,488         | 0             | 17,375          | 43,658    | 289                            | 278   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 74    | 25,657    | 1,488         | 0             | 17,375          | 43,658    | 182                            | 232   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 75    | 26,616    | 1,263         | 0             | 15,406          | 43,285    | 169                            | 195   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 76    | 27,577    | 1,219         | 0             | 14,736          | 43,532    | 125                            | 186   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 77    | 24,543    | 975           | 0             | 11,532          | 37,050    | 82                             | 146   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 78    | 23,612    | 873           | 0             | 9,844           | 34,329    | 38                             | 108   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 79    | 22,837    | 718           | 0             | 9,337           | 32,892    | 27                             | 118   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 80    | 22,506    | 698           | 0             | 9,008           | 32,212    | 34                             | 130   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 81    | 22,682    | 628           | 0             | 8,556           | 31,866    | 16                             | 139   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 82    | 21,233    | 568           | 0             | 7,822           | 29,643    | 14                             | 101   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 83    | 19,678    | 536           | 0             | 7,206           | 27,420    | 9                              | 107   | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 84    | 17,985    | 542           | 0             | 6,402           | 24,929    | 6                              | 68    | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 85    | 15,904    | 506           | 0             | 5,304           | 21,714    | 4                              | 58    | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 86    | 14,547    | 559           | 0             | 4,908           | 20,014    | 5                              | 10    | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 87    | 12,962    | 583           | 0             | 4,647           | 18,192    | 3                              | 6     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 88    | 11,781    | 565           | 0             | 4,377           | 16,723    | 1                              | 1     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 89    | 9,625     | 553           | 0             | 3,513           | 13,691    | 1                              | 2     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 90    | 7,101     | 409           | 0             | 2,643           | 10,153    | 1                              | 4     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 91    | 4,934     | 259           | 0             | 1,604           | 6,797     | 1                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 92    | 3,178     | 153           | 0             | 1,326           | 4,657     | 1                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 93    | 2,535     | 127           | 0             | 1,218           | 3,880     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 94    | 2,148     | 129           | 0             | 1,203           | 3,480     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 95    | 1,657     | 117           | 0             | 936             | 2,710     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 96    | 1,239     | 111           | 0             | 769             | 2,119     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 97    | 921       | 111           | 0             | 586             | 1,618     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 98    | 681       | 83            | 0             | 434             | 1,198     | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 99    | 446       | 57            | 0             | 290             | 793       | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 100   | 261       | 34            | 0             | 195             | 490       | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 101   | 132       | 16            | 0             | 89              | 237       | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 102   | 62        | 8             | 0             | 55              | 125       | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 103   | 46        | 4             | 0             | 29              | 79        | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 104   | 23        | 3             | 0             | 13              | 39        | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 105   | 8         | 0             | 0             | 7               | 15        | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 106   | 2         | 1             | 0             | 3               | 6         | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 107   | 1         | 0             | 0             | 0               | 1         | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 108   | 1         | 0             | 0             | 2               | 3         | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 109   | 0         | 0             | 0             | 0               | 0         | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| 110   | 0         | 0             | 0             | 0               | 0         | 0                              | 0     | 0       | 0           | 0       | \$13,600     | \$13,777 | \$0      |
| Total | 1,465,694 | 116,302       | 6,959         | 412,399         | 2,001,354 | 59,708                         | 8,836 | 75,672  | 852         |         | \$13,845     | \$13,935 | \$14,260 |
| 60+   | 886,913   | 40,860        | 29            | 410,819         | 1,338,631 | 35,696                         | 8,827 | 811     | 5           |         | \$13,942     | \$14,032 | \$14,361 |
| 62+   | 797,781   | 37,543        | 9             | 388,844         | 1,224,177 | 24,646                         | 7,968 | 404     | 2           |         | \$13,942     | \$14,032 | \$14,361 |
| 65+   | 671,779   | 32,685        | 0             | 337,368         | 1,041,832 | 11,272                         | 5,854 | 82      | 1           |         | \$13,942     | \$14,032 | \$14,361 |

Notes: Age is retiree's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only retirees receiving payment from DoD.

Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.

Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.

TERA and CSB numbers and payments are included in the appropriate categories.

Pay amounts do not include the 12/1/18 cost of living increase of 2.8%.

## DoD Survivor Valuation Data as of Year-End FY 2018

| Age | Number |       |                |                      | Average Annual Net Survivor Pay |          |                |                      | Death on |          |       |          |
|-----|--------|-------|----------------|----------------------|---------------------------------|----------|----------------|----------------------|----------|----------|-------|----------|
|     | SBP    | RCSBP | Minimum Income | Death on Active Duty | SBP                             | RCSBP    | Minimum Income | Death on Active Duty | RSFPP    | Total    | RSFPP | Total    |
| 0   | 15     | 5     | 0              | 15                   | \$23,476                        | \$10,675 | \$0            | \$6,741              | \$0      | \$14,475 | \$0   | \$14,475 |
| 1   | 2      | 0     | 0              | 21                   | \$9,558                         | \$0      | \$0            | \$8,600              | \$0      | \$8,600  | \$0   | \$8,600  |
| 2   | 0      | 0     | 0              | 22                   | \$0                             | \$0      | \$0            | \$8,432              | \$0      | \$8,432  | \$0   | \$8,432  |
| 3   | 1      | 0     | 0              | 101                  | \$5,244                         | \$0      | \$0            | \$7,364              | \$0      | \$7,364  | \$0   | \$7,364  |
| 4   | 2      | 0     | 0              | 241                  | \$3,315                         | \$0      | \$0            | \$6,872              | \$0      | \$6,872  | \$0   | \$6,872  |
| 5   | 1      | 0     | 0              | 143                  | \$8,736                         | \$0      | \$0            | \$7,799              | \$0      | \$7,799  | \$0   | \$7,799  |
| 6   | 13     | 4     | 0              | 534                  | \$10,239                        | \$10,728 | \$0            | \$6,998              | \$0      | \$7,105  | \$0   | \$7,105  |
| 7   | 8      | 0     | 0              | 327                  | \$4,103                         | \$0      | \$0            | \$7,755              | \$0      | \$7,755  | \$0   | \$7,755  |
| 8   | 23     | 1     | 0              | 816                  | \$6,571                         | \$1,392  | \$0            | \$6,953              | \$0      | \$6,953  | \$0   | \$6,953  |
| 9   | 32     | 1     | 0              | 966                  | \$7,100                         | \$4,146  | \$0            | \$7,307              | \$0      | \$7,307  | \$0   | \$7,307  |
| 10  | 45     | 1     | 0              | 934                  | \$5,582                         | \$2,772  | \$0            | \$7,787              | \$0      | \$7,787  | \$0   | \$7,787  |
| 11  | 55     | 1     | 0              | 745                  | \$6,641                         | \$1,392  | \$0            | \$8,107              | \$0      | \$8,107  | \$0   | \$8,107  |
| 12  | 77     | 2     | 0              | 664                  | \$6,660                         | \$4,242  | \$0            | \$8,931              | \$0      | \$8,931  | \$0   | \$8,931  |
| 13  | 110    | 14    | 0              | 774                  | \$7,782                         | \$6,147  | \$0            | \$10,617             | \$0      | \$10,617 | \$0   | \$10,617 |
| 14  | 93     | 9     | 0              | 444                  | \$9,582                         | \$5,440  | \$0            | \$11,255             | \$0      | \$10,874 | \$0   | \$10,874 |
| 15  | 132    | 26    | 0              | 406                  | \$11,222                        | \$4,719  | \$0            | \$11,654             | \$0      | \$11,233 | \$0   | \$11,233 |
| 16  | 107    | 22    | 0              | 344                  | \$12,261                        | \$7,460  | \$0            | \$12,850             | \$0      | \$12,322 | \$0   | \$12,322 |
| 17  | 177    | 28    | 0              | 175                  | \$11,872                        | \$6,991  | \$0            | \$13,621             | \$0      | \$12,318 | \$0   | \$12,318 |
| 18  | 129    | 12    | 0              | 120                  | \$12,306                        | \$8,083  | \$0            | \$12,144             | \$0      | \$12,038 | \$0   | \$12,038 |
| 19  | 108    | 18    | 0              | 77                   | \$12,119                        | \$9,604  | \$0            | \$12,615             | \$0      | \$12,084 | \$0   | \$12,084 |
| 20  | 35     | 8     | 0              | 39                   | \$12,284                        | \$8,501  | \$0            | \$12,512             | \$0      | \$12,024 | \$0   | \$12,024 |
| 21  | 69     | 21    | 0              | 47                   | \$12,408                        | \$6,820  | \$0            | \$13,066             | \$0      | \$11,777 | \$0   | \$11,777 |
| 22  | 38     | 7     | 0              | 30                   | \$15,320                        | \$5,871  | \$0            | \$7,255              | \$0      | \$11,212 | \$0   | \$11,212 |
| 23  | 21     | 4     | 0              | 15                   | \$18,014                        | \$3,483  | \$0            | \$5,403              | \$0      | \$11,832 | \$0   | \$11,832 |
| 24  | 62     | 11    | 0              | 34                   | \$12,567                        | \$9,529  | \$0            | \$5,276              | \$1,204  | \$9,857  | \$0   | \$9,857  |
| 25  | 30     | 3     | 0              | 34                   | \$13,080                        | \$2,736  | \$0            | \$4,983              | \$0      | \$8,508  | \$0   | \$8,508  |
| 26  | 35     | 9     | 0              | 51                   | \$13,625                        | \$6,900  | \$0            | \$4,976              | \$0      | \$8,345  | \$0   | \$8,345  |
| 27  | 36     | 7     | 0              | 64                   | \$15,214                        | \$4,565  | \$0            | \$4,941              | \$0      | \$8,373  | \$0   | \$8,373  |
| 28  | 28     | 5     | 0              | 88                   | \$11,177                        | \$6,850  | \$0            | \$4,322              | \$0      | \$6,013  | \$0   | \$6,013  |
| 29  | 45     | 10    | 0              | 107                  | \$12,095                        | \$8,276  | \$0            | \$5,113              | \$6,984  | \$7,245  | \$0   | \$7,245  |
| 30  | 38     | 7     | 0              | 104                  | \$10,415                        | \$9,605  | \$0            | \$5,081              | \$0      | \$6,654  | \$0   | \$6,654  |
| 31  | 58     | 10    | 0              | 86                   | \$13,659                        | \$6,678  | \$0            | \$4,939              | \$0      | \$8,336  | \$0   | \$8,336  |
| 32  | 61     | 4     | 0              | 130                  | \$11,991                        | \$9,483  | \$0            | \$4,627              | \$0      | \$7,030  | \$0   | \$7,030  |
| 33  | 45     | 5     | 0              | 119                  | \$8,547                         | \$8,450  | \$0            | \$5,299              | \$2,052  | \$6,232  | \$0   | \$6,232  |
| 34  | 82     | 6     | 0              | 141                  | \$14,204                        | \$5,819  | \$0            | \$4,856              | \$0      | \$8,228  | \$0   | \$8,228  |
| 35  | 65     | 11    | 0              | 126                  | \$11,497                        | \$6,955  | \$0            | \$4,954              | \$0      | \$7,168  | \$0   | \$7,168  |
| 36  | 57     | 11    | 0              | 134                  | \$9,800                         | \$6,818  | \$0            | \$5,442              | \$0      | \$6,747  | \$0   | \$6,747  |
| 37  | 114    | 13    | 0              | 122                  | \$11,757                        | \$7,413  | \$0            | \$6,551              | \$4,209  | \$8,941  | \$0   | \$8,941  |
| 38  | 87     | 18    | 0              | 122                  | \$11,940                        | \$6,218  | \$0            | \$6,674              | \$0      | \$8,656  | \$0   | \$8,656  |
| 39  | 67     | 17    | 0              | 104                  | \$9,840                         | \$7,039  | \$0            | \$6,774              | \$0      | \$7,891  | \$0   | \$7,891  |
| 40  | 129    | 18    | 0              | 96                   | \$13,196                        | \$8,628  | \$0            | \$8,006              | \$0      | \$10,807 | \$0   | \$10,807 |
| 41  | 113    | 25    | 0              | 99                   | \$12,814                        | \$7,948  | \$0            | \$10,083             | \$4,150  | \$10,587 | \$0   | \$10,587 |
| 42  | 128    | 39    | 0              | 106                  | \$12,896                        | \$7,161  | \$0            | \$10,345             | \$0      | \$11,086 | \$0   | \$11,086 |
| 43  | 160    | 30    | 0              | 76                   | \$13,349                        | \$8,832  | \$0            | \$9,573              | \$5,898  | \$11,696 | \$0   | \$11,696 |
| 44  | 136    | 30    | 0              | 111                  | \$12,051                        | \$7,538  | \$0            | \$11,584             | \$0      | \$11,375 | \$0   | \$11,375 |
| 45  | 173    | 40    | 0              | 87                   | \$12,510                        | \$8,674  | \$0            | \$11,195             | \$2,088  | \$11,585 | \$0   | \$11,585 |
| 46  | 219    | 66    | 0              | 98                   | \$12,796                        | \$7,336  | \$0            | \$13,617             | \$5,263  | \$12,012 | \$0   | \$12,012 |
| 47  | 254    | 54    | 0              | 89                   | \$12,429                        | \$7,358  | \$0            | \$11,383             | \$3,755  | \$11,466 | \$0   | \$11,466 |
| 48  | 303    | 95    | 0              | 120                  | \$12,647                        | \$7,769  | \$0            | \$12,523             | \$1,419  | \$11,645 | \$0   | \$11,645 |
| 49  | 359    | 102   | 0              | 109                  | \$14,256                        | \$7,722  | \$0            | \$14,714             | \$4,000  | \$12,909 | \$0   | \$12,909 |
| 50  | 382    | 123   | 0              | 110                  | \$11,546                        | \$7,554  | \$0            | \$12,525             | \$3,428  | \$10,826 | \$0   | \$10,826 |
| 51  | 395    | 120   | 0              | 104                  | \$13,535                        | \$8,391  | \$0            | \$12,854             | \$1,947  | \$12,323 | \$0   | \$12,323 |
| 52  | 575    | 170   | 0              | 18                   | \$13,563                        | \$7,982  | \$0            | \$16,449             | \$2,761  | \$12,555 | \$0   | \$12,555 |
| 53  | 737    | 228   | 0              | 105                  | \$14,285                        | \$7,930  | \$0            | \$14,626             | \$3,168  | \$12,680 | \$0   | \$12,680 |
| 54  | 663    | 205   | 0              | 111                  | \$11,107                        | \$8,130  | \$0            | \$14,370             | \$2,630  | \$10,820 | \$0   | \$10,820 |
| 55  | 739    | 278   | 0              | 83                   | \$11,811                        | \$7,862  | \$0            | \$16,326             | \$1,910  | \$11,112 | \$0   | \$11,112 |
| 56  | 862    | 356   | 0              | 99                   | \$11,219                        | \$8,291  | \$0            | \$17,696             | \$4,715  | \$10,882 | \$0   | \$10,882 |
| 57  | 1,005  | 383   | 0              | 101                  | \$11,613                        | \$7,357  | \$0            | \$19,023             | \$3,308  | \$10,964 | \$0   | \$10,964 |
| 58  | 1,184  | 426   | 0              | 89                   | \$11,729                        | \$7,645  | \$0            | \$18,348             | \$3,735  | \$10,983 | \$0   | \$10,983 |
| 59  | 1,326  | 510   | 0              | 74                   | \$11,549                        | \$7,766  | \$0            | \$15,734             | \$3,486  | \$10,678 | \$0   | \$10,678 |

## DoD Survivor Valuation Data as of Year-End FY 2018

| Age   | Number  |        |                |                      |       | Average Annual Net Survivor Pay |          |          |                |                      |          |          |
|-------|---------|--------|----------------|----------------------|-------|---------------------------------|----------|----------|----------------|----------------------|----------|----------|
|       | SBP     | RCSBP  | Minimum Income | Death on Active Duty | RSFPP | Total                           | SBP      | RCSBP    | Minimum Income | Death on Active Duty | RSFPP    | Total    |
| 60    | 1,459   | 598    | 0              | 84                   | 8     | 2,149                           | \$11,195 | \$8,062  | \$0            | \$16,794             | \$1,840  | \$10,507 |
| 61    | 1,713   | 732    | 0              | 74                   | 24    | 2,533                           | \$11,177 | \$7,649  | \$0            | \$15,693             | \$2,805  | \$10,243 |
| 62    | 1,869   | 832    | 0              | 87                   | 14    | 2,812                           | \$11,691 | \$8,128  | \$0            | \$17,456             | \$4,101  | \$10,750 |
| 63    | 2,088   | 894    | 0              | 66                   | 8     | 3,056                           | \$11,604 | \$7,808  | \$0            | \$18,796             | \$5,418  | \$10,633 |
| 64    | 2,348   | 1,140  | 0              | 60                   | 5     | 3,553                           | \$11,521 | \$7,854  | \$0            | \$17,122             | \$6,379  | \$10,432 |
| 65    | 2,595   | 1,222  | 0              | 69                   | 15    | 3,901                           | \$11,839 | \$7,665  | \$0            | \$17,065             | \$2,272  | \$10,587 |
| 66    | 2,933   | 1,500  | 0              | 60                   | 40    | 4,503                           | \$11,441 | \$7,638  | \$0            | \$17,258             | \$3,441  | \$10,234 |
| 67    | 3,095   | 1,714  | 0              | 65                   | 8     | 4,882                           | \$11,509 | \$7,539  | \$0            | \$14,407             | \$2,080  | \$10,138 |
| 68    | 3,468   | 1,885  | 0              | 66                   | 6     | 5,425                           | \$11,757 | \$7,662  | \$0            | \$14,810             | \$4,470  | \$10,364 |
| 69    | 3,831   | 2,065  | 0              | 61                   | 11    | 5,968                           | \$12,188 | \$7,517  | \$0            | \$15,684             | \$3,140  | \$10,591 |
| 70    | 4,204   | 2,395  | 1              | 51                   | 13    | 6,664                           | \$11,996 | \$7,608  | \$7,998        | \$13,191             | \$3,175  | \$10,411 |
| 71    | 4,801   | 2,756  | 0              | 59                   | 9     | 7,625                           | \$12,005 | \$7,726  | \$0            | \$13,908             | \$2,492  | \$10,462 |
| 72    | 5,400   | 2,918  | 1              | 33                   | 3     | 8,375                           | \$12,382 | \$7,922  | \$8,825        | \$13,816             | \$1,328  | \$10,832 |
| 73    | 4,610   | 2,292  | 0              | 46                   | 10    | 6,958                           | \$12,344 | \$7,870  | \$0            | \$11,906             | \$2,421  | \$10,853 |
| 74    | 5,324   | 2,495  | 0              | 51                   | 11    | 7,881                           | \$12,392 | \$7,843  | \$0            | \$12,301             | \$2,140  | \$10,937 |
| 75    | 6,108   | 2,767  | 0              | 51                   | 8     | 8,934                           | \$12,576 | \$7,907  | \$0            | \$10,432             | \$2,419  | \$11,108 |
| 76    | 6,860   | 2,971  | 0              | 65                   | 17    | 9,913                           | \$12,604 | \$7,982  | \$0            | \$13,881             | \$2,302  | \$11,209 |
| 77    | 7,003   | 2,865  | 0              | 52                   | 18    | 9,958                           | \$12,582 | \$8,077  | \$0            | \$12,267             | \$2,492  | \$11,263 |
| 78    | 7,465   | 2,830  | 1              | 51                   | 36    | 10,383                          | \$12,640 | \$7,838  | \$8,825        | \$10,035             | \$2,213  | \$11,282 |
| 79    | 8,000   | 3,007  | 0              | 63                   | 41    | 11,111                          | \$12,716 | \$7,893  | \$0            | \$11,714             | \$1,952  | \$11,365 |
| 80    | 8,488   | 3,195  | 2              | 43                   | 36    | 11,764                          | \$13,163 | \$7,995  | \$8,825        | \$12,238             | \$1,978  | \$11,721 |
| 81    | 8,890   | 3,070  | 2              | 54                   | 54    | 12,070                          | \$13,260 | \$8,175  | \$8,112        | \$12,514             | \$3,540  | \$11,919 |
| 82    | 8,996   | 3,132  | 3              | 81                   | 107   | 12,319                          | \$13,501 | \$8,174  | \$7,982        | \$10,891             | \$2,303  | \$12,031 |
| 83    | 9,345   | 3,304  | 5              | 85                   | 126   | 12,838                          | \$13,934 | \$8,141  | \$7,655        | \$12,125             | \$2,493  | \$12,320 |
| 84    | 9,070   | 3,203  | 2              | 72                   | 178   | 12,525                          | \$14,287 | \$8,344  | \$8,069        | \$13,130             | \$2,615  | \$12,594 |
| 85    | 8,570   | 2,998  | 2              | 69                   | 202   | 11,841                          | \$14,862 | \$8,436  | \$6,707        | \$14,885             | \$2,599  | \$13,024 |
| 86    | 8,548   | 3,119  | 1              | 68                   | 292   | 12,028                          | \$15,202 | \$8,449  | \$7,235        | \$11,718             | \$2,416  | \$13,120 |
| 87    | 7,888   | 2,939  | 0              | 70                   | 266   | 11,163                          | \$16,000 | \$8,572  | \$0            | \$11,683             | \$3,126  | \$13,710 |
| 88    | 7,351   | 2,737  | 1              | 53                   | 321   | 10,463                          | \$16,422 | \$8,879  | \$8,825        | \$13,379             | \$2,825  | \$14,016 |
| 89    | 6,344   | 2,531  | 2              | 60                   | 284   | 9,221                           | \$16,808 | \$8,749  | \$7,991        | \$9,518              | \$2,583  | \$14,108 |
| 90    | 5,663   | 2,411  | 5              | 59                   | 283   | 8,421                           | \$17,052 | \$8,981  | \$7,816        | \$10,265             | \$2,771  | \$14,208 |
| 91    | 4,973   | 2,157  | 3              | 47                   | 288   | 7,468                           | \$17,557 | \$9,214  | \$8,825        | \$7,941              | \$2,860  | \$14,516 |
| 92    | 4,495   | 2,053  | 3              | 62                   | 312   | 6,925                           | \$18,525 | \$9,458  | \$10,061       | \$7,757              | \$2,912  | \$15,034 |
| 93    | 4,064   | 1,946  | 2              | 46                   | 282   | 6,340                           | \$19,556 | \$9,512  | \$8,825        | \$9,866              | \$3,258  | \$15,674 |
| 94    | 3,545   | 1,706  | 2              | 41                   | 260   | 5,554                           | \$19,743 | \$9,665  | \$5,217        | \$5,838              | \$3,468  | \$15,777 |
| 95    | 3,075   | 1,485  | 3              | 39                   | 243   | 4,865                           | \$20,627 | \$9,705  | \$8,788        | \$8,342              | \$3,587  | \$16,286 |
| 96    | 2,304   | 1,193  | 2              | 31                   | 207   | 3,737                           | \$21,288 | \$9,926  | \$7,169        | \$6,173              | \$3,148  | \$16,523 |
| 97    | 1,829   | 1,055  | 2              | 31                   | 160   | 3,057                           | \$21,551 | \$10,080 | \$8,825        | \$10,942             | \$3,387  | \$16,559 |
| 98    | 1,207   | 718    | 0              | 15                   | 117   | 2,077                           | \$21,488 | \$10,564 | \$0            | \$7,588              | \$3,988  | \$16,578 |
| 99    | 679     | 462    | 2              | 16                   | 81    | 1,240                           | \$22,508 | \$10,404 | \$7,880        | \$4,350              | \$4,249  | \$16,548 |
| 100   | 428     | 237    | 0              | 6                    | 45    | 716                             | \$21,224 | \$10,884 | \$0            | \$4,393              | \$3,735  | \$16,561 |
| 101   | 245     | 166    | 2              | 4                    | 30    | 447                             | \$21,747 | \$10,418 | \$8,825        | \$5,094              | \$3,041  | \$16,078 |
| 102   | 132     | 88     | 1              | 2                    | 12    | 235                             | \$21,468 | \$10,676 | \$7,146        | \$3,070              | \$4,755  | \$16,356 |
| 103   | 77      | 46     | 0              | 3                    | 9     | 135                             | \$20,692 | \$10,858 | \$0            | \$3,070              | \$2,522  | \$15,738 |
| 104   | 49      | 28     | 0              | 1                    | 3     | 81                              | \$20,612 | \$11,771 | \$0            | \$3,070              | \$1,512  | \$16,632 |
| 105   | 24      | 15     | 0              | 4                    | 43    | 4                               | \$19,301 | \$11,390 | \$0            | \$3,585              | \$15,079 | \$15,079 |
| 106   | 17      | 14     | 0              | 2                    | 33    | 3                               | \$17,444 | \$12,686 | \$0            | \$0                  | \$6,383  | \$14,755 |
| 107   | 10      | 2      | 0              | 0                    | 12    | 0                               | \$17,046 | \$10,662 | \$0            | \$0                  | \$0      | \$15,982 |
| 108   | 4       | 1      | 0              | 0                    | 5     | 0                               | \$28,647 | \$14,544 | \$0            | \$0                  | \$0      | \$25,826 |
| 109   | 2       | 0      | 1              | 0                    | 2     | 5                               | \$8,820  | \$0      | \$8,561        | \$0                  | \$1,935  | \$6,014  |
| 110   | 0       | 0      | 0              | 0                    | 0     | 0                               | \$0      | \$0      | \$0            | \$0                  | \$0      | \$0      |
| 111   | 0       | 0      | 0              | 0                    | 0     | 0                               | \$0      | \$0      | \$0            | \$0                  | \$0      | \$0      |
| 112   | 0       | 0      | 0              | 0                    | 0     | 0                               | \$0      | \$0      | \$0            | \$0                  | \$0      | \$0      |
| 113   | 0       | 0      | 0              | 0                    | 0     | 0                               | \$0      | \$0      | \$0            | \$0                  | \$0      | \$0      |
| 114   | 0       | 0      | 0              | 0                    | 0     | 0                               | \$0      | \$0      | \$0            | \$0                  | \$0      | \$0      |
| Total | 213,531 | 89,518 | 51             | 13,668               | 4,636 | 321,404                         | \$14,231 | \$8,319  | \$8,130        | \$9,760              | \$2,989  | \$12,231 |
| 60+   | 201,486 | 85,889 | 51             | 2,285                | 4,481 | 294,192                         | \$14,361 | \$8,343  | \$8,130        | \$12,798             | \$2,975  | \$12,418 |
| 62+   | 198,314 | 84,559 | 51             | 2,127                | 4,459 | 289,510                         | \$14,412 | \$8,351  | \$8,130        | \$12,540             | \$2,977  | \$12,451 |
| 65+   | 192,009 | 81,693 | 51             | 1,914                | 4,422 | 280,089                         | \$14,505 | \$8,366  | \$8,130        | \$11,957             | \$2,963  | \$12,513 |

Notes: Age is survivor's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only survivors receiving payment from DoD.  
Survivors receiving payment under SBP and RSFP are counted twice.

Two-life survivors are given by the age of the adult survivor.

Children of the same deceased member receiving separate benefit payments are counted individually.

RCSBP includes all reserve survivors, whether or not the reserve retiree elected RCSBP.

Pay amounts do not include the 12/1/18 cost of living increase of 2.8%.

Amounts include increased survivor benefits as part of Special Survivor Indemnity Allowance (NDAA 2008, P.L. 111-31, and 115-91).



APPENDIX D

ECONOMIC ASSUMPTIONS

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## **ECONOMIC ASSUMPTIONS**

In July 2018, the DoD Board of Actuaries approved the following economic assumptions for use in the valuation as of September 30, 2018: the rate of inflation (CPI) is assumed to be 2.75 percent per year; the investment return (interest rate) is 5.00 percent per year; and the basic pay scale increases are 3.25 percent per year. For access to the official transcript of the meeting, follow this link: <https://actuary.defense.gov/External-Links/>

As noted in the “Valuation Data and Procedure” section in the main text, the valuation results are highly sensitive to changes in these three primary economic assumptions. As background for approving the economic assumptions, the Board receives information from economists and actuaries and is provided with extensive historical data on inflation, interest rates, and wage growth. The Board analyzes past trends, current environment, and future expectations. As part of their assessment of the current environment, the Board also considers what other federal retirement and social insurance systems are assuming as well as other government agencies and financial experts. Table D-1 shows the DoD Board of Actuaries’ approved long-term economic assumptions by valuation year since the Fund’s inception in 1984.

The comparisons to Civil Service and Social Security in this appendix are not meant to imply an expectation that all three systems should use the same assumptions. There are differences in terms of the trust funds themselves and the programs financed by the trust funds.

### **Inflation**

The CPI-W, one of the consumer price indexes published by the Bureau of Labor Statistics (BLS), is emphasized as an inflation measure since it is used in calculating military retired pay cost-of-living increases. The CPI-W measures the average price change for Urban Wage Earners and Clerical Workers and covers approximately 29 percent of the U.S population. (The CPI-W is a subset of the broader CPI-U measure which computes the average price change for All Urban Consumers and covers approximately 93 percent of the U.S. population). The CPI-W is the common index used to make cost-of-living adjustments for labor contracts.

The DoD assumption for CPI is reasonably consistent with what is used in other parts of the government. In its 2018 report, the Civil Service Retirement System (CSRS) assumes a 2.50 percent CPI increase. The Trustees of the Social Security Administration (SSA) in their 2018 Annual Report made projections under three alternative sets of assumptions. Their intermediate assumption for CPI was 2.6 percent (other assumptions: low cost – 3.2 percent; high cost – 2.0 percent). The Board has noted that in certain respects, the effect of the CPI on the valuation is relatively minor in a system where retirement benefits are fully indexed and expressed as a percentage of payroll.

## **Interest Rate**

The Board focuses on ‘real’ interest rates. To simplify discussion, the ‘real’ interest rate is defined as the difference between the nominal interest rate and the CPI. Other things being equal, a lower element of risk in an investment will give a lower real interest rate. Because the Military Retirement Fund must be invested in obligations of the U.S. Government, a highly secure investment, the real interest rates are expected to be relatively low. As noted in the “Assets” section in the main text, the Fund is currently heavily investing in Treasury Inflation-Protected Securities (TIPS). TIPS allow the investor/institution to lock in the real interest rate for the given period of time.

The Board examines past real interest rates that would have been earned by the types of public debt securities in which the Fund is invested. The Board recognizes the importance of selecting a real interest rate that would prevail on average over a long period of time and that would not unduly weight recent experience or expected results during the near-term future.

After analyzing past trends and forecasts of government trust fund earnings, 2.25 percent was adopted as the assumed rate of ‘real’ interest. Since 2.75 percent had been adopted as the inflation rate, the assumed nominal rate of interest is 5.00 percent ( $5.00 = 2.25 + 2.75$ ). This is commonly known as the “building block method” in setting actuarial assumptions.

It is relevant to note the ‘real’ interest rates being assumed by the other two major public benefit systems. The SSA Trustees used an intermediate ultimate real interest rate assumption of 2.7 percent in their 2018 report (other assumptions: low cost – 3.2 percent; high cost – 2.2 percent). The Board of Actuaries of the CSRS used a 1.75 percent real interest rate assumption in its 2018 valuation.

## **Wage Growth**

For the salary increase assumption, recent historical data is used as well as expectations for the future. The Career Compensation Act of 1949 revamped the military compensation structure to provide an equitable pay and allowance system. Associated with this change was a large basic pay increase designed to establish rough comparability with the private sector. Additionally, the Army and Air Force Vitalization and Retirement Equalization Act of 1948 established for the first time a uniform voluntary retirement system authority among all branches of Service. The reserve retirement program was also established at this time. These two Acts provided the start of the modern-day compensation structure designed to attract and retain the number of Service members needed. In the analysis of basic pay scale increases, the Board looks at all data from this point forward.

The Military Pay Comparability Act of 2003 ensures that military pay increases are comparable to private sector pay growth, as measured by the Employment Cost Index (ECI) – Wages and Salaries index on a 15-month lag. (“Wages and Salaries” account for about 70 percent of the broader “Compensation” costs, with “Benefits” making up the remaining 30

percent.) Covenants are embedded within the Act which give the President the authority to propose an alternate basic pay adjustment. This Act specifically referenced fiscal years through 2006. However, Congress has continued to use the basic framework of the Act in the subsequent fiscal years.

In making its recommendation for the ‘real’ rate of the annual basic pay scale increase, the Board considered information presented and approved a ‘real’ basic pay growth assumption of 0.50 percent, leading to a nominal growth of 3.25 percent ( $3.25 = 0.50 + 2.75$ ). The Board of Actuaries of the CSRS assumed 0.25 percent ‘real’ wage growth for its 2018 valuation. The Social Security Trustees’ 2018 report had an intermediate ultimate assumption for ‘real’ wage growth of 1.2 percent (other assumptions: low cost – 1.8 percent; high cost – 0.6 percent). (For the Military Retirement System and CSRS, wage increase relates to “across-the-board” salary increase which excludes merit and certain longevity increases, whereas for Social Security, wage increase generally relates to the total salary increase.)

TABLE D-1

## DOD BOARD OF ACTUARIES' LONG-TERM ECONOMIC ASSUMPTIONS

| Fiscal Year | Inflation (1) | Interest (2) | Salary Growth (3) | 'Real' Interest (4) | 'Real' Salary (5) |
|-------------|---------------|--------------|-------------------|---------------------|-------------------|
| 1984        | 5.00%         | 6.60%        | 6.20%             | 1.60%               | 1.20%             |
| 1985        | 5.00          | 6.60         | 6.20              | 1.60                | 1.20              |
| 1986        | 5.00          | 6.60         | 6.20              | 1.60                | 1.20              |
| 1987        | 5.00          | 6.60         | 6.20              | 1.60                | 1.20              |
| 1988        | 5.00          | 7.00         | 5.75              | 2.00                | 0.75              |
| 1989        | 5.00          | 7.00         | 5.75              | 2.00                | 0.75              |
| 1990        | 5.00          | 7.00         | 5.75              | 2.00                | 0.75              |
| 1991        | 5.00          | 7.50         | 5.50              | 2.50                | 0.50              |
| 1992        | 5.00          | 7.50         | 5.50              | 2.50                | 0.50              |
| 1993        | 5.00          | 7.50         | 5.50              | 2.50                | 0.50              |
| 1994        | 4.00          | 6.75         | 4.50              | 2.75                | 0.50              |
| 1995        | 4.00          | 6.75         | 4.50              | 2.75                | 0.50              |
| 1996        | 3.50          | 6.50         | 4.00              | 3.00                | 0.50              |
| 1997        | 3.50          | 6.50         | 4.00              | 3.00                | 0.50              |
| 1998        | 3.50          | 6.50         | 4.00              | 3.00                | 0.50              |
| 1999        | 3.00          | 6.25         | 3.50              | 3.25                | 0.50              |
| 2000        | 3.00          | 6.25         | 3.50              | 3.25                | 0.50              |
| 2001        | 3.00          | 6.25         | 3.50              | 3.25                | 0.50              |
| 2002        | 3.00          | 6.25         | 3.50              | 3.25                | 0.50              |
| 2003        | 3.00          | 6.25         | 3.75              | 3.25                | 0.75              |
| 2004        | 3.00          | 6.25         | 3.75              | 3.25                | 0.75              |
| 2005        | 3.00          | 6.25         | 3.75              | 3.25                | 0.75              |
| 2006        | 3.00          | 6.00         | 3.75              | 3.00                | 0.75              |
| 2007        | 3.00          | 6.00         | 3.75              | 3.00                | 0.75              |
| 2008        | 3.00          | 5.75         | 3.75              | 2.75                | 0.75              |
| 2009        | 3.00          | 5.75         | 3.75              | 2.75                | 0.75              |
| 2010        | 3.00          | 5.75         | 3.75              | 2.75                | 0.75              |
| 2011        | 3.00          | 5.75         | 3.75              | 2.75                | 0.75              |
| 2012        | 3.00          | 5.50         | 3.50              | 2.50                | 0.50              |
| 2013        | 3.00          | 5.50         | 3.50              | 2.50                | 0.50              |
| 2014        | 3.00          | 5.50         | 3.50              | 2.50                | 0.50              |
| 2015        | 2.75          | 5.25         | 3.25              | 2.50                | 0.50              |
| 2016        | 2.75          | 5.25         | 3.25              | 2.50                | 0.50              |
| 2017        | 2.75          | 5.00         | 3.25              | 2.25                | 0.50              |
| 2018        | 2.75          | 5.00         | 3.25              | 2.25                | 0.50              |

## NOTES:

(1) Board Assumption

(2) Board Assumption

(3) Board Assumption

(4) = (2) - (1)

(5) = (3) - (1)

APPENDIX E

NORMAL COST WEIGHTING FACTORS

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## NORMAL COST WEIGHTING FACTORS

There are four different retirement benefit formulas that apply to different populations within the Military Retirement System<sup>1</sup>. (See Appendix A for a discussion of *Final Pay*, *High-3*, *CSB/Redux*, and *BRS* benefit formulas.) A single normal cost percentage (NCP) for the entire population is obtained by weighting the NCP for each retirement group by its expected percentage of payroll in the relevant year<sup>2</sup>.

In order to continue to budget for NCPs well in advance of the valuation date, the DoD Board of Actuaries decided to create a set of projected weighting factors. The relative stability of past experience indicates that this method gives reasonable results.

Current rates were created using 2010 data. Table E-1 displays the active duty and reserve basic payroll percentage distributions by completed years of service at the end of FY 2010.

---

<sup>1</sup> The Blended Retirement System (enacted in NDAA 2016) is the fourth tier, effective January 1, 2018, for those who enter military service on or after January 1, 2018, or opt-in with fewer than 12 years of service during the one-year open season starting January 1, 2018. NDAA 2016 also sunsets CSB/Redux and repeals all aspects of BBA 2013 (reduced annual cost-of-living adjustments for “working age” retirees), as amended.

<sup>2</sup> For BRS, assumptions for the proportions of eligible members who will “opt-in” to the new plan are also needed. These assumptions are shown in Appendix F.

TABLE E-1

**BASIC PAYROLL PERCENTAGE DISTRIBUTION  
BY COMPLETED YEARS OF SERVICE**

| Completed<br>Years of<br>Service | Percentage of Payroll on 9/30/2010: |           |
|----------------------------------|-------------------------------------|-----------|
|                                  | Full-time                           | Part-time |
| 0                                | 3%                                  | 0.5%      |
| 1 or less                        | 8%                                  | 6%        |
| 2 or less                        | 13%                                 | 11%       |
| 3 or less                        | 18%                                 | 16%       |
| 4 or less                        | 24%                                 | 20%       |
| 5 or less                        | 28%                                 | 24%       |
| 6 or less                        | 32%                                 | 27%       |
| 7 or less                        | 37%                                 | 31%       |
| 8 or less                        | 41%                                 | 35%       |
| 9 or less                        | 45%                                 | 38%       |
| 10 or less                       | 49%                                 | 41%       |
| 11 or less                       | 53%                                 | 44%       |
| 12 or less                       | 56%                                 | 46%       |
| 13 or less                       | 59%                                 | 49%       |
| 14 or less                       | 63%                                 | 51%       |
| 15 or less                       | 66%                                 | 53%       |
| 16 or less                       | 68%                                 | 55%       |
| 17 or less                       | 71%                                 | 58%       |
| 18 or less                       | 75%                                 | 60%       |
| 19 or less                       | 78%                                 | 64%       |
| 20 or less                       | 81%                                 | 67%       |
| 21 or less                       | 84%                                 | 70%       |
| 22 or less                       | 86%                                 | 74%       |
| 23 or less                       | 89%                                 | 77%       |
| 24 or less                       | 91%                                 | 80%       |
| 25 or less                       | 93%                                 | 83%       |
| 26 or less                       | 95%                                 | 86%       |
| 27 or less                       | 96%                                 | 89%       |
| 28 or less                       | 97%                                 | 91%       |
| 29 or less                       | 98%                                 | 93%       |
| 30 or less                       | 98%                                 | 94%       |
| 31 or less                       | 99%                                 | 95%       |
| 32 or less                       | 99%                                 | 96%       |
| 33 or less                       | 99%                                 | 97%       |
| 34 or less                       | 100%                                | 98%       |
| 35 or less                       | 100%                                | 98%       |
| 36 or less                       | 100%                                | 99%       |
| 37 or less                       | 100%                                | 99%       |
| 38 or less                       | 100%                                | 100%      |
| 39 and greater                   | :::                                 | :::       |
| TOTAL FORCE                      | 100%                                | 100%      |

Figures are assumed to represent fiscal year payroll proportions by year of entry.

For example, for full-time members 3% of payroll in a fiscal year is assumed to apply to members who entered in that fiscal year; 8% of payroll is assumed to apply to members who entered in that fiscal year or the year prior; etc.



APPENDIX F

VALUATION PROGRAM PARAMETERS

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## **VALUATION PROGRAM PARAMETERS DESCRIPTION**

GORGO is an actuarial projection model run in a spreadsheet environment with embedded Visual Basic programming. The purpose is to simulate future cash flows impacting the Military Retirement Fund. The model is used to compute the aggregate entry-age normal cost percentage, unfunded liability, and make long-term projections; in some cases slight adjustments to GORGO cash flow projection are made outside of GORGO. In addition to being affected by the decrement rates, GORGO has a number of parameters which affect its results. These parameters are generally summaries of recent experience and/or future expectations. Examples include the rates of election of the Survivor Benefit Plan and member-spouse age differences.

Public Law (P.L.) 108-136 (“Concurrent Receipt”) requires additional breakouts of some parameters in order to calculate the DoD and Treasury normal cost components. Subsequent legislation required further breakouts.

A description of major valuation program parameters is given in Table F-1. The table is organized by population group with the economic factors reproduced for user convenience. Numerical values are also shown for selected items. To keep this report manageable and prevent unintentional misuse, other parameters not described as well as numerical values not shown in the table may be requested if needed.

**TABLE F-1**

**DESCRIPTION OF THE MAJOR VALUATION PROGRAM PARAMETERS**

**Economic Factors**

| <u>Item</u>               | <u>Description/Value</u>                                                                                                                                                                                                                                                     |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Salary Increase        | A parameter for each of the next ten fiscal years specifies the annual percentage increase in basic pay for the active duty and reserve duty members. An 11th parameter specifies the percentage increase for subsequent years. The value for the valuation is 3.25 percent. |
| 2) CPI (Inflation)        | A parameter for each of the next nine fiscal years specifies the annual inflation (Consumer Price Index - CPI) rate for that year. A tenth parameter specifies the inflation rate for all subsequent years. The value for the valuation is 2.75 percent.                     |
| 3) Interest Rate          | A parameter for each of the next nine fiscal years specifies the annual interest rate for that year. A tenth parameter specifies the interest rate for all subsequent years. The value for the valuation is 5.00 percent.                                                    |
| 4) Lump Sum Discount Rate | A parameter that specifies the assumed annual interest rate (in real economic terms) used to calculate BRS lump sums. The value for the valuation is 7.3%.                                                                                                                   |

**Active Duty**

| <u>Item</u>                                               | <u>Description/Value</u>                                                                                                                                                                                    |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Member Election of Spouse or Spouse/Child SBP Coverage | This gives the percentage of members by age, officer/enlisted status, and Career Status Bonus (CSB) election status who have elected spouse or spouse/child coverage under the Survivor Benefit Plan (SBP). |

**TABLE F-1 (continued)**

| <u>Item</u>           | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2) Full Offsets       | A member who is disabled may waive all or part of his or her retired pay to receive benefits from the Veterans Administration (VA). Furthermore, a member who decides to convert his or her military service to receive a federal civilian retirement also waives his or her right to a military pension. These amounts are not included when computing normal costs or unfunded liabilities. The percent of retired pay of new retirees that is fully offset is given by officer/enlisted status, benefit tier, and type of retirement (disability/nondisability). Disability status is given further by those with over and under 20 years of service. |
| 3) Partial VA Offsets | It is possible to have part of DoD retired pay offset by VA compensation. The parameter is defined as the percent of retired pay out of the total paid new retirees. They are given by officer/enlisted status, benefit tier, and disability/nondisability status. Disability status is given further by those with over and under 20 years of service.                                                                                                                                                                                                                                                                                                  |
| 4) Disability Factor  | When an active duty member is disabled and receives DoD disability retirement, retired pay is based on a minimum (30%), a maximum (given by the conditions discussed in Appendix A regarding Disability Retirement), and a disability rating. These are combined into a single officer/enlisted factor, expressed as a percentage of Final, or High-3, pay and given by length of service and temporary disability or permanent disability retirement.                                                                                                                                                                                                   |

**TABLE F-1 (continued)**

| <u>Item</u>                                                      | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5) Percent Active Duty with Beneficiary                          | When a member dies from a Service-connected disability or on active duty, any surviving spouse is eligible for Dependency and Indemnity Compensation (DIC) from the Veterans Administration. In addition, if the member dies in the line of duty or after completing 20 years of service, the surviving spouse is eligible for an SBP annuity from DoD which would bring the total amount of the benefit up to 55 percent of the member's retired pay. The excess of the SBP annuity over DIC comes from the Military Retirement Fund. If no spouse is present, the benefit passes on to an eligible child. If both spouse and eligible child are present then, under certain tax provisions, it is advantageous for the spouse to pass the benefits to the child. Thus, it is necessary to estimate the percent of active duty members with beneficiaries. The percentages are given by officer/enlisted status, and further allocated by spouse/child. |
| 6) Reduction Factors for SBP                                     | Premium amounts, as a percent of retired pay, by age, officer/enlisted status, and benefit tier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7) Rounding Assumptions for Partially Completed Years of Service | When retired pay is computed, years of service are rounded down to the nearest completed month. An assumption must be made for the computation. The value for the valuation is 0.017.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 8) CSB/Redux election proportion                                 | The proportion of members who elect CSB/Redux. For the unfunded liability and open group valuations, the proportion varies by entry year and officer/enlisted status. For the normal cost (new entrant) valuation, the proportion is 10 percent. This value is essentially a representative rate needed to approximate the floating proportions (of CSB/Redux electors) used in the unfunded liability and open group valuations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**TABLE F-1 (continued)**

| <u>Item</u>                                                       | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9) Initial Annual Pay of 16-year-old Active Duty Officer          | This value is used to allocate a portion of part-time benefits to full-time in normal cost valuations, thus linking the radixes (i.e., notional starting populations) and pay of full- and part-time members. The value for the valuation is \$38,021.                                                                                                                                                                                                                                                                                                                                              |
| 10) Accumulated Value of Partial Pay in the First Year of Service | This amount is used to properly align the decrement rates with the assumption, in a normal cost run, of a new entrant cohort starting with zero years of service.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 11) BRS Opt-In Rates                                              | Rates used to determine the portion of members with fewer than 12 years of service as of December 31, 2017, electing, during the calendar year 2018 Open Season, to opt-in to BRS. Varies by years of service and officer/enlisted. Rates are based on results from a RAND Corp. analytical model approved with adjustments by the Board. Separate rates are used for NCP weighting and census purposes to reflect timing differences in the respective modeling needs. Reservists are assumed to have opt-in rates equal to half of the active duty rates (i.e., multiply the below rates by 0.5). |

| YOS | <u>NCP</u> | <u>Census</u> |          |
|-----|------------|---------------|----------|
|     | Off / Enl  | Officer       | Enlisted |
| 0   | 100.0%     | 100.0%        | 100.0%   |
| 1   | 97.3%      | 85.0%         | 90.0%    |
| 2   | 89.3%      | 85.0%         | 90.0%    |
| 3   | 88.9%      | 80.0%         | 90.0%    |
| 4   | 85.1%      | 65.0%         | 80.0%    |
| 5   | 71.5%      | 50.0%         | 60.0%    |
| 6   | 52.6%      | 35.0%         | 40.0%    |
| 7   | 36.0%      | 25.0%         | 30.0%    |
| 8   | 26.1%      | 15.0%         | 20.0%    |
| 9   | 17.2%      | 10.0%         | 15.0%    |
| 10  | 12.2%      | 5.0%          | 10.0%    |
| 11  | 7.6%       | 5.0%          | 5.0%     |
| 12  | 3.8%       | 0.0%          | 0.0%     |
| 13+ | 0.0%       | 0.0%          | 0.0%     |

**TABLE F-1 (continued)**

| <u>Item</u>                     | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12) BRS Lump Sum Election Rates | This is the rate of election of lump sums by those who are covered under BRS. The value is based on a study completed by an external organization and represents members having a “Low Personal Discount Rate and Aware of Tax and VA Offset Implications.” It is an interpolated value for active duty using an assumed lump sum discount rate (used to calculate lump sums) of 7.3%; the assumptions are 5.2% for officers and 22.8% for enlisted. Of those who elect lump sums, all are assumed to elect the 50% lump sum option. |

### **Reserve Duty**

| <u>Item</u>                                          | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Ratio of Net to Gross Retired Pay For Reserves    | This is the ratio of reserve net retired pay to gross retired pay. This is given by officer/enlisted status, age, and benefit tier.                                                                                                                                                                                                                                                                                                                                                 |
| 2) Proportion of Points Based on Active Service      | This amount is used to allocate the part of the reserve normal cost that are paid for as a part of the active duty normal cost. The value for the valuation is 51%.                                                                                                                                                                                                                                                                                                                 |
| 3) Initial Annual Pay of new Selected Reserve member | This array is used to set initial pay for a new Selected Reserve member in a normal cost run. The values for the valuation are updated with an across-the-board salary increase each year.                                                                                                                                                                                                                                                                                          |
| 4) Reserve Retirement Age FYs                        | An assumption is made to reflect the number of years, on average, reservists retire early due to performing certain active service, per P.L. 110-181. An average reduction of two years (age 58) is assumed. Fiscal years are needed to phase into this earlier retirement over time. The transition to an average retirement age of 59 is assumed to occur in 2024, and the transition to age 58 is assumed to occur in 2033. See also the ‘Retiree Gain Statement’ in Appendix K. |

**TABLE F-1 (continued)**

| <u>Item</u>                           | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5) Ratio of Reserve to Active Payroll | For the purposes of the allocation referred to in item 2) above, this value represents the assumed ratio of reserve duty to active duty basic payroll. The value for the valuation is 10%.                                                                                                                                                                                                                                                                                                                           |
| 6) BRS Opt-In Rates                   | Rates used to determine the portion of members with fewer than 4,320 points as of December 31, 2017, opting into BRS during the calendar year 2018 Open Season. Varies by years of service and officer/enlisted. They are equal to ½ of the Opt-In Rates for Active Duty (Item 11).                                                                                                                                                                                                                                  |
| 7) BRS Lump Sum Election Rates        | This is the rate of election of lump sums by those who are covered under BRS. The value is based on a study done by an external organization and represents members having a “Low Personal Discount Rate and Aware of Tax and VA Offset Implications.” It is an interpolated value for reserves using an assumed lump sum discount rate (used to calculate lump sums) of 7.3%; the assumptions are 2.0% for officers and 8.4% for enlisted. Of those who elect lump sums, all are assumed to elect the 50% lump sum. |

## **Retiree**

| <u>Item</u>                       | <u>Description/Value</u>                                                                                                                                                                                                                                                             |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Retired Pay Adjustment Factors | Retired pay of current retirees is adjusted for VA compensation, SBP offset changes, and other non-COLA effects during the year. They are given by officer/enlisted status, disability/nondisability, and whether or not the member has elected SBP spouse or spouse/child coverage. |



**TABLE F-1 (continued)**

| <u>Item</u>                                                   | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2) Retired Pay Adjustment to Members With SBP Spouse Coverage | These factors model data that show mortality is better (or less), and non-death loss from paid status is generally higher, for those retired members who elect SBP spouse coverage. Rather than develop additional sets of mortality and loss rates, the respective retiree death and loss rates (Appendix I) are adjusted with these factors. This impacts retirees with SBP spouse coverage. The factors are given by active/reserve, disability/nondisability status, and officer/enlisted status. |

### **Survivor**

| <u>Item</u>                                           | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Member-Survivor Age Difference                     | When a member dies, a survivor is assumed to be a certain number of years younger (or older) than the member. This is given by active/reserve, age, officer/enlisted status, type of retirement (i.e., nondisability, temporary disability, permanent disability), and type of survivor (i.e., spouse, child, insurable interest).                                                                                                                                                                        |
| 2) Ratio of SBP Base Amount to Net Retired Pay        | Under SBP the retiree may elect an amount less than his or her gross retired pay as a base in computing the survivor annuity. Base amounts can also exceed net retired pay because of factors that reduce gross retired pay to net retired pay. This is expressed as a percentage of net retired pay and is given by age, officer/enlisted status, benefit tier, and type of retirement (disability/nondisability/reserve). Additional adjustments are made to the factors as part of Concurrent Receipt. |
| 3) Ratio of RSFPP Survivor Benefit To Net Retired Pay | For RSFPP (Retired Servicemen's Family Protection Plan), this gives the ratio of the survivor payment to the net amount of retired pay.                                                                                                                                                                                                                                                                                                                                                                   |
| 4) Reservists' Election of RCSBP                      | Proportion of reservists who have elected the Reserve Component Survivor Benefit Plan (RCSBP) by immediate and deferred annuity, age, and officer/enlisted status.                                                                                                                                                                                                                                                                                                                                        |

**TABLE F-1 (continued)**

| <u>Item</u>                            | <u>Description/Value</u>                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5) Partial DIC Offsets                 | The percent of survivor pay of new survivors whose pay is partially offset by DIC. They are given by the member's active/reserve status.                                                                                                                                                                                                                                                                      |
| 6) Full DIC Offsets                    | The percent of survivor pay of new survivors whose pay is fully offset by DIC. They are given by the member's active/reserve status.                                                                                                                                                                                                                                                                          |
| 7) Rates for Electing SBP Options      | Given that a member elects SBP, there is still a choice of options: spouse only, child only, spouse and child, or insurable interest (some other designated beneficiary in the absence of a spouse or child). These are expressed as ratios to those electing spouse only or spouse/child coverage, and are given by age, officer/enlisted status, and type of retirement (disability/nondisability/reserve). |
| 8) Rates for Election of RSFPP Options | Given that a member elected an RSFPP option, there was a choice of options: spouse only, child only, or spouse and child. These are expressed as ratios to those electing spouse only or spouse/child coverage, and are given by age and officer/enlisted status.                                                                                                                                             |
| 9) Survivor Pay Adjustment Factors     | Survivor pay of current survivors is adjusted for changes in DIC and other non-COLA effects during the year.                                                                                                                                                                                                                                                                                                  |
| 10) DIC Base Amount                    | Monthly amount by which DoD annuitant pay is offset by DIC. Future values are indexed to CPI. The first-year value for the valuation is \$1,319.                                                                                                                                                                                                                                                              |

APPENDIX G

ACTIVE DUTY RATES

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## **ACTIVE DUTY RATE DESCRIPTION**

The active duty rates consist principally of decrement rates related to the probabilities of a member leaving a category of military service for a specific cause. In addition, they include a new entrant distribution, a set of reentrant ratios, and ratios for promotion and merit pay increases. For the purposes of active duty rate development, full-time support reservists (excluding Army National Guard) are included in the underlying data.

The active duty decrement rates are used to project active duty deaths, temporary and permanent disability retirements, nondisability retirements, and withdrawals (i.e., other active duty losses). As noted in the “Valuation Data and Procedure” section, as well as Table 6B, in the main text, the valuation results for active duty members and the full-time normal cost are sensitive to the withdrawal rates. In addition, the active duty decrements include rates of transfer between officer and enlisted status. The death rates are given by age nearest birthday for officers and enlistees separately. The remaining decrement rates are given by completed years of active service for officers and enlistees separately. The formulas used to derive the active duty rates are given on the following page. The fiscal years on which various rates are based are given on the subsequent page. The experience period was selected such that the sum of the active force size changes for the included periods was near zero, and the experience period intentionally excludes the significant downsizing of the early 1990s, which is not considered a representative basis upon which to develop long-run actuarial assumptions. Full-time reservist experience is included in the data used to develop the rates.

Active duty disability retirement rates were updated in a prior year’s (September 30, 2015), valuation using an underlying experience period from FY 2010 – FY 2014 for years of service less than 19. These rates recognize the increase in disability retirements resulting from implementing the Integrated Disability Evaluation System (IDES, operated jointly by DoD and the VA since 2007), as well as a notable increase in combat-related disability retirements. The data available for study could not fully explain the reasons for the increased disability retirement experience (i.e., the inability to separate combat-related injuries by incidence year due to some backlogs created by moving to the IDES). In order to recognize this inherent uncertainty in the data, and also to acknowledge potential future improvements to reduce the severity of combat-related injuries and potential reductions to combat exposure, the Board agreed to remove half of the combat-related disabilities from the FY 2010 – FY 2014 experience period. However, the Board also agreed that OACT should add an additional amount of accrued liability to recognize the higher number of disability retirements expected in the near term (phased out over a four-year period) compared to what the new disability rates produce. This valuation includes the third year of the four-year period.

Generally, the decrement rates were graduated (smoothed) using Whittaker-Henderson graduations. The typical active duty career has inherent discontinuities at select points (reenlistment, promotion, retirement, etc.). Rates were separated into ranges where assumptions of continuity were reasonable. Where actual discontinuities exist, the rates were not smoothed.

A reentrant is defined as someone who is on active duty at year-end, who was not on active duty a year earlier, and who is not a new entrant. The reentrant ratios give the expected

number of reentrants per year, per active member, in each cell. The cells are defined by length of active service and by officer/enlisted status.

The new entrant distribution gives the percentages of new entrants to the military by age and by officer/enlisted status. This distribution is only used in the normal cost (new entrant) valuation and the open-group projection.

The promotion and merit increase scales (PAMS) give the expected annual percentage increase in pay regardless of whether or not there are across-the-board increases in the active duty pay table. The PAMS do not include adjustments for inflation or productivity increases. They are defined by length of service, by entry age, and by officer/enlisted status. The PAMS were created by first arraying the average pay for each entry age along a dimension of increasing years of service. The PAMS were then computed by dividing the average pay at the next year of service by the average pay at the current year of service.

## ACTIVE DUTY RATE FORMULAS

### ACTIVE DEATH (by age nearest birthday)

$$\frac{\text{Deaths during year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{withdrawals} + \text{nondisability retirements during year})]}$$

### NONDISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New retirees during year}}{\text{Number at beginning of year}}$$

### TEMPORARY DISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New temporary disabilities during year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{withdrawals} + \text{nondisability retirements during year})]}$$

### PERMANENT DISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New permanent disabilities during year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{withdrawals} + \text{nondisability retirements during year})]}$$

### WITHDRAWAL (by completed years of service)

$$\frac{\text{Withdrawals during year}}{\text{Number at beginning of year}}$$

### REENTRANT RATIOS (by completed years of service)

$$\frac{\text{Number reentering during year}}{\text{Number at beginning of year}}$$

### PERCENTAGE DISTRIBUTION OF NEW ENTRANTS (by age nearest birthday)

$$\frac{\text{New entrants during year}}{\text{Total new entrants}}$$

### PAYGRADE TRANSFER (by completed years of service)

$$\frac{\text{Transfers to category during year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{withdrawals} + \text{nondisability retirements during year})]}$$

### PROMOTION AND MERIT SCALES (by entry age and completed years of service)

$$\frac{\text{Average basic pay at next year of service using current year pay table}}{\text{Average basic pay at current year of service}}$$

**SUMMARY OF YEARS ON WHICH ACTIVE DUTY RATES ARE BASED**

**By Fiscal Year**

| <u>RATE</u>                       | <u>1982-1989</u> | <u>1997-1999</u> | <u>2000-2008</u> | <u>2010-2014*</u> | <u>2015</u> |
|-----------------------------------|------------------|------------------|------------------|-------------------|-------------|
| Death                             |                  |                  |                  | X                 | X           |
| Nondisability Retirement          | X                | X                | X                |                   |             |
| Temporary Disability Retirement   |                  |                  |                  | X                 |             |
| Permanent Disability Retirement   |                  |                  |                  | X                 |             |
| Withdrawal (other losses)         | X                | X                | X                |                   |             |
| Reentrant Ratios                  | X                | X                | X                |                   |             |
| New Entrant Distribution          | X                | X                | X                |                   |             |
| Paygrade Transfer                 | X                | X                | X                |                   |             |
| Promotion and Merit Scales (PAMS) | X                | X                | X                |                   |             |

\* In the construction of the disability-related rates, we removed one half of the combat-related disability retirements occurring during the the FY 2010 - FY 2014 experience period. This removal only affects rates less than 19 years of service. We subtracted additional disability retirements from withdrawals, thereby affecting withdrawal rates and not impacting the percentage making 20 year retirement.

# DEATH RATES FOR NONRETIRED MILITARY

(AGE NEAREST BIRTHDAY)

| Age | Officer | Enlisted |
|-----|---------|----------|
| 16  | 0.00049 | 0.00069  |
| 17  | 0.00048 | 0.00070  |
| 18  | 0.00047 | 0.00071  |
| 19  | 0.00046 | 0.00073  |
| 20  | 0.00045 | 0.00075  |
| 21  | 0.00044 | 0.00076  |
| 22  | 0.00044 | 0.00077  |
| 23  | 0.00043 | 0.00077  |
| 24  | 0.00043 | 0.00076  |
| 25  | 0.00043 | 0.00075  |
| 26  | 0.00042 | 0.00073  |
| 27  | 0.00042 | 0.00072  |
| 28  | 0.00041 | 0.00070  |
| 29  | 0.00041 | 0.00070  |
| 30  | 0.00041 | 0.00068  |
| 31  | 0.00040 | 0.00068  |
| 32  | 0.00041 | 0.00067  |
| 33  | 0.00040 | 0.00066  |
| 34  | 0.00040 | 0.00066  |
| 35  | 0.00040 | 0.00067  |
| 36  | 0.00041 | 0.00067  |
| 37  | 0.00041 | 0.00066  |
| 38  | 0.00042 | 0.00067  |
| 39  | 0.00042 | 0.00067  |
| 40  | 0.00043 | 0.00067  |
| 41  | 0.00043 | 0.00068  |
| 42  | 0.00044 | 0.00068  |
| 43  | 0.00045 | 0.00070  |
| 44  | 0.00046 | 0.00071  |
| 45  | 0.00049 | 0.00073  |
| 46  | 0.00051 | 0.00077  |
| 47  | 0.00053 | 0.00080  |
| 48  | 0.00057 | 0.00083  |
| 49  | 0.00061 | 0.00087  |
| 50  | 0.00065 | 0.00091  |
| 51  | 0.00069 | 0.00096  |
| 52  | 0.00074 | 0.00100  |
| 53  | 0.00079 | 0.00106  |
| 54  | 0.00085 | 0.00111  |
| 55  | 0.00089 | 0.00117  |
| 56  | 0.00095 | 0.00123  |
| 57  | 0.00101 | 0.00130  |
| 58  | 0.00108 | 0.00136  |
| 59  | 0.00114 | 0.00143  |
| 60  | 0.00121 | 0.00150  |

Note: These death rates should not be compared to other published rates or used for other purposes without examining the exposure formula used in the derivation.



# **NONDISABILITY, TEMPORARY DISABILITY & PERMANENT DISABILITY RETIREMENT RATES**

## **OFFICERS (BY COMPLETED YEARS OF SERVICE)**

| <u>Years of<br/>Service</u> | <u>Non-<br/>disability</u> | <u>Temporary<br/>Disability ***</u> | <u>Permanent<br/>Disability ***</u> |
|-----------------------------|----------------------------|-------------------------------------|-------------------------------------|
| 0                           | 0.00000                    | 0.00033                             | 0.00037                             |
| 1                           | 0.00000                    | 0.00064                             | 0.00038                             |
| 2                           | 0.00000                    | 0.00083                             | 0.00074                             |
| 3                           | 0.00000                    | 0.00091                             | 0.00096                             |
| 4                           | 0.00000                    | 0.00101                             | 0.00087                             |
| 5                           | 0.00000                    | 0.00095                             | 0.00093                             |
| 6                           | 0.00000                    | 0.00107                             | 0.00154                             |
| 7                           | 0.00000                    | 0.00112                             | 0.00103                             |
| 8                           | 0.00000                    | 0.00115                             | 0.00152                             |
| 9                           | 0.00000                    | 0.00103                             | 0.00171                             |
| 10                          | 0.00000                    | 0.00105                             | 0.00153                             |
| 11                          | 0.00000                    | 0.00098                             | 0.00135                             |
| 12                          | 0.00000                    | 0.00090                             | 0.00148                             |
| 13                          | 0.00000                    | 0.00080                             | 0.00175                             |
| 14                          | 0.00000                    | 0.00080                             | 0.00154                             |
| 15                          | 0.00000                    | 0.00077                             | 0.00159                             |
| 16                          | 0.00000                    | 0.00069                             | 0.00202                             |
| 17                          | 0.00000                    | 0.00059                             | 0.00224                             |
| 18                          | 0.00000                    | 0.00048                             | 0.00204                             |
| 19                          | 0.24556                    | 0.00192                             | 0.00141                             |
| 20                          | 0.20352                    | 0.00231                             | 0.00198                             |
| 21                          | 0.16113                    | 0.00169                             | 0.00178                             |
| 22                          | 0.14428                    | 0.00204                             | 0.00150                             |
| 23                          | 0.14541                    | 0.00222                             | 0.00187                             |
| 24                          | 0.14305                    | 0.00209                             | 0.00176                             |
| 25                          | 0.18396                    | 0.00214                             | 0.00140                             |
| 26                          | 0.19135                    | 0.00361                             | 0.00210                             |
| 27                          | 0.22470                    | 0.00322                             | 0.00166                             |
| 28                          | 0.20692                    | 0.00367                             | 0.00262                             |
| 29                          | 0.49853                    | 0.00505                             | 0.00341                             |
| 30                          | 0.37879                    | 0.00692                             | 0.00435                             |
| 31                          | 0.28016                    | 0.00534                             | 0.00334                             |
| 32                          | 0.25438                    | 0.00534                             | 0.00334                             |
| 33                          | 0.26999                    | 0.00534                             | 0.00334                             |
| 34                          | 1.00000                    | 0.00534                             | 0.00334                             |

\*\*\* The increase in disability rates, particularly between 18 and 19 years of service, may be due to the removal of the 30% disability rating minimum for members with 20 years of service. The tax advantages accorded disability retired pay described in Appendix A may result in members choosing disability over nondisability retirements. Disabilities were increased to reflect recent trends.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

# **NONDISABILITY, TEMPORARY DISABILITY & PERMANENT DISABILITY RETIREMENT RATES**

## **ENLISTED (BY COMPLETED YEARS OF SERVICE)**

| <u>Years of<br/>Service</u> | <u>Non-<br/>disability</u> | <u>Temporary<br/>Disability ***</u> | <u>Permanent<br/>Disability ***</u> |
|-----------------------------|----------------------------|-------------------------------------|-------------------------------------|
| 0                           | 0.00000                    | 0.00187                             | 0.00054                             |
| 1                           | 0.00000                    | 0.00307                             | 0.00179                             |
| 2                           | 0.00000                    | 0.00383                             | 0.00291                             |
| 3                           | 0.00000                    | 0.00450                             | 0.00382                             |
| 4                           | 0.00000                    | 0.00430                             | 0.00396                             |
| 5                           | 0.00000                    | 0.00422                             | 0.00425                             |
| 6                           | 0.00000                    | 0.00415                             | 0.00497                             |
| 7                           | 0.00000                    | 0.00440                             | 0.00521                             |
| 8                           | 0.00000                    | 0.00441                             | 0.00614                             |
| 9                           | 0.00000                    | 0.00448                             | 0.00645                             |
| 10                          | 0.00000                    | 0.00429                             | 0.00688                             |
| 11                          | 0.00000                    | 0.00423                             | 0.00776                             |
| 12                          | 0.00000                    | 0.00398                             | 0.00757                             |
| 13                          | 0.00000                    | 0.00387                             | 0.00785                             |
| 14                          | 0.00000                    | 0.00380                             | 0.00737                             |
| 15                          | 0.00000                    | 0.00281                             | 0.00749                             |
| 16                          | 0.00000                    | 0.00186                             | 0.00601                             |
| 17                          | 0.00000                    | 0.00132                             | 0.00492                             |
| 18                          | 0.00000                    | 0.00075                             | 0.00352                             |
| 19                          | 0.42256                    | 0.00541                             | 0.00551                             |
| 20                          | 0.30241                    | 0.00521                             | 0.00634                             |
| 21                          | 0.26793                    | 0.00422                             | 0.00482                             |
| 22                          | 0.23110                    | 0.00433                             | 0.00508                             |
| 23                          | 0.29343                    | 0.00417                             | 0.00419                             |
| 24                          | 0.18735                    | 0.00362                             | 0.00359                             |
| 25                          | 0.33712                    | 0.00437                             | 0.00322                             |
| 26                          | 0.24102                    | 0.00511                             | 0.00333                             |
| 27                          | 0.24118                    | 0.00523                             | 0.00343                             |
| 28                          | 0.19147                    | 0.00545                             | 0.00466                             |
| 29                          | 0.77601                    | 0.00999                             | 0.00586                             |
| 30                          | 0.64842                    | 0.01644                             | 0.00795                             |
| 31                          | 0.42640                    | 0.01399                             | 0.00340                             |
| 32                          | 0.50641                    | 0.01399                             | 0.00340                             |
| 33                          | 0.40749                    | 0.01399                             | 0.00340                             |
| 34                          | 1.00000                    | 0.01399                             | 0.00340                             |

\*\*\* The increase in disability rates, particularly between 18 and 19 years of service, may be due to the removal of the 30% disability rating minimum for members with 20 years of service. The tax advantages accorded disability retired pay described in Appendix A may result in members choosing disability over nondisability retirements. Disabilities were increased to reflect recent trends.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**WITHDRAWAL, REENTRANT, AND NET LOSS RATES  
FOR ACTIVE DUTY PERSONNEL**

**OFFICERS (BY COMPLETED YEARS OF SERVICE)**

| <b>Years of<br/>Service</b> | <b>Withdrawal</b> | <b>Reentrant ***</b> | <b>Net Loss</b> |
|-----------------------------|-------------------|----------------------|-----------------|
| 0                           | 0.01797           | 0.11937              | -0.10140        |
| 1                           | 0.02185           | 0.03298              | -0.01113        |
| 2                           | 0.07016           | 0.02574              | 0.04442         |
| 3                           | 0.12152           | 0.02898              | 0.09254         |
| 4                           | 0.10811           | 0.01964              | 0.08847         |
| 5                           | 0.09269           | 0.01703              | 0.07566         |
| 6                           | 0.09609           | 0.01444              | 0.08165         |
| 7                           | 0.08410           | 0.01400              | 0.07010         |
| 8                           | 0.07614           | 0.01200              | 0.06414         |
| 9                           | 0.06734           | 0.01155              | 0.05579         |
| 10                          | 0.06538           | 0.00872              | 0.05666         |
| 11                          | 0.05271           | 0.00798              | 0.04473         |
| 12                          | 0.03476           | 0.00656              | 0.02820         |
| 13                          | 0.02376           | 0.00557              | 0.01819         |
| 14                          | 0.01562           | 0.00467              | 0.01095         |
| 15                          | 0.00947           | 0.00368              | 0.00579         |
| 16                          | 0.00629           | 0.00291              | 0.00338         |
| 17                          | 0.00326           | 0.00252              | 0.00074         |
| 18                          | 0.00122           | 0.00246              | -0.00124        |
| 19                          | 0.00000           | 0.00223              | -0.00223        |
| 20                          | 0.00000           | 0.00247              | -0.00247        |
| 21                          | 0.00000           | 0.00259              | -0.00259        |
| 22                          | 0.00000           | 0.00230              | -0.00230        |
| 23                          | 0.00000           | 0.00237              | -0.00237        |
| 24                          | 0.00000           | 0.00229              | -0.00229        |
| 25                          | 0.00000           | 0.00268              | -0.00268        |
| 26                          | 0.00000           | 0.00276              | -0.00276        |
| 27                          | 0.00000           | 0.00284              | -0.00284        |
| 28                          | 0.00000           | 0.00329              | -0.00329        |
| 29                          | 0.00000           | 0.00419              | -0.00419        |
| 30                          | 0.00000           | 0.00912              | -0.00912        |
| 31                          | 0.00000           | 0.00803              | -0.00803        |
| 32                          | 0.00000           | 0.01145              | -0.01145        |
| 33                          | 0.00000           | 0.01084              | -0.01084        |
| 34                          | 0.00000           | 0.00000              | 0.00000         |

\*\*\* The reentrant (and all other) rates are developed for valuation purposes to be consistent with the data sources used in the valuation. For example, high reentrant rates for members with zero completed years of service at the beginning of the year reflect members showing up on the valuation data files with one completed year of service at year end, who were not on the data files at the beginning of the year, and who were not new entrants. For this reason, the above rates should not be used for other purposes.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**WITHDRAWAL, REENTRANT, AND NET LOSS RATES  
FOR ACTIVE DUTY PERSONNEL**

**ENLISTED (BY COMPLETED YEARS OF SERVICE)**

| <b>Years of<br/>Service</b> | <b>Withdrawal</b> | <b>Reentrant ***</b> | <b>Net Loss</b> |
|-----------------------------|-------------------|----------------------|-----------------|
| 0                           | 0.10397           | 0.03043              | 0.07354         |
| 1                           | 0.10110           | 0.00769              | 0.09341         |
| 2                           | 0.18122           | 0.01394              | 0.16728         |
| 3                           | 0.35270           | 0.02745              | 0.32525         |
| 4                           | 0.15681           | 0.01394              | 0.14287         |
| 5                           | 0.15456           | 0.01128              | 0.14328         |
| 6                           | 0.11141           | 0.00966              | 0.10175         |
| 7                           | 0.12239           | 0.00918              | 0.11321         |
| 8                           | 0.09056           | 0.00761              | 0.08295         |
| 9                           | 0.08561           | 0.00682              | 0.07879         |
| 10                          | 0.05092           | 0.00540              | 0.04552         |
| 11                          | 0.04076           | 0.00453              | 0.03623         |
| 12                          | 0.03078           | 0.00347              | 0.02731         |
| 13                          | 0.01845           | 0.00282              | 0.01563         |
| 14                          | 0.01548           | 0.00223              | 0.01325         |
| 15                          | 0.00712           | 0.00188              | 0.00524         |
| 16                          | 0.00476           | 0.00154              | 0.00322         |
| 17                          | 0.00314           | 0.00145              | 0.00169         |
| 18                          | 0.00157           | 0.00139              | 0.00018         |
| 19                          | 0.00000           | 0.00126              | -0.00126        |
| 20                          | 0.00000           | 0.00157              | -0.00157        |
| 21                          | 0.00000           | 0.00148              | -0.00148        |
| 22                          | 0.00000           | 0.00167              | -0.00167        |
| 23                          | 0.00000           | 0.00156              | -0.00156        |
| 24                          | 0.00000           | 0.00212              | -0.00212        |
| 25                          | 0.00000           | 0.00169              | -0.00169        |
| 26                          | 0.00000           | 0.00247              | -0.00247        |
| 27                          | 0.00000           | 0.00180              | -0.00180        |
| 28                          | 0.00000           | 0.00212              | -0.00212        |
| 29                          | 0.00000           | 0.00168              | -0.00168        |
| 30                          | 0.00000           | 0.01403              | -0.01403        |
| 31                          | 0.00000           | 0.03693              | -0.03693        |
| 32                          | 0.00000           | 0.04974              | -0.04974        |
| 33                          | 0.00000           | 0.09762              | -0.09762        |
| 34                          | 0.00000           | 0.00000              | 0.00000         |

\*\*\* The reentrant (and all other) rates are developed for valuation purposes to be consistent with the data sources used in the valuation. For example, high reentrant rates for members with zero completed years of service at the beginning of the year reflect members showing up on the valuation data files with one completed year of service at year end, who were not on the data files at the beginning of the year, and who were not new entrants. For this reason, the above rates should not be used for other purposes.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**PERCENTAGE DISTRIBUTION OF NEW ENTRANTS**

**(AGE NEAREST BIRTHDAY)**

| <u>Age</u> | <u>Officers</u> | <u>Enlisted</u> | <u>Total</u> |
|------------|-----------------|-----------------|--------------|
| 16         | 0.00000         | 0.00000         | 0.00000      |
| 17         | 0.00000         | 0.00142         | 0.00142      |
| 18         | 0.00000         | 0.12146         | 0.12146      |
| 19         | 0.00001         | 0.25484         | 0.25485      |
| 20         | 0.00008         | 0.19288         | 0.19296      |
| 21         | 0.00045         | 0.11431         | 0.11476      |
| 22         | 0.01188         | 0.07357         | 0.08545      |
| 23         | 0.01920         | 0.05093         | 0.07013      |
| 24         | 0.01025         | 0.03619         | 0.04644      |
| 25         | 0.00470         | 0.02550         | 0.03020      |
| 26         | 0.00386         | 0.01783         | 0.02169      |
| 27         | 0.00327         | 0.01252         | 0.01579      |
| 28         | 0.00216         | 0.00929         | 0.01145      |
| 29         | 0.00163         | 0.00663         | 0.00826      |
| 30         | 0.00127         | 0.00475         | 0.00602      |
| 31         | 0.00097         | 0.00358         | 0.00455      |
| 32         | 0.00075         | 0.00285         | 0.00360      |
| 33         | 0.00058         | 0.00226         | 0.00284      |
| 34         | 0.00046         | 0.00187         | 0.00233      |
| 35         | 0.00038         | 0.00165         | 0.00203      |
| 36         | 0.00028         | 0.00063         | 0.00091      |
| 37         | 0.00020         | 0.00030         | 0.00050      |
| 38         | 0.00017         | 0.00024         | 0.00041      |
| 39         | 0.00015         | 0.00020         | 0.00035      |
| 40         | 0.00013         | 0.00018         | 0.00031      |
| 41         | 0.00010         | 0.00014         | 0.00024      |
| 42         | 0.00008         | 0.00014         | 0.00022      |
| 43         | 0.00007         | 0.00007         | 0.00014      |
| 44         | 0.00006         | 0.00004         | 0.00010      |
| 45         | 0.00005         | 0.00004         | 0.00009      |
| 46         | 0.00005         | 0.00003         | 0.00008      |
| 47         | 0.00004         | 0.00003         | 0.00007      |
| 48         | 0.00004         | 0.00003         | 0.00007      |
| 49         | 0.00003         | 0.00002         | 0.00005      |
| 50         | 0.00003         | 0.00002         | 0.00005      |
| 51         | 0.00002         | 0.00001         | 0.00003      |
| 52         | 0.00002         | 0.00001         | 0.00003      |
| 53         | 0.00002         | 0.00001         | 0.00003      |
| 54         | 0.00002         | 0.00001         | 0.00003      |
| 55         | 0.00002         | 0.00001         | 0.00003      |
| 56         | 0.00001         | 0.00000         | 0.00001      |
| 57         | 0.00001         | 0.00000         | 0.00001      |
| 58         | 0.00001         | 0.00000         | 0.00001      |
| 59         | 0.00001         | 0.00000         | 0.00001      |
| 60         | 0.00000         | 0.00000         | 0.00000      |
| Total      | 0.06352         | 0.93648         | 1.00000      |

## PAYGRADE TRANSFER RATES

### STATUS (BY COMPLETED YEARS OF SERVICE)

| Years of<br>Service | Officer to<br>Enlisted | Enlisted to<br>Officer |
|---------------------|------------------------|------------------------|
| 0                   | 0.00042                | 0.00304                |
| 1                   | 0.00010                | 0.00096                |
| 2                   | 0.00006                | 0.00112                |
| 3                   | 0.00013                | 0.00145                |
| 4                   | 0.00013                | 0.00227                |
| 5                   | 0.00008                | 0.00282                |
| 6                   | 0.00014                | 0.00393                |
| 7                   | 0.00014                | 0.00515                |
| 8                   | 0.00013                | 0.00718                |
| 9                   | 0.00013                | 0.00874                |
| 10                  | 0.00012                | 0.00968                |
| 11                  | 0.00039                | 0.00969                |
| 12                  | 0.00058                | 0.00907                |
| 13                  | 0.00047                | 0.00778                |
| 14                  | 0.00077                | 0.00613                |
| 15                  | 0.00094                | 0.00472                |
| 16                  | 0.00112                | 0.00306                |
| 17                  | 0.00055                | 0.00179                |
| 18                  | 0.00014                | 0.00137                |
| 19                  | 0.00017                | 0.00096                |
| 20                  | 0.00010                | 0.00115                |
| 21                  | 0.00005                | 0.00105                |
| 22                  | 0.00006                | 0.00093                |
| 23                  | 0.00002                | 0.00088                |
| 24                  | 0.00000                | 0.00044                |
| 25                  | 0.00000                | 0.00005                |
| 26                  | 0.00000                | 0.00002                |
| 27                  | 0.00000                | 0.00007                |
| 28                  | 0.00000                | 0.00000                |
| 29                  | 0.00000                | 0.00000                |
| 30                  | 0.00000                | 0.00000                |
| 31                  | 0.00000                | 0.00000                |
| 32                  | 0.00000                | 0.00000                |
| 33                  | 0.00000                | 0.00000                |
| 34                  | 0.00000                | 0.00000                |

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

## PROMOTION AND MERIT BASIC PAY INCREASE SCALES

## OFFICERS (BY ENTRY AGE)

| Years of<br>Service | Entry Age |         |         |         |         |         |         |         |         |         |         |
|---------------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                     | 16        | 17      | 18      | 19      | 20      | 21      | 22      | 23      | 24      | 25      | 26      |
| 1                   | 1.01406   | 1.01406 | 1.01406 | 1.01406 | 1.01406 | 1.01406 | 1.01406 | 1.03788 | 1.06850 | 1.06863 | 1.03084 |
| 2                   | 1.26101   | 1.26101 | 1.26101 | 1.26101 | 1.26101 | 1.26101 | 1.26101 | 1.26733 | 1.24639 | 1.22059 | 1.12813 |
| 3                   | 1.16436   | 1.16436 | 1.16436 | 1.16436 | 1.16436 | 1.16436 | 1.16436 | 1.15592 | 1.14107 | 1.13118 | 1.08444 |
| 4                   | 1.12838   | 1.12838 | 1.12838 | 1.12838 | 1.12838 | 1.12838 | 1.12838 | 1.12854 | 1.10999 | 1.09523 | 1.06425 |
| 5                   | 1.01427   | 1.01427 | 1.01427 | 1.01427 | 1.01427 | 1.01427 | 1.01427 | 1.02410 | 1.02904 | 1.03108 | 1.02871 |
| 6                   | 1.03943   | 1.03943 | 1.03943 | 1.03943 | 1.03943 | 1.03943 | 1.03943 | 1.04289 | 1.03995 | 1.04497 | 1.05461 |
| 7                   | 0.99489   | 0.99489 | 0.99489 | 0.99489 | 0.99489 | 0.99489 | 0.99489 | 1.01191 | 1.02020 | 1.02535 | 1.02334 |
| 8                   | 1.03290   | 1.03290 | 1.03290 | 1.03290 | 1.03290 | 1.03290 | 1.03290 | 1.04169 | 1.03766 | 1.04233 | 1.04014 |
| 9                   | 0.99442   | 0.99442 | 0.99442 | 0.99442 | 0.99442 | 0.99442 | 0.99442 | 1.01394 | 1.02086 | 1.02143 | 1.02062 |
| 10                  | 1.03956   | 1.03956 | 1.03956 | 1.03956 | 1.03956 | 1.03956 | 1.03956 | 1.05820 | 1.05017 | 1.04618 | 1.03943 |
| 11                  | 1.01571   | 1.01571 | 1.01571 | 1.01571 | 1.01571 | 1.01571 | 1.01571 | 1.04944 | 1.05558 | 1.04535 | 1.02645 |
| 12                  | 1.05143   | 1.05143 | 1.05143 | 1.05143 | 1.05143 | 1.05143 | 1.05143 | 1.05911 | 1.04767 | 1.04470 | 1.03802 |
| 13                  | 1.00603   | 1.00603 | 1.00603 | 1.00603 | 1.00603 | 1.00603 | 1.00603 | 1.01511 | 1.01989 | 1.02090 | 1.01887 |
| 14                  | 1.03458   | 1.03458 | 1.03458 | 1.03458 | 1.03458 | 1.03458 | 1.03458 | 1.02798 | 1.02367 | 1.02606 | 1.02729 |
| 15                  | 1.01346   | 1.01346 | 1.01346 | 1.01346 | 1.01346 | 1.01346 | 1.01346 | 1.01512 | 1.02064 | 1.02177 | 1.01984 |
| 16                  | 1.03810   | 1.03810 | 1.03810 | 1.03810 | 1.03810 | 1.03810 | 1.03810 | 1.04225 | 1.03899 | 1.03557 | 1.03369 |
| 17                  | 1.02706   | 1.02706 | 1.02706 | 1.02706 | 1.02706 | 1.02706 | 1.02706 | 1.03034 | 1.02876 | 1.02850 | 1.02258 |
| 18                  | 1.03826   | 1.03826 | 1.03826 | 1.03826 | 1.03826 | 1.03826 | 1.03826 | 1.02671 | 1.02287 | 1.02382 | 1.02758 |
| 19                  | 1.01543   | 1.01543 | 1.01543 | 1.01543 | 1.01543 | 1.01543 | 1.01543 | 1.01051 | 1.01301 | 1.01426 | 1.01488 |
| 20                  | 1.03350   | 1.03350 | 1.03350 | 1.03350 | 1.03350 | 1.03350 | 1.03350 | 1.03628 | 1.03721 | 1.03951 | 1.04114 |
| 21                  | 1.02310   | 1.02310 | 1.02310 | 1.02310 | 1.02310 | 1.02310 | 1.02310 | 1.03595 | 1.03778 | 1.03563 | 1.02747 |
| 22                  | 1.04475   | 1.04475 | 1.04475 | 1.04475 | 1.04475 | 1.04475 | 1.04475 | 1.06061 | 1.05316 | 1.04753 | 1.03385 |
| 23                  | 1.02847   | 1.02847 | 1.02847 | 1.02847 | 1.02847 | 1.02847 | 1.02847 | 1.03169 | 1.03022 | 1.03020 | 1.02115 |
| 24                  | 1.03200   | 1.03200 | 1.03200 | 1.03200 | 1.03200 | 1.03200 | 1.03200 | 1.02880 | 1.02749 | 1.02601 | 1.01918 |
| 25                  | 1.02086   | 1.02086 | 1.02086 | 1.02086 | 1.02086 | 1.02086 | 1.02086 | 1.02065 | 1.02561 | 1.02340 | 1.01420 |
| 26                  | 1.03961   | 1.03961 | 1.03961 | 1.03961 | 1.03961 | 1.03961 | 1.03961 | 1.03981 | 1.03084 | 1.02729 | 1.02475 |
| 27                  | 1.01440   | 1.01440 | 1.01440 | 1.01440 | 1.01440 | 1.01440 | 1.01440 | 1.01278 | 1.00986 | 1.01164 | 1.00971 |
| 28                  | 1.01850   | 1.01850 | 1.01850 | 1.01850 | 1.01850 | 1.01850 | 1.01850 | 1.02795 | 1.02738 | 1.02510 | 1.01871 |
| 29                  | 1.01886   | 1.01886 | 1.01886 | 1.01886 | 1.01886 | 1.01886 | 1.01886 | 1.02296 | 1.01666 | 1.01419 | 1.00772 |
| 30                  | 1.04665   | 1.04665 | 1.04665 | 1.04665 | 1.04665 | 1.04665 | 1.04665 | 1.06930 | 1.05109 | 1.04079 | 1.02158 |
| 31                  | 1.03553   | 1.03553 | 1.03553 | 1.03553 | 1.03553 | 1.03553 | 1.03553 | 1.07120 | 1.05099 | 1.05582 | 1.01283 |
| 32                  | 1.02979   | 1.02979 | 1.02979 | 1.02979 | 1.02979 | 1.02979 | 1.02979 | 1.04555 | 1.04030 | 1.04734 | 1.02783 |
| 33                  | 1.02118   | 1.02118 | 1.02118 | 1.02118 | 1.02118 | 1.02118 | 1.02118 | 1.02422 | 1.02166 | 1.03341 | 1.02317 |
| 34                  | 0.98796   | 0.98796 | 0.98796 | 0.98796 | 0.98796 | 0.98796 | 0.98796 | 0.94853 | 0.99750 | 1.00271 | 1.03332 |

Note: The number that appears, for example, in the column marked '20' and the row marked '2' is the ratio of basic pay at two years of service to basic pay at one year of service for a member who entered at age 20.

## PROMOTION AND MERIT BASIC PAY INCREASE SCALES

ENLISTED (BY ENTRY AGE)

| Years of<br>Service | Entry Age |         |         |         |         |         |         |         |         |         |         |
|---------------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                     | 16        | 17      | 18      | 19      | 20      | 21      | 22      | 23      | 24      | 25      | 26      |
| 1                   | 1.14463   | 1.14463 | 1.15192 | 1.13066 | 1.10499 | 1.09967 | 1.09485 | 1.08803 | 1.08174 | 1.07784 | 1.04388 |
| 2                   | 1.11460   | 1.11460 | 1.11454 | 1.11191 | 1.11084 | 1.11190 | 1.11330 | 1.11410 | 1.11451 | 1.11391 | 1.10682 |
| 3                   | 1.10585   | 1.10585 | 1.10336 | 1.10136 | 1.09840 | 1.09751 | 1.09578 | 1.09395 | 1.09251 | 1.09236 | 1.09052 |
| 4                   | 1.09187   | 1.09187 | 1.08458 | 1.07787 | 1.07474 | 1.07408 | 1.07363 | 1.07388 | 1.07381 | 1.07393 | 1.07417 |
| 5                   | 1.03813   | 1.03813 | 1.03342 | 1.03277 | 1.03777 | 1.03740 | 1.03826 | 1.03842 | 1.03976 | 1.04040 | 1.03887 |
| 6                   | 1.08603   | 1.08603 | 1.08305 | 1.07612 | 1.07386 | 1.07369 | 1.07362 | 1.07384 | 1.07273 | 1.07226 | 1.06800 |
| 7                   | 1.02569   | 1.02569 | 1.02685 | 1.03172 | 1.03395 | 1.03440 | 1.03456 | 1.03495 | 1.03490 | 1.03383 | 1.03581 |
| 8                   | 1.08945   | 1.08945 | 1.08981 | 1.08241 | 1.07796 | 1.07646 | 1.07554 | 1.07405 | 1.07357 | 1.07271 | 1.06366 |
| 9                   | 1.02372   | 1.02372 | 1.02136 | 1.02525 | 1.02709 | 1.02798 | 1.02772 | 1.02775 | 1.02740 | 1.02875 | 1.03084 |
| 10                  | 1.05618   | 1.05618 | 1.06018 | 1.05735 | 1.05554 | 1.05409 | 1.05344 | 1.05256 | 1.05125 | 1.05021 | 1.04647 |
| 11                  | 1.02443   | 1.02443 | 1.01796 | 1.02035 | 1.02207 | 1.02316 | 1.02245 | 1.02319 | 1.02343 | 1.02383 | 1.02399 |
| 12                  | 1.06395   | 1.06395 | 1.06126 | 1.05530 | 1.05231 | 1.04959 | 1.04767 | 1.04687 | 1.04545 | 1.04561 | 1.03990 |
| 13                  | 1.02883   | 1.02883 | 1.02147 | 1.02384 | 1.02456 | 1.02460 | 1.02476 | 1.02412 | 1.02438 | 1.02418 | 1.02288 |
| 14                  | 1.03612   | 1.03612 | 1.04314 | 1.04047 | 1.03940 | 1.03772 | 1.03657 | 1.03541 | 1.03583 | 1.03424 | 1.03081 |
| 15                  | 1.01461   | 1.01461 | 1.02312 | 1.02476 | 1.02479 | 1.02538 | 1.02514 | 1.02551 | 1.02446 | 1.02450 | 1.02351 |
| 16                  | 1.03567   | 1.03567 | 1.03907 | 1.03689 | 1.03592 | 1.03480 | 1.03388 | 1.03283 | 1.03144 | 1.03022 | 1.02680 |
| 17                  | 1.01696   | 1.01696 | 1.02141 | 1.02410 | 1.02454 | 1.02478 | 1.02413 | 1.02380 | 1.02323 | 1.02202 | 1.01908 |
| 18                  | 1.04477   | 1.04477 | 1.04392 | 1.04034 | 1.03856 | 1.03586 | 1.03521 | 1.03422 | 1.03362 | 1.03169 | 1.02626 |
| 19                  | 1.01797   | 1.01797 | 1.01812 | 1.01892 | 1.01876 | 1.01881 | 1.01845 | 1.01842 | 1.01786 | 1.01906 | 1.01495 |
| 20                  | 1.04784   | 1.04784 | 1.05683 | 1.05989 | 1.06321 | 1.06664 | 1.06815 | 1.06936 | 1.07225 | 1.07401 | 1.08248 |
| 21                  | 1.04156   | 1.04156 | 1.03878 | 1.04043 | 1.03946 | 1.03837 | 1.03962 | 1.04139 | 1.03968 | 1.04195 | 1.04150 |
| 22                  | 1.06034   | 1.06034 | 1.06287 | 1.05641 | 1.05425 | 1.05316 | 1.05374 | 1.05449 | 1.05673 | 1.05100 | 1.04776 |
| 23                  | 1.02863   | 1.02863 | 1.02731 | 1.03243 | 1.03388 | 1.03447 | 1.03473 | 1.03259 | 1.03274 | 1.03491 | 1.02869 |
| 24                  | 1.05285   | 1.05285 | 1.06189 | 1.05931 | 1.05994 | 1.06183 | 1.06077 | 1.06046 | 1.06050 | 1.06188 | 1.05705 |
| 25                  | 1.02562   | 1.02562 | 1.02998 | 1.03604 | 1.03767 | 1.03327 | 1.03183 | 1.03066 | 1.03112 | 1.03306 | 1.03074 |
| 26                  | 1.08867   | 1.08867 | 1.09105 | 1.08810 | 1.08584 | 1.08542 | 1.08566 | 1.08473 | 1.07945 | 1.07139 | 1.05590 |
| 27                  | 1.02419   | 1.02419 | 1.02080 | 1.02143 | 1.02065 | 1.02253 | 1.02540 | 1.02172 | 1.02343 | 1.02752 | 1.02455 |
| 28                  | 0.99741   | 0.99741 | 1.01810 | 1.01911 | 1.02082 | 1.02168 | 1.02324 | 1.02113 | 1.02044 | 1.02451 | 1.02800 |
| 29                  | 1.00414   | 1.00414 | 1.00950 | 1.01334 | 1.01506 | 1.01463 | 1.01298 | 1.01340 | 1.01243 | 1.01383 | 1.01924 |
| 30                  | 1.02632   | 1.02632 | 1.05110 | 1.04098 | 1.03000 | 1.03513 | 1.02915 | 1.02501 | 1.02043 | 1.01257 | 1.00996 |
| 31                  | 1.00002   | 1.00002 | 0.99460 | 0.98261 | 0.98840 | 1.00386 | 1.00729 | 1.00439 | 0.99995 | 0.99713 | 1.01452 |
| 32                  | 0.99875   | 0.99875 | 1.00633 | 1.00144 | 1.00387 | 0.99960 | 1.02260 | 0.99998 | 1.00059 | 0.98624 | 0.99341 |
| 33                  | 0.99973   | 0.99973 | 1.00337 | 0.99297 | 1.00241 | 1.01097 | 1.01385 | 0.99310 | 0.99612 | 0.97424 | 0.98173 |
| 34                  | 0.99950   | 0.99950 | 1.02324 | 1.02368 | 1.00965 | 1.00437 | 1.01341 | 0.98561 | 0.99206 | 0.95993 | 0.98570 |

Note: The number that appears, for example, in the column marked '20' and the row marked '2' is the ratio of basic pay at two years of service to basic pay at one year of service for a member who entered at age 20.



APPENDIX H

RESERVE DUTY RATES

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## **RESERVE DUTY RATES DESCRIPTION**

Modeling reserves is similar in some respects to modeling active duty. There are, however, additional challenges due to the complexities of the reserve career (multiple breaks in service of varying durations, movement between active and reserve components, etc.); the structure of the reserve force; limitations of the reserve data; and evolving changes in how the reserves are used.

Reserves are modeled in two population categories in the portion of their career prior to receiving retired pay – Selected Reserves and non-Selected Reserves with 20 good years. The Selected Reserves include only part-time members (full-time Reservists are included in the active-duty (full-time) portion of this valuation) and are the reservists for whom normal costs are paid. The non-Selected Reserves with 20 good years<sup>1</sup> are modeled because they have enough service to qualify for retirement.

The reserve rates consist primarily of decrement rates related to the probabilities of a member leaving a category of military service for a specific reason. In addition, they include a new entrant distribution; a set of reentrant ratios; ratios for promotion and merit pay increases; average points per year; transfer to 20-year non-Selected Reserve status; and blow-up<sup>2</sup> factors. The decrement rates are mainly given by age nearest birthday at entry and completed years of service since Pay Entry Base Date (PEBD), for officers and enlisted separately. “Entry Age” is constructed on an assumption of no breaks in service; e.g., an “entry age” of 57 could represent a member who started at a much earlier age with a long break in service. As noted in the “Valuation Data and Procedure” section, as well as Table 6B, in the main text, the valuation results are highly sensitive to the separation rates and reentrant ratios<sup>3</sup>. Below is a description of the rates used in the reserve valuation process.

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<sup>1</sup> This includes the category commonly referred to as the “grey area” as well as other non-Selected Reservists with 20 qualifying retirement years.

<sup>2</sup> These are used to adjust for persistent patterns of actual outcomes not conforming to expectations based on known data. For example, some new reserve retirees show up in the data each year who were not in the data as eligible-to-retire reservists the year before. The need for such “blow up” factors is one of many challenges in modeling reservists.

<sup>3</sup> Another challenge in modeling reserves relates to the fact that many reservists start their career in the active duty component or have breaks in service throughout their career. Their movements back into the Selected Reserves (from the active duty component, from civilian status, etc.) are modeled as implicit flows via reentrant ratios. However, in some cases these ratios are unusually high, and population cells with small numbers of members initially are then augmented throughout the actuarial projection by large numbers of reentrants. This creates the potential for volatility of results, to the extent small population cell counts experience variations over time. Additionally, patterns of reservist population flows (between the Selected Reserves and the active duty component and between civilian status and the Selected Reserve) are changing, given external and internal factors such as changes in how reserves are used by the military.

The data for the rates was taken from the Reserve Component Common Personnel Data System (RCCPDS) files as of September 30 for the years 2005 through 2009, generally. The experience period was selected such that the sum of the part-time Selected Reserve force size changes for the included period was near zero. The fiscal years on which the rates are based is given on a subsequent page. A summary qualitative description follows in the below text, in addition to being displayed at the bottom of the respective rate tables in this appendix. The general formula derivation is similar to those of the Active Duty rates (Appendix G) and Retiree/Survivor rates (Appendix I). The reserve rate formulas are not shown, but may be requested from the Office of the Actuary.

The separation rates give the probability that a member in a given status at the beginning of the fiscal year leaves that status during the fiscal year. Separation rates from the Selected Reserve include standard losses, transfers to active duty, transfers to the full-time reserves, discharge, and death. They do not include transfers to non-Selected Reserves with 20 good years, or retirement. Separation rates from the non-Selected Reserve with 20 good years include transfer to Selected Reserve, death, discharge, and file corrections and timing delays. They do not include transfer to retirement status.

A reentrant is defined as someone who is in the Selected Reserves at year end, who was not in the same status a year earlier, and who is not a new entrant (as defined by having greater than zero completed years of PEBD service). It can include transfers from active duty; former Selected Reserve or active members returning after breaks in service; reserve members returning after being attached to a non-selected reserve component (Individual Ready Reserve or Inactive National Guard); and members transferring to the part-time Selected Reserves from the full-time reserves.

The new entrant distribution gives the percentages of new entrants (as defined by having zero completed years of PEBD service) to the part-time Selected Reserves by age and by officer/enlisted status. The distribution is only used in the normal cost (new entrant) valuation and the open group projection.

Due to Public Law (P.L.) 110-181 (see Appendix A), the set of separation rates shown apply only in the early years of the projection, and then phase in to an average age of 58 for reserve retirement. (See Item 4 in the Reserve Duty section in Appendix F for a description of the parameter used to model the phase-in.) As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

In most cases the separation and reentrant rates and ratios are not smoothed (graduated). However, cells with numerators of fewer than 10 cases are combined with other cells.

The promotion and merit increase scales (PAMS) give the expected annual percentage increase in pay independent of the across-the-board increases in the active duty pay scale. The PAMS do not include adjustments for inflation or productivity increases. The PAMS are defined by length of PEBD service, by age, and by officer/enlisted status. They are computed by dividing the average pay at age (x+1), years of service (y+1) by the average pay at age (x), years

of service (y) one year earlier. An adjustment is made to compute the averages for the numerator and denominator based on the same pay table, and cells based on few observations are combined with other cells.

SUMMARY OF YEARS ON WHICH RESERVE RATES ARE BASED

By Fiscal Year

| <u>RATE</u>                                                                   | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010-2014*</u> | <u>2015</u> |
|-------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|-------------|
| New Entrant Distribution<br>(Officer/Enlisted)                                | X           | X           | X           | X           | X           |                   |             |
| Death (Officer/Enlisted;<br>Selected/Non-Selected)                            |             |             |             |             |             | X                 | X           |
| Separation* (Officer/Enlisted;<br>Selected/Non-Selected)                      | X           | X           | X           | X           | X           |                   |             |
| Reentrant (Officer/Enlisted;<br>Selected)                                     | X           | X           | X           | X           | X           |                   |             |
| Paygrade Transfer<br>(Officer/Enlisted; Selected)                             | X           | X           | X           | X           | X           |                   |             |
| Status Transfer<br>(Officer/Enlisted; Selected-to-<br>Non-Selected)           | X           | X           | X           | X           | X           |                   |             |
| Retirement (Officer/Enlisted;<br>Selected/Non-Selected)                       | X           | X           | X           | X           | X           |                   |             |
| Disability Retirement<br>(Permanent/Temporary;<br>Officer/Enlisted; Selected) |             |             |             |             |             | X                 |             |
| Average Points Per Year<br>(Officer/Enlisted; Selected/Non-<br>Selected)      | X           | X           | X           | X           | X           |                   |             |
| Career Points Adjustment<br>(Officer/Enlisted; Selected)                      | X           | X           | X           | X           | X           |                   |             |
| Reentering Average Points<br>(Officer/Enlisted; Selected)                     | X           | X           | X           | X           | X           |                   |             |
| Retirement Ratios<br>(Officer/Enlisted; Non-Selected)                         | X           | X           | X           | X           | X           |                   |             |
| Transfer Ratios<br>(Officer/Enlisted; Selected-to-<br>Non-Selected)           | X           | X           | X           | X           | X           |                   |             |
| Transfer Ratio Adjustment<br>(Officer/Enlisted; Selected-to-<br>Non-Selected) | X           | X           | X           | X           | X           |                   |             |
| Selected Reserve PAMS<br>(Officer/Enlisted)                                   | X           | X           | X           | X           | X           |                   |             |
| Non-Selected Reserve PAMS<br>(Officer/Enlisted)                               | X           | X           | X           | X           | X           |                   |             |

\* In the construction of the disability-related rates, we removed one half of the combat-related disability retirements occurring during the FY 2010-2014 experience period. We subtracted additional disability retirements from separations, thereby affecting separation rates and reducing the impact on the percentage making 20 year retirement. The adjustment did not impact Officer Temporary Disability Rates.

# New Entrant Distribution

By Paygrade (Officer/Enlisted)

| Entry Age | Officer | Enlisted | Total   |
|-----------|---------|----------|---------|
| 17        | 0.00000 | 0.02350  | 0.02350 |
| 18        | 0.00000 | 0.19427  | 0.19427 |
| 19        | 0.00001 | 0.20176  | 0.20177 |
| 20        | 0.00018 | 0.14591  | 0.14609 |
| 21        | 0.00028 | 0.10208  | 0.10236 |
| 22        | 0.00072 | 0.07088  | 0.07160 |
| 23        | 0.00149 | 0.05248  | 0.05397 |
| 24        | 0.00107 | 0.03949  | 0.04056 |
| 25        | 0.00074 | 0.03018  | 0.03092 |
| 26        | 0.00069 | 0.02308  | 0.02377 |
| 27        | 0.00071 | 0.01890  | 0.01961 |
| 28        | 0.00063 | 0.01535  | 0.01598 |
| 29        | 0.00061 | 0.01341  | 0.01402 |
| 30        | 0.00070 | 0.01077  | 0.01147 |
| 31        | 0.00064 | 0.00925  | 0.00989 |
| 32        | 0.00052 | 0.00773  | 0.00825 |
| 33        | 0.00055 | 0.00687  | 0.00742 |
| 34        | 0.00054 | 0.00607  | 0.00661 |
| 35        | 0.00067 | 0.00633  | 0.00700 |
| 36        | 0.00048 | 0.00518  | 0.00566 |
| 37        | 0.00054 | 0.00474  | 0.00528 |
| 38        | 0.00000 | 0.00000  | 0.00000 |
| 39        | 0.00000 | 0.00000  | 0.00000 |
| 40        | 0.00000 | 0.00000  | 0.00000 |
| 41        | 0.00000 | 0.00000  | 0.00000 |
| 42        | 0.00000 | 0.00000  | 0.00000 |
| 43        | 0.00000 | 0.00000  | 0.00000 |
| 44        | 0.00000 | 0.00000  | 0.00000 |
| 45        | 0.00000 | 0.00000  | 0.00000 |
| 46        | 0.00000 | 0.00000  | 0.00000 |
| 47        | 0.00000 | 0.00000  | 0.00000 |
| 48        | 0.00000 | 0.00000  | 0.00000 |
| 49        | 0.00000 | 0.00000  | 0.00000 |
| 50        | 0.00000 | 0.00000  | 0.00000 |
| 51        | 0.00000 | 0.00000  | 0.00000 |
| 52        | 0.00000 | 0.00000  | 0.00000 |
| 53        | 0.00000 | 0.00000  | 0.00000 |
| 54        | 0.00000 | 0.00000  | 0.00000 |
| 55        | 0.00000 | 0.00000  | 0.00000 |
| 56        | 0.00000 | 0.00000  | 0.00000 |
| 57        | 0.00000 | 0.00000  | 0.00000 |
| 58        | 0.00000 | 0.00000  | 0.00000 |
| 59        | 0.00000 | 0.00000  | 0.00000 |
| 60        | 0.00000 | 0.00000  | 0.00000 |
| 61        | 0.00000 | 0.00000  | 0.00000 |
| >62       | 0.00000 | 0.00000  | 0.00000 |
| Total     | 0.01177 | 0.98823  | 1.00000 |

**DESCRIPTION:** New Entrant distribution for a normal cost valuation (as well as open group), where a new entrant is defined as: a part-time selected reserve on the file as of year-end, who was not in that status in the prior year, and has zero completed PEBD years of service.

Arrayed by entry age and paygrade (officer/enlisted). Populates age scatter of new entrant cohort. Model assumes no new entrants older than age 37.

## Reserve Death Rates

By Reserve Status and Paygrade

| Age | Selected |          | Non-Selected |          |
|-----|----------|----------|--------------|----------|
|     | Officer  | Enlisted | Officer      | Enlisted |
| 16  | 0.00029  | 0.00047  |              |          |
| 17  | 0.00029  | 0.00053  |              |          |
| 18  | 0.00029  | 0.00060  |              |          |
| 19  | 0.00029  | 0.00069  |              |          |
| 20  | 0.00029  | 0.00075  |              |          |
| 21  | 0.00029  | 0.00079  |              |          |
| 22  | 0.00028  | 0.00082  |              |          |
| 23  | 0.00029  | 0.00083  |              |          |
| 24  | 0.00029  | 0.00081  |              |          |
| 25  | 0.00029  | 0.00079  |              |          |
| 26  | 0.00030  | 0.00075  |              |          |
| 27  | 0.00030  | 0.00072  |              |          |
| 28  | 0.00031  | 0.00070  |              |          |
| 29  | 0.00032  | 0.00069  |              |          |
| 30  | 0.00032  | 0.00068  | 0.00024      | 0.00046  |
| 31  | 0.00033  | 0.00068  | 0.00025      | 0.00045  |
| 32  | 0.00034  | 0.00069  | 0.00026      | 0.00045  |
| 33  | 0.00035  | 0.00067  | 0.00026      | 0.00045  |
| 34  | 0.00035  | 0.00066  | 0.00026      | 0.00044  |
| 35  | 0.00036  | 0.00066  | 0.00027      | 0.00043  |
| 36  | 0.00037  | 0.00066  | 0.00028      | 0.00042  |
| 37  | 0.00037  | 0.00065  | 0.00028      | 0.00042  |
| 38  | 0.00038  | 0.00066  | 0.00029      | 0.00042  |
| 39  | 0.00038  | 0.00067  | 0.00029      | 0.00042  |
| 40  | 0.00039  | 0.00069  | 0.00029      | 0.00043  |
| 41  | 0.00039  | 0.00072  | 0.00030      | 0.00053  |
| 42  | 0.00040  | 0.00074  | 0.00030      | 0.00064  |
| 43  | 0.00041  | 0.00077  | 0.00036      | 0.00073  |
| 44  | 0.00042  | 0.00078  | 0.00040      | 0.00083  |
| 45  | 0.00043  | 0.00079  | 0.00045      | 0.00093  |
| 46  | 0.00045  | 0.00079  | 0.00050      | 0.00102  |
| 47  | 0.00046  | 0.00080  | 0.00056      | 0.00112  |
| 48  | 0.00049  | 0.00080  | 0.00062      | 0.00124  |
| 49  | 0.00051  | 0.00081  | 0.00070      | 0.00137  |
| 50  | 0.00053  | 0.00082  | 0.00079      | 0.00153  |
| 51  | 0.00056  | 0.00085  | 0.00090      | 0.00171  |
| 52  | 0.00058  | 0.00089  | 0.00104      | 0.00192  |
| 53  | 0.00060  | 0.00097  | 0.00122      | 0.00220  |
| 54  | 0.00064  | 0.00107  | 0.00146      | 0.00254  |
| 55  | 0.00066  | 0.00120  | 0.00175      | 0.00295  |
| 56  | 0.00069  | 0.00135  | 0.00212      | 0.00349  |
| 57  | 0.00072  | 0.00153  | 0.00258      | 0.00416  |
| 58  | 0.00075  | 0.00173  | 0.00314      | 0.00500  |
| 59  | 0.00078  | 0.00196  | 0.00379      | 0.00597  |
| 60  | 0.00080  | 0.00222  | 0.00448      | 0.00699  |
| 61  | 0.00083  | 0.00250  | 0.00519      | 0.00803  |
| 62  | 0.00085  | 0.00281  | 0.00590      | 0.00904  |
| 63  | 0.00087  | 0.00316  | 0.00660      | 0.01004  |

**DESCRIPTION:** Reserve Death Rates  
 Arrayed by reserve status (Selected/Non-Selected), age (nearest birthday),  
 and paygrade (officer/enlisted).  
 Probability that a member dies in the next year. Should not be compared to other  
 published rates or used for other purposes without examining how they are derived.



### Officer Selected Reserve Separation Rates (Non-Retirement Causes)

| PESD<br>Years of<br>Service | By Entry Age |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                             | 16           | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30    | 31    | 32    | 33    | 34    | 35    | 36    | 37    | 38    | 39    | 40    | 41    | 42    | 43    | 44    | 45    | 46    | 47    | 48    | 49    | 50    | 51    | 52    | 53    | 54    | 55    | 56    | 57    | 58    | 59    | 60    | 61    | 62    |
| Under 1                     | 0.00         | 0.504 | 0.047 | 0.054 | 0.029 | 0.044 | 0.038 | 0.035 | 0.028 | 0.023 | 0.033 | 0.039 | 0.053 | 0.073 | 0.037 | 0.065 | 0.064 | 0.073 | 0.050 | 0.063 | 0.048 | 0.058 | 0.079 | 0.039 | 0.064 | 0.036 | 0.040 | 0.068 | 0.099 | 0.069 | 0.107 | 0.104 | 0.117 | 0.080 | 0.051 | 0.084 | 0.058 | 0.024 | 0.099 | 0.106 | 0.095 | 0.053 | 0.048 | 0.182 | 0.100 | 0.333 | 1.000 |
| 2                           | 0.00         | 0.504 | 0.047 | 0.054 | 0.029 | 0.044 | 0.038 | 0.035 | 0.028 | 0.023 | 0.033 | 0.039 | 0.053 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

| DESCRIPTION: Selected Reserve Separation Rates |
|------------------------------------------------|
|------------------------------------------------|

Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).

Values for certain cells in above rate table may represent little to no exposure in the population, hence have minimal or no impact on results.  
Blank cells should be considered a value of zero ('0.000').

### Enlisted Selected Reserve Separation Rates (Non-Retirement Causes)

[illegible]

**DESCRIPTION:** Selected Reserve Separation Rates  
 Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).  
 Probability that a member exits the status (due to non-retirement causes) during the fiscal year.  
 Values for certain cells in above rate table may represent little to no exposure in the population,  
 hence have minimal or no impact on results.  
 Blank cells should be considered a value of zero ('0,000').

**DESCRIPTION:** Selected Reserve Reentrant Rates – Members have a prior entry date Arayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Increment rate that a member enters reserve status during the fiscal year. For PEBD YOS greater than 15, if the reentrant rate > loss rate then set the reentrant rate equal to the loss rate.

Additional adjustments are made in an open group valuation in order to prevent the population from becoming "over-strengthened" relative to DoD-Comptroller projected endstrengths. Values for certain cells in above rate table may represent little to no exposure in the population, hence have minimal or no impact on results.

Blank cells should be considered a value of zero (0.000').

**DESCRIPTION:** Selected Reserve Reentrant Rates -- Members have a prior entry date Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Increment rate that a member enters reserve status during the fiscal year. For PEBD YOS greater than 15, if the reentrant rate > loss rate then set the reentrant rate equal to the loss rate.

Additional adjustments are made in an open group valuation in order to prevent from becoming "over-strengthened" relative to DoD-Comptroller projected endstate values for certain cells in above rate table may represent little to no exposure hence have minimal or no impact on results.

Blank cells should be considered a value of zero (0.000').

**DESCRIPTION:** Selected Reserve Net Separation Rates  
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).  
Probability that a member exits the status (due to non-retirement causes)  
offset by the rate that a member reenlists during the fiscal year.  
For PEBD YOS greater than 15, if reenlistment rate > loss rate, then reenlistment is set equal to the loss rate (i.e., to not allow any negative net loss).  
Blank cells should be considered a value of zero (0.000%).

DESCRIPTION: Selected Reserve Net Separation Rates

Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).

Probability that a member exits the status (due to non-retirement causes)

offset by the rate that a member reenters during the fiscal year.

For PEBD YOS greater than 15, if reentrant rate > loss rate, then reentrant is set equal to

the loss rate (i.e. to not allow any negative net loss).

Blank cells should be considered a value of zero ("0.000").

| DESCRIPTION:                                                                                                                                          | Selected Reserve Nat Separation Rates |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).                                                                            |                                       |
| Probability that a member exits the status (due to non-retirement causes)                                                                             |                                       |
| offset by the rate that a member reenfers during the fiscal year.                                                                                     |                                       |
| For PEBD YOS greater than 15, if reenfrant rate > loss rate, then reenfrant is set equal to the loss rate (i.e., to not allow any negative net loss). |                                       |
| Blank cells should be considered a value of zero (0.0007).                                                                                            |                                       |

DoD Office of the Actuary

**DESCRIPTION:** Selected Reserve Paygrade Transfer Rates  
 Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).  
 Probability that a member transfers from enlisted to officer during the fiscal year.  
 Blank cells should be considered a value of zero (0.000).



## Officer Non-Selected Reserve with 20 Good Years Separation Rates (Non-Retirement Causes)

| PEBD<br>Years of<br>Service | By Entry Age |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                             | 16           | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30    | 31    | 32    | 33    | 34    | 35    |
| Under 1                     | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9                           | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 11                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 12                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 15                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 16                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 17                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 18                          | 0.000        | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 19                          | 0.000        | 0.018 | 0.018 | 0.034 | 0.037 | 0.035 | 0.115 | 0.021 | 0.026 | 0.022 | 0.031 | 0.030 | 0.013 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 20                          | 0.000        | 0.018 | 0.018 | 0.034 | 0.037 | 0.035 | 0.015 | 0.021 | 0.026 | 0.022 | 0.031 | 0.030 | 0.013 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 21                          | 0.000        | 0.018 | 0.018 | 0.034 | 0.037 | 0.035 | 0.028 | 0.027 | 0.020 | 0.033 | 0.045 | 0.034 | 0.013 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 22                          | 0.000        | 0.018 | 0.018 | 0.034 | 0.042 | 0.041 | 0.032 | 0.022 | 0.022 | 0.028 | 0.031 | 0.049 | 0.013 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 23                          | 0.000        | 0.018 | 0.018 | 0.037 | 0.029 | 0.026 | 0.031 | 0.022 | 0.025 | 0.030 | 0.031 | 0.028 | 0.047 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 24                          | 0.000        | 0.018 | 0.018 | 0.044 | 0.043 | 0.033 | 0.025 | 0.030 | 0.019 | 0.025 | 0.030 | 0.029 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 25                          | 0.000        | 0.018 | 0.018 | 0.031 | 0.016 | 0.032 | 0.023 | 0.022 | 0.021 | 0.029 | 0.022 | 0.017 | 0.017 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 26                          | 0.000        | 0.018 | 0.018 | 0.024 | 0.037 | 0.021 | 0.022 | 0.021 | 0.023 | 0.015 | 0.028 | 0.020 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 27                          | 0.000        | 0.018 | 0.018 | 0.024 | 0.037 | 0.021 | 0.022 | 0.021 | 0.023 | 0.015 | 0.028 | 0.020 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 28                          | 0.000        | 0.018 | 0.018 | 0.035 | 0.026 | 0.016 | 0.014 | 0.011 | 0.011 | 0.013 | 0.011 | 0.013 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 29                          | 0.000        | 0.018 | 0.018 | 0.018 | 0.022 | 0.016 | 0.006 | 0.007 | 0.014 | 0.009 | 0.010 | 0.013 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 30                          | 0.000        | 0.018 | 0.018 | 0.013 | 0.017 | 0.011 | 0.005 | 0.004 | 0.007 | 0.013 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 31                          | 0.000        | 0.018 | 0.018 | 0.015 | 0.011 | 0.006 | 0.006 | 0.003 | 0.006 | 0.007 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 32                          | 0.000        | 0.018 | 0.018 | 0.015 | 0.008 | 0.009 | 0.004 | 0.004 | 0.004 | 0.005 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 33                          | 0.000        | 0.018 | 0.018 | 0.005 | 0.011 | 0.006 | 0.004 | 0.005 | 0.005 | 0.005 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 34                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.006 | 0.003 | 0.003 | 0.003 | 0.003 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 35                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 36                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 37                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 38                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 39                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 40                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |
| 41                          | 0.000        | 0.018 | 0.018 | 0.008 | 0.011 | 0.012 | 0.003 | 0.004 | 0.012 | 0.020 | 0.010 | 0.016 | 0.016 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 | 0.026 |

**DESCRIPTION:** Non-Selected Reserve with 20 Good Years ("Grey Area") Separation Rates  
 Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).  
 Probability that a member exits the status (due to non-retirement causes) during the fiscal year.  
 Blank cells should be considered a value of zero (0.000).



DoD Office of the Actuary

**DESCRIPTION:** Selected Reserve to Non-Selected Reserve with 20 Good Years ("Grey Area") Transfer Rates Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).  
Probability that a member transfers to the Grey Area from the Selected Reserve status during the fiscal year.  
Blank cells should be considered a value of zero ('0.000').

## Officer Selected Reserve Retirement Rates

| PEBD<br>Years of<br>Service | By Entry Age |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                             | 16           | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| Under 1                     | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 1                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 6                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 7                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 8                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 9                           | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 12                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 13                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 14                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 16                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 17                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 18                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 19                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 20                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 32                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 33                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 34                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 35                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 36                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 37                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 38                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 39                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 40                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 41                          | 0.000        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**DESCRIPTION:** Selected Reserve Retirement Rates

Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).

Probability that a member retires during the fiscal year.

Rates for all ages except 59-60 are constant across all years of service.

Ages 59-60 were graduated ("smoothed") by age and years of service.

Blank cells should be considered a value of zero (0.000).

## Enlisted Selected Reserve Retirement Rates

[illegible]**DESCRIPTION:** Selected Reserve Retirement Rates

Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).

Probability that a member retires during the fiscal year.

Rates for all ages except 59-60 are constant across all years of service.

Ages 59-60 were graduated ('smoothed') by age and years of service.

Blank cells should be considered a value of zero ("0.000").

## Selected Reserve Disability Retirement Rates

By Disability Type and Paygrade

| PEBD<br>Years of<br>Service | Permanent |          | Temporary |          |
|-----------------------------|-----------|----------|-----------|----------|
|                             | Officer   | Enlisted | Officer   | Enlisted |
| Under 1                     | 0.00000   | 0.00008  | 0.00000   | 0.00028  |
| 1                           | 0.00000   | 0.00017  | 0.00000   | 0.00021  |
| 2                           | 0.00000   | 0.00058  | 0.00000   | 0.00038  |
| 3                           | 0.00000   | 0.00074  | 0.00000   | 0.00050  |
| 4                           | 0.00065   | 0.00079  | 0.00014   | 0.00055  |
| 5                           | 0.00065   | 0.00110  | 0.00026   | 0.00065  |
| 6                           | 0.00063   | 0.00129  | 0.00039   | 0.00070  |
| 7                           | 0.00070   | 0.00111  | 0.00051   | 0.00073  |
| 8                           | 0.00069   | 0.00122  | 0.00058   | 0.00071  |
| 9                           | 0.00074   | 0.00165  | 0.00057   | 0.00078  |
| 10                          | 0.00096   | 0.00201  | 0.00055   | 0.00093  |
| 11                          | 0.00098   | 0.00227  | 0.00047   | 0.00115  |
| 12                          | 0.00076   | 0.00242  | 0.00042   | 0.00124  |
| 13                          | 0.00075   | 0.00253  | 0.00039   | 0.00115  |
| 14                          | 0.00092   | 0.00247  | 0.00037   | 0.00106  |
| 15                          | 0.00099   | 0.00224  | 0.00035   | 0.00109  |
| 16                          | 0.00087   | 0.00210  | 0.00039   | 0.00102  |
| 17                          | 0.00077   | 0.00210  | 0.00049   | 0.00101  |
| 18                          | 0.00089   | 0.00220  | 0.00048   | 0.00100  |
| 19                          | 0.00126   | 0.00292  | 0.00046   | 0.00107  |
| 20                          | 0.00177   | 0.00384  | 0.00052   | 0.00109  |
| 21                          | 0.00215   | 0.00403  | 0.00043   | 0.00118  |
| 22                          | 0.00228   | 0.00486  | 0.00043   | 0.00140  |
| 23                          | 0.00188   | 0.00582  | 0.00060   | 0.00149  |
| 24                          | 0.00175   | 0.00628  | 0.00090   | 0.00153  |
| 25                          | 0.00237   | 0.00669  | 0.00101   | 0.00156  |
| 26                          | 0.00302   | 0.00706  | 0.00096   | 0.00172  |
| 27                          | 0.00342   | 0.00745  | 0.00086   | 0.00185  |
| 28                          | 0.00333   | 0.00810  | 0.00088   | 0.00178  |
| 29                          | 0.00317   | 0.00831  | 0.00090   | 0.00164  |
| 30                          | 0.00331   | 0.00874  | 0.00091   | 0.00156  |
| 31                          | 0.00327   | 0.00907  | 0.00090   | 0.00151  |
| 32                          | 0.00321   | 0.00869  | 0.00094   | 0.00142  |
| 33                          | 0.00311   | 0.00786  | 0.00096   | 0.00132  |
| 34                          | 0.00259   | 0.00744  | 0.00091   | 0.00127  |
| 35                          | 0.00157   | 0.00785  | 0.00087   | 0.00132  |
| 36                          | 0.00000   | 0.00807  | 0.00093   | 0.00144  |
| 37                          | 0.00000   | 0.00753  | 0.00108   | 0.00155  |
| 38                          | 0.00000   | 0.00643  | 0.00120   | 0.00158  |
| 39                          | 0.00000   | 0.00504  | 0.00127   | 0.00152  |
| 40                          | 0.00000   | 0.00000  | 0.00000   | 0.00000  |
| 41                          | 0.00000   | 0.00000  | 0.00000   | 0.00000  |

**DESCRIPTION:** Selected Reserve Disability Retirement Rates  
 Arrayed by disability type (Permanent/Temporary), completed PEBD YOS,  
 and paygrade (officer/enlisted).  
 Probability that a member receives a disability retirement during the fiscal year

# Non-Selected Reserve with 20 Good Years Retirement Rates

By Paygrade

| <u>Age</u> | <u>Officer</u> | <u>Enlisted</u> |
|------------|----------------|-----------------|
| 17         | 0.000          | 0.000           |
| 18         | 0.000          | 0.000           |
| 19         | 0.000          | 0.000           |
| 20         | 0.000          | 0.000           |
| 21         | 0.000          | 0.000           |
| 22         | 0.000          | 0.000           |
| 23         | 0.000          | 0.000           |
| 24         | 0.000          | 0.000           |
| 25         | 0.000          | 0.000           |
| 26         | 0.000          | 0.000           |
| 27         | 0.000          | 0.000           |
| 28         | 0.000          | 0.000           |
| 29         | 0.000          | 0.000           |
| 30         | 0.000          | 0.000           |
| 31         | 0.000          | 0.000           |
| 32         | 0.000          | 0.000           |
| 33         | 0.000          | 0.000           |
| 34         | 0.000          | 0.000           |
| 35         | 0.000          | 0.000           |
| 36         | 0.000          | 0.000           |
| 37         | 0.000          | 0.000           |
| 38         | 0.000          | 0.000           |
| 39         | 0.000          | 0.000           |
| 40         | 0.000          | 0.000           |
| 41         | 0.001          | 0.000           |
| 42         | 0.000          | 0.000           |
| 43         | 0.002          | 0.000           |
| 44         | 0.002          | 0.000           |
| 45         | 0.001          | 0.000           |
| 46         | 0.001          | 0.000           |
| 47         | 0.001          | 0.000           |
| 48         | 0.001          | 0.000           |
| 49         | 0.001          | 0.000           |
| 50         | 0.002          | 0.000           |
| 51         | 0.001          | 0.000           |
| 52         | 0.002          | 0.000           |
| 53         | 0.001          | 0.000           |
| 54         | 0.001          | 0.000           |
| 55         | 0.001          | 0.000           |
| 56         | 0.000          | 0.000           |
| 57         | 0.000          | 0.000           |
| 58         | 0.001          | 0.001           |
| 59         | 0.470          | 0.450           |
| 60         | 0.950          | 0.930           |
| 61         | 0.289          | 0.303           |
| 62         | 0.199          | 0.186           |
| >62        | 1.000          | 1.000           |

**DESCRIPTION:** Non-Selected Reserve with 20 Good Years ('Grey Area') Retirement Rates  
 Arrayed by age and paygrade (officer/enlisted).  
 Probability that a member retires from the Grey Area during the fiscal year.



## Officer Selected Reserve Average Points Per Year

| PEBD<br>Year of<br>Service | By Entry Age |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                            | 16           | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  | 41  | 42  | 43  | 44  | 45  | 46  | 47  | 48  | 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  | 58  | 59  | 60  | 61  | 62  | >62 |     |     |     |     |     |     |
| Under 1                    | 0            | 87  | 117 | 117 | 116 | 121 | 131 | 136 | 140 | 142 | 134 | 131 | 120 | 116 | 108 | 98  | 99  | 97  | 93  | 99  | 97  | 94  | 99  | 93  | 113 | 87  | 97  | 88  | 90  | 87  | 86  | 87  | 86  | 87  | 94  | 94  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |     |
| 1                          | 0            | 87  | 117 | 117 | 116 | 121 | 131 | 136 | 140 | 142 | 134 | 131 | 120 | 116 | 108 | 98  | 99  | 97  | 93  | 99  | 97  | 94  | 99  | 93  | 113 | 87  | 97  | 88  | 90  | 87  | 86  | 87  | 86  | 87  | 94  | 94  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 2                          | 0            | 87  | 117 | 117 | 116 | 121 | 131 | 136 | 140 | 142 | 134 | 131 | 120 | 116 | 108 | 98  | 99  | 97  | 93  | 99  | 97  | 94  | 99  | 93  | 113 | 87  | 97  | 88  | 90  | 87  | 86  | 87  | 86  | 87  | 94  | 94  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 3                          | 0            | 87  | 117 | 117 | 116 | 121 | 131 | 136 | 140 | 142 | 134 | 131 | 120 | 116 | 108 | 98  | 99  | 97  | 93  | 99  | 97  | 94  | 99  | 93  | 113 | 87  | 97  | 88  | 90  | 87  | 86  | 87  | 86  | 87  | 94  | 94  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 4                          | 0            | 87  | 117 | 117 | 116 | 121 | 131 | 136 | 140 | 142 | 134 | 131 | 120 | 116 | 108 | 98  | 99  | 97  | 93  | 99  | 97  | 94  | 99  | 93  | 113 | 87  | 97  | 88  | 90  | 87  | 86  | 87  | 86  | 87  | 94  | 94  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |
| 5                          | 0            | 135 | 127 | 135 | 135 | 132 | 134 | 112 | 108 | 117 | 122 | 108 | 104 | 97  | 96  | 93  | 81  | 82  | 88  | 90  | 84  | 85  | 73  | 88  | 86  | 76  | 82  | 76  | 81  | 80  | 84  | 77  | 75  | 87  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 6                          | 0            | 146 | 138 | 138 | 130 | 139 | 119 | 108 | 105 | 109 | 110 | 111 | 100 | 97  | 90  | 89  | 82  | 82  | 89  | 88  | 84  | 87  | 82  | 85  | 85  | 94  | 88  | 67  | 91  | 78  | 90  | 76  | 106 | 89  | 90  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 7                          | 0            | 152 | 137 | 139 | 131 | 119 | 108 | 105 | 109 | 110 | 111 | 100 | 97  | 90  | 89  | 82  | 82  | 89  | 88  | 84  | 87  | 82  | 85  | 85  | 94  | 88  | 67  | 91  | 78  | 90  | 76  | 106 | 89  | 90  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |     |
| 8                          | 0            | 135 | 135 | 131 | 131 | 122 | 107 | 104 | 106 | 105 | 107 | 95  | 97  | 97  | 92  | 86  | 87  | 80  | 86  | 83  | 86  | 79  | 83  | 93  | 95  | 91  | 90  | 86  | 72  | 95  | 82  | 102 | 102 | 104 | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |
| 9                          | 0            | 129 | 126 | 131 | 121 | 120 | 104 | 104 | 108 | 107 | 97  | 99  | 97  | 92  | 86  | 87  | 87  | 87  | 80  | 83  | 86  | 80  | 82  | 87  | 74  | 78  | 85  | 69  | 85  | 72  | 82  | 76  | 73  | 104 | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |
| 10                         | 0            | 141 | 128 | 133 | 127 | 126 | 104 | 105 | 105 | 105 | 102 | 95  | 93  | 93  | 97  | 86  | 95  | 101 | 88  | 90  | 84  | 96  | 89  | 86  | 82  | 77  | 110 | 102 | 89  | 71  | 66  | 93  | 94  | 118 | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |
| 11                         | 0            | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 |
| 12                         | 0            | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 | 123 |
| 13                         | 0            | 118 | 127 | 120 | 116 | 112 | 105 | 104 | 107 | 107 | 103 | 94  | 98  | 85  | 97  | 85  | 92  | 82  | 88  | 92  | 85  | 95  | 101 | 93  | 87  | 88  | 104 | 96  | 82  | 102 | 81  | 110 | 85  | 95  | 78  | 88  | 78  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  |     |
| 14                         | 0            | 126 | 118 | 115 | 112 | 107 | 103 | 105 | 102 | 101 | 101 | 91  | 86  | 97  | 89  | 93  | 86  | 87  | 97  | 86  | 100 | 97  | 89  | 86  | 93  | 86  | 86  | 85  | 96  | 79  | 80  | 75  | 82  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15                         | 0            | 119 | 116 | 113 | 112 | 108 | 105 | 106 | 103 | 105 | 103 | 92  | 97  | 90  | 88  | 92  | 91  | 90  | 90  | 93  | 90  | 87  | 90  | 87  | 90  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |







DoD Office of the Actuary

DoD Office of the Actuary







# Non-Selected Reserve with 20 Good Years Blow-up Factors

By Modeling Type and Paygrade

| Age | Person  |          | Pay     |          |
|-----|---------|----------|---------|----------|
|     | Officer | Enlisted | Officer | Enlisted |
| 17  | 0.000   | 0.000    | 0.000   | 0.000    |
| 18  | 0.000   | 0.000    | 0.000   | 0.000    |
| 19  | 0.000   | 0.000    | 0.000   | 0.000    |
| 20  | 0.000   | 0.000    | 0.000   | 0.000    |
| 21  | 0.000   | 0.000    | 0.000   | 0.000    |
| 22  | 0.000   | 0.000    | 0.000   | 0.000    |
| 23  | 0.000   | 0.000    | 0.000   | 0.000    |
| 24  | 0.000   | 0.000    | 0.000   | 0.000    |
| 25  | 0.000   | 0.000    | 0.000   | 0.000    |
| 26  | 0.000   | 0.000    | 0.000   | 0.000    |
| 27  | 0.000   | 0.000    | 0.000   | 0.000    |
| 28  | 0.000   | 0.000    | 0.000   | 0.000    |
| 29  | 0.000   | 0.000    | 0.000   | 0.000    |
| 30  | 0.000   | 0.000    | 0.000   | 0.000    |
| 31  | 0.000   | 0.000    | 0.000   | 0.000    |
| 32  | 0.000   | 0.000    | 0.000   | 0.000    |
| 33  | 0.000   | 0.000    | 0.000   | 0.000    |
| 34  | 0.000   | 0.000    | 0.000   | 0.000    |
| 35  | 0.000   | 0.000    | 0.000   | 0.000    |
| 36  | 0.000   | 0.000    | 0.000   | 0.000    |
| 37  | 0.000   | 0.000    | 0.000   | 0.000    |
| 38  | 0.000   | 0.000    | 0.000   | 0.000    |
| 39  | 0.000   | 0.000    | 0.000   | 0.000    |
| 40  | 0.000   | 0.000    | 0.000   | 0.000    |
| 41  | 0.000   | 0.000    | 0.000   | 0.000    |
| 42  | 0.000   | 0.000    | 0.000   | 0.000    |
| 43  | 0.000   | 0.000    | 0.000   | 0.000    |
| 44  | 0.000   | 0.000    | 0.000   | 0.000    |
| 45  | 0.000   | 0.000    | 0.000   | 0.000    |
| 46  | 0.000   | 0.000    | 0.000   | 0.000    |
| 47  | 0.000   | 0.000    | 0.000   | 0.000    |
| 48  | 0.000   | 0.000    | 0.000   | 0.000    |
| 49  | 0.000   | 0.000    | 0.000   | 0.000    |
| 50  | 0.000   | 0.000    | 0.000   | 0.000    |
| 51  | 0.000   | 0.000    | 0.000   | 0.000    |
| 52  | 0.000   | 0.000    | 0.000   | 0.000    |
| 53  | 0.000   | 0.000    | 0.000   | 0.000    |
| 54  | 0.000   | 0.000    | 0.000   | 0.000    |
| 55  | 0.000   | 0.000    | 0.000   | 0.000    |
| 56  | 0.000   | 0.000    | 0.000   | 0.000    |
| 57  | 0.000   | 0.000    | 0.000   | 0.000    |
| 58  | 0.000   | 0.000    | 0.000   | 0.000    |
| 59  | 1.083   | 1.154    | 0.990   | 0.977    |



















APPENDIX I

RETIREE AND SURVIVOR RATES

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## **RETIREE AND SURVIVOR RATES DESCRIPTION**

The military retiree and survivor decrement rates are used to project death, “other” losses from pay status, and rates of transfer from temporary disability to permanent disability. The “other” losses consist primarily of returns to active duty and full waiver of retired pay to receive a higher annuity from the Veterans Affairs or Civil Service. In order to compute the normal cost contributions with and without regard to Concurrent Receipt benefits (Public Law (P.L.) 108-136), DoD- and Treasury-specific “other” loss rates, among others, are developed. The rates are arrayed by age nearest birthday for officers and enlisted separately, and by retirement type--nondisability, temporary disability, and permanent disability. For temporary disability retirees, select rates were created for each of the first five years of retirement. After a certain number of years, those who are still in the temporary disability status are transferred to a permanent disability status.<sup>1</sup>

The data for the retiree and survivor rates were taken from files maintained by the Defense Manpower Data Center (DMDC) as of September 30 for the years 2007 through 2016. These files were created by the Defense Finance and Accounting Service (DFAS), which has responsibility for sending monthly retired pay checks to military retirees. A military retiree can be in “paid status” or “nonpaid status.” Nonpaid status indicates that a retiree has an entitlement to an annuity, but the annuity is fully reduced by offsets. Retirees who terminate from paid status during a fiscal year are on the retiree file at the end of that fiscal year with a termination code indicating the type of termination.

The rate development process begins by matching two consecutive fiscal year-end files by Social Security number. Cases no longer in paid status are categorized by type of loss. Cases returned to paid status (from non-paid status at the start of the year) are subtracted from a given type of loss. After following the above procedures, crude rates are created using the formulas given on the following pages. These rates are smoothed using a Whittaker-Henderson type B (“Method B”) graduation, or by fitting a polynomial to the crude rates. Where there is reason to suspect valid discontinuities in the underlying rates, those segments are not smoothed. A summary of the years on which various rates are based is given on the page following the formulas.

### **Note to Reader:**

Some death rates are greater than 1.00000 in this appendix because the death rates are expressed as central rates. These death rates should not be compared to other published rates or used for other purposes without carefully examining the exposure formula used in their derivation.

---

<sup>1</sup> P.L. 114-328 changed the maximum temporary disability period from five years to three years for members placed on temporary disability after January 1, 2017. Members placed on temporary disability prior to that date were grandfathered. Temporary disabled retirees in the starting census in this valuation with more than three years were set equal to three years, and the three year rates were applied to them. Hence, the temporary disability rates shown in this report only go through three years. Notwithstanding what is shown in the rates, those still remaining on temporary disability at the end of the temporary disability period are assumed to be transferred to permanent disability.

## RETIREE AND SURVIVOR DECREMENT RATE FORMULAS

DEATH OF NONDISABILITY RETIREES (by age nearest birthday and retired from active/reserve duty)

$$\frac{\text{Nondisability deaths during the year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{Nondisability deaths} + \text{other losses})]}$$

DEATH OF PERMANENT DISABILITY RETIREES (by age nearest birthday)

$$\frac{\text{Permanent disability deaths during the year}}{[\text{Number at beginning of year} - \frac{1}{2} (\text{Permanent disability deaths} + \text{other losses})]}$$

DEATH OF TEMPORARY DISABILITY RETIREES (by age nearest birthday and years retired)

$$\frac{\text{Temporary disability deaths in category during the year}^2}{[\text{Number at beginning of year} - \frac{1}{2} (\text{Deaths} + \text{transfers} + \text{other losses})]}$$

OTHER LOSSES FROM NONDISABILITY (by age nearest birthday and retired from active/reserve duty)

$$\frac{\text{Losses other than death during the year}}{\text{Number at beginning of year}}$$

OTHER AND NON-TRANSFER LOSSES FROM TEMPORARY DISABILITY (by age nearest birthday and years retired)

$$\frac{\text{Losses other than death or transfers to permanent disability during the year}}{\text{Number at beginning of year}}$$

TRANSFER FROM TEMPORARY TO PERMANENT DISABILITY (by age nearest birthday and years retired)

$$\frac{\text{Transfers to permanent disability during the year}}{\text{Number at beginning of year}}$$

OTHER LOSSES FROM PERMANENT DISABILITY (by age nearest birthday)

$$\frac{\text{Losses other than death during the year}}{\text{Number at beginning of year}}$$

---

<sup>2</sup> Includes deaths of members who were temporarily disabled at the beginning of the year, then transferred to permanent disability, and later died before the end of the year. Determined for each year of the temporary disability retirement category.

**RETIREE AND SURVIVOR DECREMENT RATE FORMULAS  
(cont.)**

DIVORCE OF RETIREE (weighted by coverage amount, by age nearest birthday)

$$\frac{\text{Net retiree divorces during the year}}{\text{Number at beginning of year}}$$

REMARRIAGE OF SURVIVING SPOUSE (by age nearest birthday)

$$\frac{\text{Surviving spouse remarriages during the year}}{\text{Number at beginning of year}}$$

TERMINATION OF SURVIVING CHILD (by age nearest birthday)

$$\frac{\text{Child terminations during the year}}{\text{Number at beginning of year}}$$

DEATH OF SURVIVING SPOUSE (by age nearest birthday)<sup>3</sup>

$$\frac{\text{Surviving spouse deaths during the year}}{\text{Number at beginning of year}}$$

OTHER LOSS OF SURVIVING SPOUSE (by age nearest birthday)

$$\frac{\text{Survivor losses other than deaths during the year}}{\text{Number at beginning of year}}$$

---

<sup>3</sup> Death rates of spouses of living retirees who elected SBP spouse, or spouse & child, coverage are based on a standard actuarial mortality table using data from private, public, and federal pension plans. This table is published by the Society of Actuaries (SOA) as 'RPH-2014 – Female/Male Tables.'

**SUMMARY OF YEARS ON WHICH RETIREE AND SURVIVOR RATES ARE BASED**

|                             | By Fiscal Year |             |             |             |             |             |             |             |             |             |
|-----------------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <u>DEATH RATES</u>          | <u>2007</u>    | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> |
| ND Officer/Enlisted         |                |             |             | X           | X           | X           |             |             |             |             |
| PD Officer/Enlisted         |                |             |             |             |             |             |             | X           | X           | X           |
| TD Officer/Enlisted         | X              | X           | X           | X           |             |             |             |             |             |             |
| <u>OTHER LOSS RATES</u>     |                |             |             |             |             |             |             |             |             |             |
| ND Officer/Enlisted         |                |             |             | X           | X           | X           |             |             |             |             |
| PD Officer/Enlisted         |                |             |             |             |             |             |             | X           | X           | X           |
| TD Officer/Enlisted         | X              | X           | X           | X           |             |             |             |             |             |             |
| <u>TRANSFER RATES FROM</u>  |                |             |             |             |             |             |             |             |             |             |
| <u>TD TO PD</u>             |                |             |             |             |             |             |             |             |             |             |
| Officer/Enlisted            | X              | X           | X           | X           |             |             |             |             |             |             |
| <u>RETIREE DIVORCE</u>      |                | X           | X           |             |             |             |             |             |             |             |
| <u>SURVIVOR RATES</u>       |                |             |             |             |             |             |             |             |             |             |
| Remarriage                  |                |             |             |             |             |             |             | X           | X           | X           |
| Child Coverage Termination  |                |             |             |             |             |             |             | X           | X           | X           |
| Surviving Spouse Death      |                |             |             |             |             |             |             | X           | X           | X           |
| Surviving Spouse Other Loss |                |             |             |             |             |             |             | X           | X           | X           |

Key: ND = Nondisabled  
 PD = Permanently Disabled  
 TD = Temporarily Disabled

**OFFICER RETIRED DEATH RATES**

(Age Nearest Birthday)

| Age | Non-Disability |         | Permanent<br>Disability | Temporary Disability |         |         |  |
|-----|----------------|---------|-------------------------|----------------------|---------|---------|--|
|     | Active         | Reserve |                         | Year of Retirement   |         |         |  |
|     |                |         |                         | One                  | Two     | Three   |  |
| 16  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 17  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 18  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 19  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 20  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 21  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 22  | 0.00037        | 0.00038 | 0.00265                 | 0.00939              | 0.00890 | 0.00841 |  |
| 23  | 0.00037        | 0.00038 | 0.00268                 | 0.00939              | 0.00890 | 0.00841 |  |
| 24  | 0.00037        | 0.00038 | 0.00272                 | 0.00939              | 0.00890 | 0.00841 |  |
| 25  | 0.00037        | 0.00038 | 0.00277                 | 0.00939              | 0.00890 | 0.00841 |  |
| 26  | 0.00037        | 0.00038 | 0.00284                 | 0.00939              | 0.00890 | 0.00841 |  |
| 27  | 0.00037        | 0.00038 | 0.00291                 | 0.00939              | 0.00890 | 0.00841 |  |
| 28  | 0.00037        | 0.00038 | 0.00297                 | 0.00939              | 0.00890 | 0.00841 |  |
| 29  | 0.00037        | 0.00038 | 0.00303                 | 0.00939              | 0.00890 | 0.00841 |  |
| 30  | 0.00037        | 0.00038 | 0.00308                 | 0.00939              | 0.00890 | 0.00841 |  |
| 31  | 0.00038        | 0.00041 | 0.00312                 | 0.00939              | 0.00890 | 0.00841 |  |
| 32  | 0.00040        | 0.00044 | 0.00315                 | 0.00939              | 0.00890 | 0.00841 |  |
| 33  | 0.00042        | 0.00048 | 0.00317                 | 0.00939              | 0.00890 | 0.00841 |  |
| 34  | 0.00044        | 0.00051 | 0.00318                 | 0.00939              | 0.00890 | 0.00841 |  |
| 35  | 0.00046        | 0.00055 | 0.00341                 | 0.00939              | 0.00890 | 0.00841 |  |
| 36  | 0.00048        | 0.00059 | 0.00341                 | 0.00939              | 0.00890 | 0.00841 |  |
| 37  | 0.00050        | 0.00064 | 0.00341                 | 0.00939              | 0.00890 | 0.00841 |  |
| 38  | 0.00052        | 0.00067 | 0.00339                 | 0.00939              | 0.00890 | 0.00841 |  |
| 39  | 0.00054        | 0.00072 | 0.00337                 | 0.00939              | 0.00890 | 0.00841 |  |
| 40  | 0.00056        | 0.00078 | 0.00273                 | 0.00939              | 0.00890 | 0.00841 |  |
| 41  | 0.00059        | 0.00084 | 0.00270                 | 0.00939              | 0.00890 | 0.00841 |  |
| 42  | 0.00062        | 0.00090 | 0.00267                 | 0.00939              | 0.00890 | 0.00841 |  |
| 43  | 0.00065        | 0.00097 | 0.00264                 | 0.00939              | 0.00890 | 0.00841 |  |
| 44  | 0.00068        | 0.00104 | 0.00260                 | 0.00939              | 0.00890 | 0.00841 |  |
| 45  | 0.00070        | 0.00112 | 0.00399                 | 0.00939              | 0.00890 | 0.00841 |  |
| 46  | 0.00073        | 0.00121 | 0.00362                 | 0.00939              | 0.00890 | 0.00841 |  |
| 47  | 0.00077        | 0.00130 | 0.00333                 | 0.00939              | 0.00890 | 0.00841 |  |
| 48  | 0.00085        | 0.00139 | 0.00311                 | 0.00939              | 0.00890 | 0.00841 |  |
| 49  | 0.00096        | 0.00150 | 0.00296                 | 0.00939              | 0.00890 | 0.00841 |  |
| 50  | 0.00108        | 0.00160 | 0.00289                 | 0.00939              | 0.00890 | 0.00841 |  |
| 51  | 0.00118        | 0.00172 | 0.00288                 | 0.00939              | 0.00890 | 0.00841 |  |
| 52  | 0.00131        | 0.00185 | 0.00295                 | 0.00939              | 0.00890 | 0.00841 |  |
| 53  | 0.00144        | 0.00199 | 0.00310                 | 0.00939              | 0.00890 | 0.00841 |  |
| 54  | 0.00157        | 0.00214 | 0.00332                 | 0.00939              | 0.00890 | 0.00841 |  |
| 55  | 0.00171        | 0.00229 | 0.00362                 | 0.00939              | 0.00890 | 0.00841 |  |
| 56  | 0.00187        | 0.00246 | 0.00400                 | 0.00939              | 0.00890 | 0.      |  |

**OFFICER RETIRED DEATH RATES (continued)**

(Age Nearest Birthday)

| Age | Non-Disability |         | Permanent Disability | Temporary Disability       |     |       |
|-----|----------------|---------|----------------------|----------------------------|-----|-------|
|     | Active         | Reserve |                      | Year of Retirement         |     |       |
|     |                |         |                      | One                        | Two | Three |
| 66  | 0.00583        | 0.00625 | 0.01285              | NONE<br>AFTER<br>AGE<br>65 |     |       |
| 67  | 0.00667        | 0.00700 | 0.01423              |                            |     |       |
| 68  | 0.00765        | 0.00781 | 0.01573              |                            |     |       |
| 69  | 0.00879        | 0.00872 | 0.01740              |                            |     |       |
| 70  | 0.01012        | 0.00975 | 0.01929              |                            |     |       |
| 71  | 0.01167        | 0.01092 | 0.02146              |                            |     |       |
| 72  | 0.01347        | 0.01230 | 0.02396              |                            |     |       |
| 73  | 0.01555        | 0.01390 | 0.02686              |                            |     |       |
| 74  | 0.01794        | 0.01578 | 0.03020              |                            |     |       |
| 75  | 0.02070        | 0.01799 | 0.03405              |                            |     |       |
| 76  | 0.02388        | 0.02060 | 0.03846              |                            |     |       |
| 77  | 0.02752        | 0.02370 | 0.04350              |                            |     |       |
| 78  | 0.03171        | 0.02734 | 0.04923              |                            |     |       |
| 79  | 0.03651        | 0.03164 | 0.05571              |                            |     |       |
| 80  | 0.04199        | 0.03669 | 0.06301              |                            |     |       |
| 81  | 0.04826        | 0.04263 | 0.07116              |                            |     |       |
| 82  | 0.05541        | 0.04958 | 0.08024              |                            |     |       |
| 83  | 0.06356        | 0.05766 | 0.09031              |                            |     |       |
| 84  | 0.07280        | 0.06703 | 0.10143              |                            |     |       |
| 85  | 0.08322        | 0.07775 | 0.11368              |                            |     |       |
| 86  | 0.09497        | 0.08992 | 0.12718              |                            |     |       |
| 87  | 0.10814        | 0.10356 | 0.14201              |                            |     |       |
| 88  | 0.12280        | 0.11865 | 0.15823              |                            |     |       |
| 89  | 0.13902        | 0.13516 | 0.17593              |                            |     |       |
| 90  | 0.15683        | 0.15301 | 0.19515              |                            |     |       |
| 91  | 0.17629        | 0.17214 | 0.21594              |                            |     |       |
| 92  | 0.19740        | 0.19248 | 0.23834              |                            |     |       |
| 93  | 0.22017        | 0.21394 | 0.26241              |                            |     |       |
| 94  | 0.24460        | 0.23647 | 0.28816              |                            |     |       |
| 95  | 0.27071        | 0.26004 | 0.31565              |                            |     |       |
| 96  | 0.29855        | 0.28467 | 0.34496              |                            |     |       |
| 97  | 0.33123        | 0.31409 | 0.37607              |                            |     |       |
| 98  | 0.37073        | 0.35064 | 0.40899              |                            |     |       |
| 99  | 0.41807        | 0.39539 | 0.44374              |                            |     |       |
| 100 | 0.47348        | 0.44850 | 0.47859              |                            |     |       |
| 101 | 0.53541        | 0.50944 | 0.51439              |                            |     |       |
| 102 | 0.60403        | 0.57731 | 0.55305              |                            |     |       |
| 103 | 0.67852        | 0.65112 | 0.59393              |                            |     |       |
| 104 | 0.75810        | 0.72992 | 0.63714              |                            |     |       |
| 105 | 0.84228        | 0.81323 | 0.68351              |                            |     |       |
| 106 | 0.93125        | 0.90130 | 0.73328              |                            |     |       |
| 107 | 1.02582        | 0.99538 | 0.78670              |                            |     |       |
| 108 | 1.12503        | 1.09448 | 0.84402              |                            |     |       |
| 109 | 1.22753        | 1.19740 | 0.90550              |                            |     |       |
| 110 | 1.33145        | 1.30237 | 0.97145              |                            |     |       |
| 111 | 1.53533        | 1.51250 | 1.12124              |                            |     |       |
| 112 | 1.53533        | 1.51250 | 1.12124              |                            |     |       |
| 113 | 1.62881        | 1.60915 | 1.20289              |                            |     |       |
| 114 | 1.71359        | 1.69756 | 1.29048              |                            |     |       |
| 115 | 1.78758        | 1.77547 | 1.38443              |                            |     |       |
| 116 | 1.84922        | 1.      |                      |                            |     |       |



## ENLISTED RETIRED DEATH RATES

(Age Nearest Birthday)

| Age | Non-Disability |         | Permanent Disability | Temporary Disability |         |         |
|-----|----------------|---------|----------------------|----------------------|---------|---------|
|     | Active         | Reserve |                      | Year of Retirement   |         |         |
|     |                |         |                      | One                  | Two     | Three   |
| 16  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 17  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 18  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 19  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 20  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 21  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 22  | 0.00033        | 0.00041 | 0.00104              | 0.00616              | 0.00565 | 0.00514 |
| 23  | 0.00033        | 0.00041 | 0.00209              | 0.00616              | 0.00565 | 0.00514 |
| 24  | 0.00033        | 0.00041 | 0.00212              | 0.00616              | 0.00565 | 0.00514 |
| 25  | 0.00033        | 0.00041 | 0.00216              | 0.00616              | 0.00565 | 0.00514 |
| 26  | 0.00033        | 0.00041 | 0.00222              | 0.00616              | 0.00565 | 0.00514 |
| 27  | 0.00033        | 0.00041 | 0.00228              | 0.00616              | 0.00565 | 0.00514 |
| 28  | 0.00033        | 0.00041 | 0.00234              | 0.00616              | 0.00565 | 0.00514 |
| 29  | 0.00033        | 0.00041 | 0.00239              | 0.00616              | 0.00565 | 0.00514 |
| 30  | 0.00033        | 0.00041 | 0.00244              | 0.00616              | 0.00565 | 0.00514 |
| 31  | 0.00035        | 0.00044 | 0.00248              | 0.00616              | 0.00565 | 0.00514 |
| 32  | 0.00038        | 0.00049 | 0.00253              | 0.00616              | 0.00565 | 0.00514 |
| 33  | 0.00041        | 0.00053 | 0.00257              | 0.00616              | 0.00565 | 0.00514 |
| 34  | 0.00044        | 0.00058 | 0.00261              | 0.00616              | 0.00565 | 0.00514 |
| 35  | 0.00047        | 0.00063 | 0.00266              | 0.00616              | 0.00565 | 0.00514 |
| 36  | 0.00051        | 0.00069 | 0.00272              | 0.00616              | 0.00565 | 0.00514 |
| 37  | 0.00055        | 0.00075 | 0.00278              | 0.00616              | 0.00565 | 0.00514 |
| 38  | 0.00059        | 0.00081 | 0.00285              | 0.00616              | 0.00565 | 0.00514 |
| 39  | 0.00063        | 0.00089 | 0.00291              | 0.00616              | 0.00565 | 0.00514 |
| 40  | 0.00068        | 0.00097 | 0.00297              | 0.00616              | 0.00565 | 0.00514 |
| 41  | 0.00072        | 0.00105 | 0.00303              | 0.00616              | 0.00565 | 0.00514 |
| 42  | 0.00078        | 0.00115 | 0.00309              | 0.00616              | 0.00565 | 0.00514 |
| 43  | 0.00083        | 0.00125 | 0.00316              | 0.00616              | 0.00565 | 0.00514 |
| 44  | 0.00089        | 0.00136 | 0.00324              | 0.00616              | 0.00565 | 0.00514 |
| 45  | 0.00096        | 0.00149 | 0.00334              | 0.00616              | 0.00565 | 0.00514 |
| 46  | 0.00103        | 0.00162 | 0.00348              | 0.00616              | 0.00565 | 0.00514 |
| 47  | 0.00112        | 0.00177 | 0.00366              | 0.00616              | 0.00565 | 0.00514 |
| 48  | 0.00124        | 0.00193 | 0.00389              | 0.00616              | 0.00565 | 0.00514 |
| 49  | 0.00138        | 0.00210 | 0.00419              | 0.00616              | 0.00565 | 0.00514 |
| 50  | 0.00156        | 0.00228 | 0.00455              | 0.00616              | 0.00565 | 0.00514 |
| 51  | 0.00180        | 0.00249 | 0.00498              | 0.00616              | 0.00565 | 0.00514 |
| 52  | 0.00209        | 0.00271 | 0.00549              | 0.00616              | 0.00565 | 0.00514 |
| 53  | 0.00241        | 0.00295 | 0.00608              | 0.00616              | 0.00565 | 0.00514 |
| 54  | 0.00278        | 0.00322 | 0.00675              | 0.00616              | 0.00565 | 0.00514 |
| 55  | 0.00322        | 0.00350 | 0.00751              | 0.00616              | 0.00565 | 0.00514 |
| 56  | 0.00371        | 0.00381 | 0.00834              | 0.00616              | 0.00565 | 0.00514 |
| 57  | 0.00428        | 0.00416 | 0.00926              | 0.00616              | 0.00565 | 0.00514 |
| 58  | 0.00494        | 0.00452 | 0.01026              | 0.00616              | 0.00565 | 0.00514 |
| 59  | 0.00569        | 0.00493 | 0.01136              | 0.00616              | 0.00565 | 0.00514 |
| 60  | 0.00655        | 0.00537 | 0.01256              | 0.00616              | 0.00565 | 0.00514 |
| 61  | 0.00754        | 0.00592 | 0.01386              | 0.00616              | 0.00565 | 0.00514 |
| 62  | 0.00863        | 0.00659 | 0.01527              | 0.00616              | 0.00565 | 0.00514 |
| 63  | 0.00986        | 0.00738 | 0.01680              | 0.00616              | 0.00565 | 0.00514 |
| 64  | 0.01123        | 0.00830 | 0.01844              | 0.00616              | 0.00565 | 0.00514 |
| 65  | 0.01274        | 0.00933 | 0.02020              | 0.00616              | 0.00565 | 0.00514 |

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

## ENLISTED RETIRED DEATH RATES (continued)

(Age Nearest Birthday)

| Age | Non-Disability |         | Permanent Disability | Temporary Disability |     |       |
|-----|----------------|---------|----------------------|----------------------|-----|-------|
|     | Active         | Reserve |                      | Year of Retirement   |     |       |
|     |                |         |                      | One                  | Two | Three |
| 66  | 0.01440        | 0.01049 | 0.02210              | NONE AFTER AGE 65    |     |       |
| 67  | 0.01622        | 0.01178 | 0.02417              |                      |     |       |
| 68  | 0.01821        | 0.01321 | 0.02644              |                      |     |       |
| 69  | 0.02040        | 0.01480 | 0.02897              |                      |     |       |
| 70  | 0.02280        | 0.01657 | 0.03183              |                      |     |       |
| 71  | 0.02544        | 0.01853 | 0.03506              |                      |     |       |
| 72  | 0.02833        | 0.02074 | 0.03871              |                      |     |       |
| 73  | 0.03151        | 0.02322 | 0.04279              |                      |     |       |
| 74  | 0.03503        | 0.02603 | 0.04733              |                      |     |       |
| 75  | 0.03894        | 0.02924 | 0.05234              |                      |     |       |
| 76  | 0.04328        | 0.03290 | 0.05785              |                      |     |       |
| 77  | 0.04810        | 0.03709 | 0.06389              |                      |     |       |
| 78  | 0.05346        | 0.04191 | 0.07050              |                      |     |       |
| 79  | 0.05939        | 0.04741 | 0.07772              |                      |     |       |
| 80  | 0.06593        | 0.05370 | 0.08560              |                      |     |       |
| 81  | 0.07317        | 0.06083 | 0.09416              |                      |     |       |
| 82  | 0.08116        | 0.06890 | 0.10345              |                      |     |       |
| 83  | 0.08996        | 0.07795 | 0.11350              |                      |     |       |
| 84  | 0.09967        | 0.08804 | 0.12437              |                      |     |       |
| 85  | 0.11036        | 0.09921 | 0.13611              |                      |     |       |
| 86  | 0.12212        | 0.11152 | 0.14880              |                      |     |       |
| 87  | 0.13503        | 0.12499 | 0.16247              |                      |     |       |
| 88  | 0.14915        | 0.13965 | 0.17714              |                      |     |       |
| 89  | 0.16451        | 0.15553 | 0.19284              |                      |     |       |
| 90  | 0.18118        | 0.17263 | 0.20956              |                      |     |       |
| 91  | 0.19922        | 0.19094 | 0.22729              |                      |     |       |
| 92  | 0.21864        | 0.21046 | 0.24606              |                      |     |       |
| 93  | 0.23947        | 0.23118 | 0.26586              |                      |     |       |
| 94  | 0.26177        | 0.25310 | 0.28672              |                      |     |       |
| 95  | 0.28555        | 0.27626 | 0.30866              |                      |     |       |
| 96  | 0.31090        | 0.30098 | 0.33176              |                      |     |       |
| 97  | 0.34033        | 0.33085 | 0.35600              |                      |     |       |
| 98  | 0.37542        | 0.36805 | 0.38137              |                      |     |       |
| 99  | 0.41685        | 0.41354 | 0.40788              |                      |     |       |
| 100 | 0.46467        | 0.46726 | 0.43397              |                      |     |       |
| 101 | 0.51454        | 0.52840 | 0.46942              |                      |     |       |
| 102 | 0.56861        | 0.59577 | 0.50713              |                      |     |       |
| 103 | 0.62596        | 0.66818 | 0.54724              |                      |     |       |
| 104 | 0.68591        | 0.74454 | 0.58989              |                      |     |       |
| 105 | 0.74814        | 0.82437 | 0.63588              |                      |     |       |
| 106 | 0.81326        | 0.90800 | 0.68547              |                      |     |       |
| 107 | 0.88245        | 0.99694 | 0.73896              |                      |     |       |
| 108 | 0.95547        | 1.09040 | 0.79662              |                      |     |       |
| 109 | 1.03192        | 1.18730 | 0.85878              |                      |     |       |
| 110 | 1.11127        | 1.28618 | 0.92578              |                      |     |       |
| 111 | 1.27849        | 1.48929 | 1.07887              |                      |     |       |
| 112 | 1.27849        | 1.48929 | 1.07887              |                      |     |       |
| 113 | 1.36136        | 1.58261 | 1.16302              |                      |     |       |
| 114 | 1.44288        | 1.66943 | 1.25372              |                      |     |       |
| 115 | 1.52160        | 1.74775 | 1.35150              |                      |     |       |
| 116 | 1.59874        | 1.81425 | 1.45385              |                      |     |       |
| 117 | 1.67131        | 1.86721 | 1.57452              |                      |     |       |

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**ACTIVE DUTY OTHER LOSSES FROM NONDISABILITY**

(Age Nearest Birthday)

| DoD     |          | Treasury |          | Age | DoD     |          | Treasury |          | Age |
|---------|----------|----------|----------|-----|---------|----------|----------|----------|-----|
| Officer | Enlisted | Officer  | Enlisted |     | Officer | Enlisted | Officer  | Enlisted |     |
| 16      | 0.0000   | 0.0000   | 0.0000   | 56  | 0.0001  | 0.0041   | 0.0000   | 0.0000   |     |
| 17      | 0.0000   | 0.0000   | 0.0000   | 57  | 0.0002  | 0.0043   | 0.0000   | 0.0000   |     |
| 18      | 0.0000   | 0.0000   | 0.0000   | 58  | 0.0003  | 0.0047   | 0.0000   | 0.0000   |     |
| 19      | 0.0000   | 0.0000   | 0.0000   | 59  | 0.0004  | 0.0051   | 0.0000   | 0.0000   |     |
| 20      | 0.0000   | 0.0000   | 0.0000   | 60  | 0.0005  | 0.0056   | 0.0000   | 0.0000   |     |
| 21      | 0.0000   | 0.0000   | 0.0000   | 61  | 0.0006  | 0.0061   | 0.0000   | 0.0000   |     |
| 22      | 0.0000   | 0.0000   | 0.0000   | 62  | 0.0007  | 0.0066   | 0.0000   | 0.0000   |     |
| 23      | 0.0000   | 0.0000   | 0.0000   | 63  | 0.0009  | 0.0072   | 0.0000   | 0.0000   |     |
| 24      | 0.0000   | 0.0000   | 0.0000   | 64  | 0.0010  | 0.0078   | 0.0000   | 0.0000   |     |
| 25      | 0.0000   | 0.0000   | 0.0000   | 65  | 0.0011  | 0.0083   | 0.0000   | 0.0000   |     |
| 26      | 0.0000   | 0.0000   | 0.0000   | 66  | 0.0013  | 0.0089   | 0.0000   | 0.0000   |     |
| 27      | 0.0000   | 0.0000   | 0.0000   | 67  | 0.0014  | 0.0094   | 0.0000   | 0.0000   |     |
| 28      | 0.0000   | 0.0000   | 0.0000   | 68  | 0.0015  | 0.0099   | 0.0000   | 0.0000   |     |
| 29      | 0.0000   | 0.0000   | 0.0000   | 69  | 0.0017  | 0.0104   | 0.0000   | 0.0000   |     |
| 30      | 0.0068   | 0.0363   | 0.0000   | 70  | 0.0018  | 0.0108   | 0.0000   | 0.0000   |     |
| 31      | 0.0068   | 0.0363   | 0.0000   | 71  | 0.0019  | 0.0111   | 0.0000   | 0.0000   |     |
| 32      | 0.0068   | 0.0363   | 0.0000   | 72  | 0.0019  | 0.0114   | 0.0000   | 0.0000   |     |
| 33      | 0.0068   | 0.0363   | 0.0000   | 73  | 0.0020  | 0.0116   | 0.0000   | 0.0000   |     |
| 34      | 0.0068   | 0.0363   | 0.0000   | 74  | 0.0021  | 0.0117   | 0.0000   | 0.0000   |     |
| 35      | 0.0068   | 0.0363   | 0.0000   | 75  | 0.0021  | 0.0117   | 0.0000   | 0.0000   |     |
| 36      | 0.0068   | 0.0363   | 0.0000   | 76  | 0.0021  | 0.0116   | 0.0000   | 0.0000   |     |
| 37      | 0.0068   | 0.0363   | 0.0000   | 77  | 0.0021  | 0.0114   | 0.0000   | 0.0000   |     |
| 38      | 0.0068   | 0.0363   | 0.0000   | 78  | 0.0021  | 0.0111   | 0.0000   | 0.0000   |     |
| 39      | 0.0068   | 0.0313   | 0.0000   | 79  | 0.0020  | 0.0107   | 0.0000   | 0.0000   |     |
| 40      | 0.0057   | 0.0269   | 0.0000   | 80  | 0.0019  | 0.0102   | 0.0000   | 0.0000   |     |
| 41      | 0.0048   | 0.0230   | 0.0000   | 81  | 0.0018  | 0.0095   | 0.0000   | 0.0000   |     |
| 42      | 0.0040   | 0.0196   | 0.0000   | 82  | 0.0017  | 0.0088   | 0.0000   | 0.0000   |     |
| 43      | 0.0033   | 0.0166   | 0.0000   | 83  | 0.0015  | 0.0078   | 0.0000   | 0.0000   |     |
| 44      | 0.0026   | 0.0140   | 0.0000   | 84  | 0.0013  | 0.0068   | 0.0000   | 0.0000   |     |
| 45      | 0.0021   | 0.0118   | 0.0000   | 85  | 0.0011  | 0.0056   | 0.0000   | 0.0000   |     |
| 46      | 0.0016   | 0.0099   | 0.0000   | 86  | 0.0008  | 0.0042   | 0.0000   | 0.0000   |     |
| 47      | 0.0013   | 0.0083   | 0.0000   | 87  | 0.0005  | 0.0027   | 0.0000   | 0.0000   |     |
| 48      | 0.0009   | 0.0070   | 0.0000   | 88  | 0.0002  | 0.0010   | 0.0000   | 0.0000   |     |
| 49      | 0.0007   | 0.0060   | 0.0000   | 89  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 50      | 0.0005   | 0.0052   | 0.0000   | 90  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 51      | 0.0003   | 0.0046   | 0.0000   | 91  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 52      | 0.0002   | 0.0042   | 0.0000   | 92  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 53      | 0.0001   | 0.0039   | 0.0000   | 93  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 54      | 0.0001   | 0.0038   | 0.0000   | 94  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |
| 55      | 0.0001   | 0.0039   | 0.0000   | 95  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |     |

\*\*\* The above DoD/Treasury distinction is needed for P.L. 108-136 calculations.

"Treasury" rates of '0.0000' are shown for effect.

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**RESERVE DUTY OTHER LOSSES FROM NONDISABILITY**

(Age Nearest Birthday)

|     |         | DoD      |         | Treasury |     |         |          | DoD      |          |
|-----|---------|----------|---------|----------|-----|---------|----------|----------|----------|
|     |         |          |         |          |     |         |          |          |          |
|     |         | Treasury |         |          |     |         |          | Treasury |          |
| Age | Officer | Enlisted | Officer | Enlisted | Age | Officer | Enlisted | Officer  | Enlisted |
| 16  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 56  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |
| 17  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 57  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |
| 18  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 58  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |
| 19  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 59  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |
| 20  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 60  | 0.0016  | 0.0115   | 0.0000   | 0.0000   |
| 21  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 61  | 0.0034  | 0.0176   | 0.0000   | 0.0000   |
| 22  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 62  | 0.0023  | 0.0184   | 0.0000   | 0.0000   |
| 23  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 63  | 0.0028  | 0.0150   | 0.0000   | 0.0000   |
| 24  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 64  | 0.0030  | 0.0114   | 0.0000   | 0.0000   |
| 25  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 65  | 0.0032  | 0.0107   | 0.0000   | 0.0000   |
| 26  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 66  | 0.0032  | 0.0085   | 0.0000   | 0.0000   |
| 27  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 67  | 0.0037  | 0.0080   | 0.0000   | 0.0000   |
| 28  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 68  | 0.0029  | 0.0061   | 0.0000   | 0.0000   |
| 29  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 69  | 0.0027  | 0.0053   | 0.0000   | 0.0000   |
| 30  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 70  | 0.0025  | 0.0054   | 0.0000   | 0.0000   |
| 31  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 71  | 0.0019  | 0.0029   | 0.0000   | 0.0000   |
| 32  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 72  | 0.0020  | 0.0037   | 0.0000   | 0.0000   |
| 33  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 73  | 0.0013  | 0.0029   | 0.0000   | 0.0000   |
| 34  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 74  | 0.0018  | 0.0036   | 0.0000   | 0.0000   |
| 35  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 75  | 0.0020  | 0.0021   | 0.0000   | 0.0000   |
| 36  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 76  | 0.0020  | 0.0027   | 0.0000   | 0.0000   |
| 37  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 77  | 0.0017  | 0.0041   | 0.0000   | 0.0000   |
| 38  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 78  | 0.0020  | 0.0031   | 0.0000   | 0.0000   |
| 39  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 79  | 0.0025  | 0.0035   | 0.0000   | 0.0000   |
| 40  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 80  | 0.0007  | 0.0040   | 0.0000   | 0.0000   |
| 41  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 81  | 0.0007  | 0.0028   | 0.0000   | 0.0000   |
| 42  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 82  | 0.0017  | 0.0026   | 0.0000   | 0.0000   |
| 43  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 83  | 0.0010  | 0.0047   | 0.0000   | 0.0000   |
| 44  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 84  | 0.0023  | 0.0013   | 0.0000   | 0.0000   |
| 45  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 85  | 0.0016  | 0.0042   | 0.0000   | 0.0000   |
| 46  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 86  | 0.0011  | 0.0043   | 0.0000   | 0.0000   |
| 47  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 87  | 0.0008  | 0.0051   | 0.0000   | 0.0000   |
| 48  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 88  | 0.0016  | 0.0019   | 0.0000   | 0.0000   |
| 49  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 89  | 0.0016  | 0.0027   | 0.0000   | 0.0000   |
| 50  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 90  | 0.0017  | 0.0011   | 0.0000   | 0.0000   |
| 51  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 91  | 0.0030  | 0.0023   | 0.0000   | 0.0000   |
| 52  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 92  | 0.0010  | 0.0042   | 0.0000   | 0.0000   |
| 53  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 93  | 0.0021  | 0.0032   | 0.0000   | 0.0000   |
| 54  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 94  | 0.0012  | 0.0049   | 0.0000   | 0.0000   |
| 55  | 0.0000  | 0.0000   | 0.0000  | 0.0000   | 95  | 0.0000  | 0.0000   | 0.0000   | 0.0000   |

\*\*\* The above DoD/Treasury distinction is needed for P.L. 108-136 calculations.

"Treasury" rates of '0.0000' are shown for effect.

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**OTHER LOSS AND NONTRANSFER LOSSES FROM TEMPORARY DISABILITY \*\*\***

(Age Nearest Birthday)

| Age | Officers           |        |        | Enlisted           |        |        |
|-----|--------------------|--------|--------|--------------------|--------|--------|
|     | Year of Retirement |        |        | Year of Retirement |        |        |
|     | One                | Two    | Three  | One                | Two    | Three  |
| 16  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 17  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 18  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 19  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 20  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 21  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 22  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 23  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 24  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 25  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 26  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 27  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 28  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 29  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 30  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 31  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 32  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 33  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 34  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 35  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 36  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 37  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 38  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 39  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 40  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 41  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 42  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 43  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 44  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 45  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 46  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 47  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 48  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 49  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 50  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 51  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 52  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 53  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 54  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 55  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 56  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 57  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 58  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 59  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 60  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 61  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 62  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 63  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 64  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |
| 65  | 0.0264             | 0.0881 | 0.2771 | 0.1740             | 0.2433 | 0.5598 |

| Year of Retirement |       |       | Year of Retirement |       |       |
|--------------------|-------|-------|--------------------|-------|-------|
| One                | Two   | Three | One                | Two   | Three |
| 1.639              | 1.176 | 1.070 | 1.368              | 1.228 | 1.067 |

Example: The DoD-specific Other/Nontransfer Loss rate (across all ages) for Officers in Year One of Retirement would be 0.0433, the product of 0.0264 and 1.639.

## TRANSFER RATES FROM TEMPORARY DISABILITY TO PERMANENT DISABILITY

(Age Nearest Birthday)

| Age | Officers           |        | Enlisted           |        |
|-----|--------------------|--------|--------------------|--------|
|     | Year of Retirement |        | Year of Retirement |        |
|     | One                | Two    | One                | Two    |
| 16  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 17  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 18  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 19  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 20  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 21  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 22  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 23  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 24  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 25  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 26  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 27  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 28  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 29  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 30  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 31  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 32  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 33  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 34  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 35  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 36  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 37  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 38  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 39  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 40  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 41  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 42  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 43  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 44  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 45  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 46  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 47  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 48  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 49  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 50  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 51  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 52  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 53  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 54  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 55  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 56  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 57  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 58  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 59  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 60  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 61  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 62  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 63  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 64  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |
| 65  | 0.1281             | 0.1740 | 0.0626             | 0.0947 |

\*\*\* Those still remaining on temporary disability at the end of the temporary disability period are assumed to be transferred to permanent disability.

**OTHER LOSSES FROM PERMANENT DISABILITY**

(Age Nearest Birthday)

| DoD |         |          | Treasury |          | DoD |         |          | Treasury |          |
|-----|---------|----------|----------|----------|-----|---------|----------|----------|----------|
| Age | Officer | Enlisted | Officer  | Enlisted | Age | Officer | Enlisted | Officer  | Enlisted |
| 16  | 0.0709  | 0.3602   | 0.0344   | 0.3028   | 54  | 0.0119  | 0.0468   | 0.0077   | 0.0215   |
| 17  | 0.0709  | 0.3602   | 0.0344   | 0.3028   | 55  | 0.0114  | 0.0435   | 0.0073   | 0.0207   |
| 18  | 0.0709  | 0.3602   | 0.0344   | 0.3028   | 56  | 0.0110  | 0.0408   | 0.0069   | 0.0197   |
| 19  | 0.0709  | 0.3602   | 0.0344   | 0.3028   | 57  | 0.0107  | 0.0384   | 0.0065   | 0.0186   |
| 20  | 0.0709  | 0.3346   | 0.0344   | 0.2624   | 58  | 0.0105  | 0.0364   | 0.0061   | 0.0174   |
| 21  | 0.0709  | 0.3107   | 0.0344   | 0.2253   | 59  | 0.0103  | 0.0347   | 0.0058   | 0.0161   |
| 22  | 0.0709  | 0.2887   | 0.0344   | 0.1916   | 60  | 0.0102  | 0.0333   | 0.0054   | 0.0146   |
| 23  | 0.0709  | 0.2685   | 0.0344   | 0.1611   | 61  | 0.0102  | 0.0321   | 0.0051   | 0.0132   |
| 24  | 0.0709  | 0.2501   | 0.0344   | 0.1339   | 62  | 0.0102  | 0.0312   | 0.0048   | 0.0116   |
| 25  | 0.0709  | 0.2334   | 0.0344   | 0.1100   | 63  | 0.0102  | 0.0304   | 0.0046   | 0.0102   |
| 26  | 0.0670  | 0.2186   | 0.0323   | 0.0894   | 64  | 0.0103  | 0.0297   | 0.0043   | 0.0087   |
| 27  | 0.0633  | 0.2055   | 0.0302   | 0.0720   | 65  | 0.0103  | 0.0291   | 0.0041   | 0.0074   |
| 28  | 0.0598  | 0.1941   | 0.0283   | 0.0576   | 66  | 0.0103  | 0.0285   | 0.0040   | 0.0062   |
| 29  | 0.0565  | 0.1842   | 0.0266   | 0.0462   | 67  | 0.0103  | 0.0279   | 0.0038   | 0.0053   |
| 30  | 0.0533  | 0.1758   | 0.0249   | 0.0376   | 68  | 0.0102  | 0.0273   | 0.0037   | 0.0045   |
| 31  | 0.0503  | 0.1687   | 0.0234   | 0.0313   | 69  | 0.0101  | 0.0267   | 0.0037   | 0.0040   |
| 32  | 0.0475  | 0.1625   | 0.0220   | 0.0272   | 70  | 0.0100  | 0.0261   | 0.0036   | 0.0036   |
| 33  | 0.0448  | 0.1572   | 0.0207   | 0.0248   | 71  | 0.0098  | 0.0254   | 0.0036   | 0.0034   |
| 34  | 0.0422  | 0.1524   | 0.0195   | 0.0237   | 72  | 0.0095  | 0.0247   | 0.0036   | 0.0034   |
| 35  | 0.0398  | 0.1479   | 0.0184   | 0.0236   | 73  | 0.0092  | 0.0239   | 0.0036   | 0.0034   |
| 36  | 0.0375  | 0.1436   | 0.0175   | 0.0242   | 74  | 0.0089  | 0.0231   | 0.0036   | 0.0035   |
| 37  | 0.0354  | 0.1393   | 0.0166   | 0.0251   | 75  | 0.0086  | 0.0223   | 0.0036   | 0.0037   |
| 38  | 0.0333  | 0.1348   | 0.0157   | 0.0261   | 76  | 0.0082  | 0.0214   | 0.0037   | 0.0038   |
| 39  | 0.0313  | 0.1301   | 0.0150   | 0.0270   | 77  | 0.0079  | 0.0205   | 0.0037   | 0.0039   |
| 40  | 0.0294  | 0.1250   | 0.0143   | 0.0278   | 78  | 0.0075  | 0.0196   | 0.0038   | 0.0040   |
| 41  | 0.0275  | 0.1195   | 0.0137   | 0.0283   | 79  | 0.0071  | 0.0187   | 0.0038   | 0.0040   |
| 42  | 0.0258  | 0.1137   | 0.0131   | 0.0285   | 80  | 0.0068  | 0.0177   | 0.0039   | 0.0040   |
| 43  | 0.0241  | 0.1076   | 0.0125   | 0.0284   | 81  | 0.0064  | 0.0168   | 0.0039   | 0.0039   |
| 44  | 0.0225  | 0.1013   | 0.0120   | 0.0281   | 82  | 0.0060  | 0.0158   | 0.0040   | 0.0038   |
| 45  | 0.0210  | 0.0948   | 0.0115   | 0.0277   | 83  | 0.0057  | 0.0148   | 0.0041   | 0.0036   |
| 46  | 0.0196  | 0.0884   | 0.0111   | 0.0271   | 84  | 0.0054  | 0.0139   | 0.0042   | 0.0033   |
| 47  | 0.0182  | 0.0820   | 0.0106   | 0.0265   | 85  | 0.0051  | 0.0129   | 0.0043   | 0.0031   |
| 48  | 0.0170  | 0.0758   | 0.0102   | 0.0258   | 86  | 0.0048  | 0.0119   | 0.0044   | 0.0027   |
| 49  | 0.0159  | 0.0699   | 0.0098   | 0.0251   | 87  | 0.0046  | 0.0109   | 0.0045   | 0.0024   |
| 50  | 0.0149  | 0.0644   | 0.0094   | 0.0244   | 88  | 0.0044  | 0.0099   | 0.0047   | 0.0020   |
| 51  | 0.0140  | 0.0593   | 0.0090   | 0.0238   | 89  | 0.0042  | 0.0089   | 0.0049   | 0.0016   |
| 52  | 0.0131  | 0.0546   | 0.0085   | 0.0231   | 90  | 0.0041  | 0.0079   | 0.0050   | 0.0012   |
| 53  | 0.0125  | 0.0504   | 0.0081   | 0.0223   |     |         |          |          |          |

**RETIREE DIVORCE RATES \*\*\***

(Age Nearest Birthday)

| Active |         |          | Reserve |          | Active |         |          | Reserve |          |
|--------|---------|----------|---------|----------|--------|---------|----------|---------|----------|
| Age    | Officer | Enlisted | Officer | Enlisted | Age    | Officer | Enlisted | Officer | Enlisted |
| 16     | 0.0900  | 0.0900   | 0.0900  | 0.0900   | 50     | 0.0080  | 0.0080   | 0.0080  | 0.0080   |
| 17     | 0.0900  | 0.0900   | 0.0900  | 0.0900   | 51     | 0.0070  | 0.0070   | 0.0070  | 0.0070   |
| 18     | 0.0900  | 0.0900   | 0.0900  | 0.0900   | 52     | 0.0060  | 0.0060   | 0.0060  | 0.0060   |
| 19     | 0.0900  | 0.0900   | 0.0900  | 0.0900   | 53     | 0.0050  | 0.0050   | 0.0050  | 0.0050   |
| 20     | 0.0830  | 0.0830   | 0.0830  | 0.0830   | 54     | 0.0050  | 0.0050   | 0.0050  | 0.0050   |
| 21     | 0.0750  | 0.0750   | 0.0750  | 0.0750   | 55     | 0.0040  | 0.0040   | 0.0040  | 0.0040   |
| 22     | 0.0680  | 0.0680   | 0.0680  | 0.0680   | 56     | 0.0040  | 0.0040   | 0.0040  | 0.0040   |
| 23     | 0.0610  | 0.0610   | 0.0610  | 0.0610   | 57     | 0.0030  | 0.0030   | 0.0030  | 0.0030   |
| 24     | 0.0530  | 0.0530   | 0.0530  | 0.0530   | 58     | 0.0010  | 0.0010   | 0.0010  | 0.0010   |
| 25     | 0.0460  | 0.0460   | 0.0460  | 0.0460   | 59     | 0.0020  | 0.0020   | 0.0020  | 0.0020   |
| 26     | 0.0420  | 0.0420   | 0.0420  | 0.0420   | 60     | 0.0040  | 0.0040   | 0.0040  | 0.0040   |
| 27     | 0.0380  | 0.0380   | 0.0380  | 0.0380   | 61     | 0.0020  | 0.0020   | 0.0020  | 0.0020   |
| 28     | 0.0360  | 0.0360   | 0.0360  | 0.0360   | 62     | 0.0030  | 0.0030   | 0.0030  | 0.0030   |
| 29     | 0.0360  | 0.0360   | 0.0360  | 0.0360   | 63     | 0.0010  | 0.0010   | 0.0010  | 0.0010   |
| 30     | 0.0330  | 0.0330   | 0.0330  | 0.0330   | 64     | 0.0010  | 0.0010   | 0.0010  | 0.0010   |
| 31     | 0.0310  | 0.0310   | 0.0310  | 0.0310   | 65     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 32     | 0.0280  | 0.0280   | 0.0280  | 0.0280   | 66     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 33     | 0.0240  | 0.0240   | 0.0240  | 0.0240   | 67     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 34     | 0.0200  | 0.0200   | 0.0200  | 0.0200   | 68     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 35     | 0.0210  | 0.0210   | 0.0210  | 0.0210   | 69     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 36     | 0.0240  | 0.0240   | 0.0240  | 0.0240   | 70     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 37     | 0.0310  | 0.0310   | 0.0310  | 0.0310   | 71     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 38     | 0.0390  | 0.0390   | 0.0390  | 0.0390   | 72     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 39     | 0.0420  | 0.0420   | 0.0420  | 0.0420   | 73     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 40     | 0.0370  | 0.0370   | 0.0370  | 0.0370   | 74     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 41     | 0.0300  | 0.0300   | 0.0300  | 0.0300   | 75     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 42     | 0.0250  | 0.0250   | 0.0250  | 0.0250   | 76     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 43     | 0.0190  | 0.0190   | 0.0190  | 0.0190   | 77     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 44     | 0.0170  | 0.0170   | 0.0170  | 0.0170   | 78     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 45     | 0.0140  | 0.0140   | 0.0140  | 0.0140   | 79     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 46     | 0.0130  | 0.0130   | 0.0130  | 0.0130   | 80     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 47     | 0.0110  | 0.0110   | 0.0110  | 0.0110   | 81     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 48     | 0.0100  | 0.0100   | 0.0100  | 0.0100   | 82     | 0.0000  | 0.0000   | 0.0000  | 0.0000   |
| 49     | 0.0080  | 0.0080   | 0.0080  | 0.0080   |        |         |          |         |          |

\*\*\* Due to Section 647 of NDAA 2008 (P.L. 110-181) the reserve rates shown above apply in the early years of the projection. See Item 4 in the Reserve Duty section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\*\*\* The "Retiree Divorce" rates are the same for officer/enlisted status, and by active/reserve. The rates are displayed for effect.



**SURVIVING SPOUSE REMARRIAGE RATES**

(Age Nearest Birthday)

| <u>Age</u> | <u>Rate</u> | <u>Age</u> | <u>Rate</u> |
|------------|-------------|------------|-------------|
| 16         | 0.0100      | 38         | 0.0135      |
| 17         | 0.0100      | 39         | 0.0135      |
| 18         | 0.0100      | 40         | 0.0160      |
| 19         | 0.0100      | 41         | 0.0160      |
| 20         | 0.0100      | 42         | 0.0160      |
| 21         | 0.0100      | 43         | 0.0160      |
| 22         | 0.0100      | 44         | 0.0160      |
| 23         | 0.0100      | 45         | 0.0125      |
| 24         | 0.0100      | 46         | 0.0125      |
| 25         | 0.0100      | 47         | 0.0125      |
| 26         | 0.0100      | 48         | 0.0125      |
| 27         | 0.0100      | 49         | 0.0125      |
| 28         | 0.0100      | 50         | 0.0088      |
| 29         | 0.0100      | 51         | 0.0088      |
| 30         | 0.0260      | 52         | 0.0088      |
| 31         | 0.0260      | 53         | 0.0088      |
| 32         | 0.0260      | 54         | 0.0088      |
| 33         | 0.0260      | 55         | 0.0000      |
| 34         | 0.0260      | 56         | 0.0000      |
| 35         | 0.0135      | 57         | 0.0000      |
| 36         | 0.0135      | 58         | 0.0000      |
| 37         | 0.0135      | 59         | 0.0000      |

**SURVIVING CHILD COVERAGE TERMINATION RATES**

**(Age Nearest Birthday)**

| <b>Age</b> | <b>Rate</b> |
|------------|-------------|
| 0          | 0.000       |
| 1          | 0.000       |
| 2          | 0.000       |
| 3          | 0.000       |
| 4          | 0.000       |
| 5          | 0.000       |
| 6          | 0.000       |
| 7          | 0.000       |
| 8          | 0.000       |
| 9          | 0.000       |
| 10         | 0.000       |
| 11         | 0.000       |
| 12         | 0.000       |
| 13         | 0.000       |
| 14         | 0.000       |
| 15         | 0.000       |
| 16         | 0.000       |
| 17         | 0.256       |
| 18         | 0.356       |
| 19         | 0.143       |
| 20         | 0.091       |
| 21         | 0.400       |
| 22         | 0.590       |
| 23         | 0.149       |

## SURVIVING SPOUSE DEATH RATES \*\*\*

(Age Nearest Birthday)

| Age | Rate    | Age | Rate    |
|-----|---------|-----|---------|
| 0   | 0.00565 | 60  | 0.00791 |
| 1   | 0.00034 | 61  | 0.00830 |
| 2   | 0.00022 | 62  | 0.00883 |
| 3   | 0.00017 | 63  | 0.00951 |
| 4   | 0.00014 | 64  | 0.01030 |
| 5   | 0.00013 | 65  | 0.01124 |
| 6   | 0.00011 | 66  | 0.01230 |
| 7   | 0.00010 | 67  | 0.01349 |
| 8   | 0.00009 | 68  | 0.01478 |
| 9   | 0.00008 | 69  | 0.01618 |
| 10  | 0.00007 | 70  | 0.01768 |
| 11  | 0.00010 | 71  | 0.01928 |
| 12  | 0.00010 | 72  | 0.02098 |
| 13  | 0.00013 | 73  | 0.02279 |
| 14  | 0.00015 | 74  | 0.02476 |
| 15  | 0.00019 | 75  | 0.02693 |
| 16  | 0.00023 | 76  | 0.02934 |
| 17  | 0.00026 | 77  | 0.03210 |
| 18  | 0.00039 | 78  | 0.03527 |
| 19  | 0.00044 | 79  | 0.03893 |
| 20  | 0.00049 | 80  | 0.04316 |
| 21  | 0.00054 | 81  | 0.04806 |
| 22  | 0.00059 | 82  | 0.05367 |
| 23  | 0.00062 | 83  | 0.06006 |
| 24  | 0.00065 | 84  | 0.06732 |
| 25  | 0.00068 | 85  | 0.07548 |
| 26  | 0.00071 | 86  | 0.08462 |
| 27  | 0.00074 | 87  | 0.09476 |
| 28  | 0.00077 | 88  | 0.10593 |
| 29  | 0.00082 | 89  | 0.11815 |
| 30  | 0.00087 | 90  | 0.13148 |
| 31  | 0.00093 | 91  | 0.14592 |
| 32  | 0.00098 | 92  | 0.16152 |
| 33  | 0.00104 | 93  | 0.17829 |
| 34  | 0.00111 | 94  | 0.19627 |
| 35  | 0.00119 | 95  | 0.21546 |
| 36  | 0.00127 | 96  | 0.23591 |
| 37  | 0.00136 | 97  | 0.25760 |
| 38  | 0.00146 | 98  | 0.28051 |
| 39  | 0.00157 | 99  | 0.30461 |
| 40  | 0.00169 | 100 | 0.32988 |
| 41  | 0.00183 | 101 | 0.35701 |
| 42  | 0.00199 | 102 | 0.38558 |
| 43  | 0.00219 | 103 | 0.41563 |
| 44  | 0.00240 | 104 | 0.44719 |
| 45  | 0.00263 | 105 | 0.48029 |
| 46  | 0.00288 | 106 | 0.50460 |
| 47  | 0.00316 | 107 | 0.53012 |
| 48  | 0.00347 | 108 | 0.55695 |
| 49  | 0.00381 | 109 | 0.58513 |
| 50  | 0.00418 | 110 | 0.98952 |
| 51  | 0.00456 | 111 | 0.99299 |
| 52  | 0.00494 | 112 | 0.99299 |
| 53  | 0.00533 | 113 | 0.99473 |
| 54  | 0.00571 | 114 | 0.99647 |
| 55  | 0.00614 | 115 | 0.99822 |
| 56  | 0.00662 | 116 | 1.00000 |
| 57  | 0.00709 | 118 | 1.00000 |
| 58  | 0.00753 | 118 | 1.00000 |
| 59  | 0.00765 | 119 | 1.00000 |

\*\*\* "Surviving Spouses" are defined as spouses of deceased retirees who elected SBP spouse, or spouse & child, coverage.  
Rates based on actual plan experience.

## SPOUSE DEATH RATES \*\*\*

(Age Nearest Birthday)

| Age | Rate    | Age | Rate    |
|-----|---------|-----|---------|
| 0   | 0.00777 | 60  | 0.00667 |
| 1   | 0.00046 | 61  | 0.00347 |
| 2   | 0.00031 | 62  | 0.00372 |
| 3   | 0.00024 | 63  | 0.00399 |
| 4   | 0.00018 | 64  | 0.00428 |
| 5   | 0.00016 | 65  | 0.00460 |
| 6   | 0.00015 | 66  | 0.00504 |
| 7   | 0.00014 | 67  | 0.00552 |
| 8   | 0.00012 | 68  | 0.00606 |
| 9   | 0.00011 | 69  | 0.00666 |
| 10  | 0.00010 | 70  | 0.00733 |
| 11  | 0.00010 | 71  | 0.00809 |
| 12  | 0.00013 | 72  | 0.00892 |
| 13  | 0.00016 | 73  | 0.00987 |
| 14  | 0.00021 | 74  | 0.01093 |
| 15  | 0.00027 | 75  | 0.01211 |
| 16  | 0.00032 | 76  | 0.01344 |
| 17  | 0.00037 | 77  | 0.01492 |
| 18  | 0.00036 | 78  | 0.01659 |
| 19  | 0.00039 | 79  | 0.01844 |
| 20  | 0.00042 | 80  | 0.02051 |
| 21  | 0.00045 | 81  | 0.02432 |
| 22  | 0.00046 | 82  | 0.02882 |
| 23  | 0.00049 | 83  | 0.03416 |
| 24  | 0.00051 | 84  | 0.04047 |
| 25  | 0.00054 | 85  | 0.04791 |
| 26  | 0.00057 | 86  | 0.05666 |
| 27  | 0.00060 | 87  | 0.06693 |
| 28  | 0.00063 | 88  | 0.07894 |
| 29  | 0.00067 | 89  | 0.09292 |
| 30  | 0.00073 | 90  | 0.10926 |
| 31  | 0.00078 | 91  | 0.12836 |
| 32  | 0.00087 | 92  | 0.14203 |
| 33  | 0.00096 | 93  | 0.15620 |
| 34  | 0.00106 | 94  | 0.17087 |
| 35  | 0.00119 | 95  | 0.18603 |
| 36  | 0.00134 | 96  | 0.20291 |
| 37  | 0.00149 | 97  | 0.22055 |
| 38  | 0.00165 | 98  | 0.23898 |
| 39  | 0.00184 | 99  | 0.25815 |
| 40  | 0.00202 | 100 | 0.27796 |
| 41  | 0.00221 | 101 | 0.29815 |
| 42  | 0.00239 | 102 | 0.31849 |
| 43  | 0.00257 | 103 | 0.33888 |
| 44  | 0.00276 | 104 | 0.35887 |
| 45  | 0.00294 | 105 | 0.37870 |
| 46  | 0.00312 | 106 | 0.39797 |
| 47  | 0.00333 | 107 | 0.41645 |
| 48  | 0.00353 | 108 | 0.43425 |
| 49  | 0.00374 | 109 | 0.45107 |
| 50  | 0.00399 | 110 | 0.46704 |
| 51  | 0.00403 | 111 | 0.49562 |
| 52  | 0.00413 | 112 | 0.49562 |
| 53  | 0.00427 | 113 | 0.50171 |
| 54  | 0.00447 | 114 | 0.50075 |
| 55  | 0.00471 | 115 | 0.50000 |
| 56  | 0.00502 | 116 | 0.50000 |
| 57  | 0.00537 | 118 | 0.50000 |
| 58  | 0.00576 | 118 | 0.50000 |
| 59  | 0.00620 | 119 | 0.50000 |

\*\*\* "Spouses" are defined as spouses of living retirees who elected SBP spouse, or spouse & child, coverage.

Rates based on standard actuarial mortality table -- RPH-2014 - Female/Male Tables'

**SURVIVING SPOUSE OTHER LOSS RATES**

(Age Nearest Birthday)

| <u>Age</u> | <u>Rate</u> | <u>Age</u> | <u>Rate</u> |
|------------|-------------|------------|-------------|
| 0          | 0.0000      | 55         | 0.0000      |
| 1          | 0.0000      | 56         | 0.0000      |
| 2          | 0.0000      | 57         | 0.0000      |
| 3          | 0.0000      | 58         | 0.0000      |
| 4          | 0.0000      | 59         | 0.0000      |
| 5          | 0.0000      | 60         | 0.0000      |
| 6          | 0.0000      | 61         | 0.0000      |
| 7          | 0.0000      | 62         | 0.0000      |
| 8          | 0.0000      | 63         | 0.0000      |
| 9          | 0.0000      | 64         | 0.0000      |
| 10         | 0.0000      | 65         | 0.0000      |
| 11         | 0.0000      | 66         | 0.0000      |
| 12         | 0.0000      | 67         | 0.0000      |
| 13         | 0.0000      | 68         | 0.0000      |
| 14         | 0.0000      | 69         | 0.0000      |
| 15         | 0.0000      | 70         | 0.0000      |
| 16         | 0.0000      | 71         | 0.0000      |
| 17         | 0.0000      | 72         | 0.0000      |
| 18         | 0.0000      | 73         | 0.0000      |
| 19         | 0.0000      | 74         | 0.0000      |
| 20         | 0.0000      | 75         | 0.0000      |
| 21         | 0.0000      | 76         | 0.0000      |
| 22         | 0.0000      | 77         | 0.0000      |
| 23         | 0.0000      | 78         | 0.0000      |
| 24         | 0.0000      | 79         | 0.0000      |
| 25         | 0.0000      | 80         | 0.0000      |
| 26         | 0.0000      | 81         | 0.0000      |
| 27         | 0.0000      | 82         | 0.0000      |
| 28         | 0.0000      | 83         | 0.0000      |
| 29         | 0.0000      | 84         | 0.0000      |
| 30         | 0.0000      | 85         | 0.0000      |
| 31         | 0.0000      | 86         | 0.0000      |
| 32         | 0.0000      | 87         | 0.0000      |
| 33         | 0.0000      | 88         | 0.0000      |
| 34         | 0.0000      | 89         | 0.0000      |
| 35         | 0.0000      | 90         | 0.0000      |
| 36         | 0.0000      | 91         | 0.0000      |
| 37         | 0.0000      | 92         | 0.0000      |
| 38         | 0.0000      | 93         | 0.0000      |
| 39         | 0.0000      | 94         | 0.0000      |
| 40         | 0.0000      | 95         | 0.0000      |
| 41         | 0.0000      | 96         | 0.0000      |
| 42         | 0.0000      | 97         | 0.0000      |
| 43         | 0.0000      | 98         | 0.0000      |
| 44         | 0.0000      | 99         | 0.0000      |
| 45         | 0.0000      | 100        | 0.0000      |
| 46         | 0.0000      | 101        | 0.0000      |
| 47         | 0.0000      | 102        | 0.0000      |
| 48         | 0.0000      | 103        | 0.0000      |
| 49         | 0.0000      | 104        | 0.0000      |
| 50         | 0.0000      | 105        | 0.0000      |
| 51         | 0.0000      | 106        | 0.0000      |
| 52         | 0.0000      | 107        | 0.0000      |
| 53         | 0.0000      | 108        | 0.0000      |
| 54         | 0.0000      | 109        | 0.0000      |

\*\*\* The above Other Loss rates are used to calculate both the DoD and Treasury NCPs per P.L. 108-136. The rates are all '0.0000' and are shown for effect.

APPENDIX J

MORTALITY IMPROVEMENT FACTORS

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## **MORTALITY IMPROVEMENT FACTORS DESCRIPTION**

Mortality rates in the valuation for active and reserve duty personnel, nondisabled retirees (from Active and Reserve Duty), disabled retirees, and survivors/spouses are decreased (or “improved”) over time in order to reflect the long-term trend toward such declines, generally.

Mortality improvement (MI) factors project increasing life expectancies. The MI Full generational factors in this valuation are based on the underlying experience period from FY 2000 through FY 2016 using military-specific data. Methods and assumptions, for graduation/smoothing and projection, utilize similar techniques to those in the Society of Actuaries (SOA) report on mortality improvement factors, titled “MP-2016<sup>1</sup>”. These factors are used for retirees, survivors, and spouses of retirees.

Gender-specific adjustment factors are used to account for changes in the gender distribution expected to occur over time. These adjustment factors are similar to mortality improvement factors. From FY 2000 through 2016, the percentage of females among all retirees increased from about 3% to about 7% for both officers and enlisted. As the percentage of female recruits increases, the military retiree population lives longer and retiree liabilities increase.

Active and reserve duty personnel mortality improvement factors are based on the SOA standard actuarial mortality projection table, “MP-2016.” They are adjusted to reflect a 90%/10% male/female military population composition.

Based on comparisons with standard actuarial mortality improvement tables, post-retirement military-specific experience does not appear to mirror U.S. general population (based on FY 2000-2016 data). Military retirees tend to have higher improvement under age 75 and lower improvement over age 75 with comparison to MP-2016. In addition, military-specific MI experience exhibits noticeable differences within the various subgroups of military retirees. For instance, officers tend to have higher improvement than their enlisted counterparts.

Projecting future mortality trends presents a challenge due to fluctuations in the pattern of military-specific improvement over time. Emerging experience will be continually monitored and reflect advanced modeling techniques in the projection of mortality, finding a reasonable balance between past experience and future expectations.

To keep this report manageable and prevent unintentional misuse, the MI factors and gender adjustment factors are not shown for each year of the projection (through FY 2099 and beyond). They may be requested if needed.

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<sup>1</sup> For an in-depth discussion of MP-2016, see:  
<https://www.soa.org/resources/experience-studies/2016/mortality-improvement-scale-mp-2016/>

**MORTALITY IMPROVEMENT FACTORS****Applied to:** Active and Reserve Duty Personnel**Gender Mix:** 90% Male / 10% Female

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.96965         | 0.97069 | 0.97220 | 0.97400 | 0.97609 | 0.97826 | 0.98034 | 0.98224 | 0.98375 | 0.98480 | 0.98564 |
| 21   | 0.97139         | 0.97223 | 0.97354 | 0.97513 | 0.97700 | 0.97888 | 0.98075 | 0.98244 | 0.98385 | 0.98480 | 0.98564 |
| 22   | 0.97495         | 0.97395 | 0.97505 | 0.97635 | 0.97792 | 0.97949 | 0.98116 | 0.98264 | 0.98385 | 0.98480 | 0.98564 |
| 23   | 0.97867         | 0.97739 | 0.97655 | 0.97764 | 0.97891 | 0.98019 | 0.98156 | 0.98284 | 0.98395 | 0.98480 | 0.98564 |
| 24   | 0.98263         | 0.98098 | 0.97977 | 0.97892 | 0.97990 | 0.98097 | 0.98195 | 0.98304 | 0.98395 | 0.98480 | 0.98564 |
| 25   | 0.98655         | 0.98472 | 0.98314 | 0.98182 | 0.98087 | 0.98165 | 0.98244 | 0.98323 | 0.98405 | 0.98480 | 0.98564 |
| 26   | 0.99043         | 0.98843 | 0.98649 | 0.98479 | 0.98337 | 0.98233 | 0.98282 | 0.98343 | 0.98405 | 0.98480 | 0.98564 |
| 27   | 0.99418         | 0.99201 | 0.98979 | 0.98774 | 0.98585 | 0.98434 | 0.98321 | 0.98362 | 0.98415 | 0.98480 | 0.98564 |
| 28   | 0.99771         | 0.99546 | 0.99307 | 0.99065 | 0.98840 | 0.98642 | 0.98482 | 0.98381 | 0.98415 | 0.98480 | 0.98564 |
| 29   | 1.00075         | 0.99860 | 0.99604 | 0.99336 | 0.99083 | 0.98849 | 0.98652 | 0.98513 | 0.98424 | 0.98480 | 0.98564 |
| 30   | 1.00341         | 1.00127 | 0.99871 | 0.99594 | 0.99306 | 0.99044 | 0.98820 | 0.98644 | 0.98527 | 0.98480 | 0.98564 |
| 31   | 1.00540         | 1.00354 | 1.00100 | 0.99814 | 0.99517 | 0.99238 | 0.98977 | 0.98774 | 0.98638 | 0.98571 | 0.98564 |
| 32   | 1.00683         | 1.00516 | 1.00280 | 0.99996 | 0.99699 | 0.99402 | 0.99133 | 0.98911 | 0.98748 | 0.98663 | 0.98637 |
| 33   | 1.00741         | 1.00612 | 1.00395 | 1.00138 | 0.99852 | 0.99555 | 0.99277 | 0.99047 | 0.98866 | 0.98762 | 0.98717 |
| 34   | 1.00732         | 1.00632 | 1.00462 | 1.00224 | 0.99957 | 0.99679 | 0.99411 | 0.99172 | 0.98982 | 0.98861 | 0.98797 |
| 35   | 1.00638         | 1.00585 | 1.00453 | 1.00262 | 1.00023 | 0.99774 | 0.99516 | 0.99278 | 0.99089 | 0.98958 | 0.98886 |
| 36   | 1.00475         | 1.00470 | 1.00386 | 1.00242 | 1.00051 | 0.99830 | 0.99601 | 0.99383 | 0.99194 | 0.99064 | 0.98964 |
| 37   | 1.00244         | 1.00287 | 1.00261 | 1.00166 | 1.00031 | 0.99849 | 0.99658 | 0.99459 | 0.99289 | 0.99150 | 0.99051 |
| 38   | 0.99962         | 1.00045 | 1.00077 | 1.00049 | 0.99963 | 0.99838 | 0.99685 | 0.99524 | 0.99374 | 0.99236 | 0.99127 |
| 39   | 0.99658         | 0.99772 | 0.99853 | 0.99875 | 0.99856 | 0.99789 | 0.99685 | 0.99562 | 0.99431 | 0.99312 | 0.99203 |
| 40   | 0.99333         | 0.99477 | 0.99599 | 0.99679 | 0.99720 | 0.99711 | 0.99664 | 0.99580 | 0.99478 | 0.99369 | 0.99261 |
| 41   | 0.99015         | 0.99180 | 0.99333 | 0.99463 | 0.99554 | 0.99604 | 0.99606 | 0.99571 | 0.99507 | 0.99416 | 0.99317 |
| 42   | 0.98726         | 0.98893 | 0.99066 | 0.99237 | 0.99377 | 0.99477 | 0.99529 | 0.99541 | 0.99507 | 0.99445 | 0.99355 |
| 43   | 0.98477         | 0.98643 | 0.98827 | 0.99019 | 0.99190 | 0.99331 | 0.99432 | 0.99484 | 0.99488 | 0.99445 | 0.99375 |
| 44   | 0.98286         | 0.98433 | 0.98618 | 0.98812 | 0.99013 | 0.99184 | 0.99315 | 0.99407 | 0.99450 | 0.99436 | 0.99384 |
| 45   | 0.98157         | 0.98283 | 0.98449 | 0.98642 | 0.98845 | 0.99036 | 0.99198 | 0.99319 | 0.99392 | 0.99398 | 0.99366 |
| 46   | 0.98099         | 0.98194 | 0.98330 | 0.98513 | 0.98706 | 0.98908 | 0.99080 | 0.99222 | 0.99315 | 0.99350 | 0.99337 |
| 47   | 0.98112         | 0.98167 | 0.98281 | 0.98425 | 0.98607 | 0.98790 | 0.98962 | 0.99114 | 0.99227 | 0.99282 | 0.99298 |
| 48   | 0.98196         | 0.98210 | 0.98274 | 0.98387 | 0.98538 | 0.98701 | 0.98863 | 0.99015 | 0.99129 | 0.99204 | 0.99240 |
| 49   | 0.98333         | 0.98306 | 0.98328 | 0.98399 | 0.98510 | 0.98642 | 0.98784 | 0.98926 | 0.99040 | 0.99125 | 0.99172 |
| 50   | 0.98520         | 0.98453 | 0.98433 | 0.98463 | 0.98523 | 0.98614 | 0.98725 | 0.98847 | 0.98951 | 0.99046 | 0.99104 |
| 51   | 0.98738         | 0.98649 | 0.98588 | 0.98557 | 0.98575 | 0.98625 | 0.98695 | 0.98787 | 0.98881 | 0.98967 | 0.99034 |
| 52   | 0.98984         | 0.98865 | 0.98764 | 0.98692 | 0.98659 | 0.98657 | 0.98686 | 0.98747 | 0.98820 | 0.98897 | 0.98974 |
| 53   | 0.99247         | 0.99100 | 0.98968 | 0.98855 | 0.98772 | 0.98719 | 0.98707 | 0.98728 | 0.98771 | 0.98837 | 0.98914 |
| 54   | 0.99497         | 0.99341 | 0.99180 | 0.99037 | 0.98904 | 0.98811 | 0.98758 | 0.98729 | 0.98751 | 0.98797 | 0.98864 |
| 55   | 0.99740         | 0.99577 | 0.99399 | 0.99218 | 0.99055 | 0.98921 | 0.98819 | 0.98759 | 0.98742 | 0.98777 | 0.98825 |
| 56   | 0.99966         | 0.99797 | 0.99603 | 0.99404 | 0.99213 | 0.99041 | 0.98900 | 0.98810 | 0.98763 | 0.98768 | 0.98805 |
| 57   | 1.00146         | 0.99982 | 0.99792 | 0.99577 | 0.99360 | 0.99161 | 0.99000 | 0.98872 | 0.98794 | 0.98779 | 0.98805 |
| 58   | 1.00282         | 1.00141 | 0.99946 | 0.99727 | 0.99503 | 0.99287 | 0.99091 | 0.98943 | 0.98846 | 0.98810 | 0.98816 |
| 59   | 1.00364         | 1.00237 | 1.00067 | 0.99853 | 0.99625 | 0.99403 | 0.99199 | 0.99024 | 0.98908 | 0.98852 | 0.98837 |
| 60   | 1.00386         | 1.00291 | 1.00135 | 0.99937 | 0.99723 | 0.99497 | 0.99287 | 0.99113 | 0.98979 | 0.98904 | 0.98869 |
| 61   | 1.00342         | 1.00287 | 1.00163 | 0.99989 | 0.99790 | 0.99579 | 0.99373 | 0.99193 | 0.99051 | 0.98966 | 0.98920 |
| 62   | 1.00242         | 1.00217 | 1.00133 | 1.00001 | 0.99827 | 0.99639 | 0.99447 | 0.99271 | 0.99130 | 0.99027 | 0.98972 |
| 63   | 1.00090         | 1.00101 | 1.00057 | 0.99965 | 0.99833 | 0.99669 | 0.99500 | 0.99337 | 0.99199 | 0.99097 | 0.99023 |
| 64   | 0.99913         | 0.99952 | 0.99945 | 0.99892 | 0.99800 | 0.99677 | 0.99541 | 0.99392 | 0.99266 | 0.99157 | 0.99083 |
| 65   | 0.99704         | 0.99769 | 0.99799 | 0.99793 | 0.99740 | 0.99657 | 0.99552 | 0.99434 | 0.99321 | 0.99224 | 0.99133 |
| 66   | 0.99499         | 0.99581 | 0.99637 | 0.99668 | 0.99662 | 0.99617 | 0.99552 | 0.99465 | 0.99365 | 0.99270 | 0.99190 |
| 67   | 0.99299         | 0.99388 | 0.99470 | 0.99527 | 0.99557 | 0.99560 | 0.99524 | 0.99467 | 0.99397 | 0.99314 | 0.99227 |
| 68   | 0.99129         | 0.99216 | 0.99306 | 0.99380 | 0.99446 | 0.99476 | 0.99486 | 0.99458 | 0.99409 | 0.99337 | 0.99262 |
| 69   | 0.98990         | 0.99067 | 0.99155 | 0.99245 | 0.99328 | 0.99384 | 0.99422 | 0.99422 | 0.99402 | 0.99350 | 0.99286 |
| 70   | 0.98872         | 0.98947 | 0.99033 | 0.99122 | 0.99212 | 0.99294 | 0.99350 | 0.99377 | 0.99376 | 0.99353 | 0.99300 |
| 71   | 0.98792         | 0.98848 | 0.98933 | 0.99020 | 0.99108 | 0.99198 | 0.99270 | 0.99324 | 0.99340 | 0.99337 | 0.99295 |
| 72   | 0.98741         | 0.98786 | 0.98852 | 0.98928 | 0.99015 | 0.99103 | 0.99183 | 0.99254 | 0.99288 | 0.99303 | 0.99280 |
| 73   | 0.98709         | 0.98745 | 0.98800 | 0.98866 | 0.98942 | 0.99028 | 0.99116 | 0.99185 | 0.99228 | 0.99260 | 0.99256 |
| 74   | 0.98687         | 0.98722 | 0.98758 | 0.98823 | 0.98888 | 0.98964 | 0.99041 | 0.99118 | 0.99169 | 0.99210 | 0.99214 |
| 75   | 0.98693         | 0.98709 | 0.98745 | 0.98790 | 0.98854 | 0.98920 | 0.98986 | 0.99053 | 0.99111 | 0.99151 | 0.99173 |
| 76   | 0.98700         | 0.98715 | 0.98741 | 0.98776 | 0.98830 | 0.98885 | 0.98950 | 0.99007 | 0.99064 | 0.99103 | 0.99133 |
| 77   | 0.98715         | 0.98721 | 0.98746 | 0.98771 | 0.98815 | 0.98860 | 0.98915 | 0.98970 | 0.99017 | 0.99056 | 0.99086 |
| 78   | 0.98740         | 0.98746 | 0.98761 | 0.98785 | 0.98810 | 0.98854 | 0.98899 | 0.98944 | 0.98990 | 0.99019 | 0.99057 |
| 79   | 0.98765         | 0.98770 | 0.98776 | 0.98799 | 0.98823 | 0.98848 | 0.98883 | 0.98927 | 0.98964 | 0.98992 | 0.99021 |
| 80   | 0.98798         | 0.98794 | 0.98799 | 0.98813 | 0.98828 | 0.98861 | 0.98885 | 0.98911 | 0.98947 | 0.98974 | 0.99002 |
| 81   | 0.98839         | 0.98827 | 0.98832 | 0.98836 | 0.98850 | 0.98864 | 0.98888 | 0.98913 | 0.98939 | 0.98957 | 0.98985 |
| 82   | 0.98870         | 0.98867 | 0.98863 | 0.98868 | 0.98872 | 0.98886 | 0.98900 | 0.98915 | 0.98932 | 0.98958 | 0.98977 |
| 83   | 0.98909         | 0.98897 | 0.98894 | 0.98898 | 0.98894 | 0.98898 | 0.98912 | 0.98918 | 0.98934 | 0.98951 | 0.98969 |
| 84   | 0.98946         | 0.98935 | 0.98923 | 0.98920 | 0.98924 | 0.98920 | 0.98925 | 0.98930 | 0.98945 | 0.98953 | 0.98970 |
| 85   | 0.98974         | 0.98963 | 0.98952 | 0.98949 | 0.98945 | 0.98941 | 0.98946 | 0.98951 | 0.98957 | 0.98955 | 0.98972 |
| 86   | 0.99000         | 0.98991 | 0.98980 | 0.98978 | 0.98974 | 0.98971 | 0.98976 | 0.98972 | 0.98978 | 0.98976 | 0.98984 |
| 87   | 0.99017         | 0.99017 | 0.99007 | 0.99005 | 0.99003 | 0.99000 | 0.98997 | 0.99003 | 0.99000 | 0.99007 | 0.99005 |
| 88   | 0.99033         | 0.99034 | 0.99033 | 0.99024 | 0.99022 | 0.99029 | 0.99027 | 0.99024 | 0.99031 | 0.99028 | 0.99027 |
| 89   | 0.99040         | 0.99041 | 0.99041 | 0.99041 | 0.99050 | 0.99049 | 0.99047 | 0.99054 | 0.99052 | 0.99059 | 0.99057 |
| 90   | 0.99037         | 0.99047 | 0.99049 | 0.99058 | 0.99068 | 0.99067 | 0.99076 | 0.99074 | 0.99082 | 0.99080 | 0.99078 |
| 91   | 0.99025         | 0.99036 | 0.99056 | 0.99066 | 0.99076 | 0.99086 | 0.99095 | 0.99103 | 0.99102 | 0.99110 | 0.99109 |
| 92   | 0.98996         | 0.99025 | 0.99045 | 0.99065 | 0.      |         |         |         |         |         |         |



**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Active and Reserve Duty Personnel**Gender Mix:** 90% Male / 10% Female

(Age Nearest Birthday)

| Age | Projection Year |         |         |         |         |         |         |         |         |  |
|-----|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|--|
|     | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032+   |  |
| <21 | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 21  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 22  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 23  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 24  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 25  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 26  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 27  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 28  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 29  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 30  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 31  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 32  | 0.98640         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 33  | 0.98702         | 0.98707 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 34  | 0.98763         | 0.98758 | 0.98773 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 35  | 0.98833         | 0.98809 | 0.98814 | 0.98839 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 36  | 0.98902         | 0.98868 | 0.98854 | 0.98869 | 0.98896 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 37  | 0.98970         | 0.98927 | 0.98894 | 0.98891 | 0.98907 | 0.98934 | 0.98972 | 0.98991 | 0.99000 |  |
| 38  | 0.99047         | 0.98976 | 0.98943 | 0.98930 | 0.98927 | 0.98944 | 0.98972 | 0.98991 | 0.99000 |  |
| 39  | 0.99105         | 0.99034 | 0.98982 | 0.98959 | 0.98947 | 0.98963 | 0.98972 | 0.98991 | 0.99000 |  |
| 40  | 0.99171         | 0.99091 | 0.99030 | 0.98989 | 0.98976 | 0.98974 | 0.98982 | 0.98991 | 0.99000 |  |
| 41  | 0.99219         | 0.99138 | 0.99068 | 0.99018 | 0.98995 | 0.98984 | 0.98982 | 0.98991 | 0.99000 |  |
| 42  | 0.99266         | 0.99177 | 0.99106 | 0.99046 | 0.99015 | 0.98994 | 0.98992 | 0.99000 | 0.99000 |  |
| 43  | 0.99294         | 0.99205 | 0.99135 | 0.99075 | 0.99034 | 0.99003 | 0.99001 | 0.99000 | 0.99000 |  |
| 44  | 0.99313         | 0.99234 | 0.99163 | 0.99094 | 0.99053 | 0.99022 | 0.99002 | 0.99000 | 0.99000 |  |
| 45  | 0.99314         | 0.99253 | 0.99182 | 0.99113 | 0.99063 | 0.99032 | 0.99011 | 0.99000 | 0.99000 |  |
| 46  | 0.99304         | 0.99253 | 0.99192 | 0.99132 | 0.99081 | 0.99041 | 0.99011 | 0.99000 | 0.99000 |  |
| 47  | 0.99285         | 0.99244 | 0.99192 | 0.99141 | 0.99091 | 0.99041 | 0.99020 | 0.99001 | 0.99000 |  |
| 48  | 0.99247         | 0.99225 | 0.99183 | 0.99141 | 0.99091 | 0.99051 | 0.99021 | 0.99001 | 0.99000 |  |
| 49  | 0.99199         | 0.99196 | 0.99173 | 0.99132 | 0.99091 | 0.99051 | 0.99021 | 0.99010 | 0.99000 |  |
| 50  | 0.99149         | 0.99157 | 0.99154 | 0.99123 | 0.99091 | 0.99051 | 0.99021 | 0.99010 | 0.99000 |  |
| 51  | 0.99091         | 0.99118 | 0.99125 | 0.99113 | 0.99082 | 0.99051 | 0.99021 | 0.99010 | 0.99000 |  |
| 52  | 0.99031         | 0.99069 | 0.99086 | 0.99084 | 0.99072 | 0.99051 | 0.99021 | 0.99010 | 0.99000 |  |
| 53  | 0.98972         | 0.99020 | 0.99056 | 0.99064 | 0.99062 | 0.99041 | 0.99021 | 0.99010 | 0.99000 |  |
| 54  | 0.98922         | 0.98980 | 0.99017 | 0.99035 | 0.99043 | 0.99032 | 0.99020 | 0.99010 | 0.99000 |  |
| 55  | 0.98882         | 0.98940 | 0.98987 | 0.99015 | 0.99024 | 0.99022 | 0.99020 | 0.99001 | 0.99000 |  |
| 56  | 0.98861         | 0.98909 | 0.98957 | 0.98986 | 0.99013 | 0.99012 | 0.99011 | 0.99001 | 0.99000 |  |
| 57  | 0.98842         | 0.98889 | 0.98928 | 0.98965 | 0.98993 | 0.99002 | 0.99010 | 0.99000 | 0.99000 |  |
| 58  | 0.98833         | 0.98870 | 0.98917 | 0.98946 | 0.98974 | 0.98992 | 0.99001 | 0.99000 | 0.99000 |  |
| 59  | 0.98843         | 0.98870 | 0.98907 | 0.98935 | 0.98964 | 0.98992 | 0.99001 | 0.99000 | 0.99000 |  |
| 60  | 0.98864         | 0.98880 | 0.98898 | 0.98926 | 0.98954 | 0.98982 | 0.98991 | 0.99000 | 0.99000 |  |
| 61  | 0.98895         | 0.98891 | 0.98908 | 0.98926 | 0.98953 | 0.98972 | 0.98991 | 0.99000 | 0.99000 |  |
| 62  | 0.98936         | 0.98913 | 0.98919 | 0.98935 | 0.98953 | 0.98972 | 0.98991 | 0.99000 | 0.99000 |  |
| 63  | 0.98978         | 0.98944 | 0.98939 | 0.98937 | 0.98954 | 0.98972 | 0.98991 | 0.99000 | 0.99000 |  |
| 64  | 0.99019         | 0.98984 | 0.98960 | 0.98957 | 0.98964 | 0.98972 | 0.98991 | 0.99000 | 0.99000 |  |
| 65  | 0.99069         | 0.99015 | 0.98982 | 0.98968 | 0.98965 | 0.98973 | 0.98991 | 0.99000 | 0.99000 |  |
| 66  | 0.99109         | 0.99055 | 0.99012 | 0.98988 | 0.98975 | 0.98983 | 0.98991 | 0.99000 | 0.99000 |  |
| 67  | 0.99157         | 0.99094 | 0.99042 | 0.99009 | 0.98995 | 0.98992 | 0.98991 | 0.99000 | 0.99000 |  |
| 68  | 0.99194         | 0.99124 | 0.99071 | 0.99029 | 0.99006 | 0.98993 | 0.98992 | 0.99000 | 0.99000 |  |
| 69  | 0.99220         | 0.99151 | 0.99091 | 0.99048 | 0.99016 | 0.99003 | 0.99001 | 0.99000 | 0.99000 |  |
| 70  | 0.99235         | 0.99178 | 0.99118 | 0.99068 | 0.99035 | 0.99013 | 0.99002 | 0.99000 | 0.99000 |  |
| 71  | 0.99250         | 0.99194 | 0.99136 | 0.99086 | 0.99045 | 0.99023 | 0.99002 | 0.99000 | 0.99000 |  |
| 72  | 0.99245         | 0.99200 | 0.99143 | 0.99095 | 0.99054 | 0.99023 | 0.99011 | 0.99000 | 0.99000 |  |
| 73  | 0.99231         | 0.99196 | 0.99150 | 0.99103 | 0.99063 | 0.99032 | 0.99011 | 0.99001 | 0.99000 |  |
| 74  | 0.99208         | 0.99183 | 0.99147 | 0.99110 | 0.99071 | 0.99041 | 0.99012 | 0.99001 | 0.99000 |  |
| 75  | 0.99177         | 0.99170 | 0.99144 | 0.99108 | 0.99070 | 0.99041 | 0.99020 | 0.99001 | 0.99000 |  |
| 76  | 0.99146         | 0.99149 | 0.99132 | 0.99106 | 0.99069 | 0.99040 | 0.99020 | 0.99001 | 0.99000 |  |
| 77  | 0.99107         | 0.99119 | 0.99112 | 0.99095 | 0.99068 | 0.99040 | 0.99020 | 0.99001 | 0.99000 |  |
| 78  | 0.99078         | 0.99089 | 0.99091 | 0.99084 | 0.99066 | 0.99039 | 0.99020 | 0.99010 | 0.99000 |  |
| 79  | 0.99050         | 0.99061 | 0.99062 | 0.99064 | 0.99056 | 0.99038 | 0.99019 | 0.99009 | 0.99000 |  |
| 80  | 0.99022         | 0.99042 | 0.99052 | 0.99044 | 0.99046 | 0.99028 | 0.99019 | 0.99009 | 0.99000 |  |
| 81  | 0.99004         | 0.99023 | 0.99034 | 0.99035 | 0.99036 | 0.99027 | 0.99018 | 0.99000 | 0.99000 |  |
| 82  | 0.98996         | 0.99015 | 0.99025 | 0.99026 | 0.99027 | 0.99018 | 0.99009 | 0.99000 | 0.99000 |  |
| 83  | 0.98987         | 0.99006 | 0.99016 | 0.99026 | 0.99027 | 0.99018 | 0.99009 | 0.99000 | 0.99000 |  |
| 84  | 0.98980         | 0.98998 | 0.99008 | 0.99017 | 0.99027 | 0.99018 | 0.99009 | 0.99000 | 0.99000 |  |
| 85  | 0.98981         | 0.98999 | 0.99009 | 0.99018 | 0.99019 | 0.99019 | 0.99019 | 0.99010 | 0.99000 |  |
| 86  | 0.98992         | 0.99010 | 0.99019 | 0.99029 | 0.99029 | 0.99029 | 0.99029 | 0.99020 | 0.99010 |  |
| 87  | 0.99013         | 0.99021 | 0.99030 | 0.99039 | 0.99040 | 0.99049 | 0.99040 | 0.99040 | 0.99030 |  |
| 88  | 0.99034         | 0.99032 | 0.99041 | 0.99050 | 0.99050 | 0.99059 | 0.99059 | 0.99050 | 0.99040 |  |
| 89  | 0.99055         | 0.99054 | 0.99052 | 0.99061 | 0.99070 | 0.99070 | 0.99070 | 0.99070 | 0.99060 |  |
| 90  | 0.99086         | 0.99084 | 0.99082 | 0.99072 | 0.99081 | 0.99081 | 0.99080 | 0.99080 | 0.99070 |  |
| 91  | 0.99107         | 0.99105 | 0.99103 | 0.99102 | 0.99091 | 0.99100 | 0.99100 | 0.99100 | 0.99090 |  |
| 92  | 0.99137         | 0.99135 | 0.99134 | 0.99132 | 0.99121 | 0.99111 | 0.99110 | 0.99110 | 0.99100 |  |
| 93  | 0.99167         | 0.99165 | 0.99164 | 0.99153 | 0.99151 | 0.99141 | 0.99130 | 0.99130 | 0.99120 |  |
| 94  | 0.99197         | 0.99195 | 0.99194 | 0.99183 | 0.99181 | 0.99171 | 0.99160 | 0.99140 | 0.99130 |  |
| 95  | 0.99217         | 0.99216 | 0.99215 | 0.99213 | 0.99202 | 0.99201 | 0.99181 | 0.99170 | 0.99150 |  |
| 96  | 0.99257         | 0.99256 | 0.99254 | 0.99253 | 0.99242 | 0.99241 | 0.99230 | 0.99210 | 0.99190 |  |
| 97  | 0.99296         | 0.99295 | 0.99294 | 0.99293 | 0.99282 | 0.99281 | 0.99270 | 0.99250 | 0.99230 |  |
| 98  | 0.99336         | 0.99335 | 0.99334 | 0.99332 | 0.99322 | 0.99321 | 0.99310 | 0.99290 | 0.99280 |  |
| 99  | 0.99376         | 0.99375 | 0.99374 | 0.99372 | 0.99362 | 0.99361 | 0.99350 | 0.99340 | 0.99320 |  |
| 100 | 0.99415         | 0.99414 | 0.99413 | 0.99412 | 0.99402 | 0.99401 | 0.99390 | 0.99380 | 0.99360 |  |
| 101 | 0.99455         | 0.99454 | 0.99453 | 0.99452 | 0.99442 | 0.99440 | 0.99430 | 0.99420 | 0.99400 |  |
| 102 | 0.99494         | 0.99494 | 0.99493 | 0.99492 | 0.99482 | 0.99480 | 0.99470 | 0.99460 | 0.99450 |  |
| 103 | 0.99534         | 0.99533 | 0.99532 | 0.99531 | 0.99521 | 0.99520 | 0.99510 | 0.99500 | 0.99490 |  |
| 104 | 0.99573         | 0.99573 | 0.99572 | 0.99571 | 0.99561 | 0.99560 | 0.99550 | 0.99540 | 0.99530 |  |
| 105 | 0.99613         | 0.99613 | 0.99612 | 0.99611 | 0.99601 | 0.99600 | 0.99590 | 0.99581 | 0.99570 |  |
| 106 | 0.99653         | 0.99652 | 0.99652 | 0.99642 | 0.99641 | 0.99640 | 0.99631 | 0.99630 | 0.99620 |  |
| 107 | 0.99692         | 0.99692 | 0.99691 | 0.99682 | 0.99681 | 0.99680 | 0.99671 | 0.99670 | 0.99660 |  |
| 108 | 0.99723         | 0.99722 | 0.99722 | 0.99721 | 0.99721 | 0.99720 | 0.99711 | 0.99710 | 0.99700 |  |
| 109 | 0.99762         | 0.99762 | 0.99762 | 0.99761 | 0.99761 | 0.99760 | 0.99750 | 0.99750 | 0.99740 |  |
| 110 | 0.99802         | 0.99802 | 0.99801 | 0.99801 | 0.99801 | 0.99800 | 0.99800 | 0.99790 | 0.99790 |  |
| 111 | 0.99842         | 0.99841 | 0.99841 | 0.99841 | 0.99840 | 0.99840 | 0.      |         |         |  |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Nondisability Retirees from Active Duty -- Officer [Factors only shown through 2034.]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99178 | 0.99133 | 0.99087 | 0.99038 | 0.98992 | 0.98955 |
| 21   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99179 | 0.99134 | 0.99088 | 0.99039 | 0.98993 | 0.98956 |
| 22   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99180 | 0.99136 | 0.99090 | 0.99040 | 0.98995 | 0.98957 |
| 23   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99182 | 0.99138 | 0.99092 | 0.99042 | 0.98997 | 0.98959 |
| 24   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99185 | 0.99140 | 0.99094 | 0.99045 | 0.99000 | 0.98962 |
| 25   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99188 | 0.99144 | 0.99098 | 0.99048 | 0.99003 | 0.98966 |
| 26   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99191 | 0.99147 | 0.99101 | 0.99051 | 0.99006 | 0.98969 |
| 27   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99195 | 0.99150 | 0.99104 | 0.99055 | 0.99010 | 0.98973 |
| 28   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99199 | 0.99154 | 0.99108 | 0.99059 | 0.99014 | 0.98977 |
| 29   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99201 | 0.99156 | 0.99110 | 0.99061 | 0.99016 | 0.98980 |
| 30   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99201 | 0.99157 | 0.99111 | 0.99062 | 0.99017 | 0.98980 |
| 31   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99200 | 0.99156 | 0.99110 | 0.99061 | 0.99016 | 0.98979 |
| 32   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99199 | 0.99154 | 0.99108 | 0.99059 | 0.99014 | 0.98978 |
| 33   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99198 | 0.99153 | 0.99107 | 0.99058 | 0.99013 | 0.98976 |
| 34   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99199 | 0.99155 | 0.99109 | 0.99060 | 0.99015 | 0.98978 |
| 35   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99201 | 0.99157 | 0.99110 | 0.99062 | 0.99017 | 0.98980 |
| 36   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99204 | 0.99159 | 0.99113 | 0.99064 | 0.99020 | 0.98983 |
| 37   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99207 | 0.99163 | 0.99117 | 0.99068 | 0.99023 | 0.98987 |
| 38   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99211 | 0.99166 | 0.99120 | 0.99072 | 0.99027 | 0.98990 |
| 39   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99214 | 0.99169 | 0.99123 | 0.99075 | 0.99030 | 0.98994 |
| 40   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99219 | 0.99175 | 0.99129 | 0.99080 | 0.99036 | 0.99000 |
| 41   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99226 | 0.99181 | 0.99135 | 0.99087 | 0.99043 | 0.99006 |
| 42   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99237 | 0.99192 | 0.99146 | 0.99098 | 0.99055 | 0.99019 |
| 43   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99254 | 0.99210 | 0.99164 | 0.99116 | 0.99073 | 0.99038 |
| 44   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99270 | 0.99226 | 0.99179 | 0.99132 | 0.99089 | 0.99055 |
| 45   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99284 | 0.99240 | 0.99194 | 0.99147 | 0.99105 | 0.99070 |
| 46   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99299 | 0.99254 | 0.99208 | 0.99162 | 0.99120 | 0.99086 |
| 47   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99308 | 0.99264 | 0.99217 | 0.99172 | 0.99130 | 0.99096 |
| 48   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99311 | 0.99266 | 0.99220 | 0.99174 | 0.99133 | 0.99099 |
| 49   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99314 | 0.99269 | 0.99223 | 0.99177 | 0.99136 | 0.99102 |
| 50   | 0.98930         | 0.99445 | 0.99437 | 0.99416 | 0.99383 | 0.99318 | 0.99273 | 0.99227 | 0.99182 | 0.99140 | 0.99106 |
| 51   | 0.98606         | 0.98963 | 0.98964 | 0.99200 | 0.99195 | 0.99165 | 0.99156 | 0.99145 | 0.99132 | 0.99118 | 0.99103 |
| 52   | 0.98277         | 0.98428 | 0.98438 | 0.98726 | 0.98885 | 0.98992 | 0.99023 | 0.99052 | 0.99075 | 0.99091 | 0.99096 |
| 53   | 0.97931         | 0.97920 | 0.97939 | 0.98238 | 0.98559 | 0.98826 | 0.98894 | 0.98961 | 0.99019 | 0.99063 | 0.99087 |
| 54   | 0.97559         | 0.97383 | 0.97411 | 0.97750 | 0.98097 | 0.98433 | 0.98756 | 0.98863 | 0.98957 | 0.99031 | 0.99076 |
| 55   | 0.97169         | 0.96842 | 0.96880 | 0.97247 | 0.97647 | 0.98011 | 0.98412 | 0.98762 | 0.98893 | 0.98997 | 0.99062 |
| 56   | 0.96793         | 0.96375 | 0.96422 | 0.96775 | 0.97212 | 0.97626 | 0.98062 | 0.98484 | 0.98835 | 0.98965 | 0.99047 |
| 57   | 0.96480         | 0.96034 | 0.96086 | 0.96396 | 0.96824 | 0.97268 | 0.97756 | 0.98206 | 0.98618 | 0.98940 | 0.99035 |
| 58   | 0.96248         | 0.95840 | 0.95896 | 0.96143 | 0.96529 | 0.96957 | 0.97475 | 0.97968 | 0.98399 | 0.98768 | 0.99026 |
| 59   | 0.96066         | 0.95724 | 0.95782 | 0.95997 | 0.96323 | 0.96707 | 0.97214 | 0.97733 | 0.98200 | 0.98584 | 0.98882 |
| 60   | 0.95891         | 0.95645 | 0.95704 | 0.95905 | 0.96201 | 0.96525 | 0.96995 | 0.97504 | 0.97996 | 0.98412 | 0.98724 |
| 61   | 0.95779         | 0.95623 | 0.95682 | 0.95856 | 0.96138 | 0.96430 | 0.96844 | 0.97316 | 0.97797 | 0.98235 | 0.98575 |
| 62   | 0.95750         | 0.95678 | 0.95736 | 0.95870 | 0.96122 | 0.96394 | 0.96774 | 0.97190 | 0.97634 | 0.98061 | 0.98420 |
| 63   | 0.95764         | 0.95775 | 0.95832 | 0.95941 | 0.96150 | 0.96388 | 0.96748 | 0.97129 | 0.97520 | 0.97913 | 0.98264 |
| 64   | 0.95773         | 0.95906 | 0.95961 | 0.96047 | 0.96227 | 0.96420 | 0.96746 | 0.97106 | 0.97464 | 0.97808 | 0.98131 |
| 65   | 0.95811         | 0.96043 | 0.96095 | 0.96172 | 0.96326 | 0.96489 | 0.96771 | 0.97099 | 0.97437 | 0.97753 | 0.98035 |
| 66   | 0.95888         | 0.96207 | 0.96257 | 0.96312 | 0.96453 | 0.96587 | 0.96837 | 0.97121 | 0.97428 | 0.97725 | 0.97983 |
| 67   | 0.96017         | 0.96397 | 0.96443 | 0.96477 | 0.96591 | 0.96710 | 0.96928 | 0.97179 | 0.97443 | 0.97713 | 0.97956 |
| 68   | 0.96190         | 0.96617 | 0.96659 | 0.96668 | 0.96755 | 0.96847 | 0.97043 | 0.97260 | 0.97492 | 0.97722 | 0.97941 |
| 69   | 0.96414         | 0.96832 | 0.96871 | 0.96871 | 0.96929 | 0.96996 | 0.97159 | 0.97355 | 0.97555 | 0.97756 | 0.97943 |
| 70   | 0.96659         | 0.97043 | 0.97078 | 0.97071 | 0.97115 | 0.97155 | 0.97288 | 0.97450 | 0.97630 | 0.97804 | 0.97968 |
| 71   | 0.96906         | 0.97241 | 0.97272 | 0.97262 | 0.97294 | 0.97323 | 0.97423 | 0.97556 | 0.97705 | 0.97862 | 0.98003 |
| 72   | 0.97156         | 0.97426 | 0.97454 | 0.97441 | 0.97466 | 0.97485 | 0.97567 | 0.97669 | 0.97791 | 0.97921 | 0.98049 |
| 73   | 0.97378         | 0.97587 | 0.97613 | 0.97604 | 0.97623 | 0.97637 | 0.97704 | 0.97789 | 0.97883 | 0.97990 | 0.98095 |
| 74   | 0.97570         | 0.97745 | 0.97767 | 0.97753 | 0.97772 | 0.97781 | 0.97838 | 0.97907 | 0.97985 | 0.98066 | 0.98152 |
| 75   | 0.97737         | 0.97890 | 0.97910 | 0.97894 | 0.97905 | 0.97916 | 0.97963 | 0.98021 | 0.98085 | 0.98152 | 0.98216 |
| 76   | 0.97889         | 0.98019 | 0.98037 | 0.98023 | 0.98030 | 0.98035 | 0.98078 | 0.98127 | 0.98181 | 0.98235 | 0.98288 |
| 77   | 0.98034         | 0.98130 | 0.98146 | 0.98136 | 0.98142 | 0.98145 | 0.98179 | 0.98224 | 0.98269 | 0.98315 | 0.98359 |
| 78   | 0.98170         | 0.98237 | 0.98252 | 0.98239 | 0.98246 | 0.98248 | 0.98275 | 0.98310 | 0.98352 | 0.98390 | 0.98427 |
| 79   | 0.98301         | 0.98344 | 0.98356 | 0.98339 | 0.98341 | 0.98345 | 0.98366 | 0.98394 | 0.98426 | 0.98461 | 0.98491 |
| 80   | 0.98423         | 0.98457 | 0.98468 | 0.98442 | 0.98437 | 0.98436 | 0.98454 | 0.98474 | 0.98498 | 0.98524 | 0.98551 |
| 81   | 0.98549         | 0.98573 | 0.98582 | 0.98550 | 0.98534 | 0.98525 | 0.98535 | 0.98552 | 0.98567 | 0.98585 | 0.98603 |
| 82   | 0.98672         | 0.98690 | 0.98697 | 0.98659 | 0.98635 | 0.98614 | 0.98615 | 0.98622 | 0.98633 | 0.98642 | 0.98655 |
| 83   | 0.98783         | 0.98810 | 0.98815 | 0.98771 | 0.98737 | 0.98707 | 0.98694 | 0.98691 | 0.98693 | 0.98699 | 0.98703 |
| 84   | 0.98882         | 0.98920 | 0.98923 | 0.98879 | 0.98837 | 0.98798 | 0.98773 | 0.98757 | 0.98750 | 0.98749 | 0.98752 |
| 85   | 0.98977         | 0.99019 | 0.99021 | 0.98977 | 0.98933 | 0.98885 | 0.98850 | 0.98824 | 0.98805 | 0.98797 | 0.98794 |
| 86   | 0.99073         | 0.99115 | 0.99115 | 0.99069 | 0.99025 | 0.98973 | 0.98930 | 0.98895 | 0.98867 | 0.98849 | 0.98841 |
| 87   | 0.99167         | 0.99202 | 0.99201 | 0.99156 | 0.99109 | 0.99054 | 0.99007 | 0.98964 | 0.98928 | 0.98903 | 0.98888 |
| 88   | 0.99257         | 0.99282 | 0.99280 | 0.99236 | 0.99188 | 0.99126 | 0.99078 | 0.99031 | 0.98988 | 0.98956 | 0.98935 |
| 89   | 0.99339         | 0.99353 | 0.99351 | 0.99308 | 0.99260 | 0.99194 | 0.99142 | 0.99093 | 0.99047 | 0.99008 | 0.98982 |
| 90   | 0.99416         | 0.99415 | 0.99412 | 0.99372 | 0.99325 | 0.99254 | 0.99201 | 0.99149 | 0.99102 | 0.99061 | 0.99029 |
| 91   | 0.99488         | 0.99472 | 0.99468 | 0.99429 | 0.99383 | 0.99310 | 0.99255 | 0.99202 | 0.99152 | 0.99110 | 0.99076 |
| 92   | 0.99556         | 0.99523 | 0.99519 | 0.99481 | 0.99435 | 0.      |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Nondisability Retirees from Active Duty -- Officer [Factors only shown through 2034.]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |
| < 21 | 0.98928         | 0.98908 | 0.98889 | 0.98871 | 0.98853 | 0.98835 | 0.98818 | 0.98802 | 0.98789 | 0.98780 | 0.98774 |
| 21   | 0.98929         | 0.98909 | 0.98890 | 0.98872 | 0.98854 | 0.98836 | 0.98819 | 0.98803 | 0.98790 | 0.98781 | 0.98775 |
| 22   | 0.98931         | 0.98910 | 0.98891 | 0.98874 | 0.98856 | 0.98838 | 0.98821 | 0.98805 | 0.98792 | 0.98783 | 0.98777 |
| 23   | 0.98933         | 0.98913 | 0.98894 | 0.98876 | 0.98858 | 0.98841 | 0.98824 | 0.98808 | 0.98795 | 0.98786 | 0.98780 |
| 24   | 0.98936         | 0.98916 | 0.98897 | 0.98879 | 0.98861 | 0.98844 | 0.98827 | 0.98811 | 0.98799 | 0.98789 | 0.98784 |
| 25   | 0.98939         | 0.98919 | 0.98900 | 0.98883 | 0.98865 | 0.98848 | 0.98831 | 0.98816 | 0.98803 | 0.98794 | 0.98788 |
| 26   | 0.98943         | 0.98923 | 0.98904 | 0.98886 | 0.98869 | 0.98852 | 0.98835 | 0.98820 | 0.98807 | 0.98798 | 0.98793 |
| 27   | 0.98946         | 0.98927 | 0.98908 | 0.98890 | 0.98873 | 0.98856 | 0.98839 | 0.98824 | 0.98811 | 0.98803 | 0.98797 |
| 28   | 0.98951         | 0.98931 | 0.98912 | 0.98895 | 0.98877 | 0.98860 | 0.98844 | 0.98829 | 0.98817 | 0.98808 | 0.98803 |
| 29   | 0.98953         | 0.98934 | 0.98915 | 0.98898 | 0.98880 | 0.98863 | 0.98847 | 0.98832 | 0.98820 | 0.98811 | 0.98806 |
| 30   | 0.98954         | 0.98934 | 0.98916 | 0.98898 | 0.98881 | 0.98864 | 0.98847 | 0.98833 | 0.98820 | 0.98812 | 0.98807 |
| 31   | 0.98953         | 0.98933 | 0.98915 | 0.98897 | 0.98880 | 0.98863 | 0.98846 | 0.98831 | 0.98819 | 0.98810 | 0.98805 |
| 32   | 0.98951         | 0.98932 | 0.98913 | 0.98896 | 0.98878 | 0.98861 | 0.98845 | 0.98830 | 0.98817 | 0.98808 | 0.98803 |
| 33   | 0.98950         | 0.98930 | 0.98912 | 0.98894 | 0.98877 | 0.98860 | 0.98843 | 0.98828 | 0.98816 | 0.98807 | 0.98802 |
| 34   | 0.98952         | 0.98932 | 0.98913 | 0.98896 | 0.98878 | 0.98861 | 0.98845 | 0.98830 | 0.98818 | 0.98809 | 0.98804 |
| 35   | 0.98954         | 0.98934 | 0.98915 | 0.98898 | 0.98881 | 0.98864 | 0.98847 | 0.98832 | 0.98820 | 0.98811 | 0.98806 |
| 36   | 0.98957         | 0.98937 | 0.98918 | 0.98901 | 0.98884 | 0.98867 | 0.98851 | 0.98836 | 0.98824 | 0.98815 | 0.98810 |
| 37   | 0.98961         | 0.98941 | 0.98923 | 0.98905 | 0.98888 | 0.98871 | 0.98855 | 0.98841 | 0.98828 | 0.98820 | 0.98815 |
| 38   | 0.98964         | 0.98945 | 0.98927 | 0.98909 | 0.98892 | 0.98875 | 0.98859 | 0.98845 | 0.98833 | 0.98825 | 0.98820 |
| 39   | 0.98968         | 0.98949 | 0.98930 | 0.98913 | 0.98896 | 0.98879 | 0.98863 | 0.98849 | 0.98837 | 0.98829 | 0.98824 |
| 40   | 0.98974         | 0.98955 | 0.98936 | 0.98919 | 0.98902 | 0.98886 | 0.98870 | 0.98856 | 0.98844 | 0.98836 | 0.98832 |
| 41   | 0.98981         | 0.98962 | 0.98944 | 0.98927 | 0.98910 | 0.98893 | 0.98878 | 0.98864 | 0.98853 | 0.98845 | 0.98840 |
| 42   | 0.98993         | 0.98975 | 0.98956 | 0.98940 | 0.98923 | 0.98907 | 0.98892 | 0.98878 | 0.98867 | 0.98860 | 0.98856 |
| 43   | 0.99013         | 0.98994 | 0.98976 | 0.98960 | 0.98943 | 0.98928 | 0.98913 | 0.98901 | 0.98890 | 0.98883 | 0.98880 |
| 44   | 0.99030         | 0.99012 | 0.98995 | 0.98978 | 0.98962 | 0.98947 | 0.98933 | 0.98921 | 0.98911 | 0.98904 | 0.98901 |
| 45   | 0.99046         | 0.99028 | 0.99011 | 0.98995 | 0.98979 | 0.98964 | 0.98951 | 0.98939 | 0.98930 | 0.98924 | 0.98921 |
| 46   | 0.99062         | 0.99045 | 0.99028 | 0.99012 | 0.98996 | 0.98982 | 0.98969 | 0.98958 | 0.98949 | 0.98943 | 0.98940 |
| 47   | 0.99072         | 0.99055 | 0.99038 | 0.99022 | 0.99007 | 0.98993 | 0.98980 | 0.98969 | 0.98961 | 0.98955 | 0.98953 |
| 48   | 0.99075         | 0.99058 | 0.99041 | 0.99025 | 0.99010 | 0.98996 | 0.98983 | 0.98972 | 0.98964 | 0.98958 | 0.98956 |
| 49   | 0.99079         | 0.99061 | 0.99045 | 0.99029 | 0.99014 | 0.99000 | 0.98987 | 0.98976 | 0.98968 | 0.98963 | 0.98961 |
| 50   | 0.99083         | 0.99066 | 0.99049 | 0.99033 | 0.99018 | 0.99004 | 0.98992 | 0.98981 | 0.98973 | 0.98968 | 0.98966 |
| 51   | 0.99086         | 0.99069 | 0.99052 | 0.99036 | 0.99021 | 0.99007 | 0.98995 | 0.98985 | 0.98977 | 0.98971 | 0.98969 |
| 52   | 0.99087         | 0.99070 | 0.99053 | 0.99037 | 0.99022 | 0.99008 | 0.98996 | 0.98986 | 0.98978 | 0.98973 | 0.98971 |
| 53   | 0.99085         | 0.99068 | 0.99052 | 0.99036 | 0.99021 | 0.99007 | 0.98995 | 0.98984 | 0.98976 | 0.98971 | 0.98969 |
| 54   | 0.99081         | 0.99064 | 0.99047 | 0.99031 | 0.99016 | 0.99002 | 0.98990 | 0.98979 | 0.98971 | 0.98966 | 0.98964 |
| 55   | 0.99075         | 0.99057 | 0.99041 | 0.99025 | 0.99009 | 0.98995 | 0.98983 | 0.98972 | 0.98963 | 0.98958 | 0.98956 |
| 56   | 0.99067         | 0.99049 | 0.99032 | 0.99016 | 0.99001 | 0.98987 | 0.98974 | 0.98963 | 0.98954 | 0.98948 | 0.98946 |
| 57   | 0.99059         | 0.99041 | 0.99024 | 0.99008 | 0.98993 | 0.98978 | 0.98965 | 0.98954 | 0.98945 | 0.98939 | 0.98936 |
| 58   | 0.99052         | 0.99035 | 0.99017 | 0.99001 | 0.98986 | 0.98971 | 0.98958 | 0.98946 | 0.98937 | 0.98931 | 0.98928 |
| 59   | 0.99048         | 0.99030 | 0.99013 | 0.98997 | 0.98981 | 0.98966 | 0.98953 | 0.98941 | 0.98932 | 0.98926 | 0.98923 |
| 60   | 0.98924         | 0.99027 | 0.99010 | 0.98993 | 0.98978 | 0.98963 | 0.98949 | 0.98938 | 0.98928 | 0.98922 | 0.98919 |
| 61   | 0.98788         | 0.98922 | 0.99007 | 0.98991 | 0.98975 | 0.98960 | 0.98947 | 0.98935 | 0.98926 | 0.98919 | 0.98916 |
| 62   | 0.98660         | 0.98806 | 0.98921 | 0.98989 | 0.98973 | 0.98958 | 0.98945 | 0.98933 | 0.98923 | 0.98917 | 0.98914 |
| 63   | 0.98524         | 0.98697 | 0.98825 | 0.98919 | 0.98971 | 0.98956 | 0.98943 | 0.98931 | 0.98921 | 0.98915 | 0.98912 |
| 64   | 0.98387         | 0.98581 | 0.98734 | 0.98843 | 0.98918 | 0.98955 | 0.98941 | 0.98929 | 0.98920 | 0.98913 | 0.98910 |
| 65   | 0.98271         | 0.98466 | 0.98640 | 0.98771 | 0.98860 | 0.98917 | 0.98941 | 0.98929 | 0.98920 | 0.98913 | 0.98910 |
| 66   | 0.98187         | 0.98369 | 0.98546 | 0.98697 | 0.98807 | 0.98877 | 0.98918 | 0.98931 | 0.98922 | 0.98915 | 0.98912 |
| 67   | 0.98142         | 0.98300 | 0.98468 | 0.98625 | 0.98753 | 0.98842 | 0.98894 | 0.98921 | 0.98926 | 0.98920 | 0.98917 |
| 68   | 0.98118         | 0.98264 | 0.98413 | 0.98565 | 0.98700 | 0.98805 | 0.98874 | 0.98910 | 0.98925 | 0.98926 | 0.98923 |
| 69   | 0.98104         | 0.98245 | 0.98385 | 0.98522 | 0.98656 | 0.98769 | 0.98852 | 0.98901 | 0.98924 | 0.98931 | 0.98930 |
| 70   | 0.98104         | 0.98234 | 0.98370 | 0.98501 | 0.98625 | 0.98739 | 0.98830 | 0.98892 | 0.98924 | 0.98936 | 0.98937 |
| 71   | 0.98123         | 0.98235 | 0.98362 | 0.98490 | 0.98610 | 0.98718 | 0.98812 | 0.98881 | 0.98923 | 0.98940 | 0.98943 |
| 72   | 0.98152         | 0.98252 | 0.98363 | 0.98484 | 0.98602 | 0.98708 | 0.98800 | 0.98873 | 0.98921 | 0.98944 | 0.98949 |
| 73   | 0.98190         | 0.98277 | 0.98378 | 0.98486 | 0.98599 | 0.98704 | 0.98795 | 0.98868 | 0.98920 | 0.98948 | 0.98955 |
| 74   | 0.98229         | 0.98310 | 0.98400 | 0.98499 | 0.98601 | 0.98703 | 0.98794 | 0.98868 | 0.98921 | 0.98952 | 0.98961 |
| 75   | 0.98278         | 0.98343 | 0.98427 | 0.98517 | 0.98612 | 0.98707 | 0.98795 | 0.98869 | 0.98924 | 0.98957 | 0.98967 |
| 76   | 0.98334         | 0.98387 | 0.98456 | 0.98540 | 0.98627 | 0.98716 | 0.98799 | 0.98872 | 0.98927 | 0.98961 | 0.98972 |
| 77   | 0.98396         | 0.98435 | 0.98493 | 0.98563 | 0.98645 | 0.98727 | 0.98806 | 0.98875 | 0.98930 | 0.98965 | 0.98976 |
| 78   | 0.98457         | 0.98489 | 0.98535 | 0.98595 | 0.98663 | 0.98741 | 0.98814 | 0.98880 | 0.98933 | 0.98968 | 0.98980 |
| 79   | 0.98515         | 0.98542 | 0.98581 | 0.98629 | 0.98689 | 0.98754 | 0.98823 | 0.98886 | 0.98937 | 0.98971 | 0.98983 |
| 80   | 0.98571         | 0.98593 | 0.98625 | 0.98668 | 0.98718 | 0.98775 | 0.98833 | 0.98892 | 0.98941 | 0.98973 | 0.98985 |
| 81   | 0.98622         | 0.98641 | 0.98669 | 0.98705 | 0.98749 | 0.98798 | 0.98850 | 0.98898 | 0.98945 | 0.98976 | 0.98987 |
| 82   | 0.98668         | 0.98687 | 0.98711 | 0.98742 | 0.98780 | 0.98823 | 0.98868 | 0.98912 | 0.98948 | 0.98978 | 0.98989 |
| 83   | 0.98713         | 0.98727 | 0.98749 | 0.98777 | 0.98810 | 0.98848 | 0.98888 | 0.98927 | 0.98960 | 0.98981 | 0.98991 |
| 84   | 0.98754         | 0.98765 | 0.98784 | 0.98809 | 0.98838 | 0.98872 | 0.98907 | 0.98941 | 0.98971 | 0.98990 | 0.98992 |
| 85   | 0.98797         | 0.98801 | 0.98816 | 0.98837 | 0.98864 | 0.98894 | 0.98925 | 0.98955 | 0.98981 | 0.98998 | 0.99000 |
| 86   | 0.98841         | 0.98847 | 0.98853 | 0.98871 | 0.98894 | 0.98921 | 0.98948 | 0.98975 | 0.98998 | 0.99012 | 0.99014 |
| 87   | 0.98884         | 0.98888 | 0.98895 | 0.98903 | 0.98922 | 0.98945 | 0.98970 | 0.98993 | 0.99013 | 0.99026 | 0.99026 |
| 88   | 0.98926         | 0.98927 | 0.98933 | 0.98941 | 0.98948 | 0.98968 | 0.98989 | 0.99010 | 0.99027 | 0.99038 | 0.99037 |
| 89   | 0.98969         | 0.98966 | 0.98969 | 0.98975 | 0.98983 | 0.98989 | 0.99007 | 0.99025 | 0.99040 | 0.99049 | 0.99048 |
| 90   | 0.99012         | 0.99006 | 0.99005 | 0.99009 | 0.99015 | 0.99020 | 0.99025 | 0.99040 | 0.99053 | 0.99060 | 0.99058 |
| 91   | 0.99055         | 0.99046 | 0.99042 | 0.99042 | 0.99046 | 0.99050 | 0.99054 | 0.99054 | 0.99065 | 0.99071 | 0.99068 |
| 92   | 0.99100         | 0.99087 | 0.99080 | 0.99077 | 0.99077 | 0.99080 | 0       |         |         |         |         |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Nondisability Retirees from Active Duty – Enlisted [Factors only shown through 2034.]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95578 | 0.96002 | 0.96441 | 0.96864 | 0.97247 | 0.97564 |
| 21   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95541 | 0.95965 | 0.96404 | 0.96825 | 0.97208 | 0.97525 |
| 22   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95543 | 0.95966 | 0.96406 | 0.96827 | 0.97209 | 0.97527 |
| 23   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95545 | 0.95969 | 0.96408 | 0.96829 | 0.97212 | 0.97530 |
| 24   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95548 | 0.95972 | 0.96411 | 0.96833 | 0.97215 | 0.97533 |
| 25   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95552 | 0.95975 | 0.96415 | 0.96836 | 0.97219 | 0.97537 |
| 26   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95555 | 0.95979 | 0.96418 | 0.96840 | 0.97223 | 0.97540 |
| 27   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95559 | 0.95983 | 0.96422 | 0.96844 | 0.97227 | 0.97544 |
| 28   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95577 | 0.96001 | 0.96440 | 0.96863 | 0.97246 | 0.97563 |
| 29   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95595 | 0.96019 | 0.96458 | 0.96881 | 0.97265 | 0.97582 |
| 30   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95611 | 0.96035 | 0.96474 | 0.96898 | 0.97282 | 0.97599 |
| 31   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95626 | 0.96049 | 0.96489 | 0.96913 | 0.97297 | 0.97614 |
| 32   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95640 | 0.96064 | 0.96503 | 0.96928 | 0.97312 | 0.97629 |
| 33   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95640 | 0.96063 | 0.96503 | 0.96928 | 0.97312 | 0.97629 |
| 34   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95640 | 0.96064 | 0.96503 | 0.96928 | 0.97313 | 0.97629 |
| 35   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95640 | 0.96064 | 0.96503 | 0.96928 | 0.97312 | 0.97629 |
| 36   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95641 | 0.96065 | 0.96505 | 0.96930 | 0.97314 | 0.97631 |
| 37   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95645 | 0.96069 | 0.96509 | 0.96934 | 0.97318 | 0.97635 |
| 38   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95652 | 0.96076 | 0.96516 | 0.96941 | 0.97326 | 0.97642 |
| 39   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95658 | 0.96082 | 0.96522 | 0.96947 | 0.97332 | 0.97649 |
| 40   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95665 | 0.96089 | 0.96529 | 0.96954 | 0.97339 | 0.97656 |
| 41   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95668 | 0.96092 | 0.96532 | 0.96957 | 0.97342 | 0.97659 |
| 42   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95670 | 0.96094 | 0.96534 | 0.96960 | 0.97345 | 0.97661 |
| 43   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95672 | 0.96096 | 0.96536 | 0.96962 | 0.97347 | 0.97663 |
| 44   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95677 | 0.96101 | 0.96541 | 0.96967 | 0.97352 | 0.97668 |
| 45   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95682 | 0.96106 | 0.96546 | 0.96972 | 0.97357 | 0.97674 |
| 46   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95690 | 0.96114 | 0.96554 | 0.96981 | 0.97366 | 0.97682 |
| 47   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95694 | 0.96118 | 0.96558 | 0.96984 | 0.97370 | 0.97686 |
| 48   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95694 | 0.96118 | 0.96558 | 0.96984 | 0.97370 | 0.97686 |
| 49   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95690 | 0.96114 | 0.96554 | 0.96981 | 0.97366 | 0.97682 |
| 50   | 0.94931         | 0.94763 | 0.94838 | 0.95043 | 0.95350 | 0.95685 | 0.96109 | 0.96549 | 0.96975 | 0.97360 | 0.97676 |
| 51   | 0.95177         | 0.94933 | 0.95005 | 0.95119 | 0.95416 | 0.95734 | 0.96145 | 0.96573 | 0.96987 | 0.97363 | 0.97673 |
| 52   | 0.95429         | 0.95101 | 0.95169 | 0.95277 | 0.95482 | 0.95784 | 0.96183 | 0.96598 | 0.97001 | 0.97367 | 0.97671 |
| 53   | 0.95646         | 0.95256 | 0.95322 | 0.95428 | 0.95623 | 0.95929 | 0.96216 | 0.96620 | 0.97012 | 0.97369 | 0.97667 |
| 54   | 0.95846         | 0.95413 | 0.95477 | 0.95574 | 0.95763 | 0.95949 | 0.96248 | 0.96640 | 0.97021 | 0.97370 | 0.97662 |
| 55   | 0.96024         | 0.95558 | 0.95619 | 0.95715 | 0.95893 | 0.96063 | 0.96348 | 0.96658 | 0.97029 | 0.97369 | 0.97656 |
| 56   | 0.96186         | 0.95699 | 0.95757 | 0.95848 | 0.96022 | 0.96170 | 0.96446 | 0.96741 | 0.97036 | 0.97368 | 0.97649 |
| 57   | 0.96307         | 0.95836 | 0.95892 | 0.95978 | 0.96143 | 0.96276 | 0.96537 | 0.96822 | 0.97102 | 0.97366 | 0.97642 |
| 58   | 0.96391         | 0.95981 | 0.96034 | 0.96110 | 0.96266 | 0.96380 | 0.96632 | 0.96901 | 0.97171 | 0.97421 | 0.97637 |
| 59   | 0.96476         | 0.96109 | 0.96160 | 0.96238 | 0.96381 | 0.96481 | 0.96721 | 0.96981 | 0.97236 | 0.97477 | 0.97683 |
| 60   | 0.96537         | 0.96252 | 0.96300 | 0.96364 | 0.96505 | 0.96586 | 0.96814 | 0.97060 | 0.97305 | 0.97532 | 0.97730 |
| 61   | 0.96602         | 0.96402 | 0.96448 | 0.96500 | 0.96624 | 0.96698 | 0.96908 | 0.97140 | 0.97372 | 0.97590 | 0.97776 |
| 62   | 0.96673         | 0.96542 | 0.96585 | 0.96636 | 0.96746 | 0.96800 | 0.97003 | 0.97219 | 0.97437 | 0.97644 | 0.97823 |
| 63   | 0.96772         | 0.96688 | 0.96728 | 0.96769 | 0.96873 | 0.96911 | 0.97094 | 0.97300 | 0.97502 | 0.97696 | 0.97866 |
| 64   | 0.96904         | 0.96856 | 0.96894 | 0.96916 | 0.97005 | 0.97032 | 0.97195 | 0.97380 | 0.97572 | 0.97749 | 0.97908 |
| 65   | 0.97069         | 0.97053 | 0.97088 | 0.97086 | 0.97151 | 0.97159 | 0.97308 | 0.97471 | 0.97640 | 0.97807 | 0.97951 |
| 66   | 0.97250         | 0.97261 | 0.97291 | 0.97275 | 0.97311 | 0.97293 | 0.97421 | 0.97568 | 0.97714 | 0.97861 | 0.97997 |
| 67   | 0.97442         | 0.97481 | 0.97508 | 0.97474 | 0.97490 | 0.97442 | 0.97539 | 0.97663 | 0.97794 | 0.97920 | 0.98039 |
| 68   | 0.97656         | 0.97719 | 0.97741 | 0.97688 | 0.97681 | 0.97610 | 0.97673 | 0.97765 | 0.97874 | 0.97985 | 0.98086 |
| 69   | 0.97874         | 0.97970 | 0.97989 | 0.97917 | 0.97884 | 0.97790 | 0.97823 | 0.97880 | 0.97958 | 0.98048 | 0.98138 |
| 70   | 0.98088         | 0.98223 | 0.98237 | 0.98152 | 0.98095 | 0.97977 | 0.97980 | 0.98007 | 0.98051 | 0.98114 | 0.98187 |
| 71   | 0.98282         | 0.98455 | 0.98465 | 0.98379 | 0.98305 | 0.98165 | 0.98138 | 0.98137 | 0.98153 | 0.98187 | 0.98239 |
| 72   | 0.98445         | 0.98660 | 0.98666 | 0.98584 | 0.98504 | 0.98352 | 0.98298 | 0.98268 | 0.98259 | 0.98268 | 0.98297 |
| 73   | 0.98594         | 0.98835 | 0.98839 | 0.98762 | 0.98682 | 0.98529 | 0.98456 | 0.98400 | 0.98366 | 0.98354 | 0.98363 |
| 74   | 0.98721         | 0.98978 | 0.98979 | 0.98912 | 0.98835 | 0.98687 | 0.98607 | 0.98533 | 0.98476 | 0.98444 | 0.98436 |
| 75   | 0.98833         | 0.99091 | 0.99090 | 0.99032 | 0.98962 | 0.98824 | 0.98741 | 0.98661 | 0.98588 | 0.98536 | 0.98511 |
| 76   | 0.98933         | 0.99180 | 0.99177 | 0.99127 | 0.99064 | 0.98938 | 0.98857 | 0.98775 | 0.98697 | 0.98632 | 0.98590 |
| 77   | 0.99016         | 0.99243 | 0.99239 | 0.99199 | 0.99143 | 0.99028 | 0.98953 | 0.98873 | 0.98794 | 0.98725 | 0.98671 |
| 78   | 0.99081         | 0.99287 | 0.99283 | 0.99250 | 0.99203 | 0.99098 | 0.99030 | 0.98955 | 0.98879 | 0.98809 | 0.98752 |
| 79   | 0.99137         | 0.99310 | 0.99306 | 0.99282 | 0.99243 | 0.99150 | 0.99087 | 0.99020 | 0.98950 | 0.98882 | 0.98825 |
| 80   | 0.99190         | 0.99317 | 0.99312 | 0.99297 | 0.99267 | 0.99185 | 0.99131 | 0.99069 | 0.99006 | 0.98944 | 0.98889 |
| 81   | 0.99242         | 0.99316 | 0.99312 | 0.99301 | 0.99279 | 0.99208 | 0.99162 | 0.99109 | 0.99049 | 0.98994 | 0.98944 |
| 82   | 0.99296         | 0.99312 | 0.99308 | 0.99299 | 0.99282 | 0.99219 | 0.99183 | 0.99138 | 0.99087 | 0.99033 | 0.98988 |
| 83   | 0.99353         | 0.99310 | 0.99306 | 0.99296 | 0.99282 | 0.99223 | 0.99195 | 0.99159 | 0.99115 | 0.99069 | 0.99024 |
| 84   | 0.99411         | 0.99312 | 0.99309 | 0.99297 | 0.99282 | 0.99225 | 0.99201 | 0.99172 | 0.99136 | 0.99096 | 0.99057 |
| 85   | 0.99475         | 0.99322 | 0.99319 | 0.99304 | 0.99287 | 0.99227 | 0.99205 | 0.99179 | 0.99150 | 0.99116 | 0.99083 |
| 86   | 0.99546         | 0.99341 | 0.99337 | 0.99318 | 0.99298 | 0.99234 | 0.99212 | 0.99190 | 0.99163 | 0.99137 | 0.99109 |
| 87   | 0.99625         | 0.99367 | 0.99363 | 0.99340 | 0.99316 | 0.99245 | 0.99222 | 0.99198 | 0.99175 | 0.99151 | 0.99129 |
| 88   | 0.99710         | 0.99400 | 0.99396 | 0.99369 | 0.99341 | 0.99261 | 0.99234 | 0.99209 | 0.99184 | 0.99162 | 0.99143 |
| 89   | 0.99799         | 0.99441 | 0.99437 | 0.99405 | 0.99372 | 0.99282 | 0.99250 | 0.99221 | 0.99194 | 0.99171 | 0.99155 |
| 90   | 0.99893         | 0.99488 | 0.99483 | 0.99447 | 0.99409 | 0.99308 | 0.99271 | 0.99237 | 0.99206 | 0.99182 | 0.99165 |
| 91   | 0.99993         | 0.99540 | 0.99535 | 0.99495 | 0.99451 | 0.99339 | 0.99296 | 0.99257 | 0.99221 | 0.99193 | 0.99175 |
| 92   | 1.00096         | 0.99599 | 0.99593 | 0.9954  |         |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Nondisability Retirees from Active Duty – Enlisted [Factors only shown through 2034.]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |
| < 21 | 0.97782         | 0.97940 | 0.98096 | 0.98246 | 0.98385 | 0.98513 | 0.98625 | 0.98716 | 0.98786 | 0.98832 | 0.98848 |
| 21   | 0.97743         | 0.97901 | 0.98058 | 0.98208 | 0.98347 | 0.98475 | 0.98587 | 0.98678 | 0.98748 | 0.98794 | 0.98811 |
| 22   | 0.97745         | 0.97903 | 0.98060 | 0.98210 | 0.98348 | 0.98476 | 0.98589 | 0.98680 | 0.98750 | 0.98796 | 0.98813 |
| 23   | 0.97747         | 0.97906 | 0.98062 | 0.98212 | 0.98351 | 0.98479 | 0.98591 | 0.98682 | 0.98753 | 0.98798 | 0.98815 |
| 24   | 0.97751         | 0.97909 | 0.98065 | 0.98215 | 0.98354 | 0.98482 | 0.98594 | 0.98685 | 0.98756 | 0.98801 | 0.98818 |
| 25   | 0.97754         | 0.97913 | 0.98069 | 0.98219 | 0.98358 | 0.98486 | 0.98598 | 0.98689 | 0.98760 | 0.98805 | 0.98822 |
| 26   | 0.97758         | 0.97916 | 0.98073 | 0.98223 | 0.98362 | 0.98490 | 0.98602 | 0.98693 | 0.98763 | 0.98809 | 0.98826 |
| 27   | 0.97762         | 0.97920 | 0.98077 | 0.98227 | 0.98366 | 0.98494 | 0.98606 | 0.98697 | 0.98767 | 0.98813 | 0.98829 |
| 28   | 0.97781         | 0.97939 | 0.98096 | 0.98246 | 0.98384 | 0.98512 | 0.98624 | 0.98716 | 0.98786 | 0.98831 | 0.98848 |
| 29   | 0.97800         | 0.97958 | 0.98114 | 0.98264 | 0.98403 | 0.98531 | 0.98642 | 0.98734 | 0.98804 | 0.98849 | 0.98866 |
| 30   | 0.97817         | 0.97975 | 0.98131 | 0.98281 | 0.98420 | 0.98547 | 0.98659 | 0.98751 | 0.98821 | 0.98866 | 0.98882 |
| 31   | 0.97832         | 0.97991 | 0.98147 | 0.98296 | 0.98435 | 0.98563 | 0.98674 | 0.98766 | 0.98836 | 0.98881 | 0.98897 |
| 32   | 0.97847         | 0.98005 | 0.98161 | 0.98311 | 0.98450 | 0.98577 | 0.98689 | 0.98780 | 0.98850 | 0.98895 | 0.98911 |
| 33   | 0.97847         | 0.98005 | 0.98161 | 0.98311 | 0.98450 | 0.98577 | 0.98688 | 0.98780 | 0.98850 | 0.98895 | 0.98911 |
| 34   | 0.97847         | 0.98006 | 0.98162 | 0.98311 | 0.98450 | 0.98578 | 0.98689 | 0.98781 | 0.98851 | 0.98895 | 0.98911 |
| 35   | 0.97847         | 0.98006 | 0.98162 | 0.98311 | 0.98450 | 0.98578 | 0.98689 | 0.98781 | 0.98850 | 0.98895 | 0.98911 |
| 36   | 0.97849         | 0.98007 | 0.98163 | 0.98313 | 0.98452 | 0.98579 | 0.98690 | 0.98782 | 0.98852 | 0.98897 | 0.98913 |
| 37   | 0.97853         | 0.98011 | 0.98167 | 0.98317 | 0.98456 | 0.98583 | 0.98695 | 0.98786 | 0.98856 | 0.98901 | 0.98917 |
| 38   | 0.97860         | 0.98019 | 0.98175 | 0.98324 | 0.98463 | 0.98590 | 0.98702 | 0.98793 | 0.98863 | 0.98908 | 0.98924 |
| 39   | 0.97867         | 0.98025 | 0.98181 | 0.98330 | 0.98469 | 0.98596 | 0.98708 | 0.98799 | 0.98869 | 0.98914 | 0.98930 |
| 40   | 0.97874         | 0.98032 | 0.98188 | 0.98337 | 0.98476 | 0.98604 | 0.98715 | 0.98806 | 0.98876 | 0.98921 | 0.98937 |
| 41   | 0.97877         | 0.98035 | 0.98191 | 0.98340 | 0.98479 | 0.98606 | 0.98717 | 0.98809 | 0.98879 | 0.98923 | 0.98939 |
| 42   | 0.97879         | 0.98037 | 0.98193 | 0.98343 | 0.98482 | 0.98609 | 0.98720 | 0.98812 | 0.98881 | 0.98926 | 0.98942 |
| 43   | 0.97881         | 0.98040 | 0.98195 | 0.98345 | 0.98484 | 0.98611 | 0.98722 | 0.98814 | 0.98883 | 0.98928 | 0.98944 |
| 44   | 0.97886         | 0.98045 | 0.98200 | 0.98349 | 0.98489 | 0.98616 | 0.98727 | 0.98818 | 0.98888 | 0.98933 | 0.98948 |
| 45   | 0.97892         | 0.98050 | 0.98206 | 0.98355 | 0.98494 | 0.98621 | 0.98732 | 0.98824 | 0.98893 | 0.98938 | 0.98954 |
| 46   | 0.97900         | 0.98059 | 0.98214 | 0.98363 | 0.98502 | 0.98629 | 0.98740 | 0.98832 | 0.98902 | 0.98946 | 0.98962 |
| 47   | 0.97904         | 0.98062 | 0.98218 | 0.98367 | 0.98506 | 0.98633 | 0.98744 | 0.98836 | 0.98905 | 0.98950 | 0.98965 |
| 48   | 0.97904         | 0.98063 | 0.98218 | 0.98367 | 0.98506 | 0.98633 | 0.98744 | 0.98836 | 0.98905 | 0.98950 | 0.98965 |
| 49   | 0.97900         | 0.98059 | 0.98214 | 0.98363 | 0.98502 | 0.98629 | 0.98740 | 0.98832 | 0.98902 | 0.98946 | 0.98962 |
| 50   | 0.97894         | 0.98053 | 0.98208 | 0.98357 | 0.98497 | 0.98624 | 0.98735 | 0.98826 | 0.98896 | 0.98940 | 0.98956 |
| 51   | 0.97888         | 0.98047 | 0.98202 | 0.98351 | 0.98491 | 0.98618 | 0.98729 | 0.98820 | 0.98890 | 0.98935 | 0.98950 |
| 52   | 0.97884         | 0.98042 | 0.98198 | 0.98347 | 0.98486 | 0.98613 | 0.98724 | 0.98816 | 0.98886 | 0.98930 | 0.98946 |
| 53   | 0.97878         | 0.98036 | 0.98192 | 0.98341 | 0.98481 | 0.98608 | 0.98719 | 0.98811 | 0.98880 | 0.98925 | 0.98941 |
| 54   | 0.97870         | 0.98029 | 0.98185 | 0.98334 | 0.98473 | 0.98600 | 0.98711 | 0.98803 | 0.98873 | 0.98918 | 0.98933 |
| 55   | 0.97862         | 0.98021 | 0.98177 | 0.98326 | 0.98465 | 0.98592 | 0.98704 | 0.98795 | 0.98865 | 0.98910 | 0.98926 |
| 56   | 0.97854         | 0.98013 | 0.98169 | 0.98318 | 0.98457 | 0.98584 | 0.98696 | 0.98787 | 0.98857 | 0.98902 | 0.98918 |
| 57   | 0.97845         | 0.98003 | 0.98159 | 0.98309 | 0.98448 | 0.98575 | 0.98687 | 0.98778 | 0.98848 | 0.98893 | 0.98909 |
| 58   | 0.97838         | 0.97996 | 0.98152 | 0.98302 | 0.98441 | 0.98568 | 0.98680 | 0.98771 | 0.98841 | 0.98886 | 0.98902 |
| 59   | 0.97833         | 0.97991 | 0.98148 | 0.98297 | 0.98436 | 0.98564 | 0.98675 | 0.98767 | 0.98837 | 0.98882 | 0.98898 |
| 60   | 0.97873         | 0.97989 | 0.98145 | 0.98295 | 0.98434 | 0.98561 | 0.98673 | 0.98764 | 0.98834 | 0.98879 | 0.98896 |
| 61   | 0.97913         | 0.98023 | 0.98179 | 0.98329 | 0.98468 | 0.98595 | 0.98707 | 0.98798 | 0.98868 | 0.98913 | 0.98929 |
| 62   | 0.97952         | 0.98059 | 0.98173 | 0.98293 | 0.98432 | 0.98560 | 0.98671 | 0.98763 | 0.98833 | 0.98878 | 0.98894 |
| 63   | 0.97991         | 0.98092 | 0.98202 | 0.98317 | 0.98432 | 0.98559 | 0.98671 | 0.98762 | 0.98832 | 0.98877 | 0.98894 |
| 64   | 0.98027         | 0.98125 | 0.98229 | 0.98340 | 0.98450 | 0.98559 | 0.98670 | 0.98762 | 0.98832 | 0.98877 | 0.98893 |
| 65   | 0.98062         | 0.98156 | 0.98258 | 0.98362 | 0.98468 | 0.98573 | 0.98671 | 0.98763 | 0.98833 | 0.98878 | 0.98894 |
| 66   | 0.98098         | 0.98187 | 0.98285 | 0.98386 | 0.98487 | 0.98587 | 0.98681 | 0.98764 | 0.98834 | 0.98879 | 0.98895 |
| 67   | 0.98136         | 0.98219 | 0.98311 | 0.98408 | 0.98506 | 0.98601 | 0.98692 | 0.98771 | 0.98836 | 0.98881 | 0.98897 |
| 68   | 0.98172         | 0.98253 | 0.98339 | 0.98431 | 0.98525 | 0.98617 | 0.98703 | 0.98780 | 0.98842 | 0.98884 | 0.98901 |
| 69   | 0.98212         | 0.98285 | 0.98369 | 0.98455 | 0.98544 | 0.98633 | 0.98716 | 0.98789 | 0.98849 | 0.98889 | 0.98905 |
| 70   | 0.98255         | 0.98320 | 0.98397 | 0.98481 | 0.98565 | 0.98649 | 0.98729 | 0.98799 | 0.98856 | 0.98895 | 0.98910 |
| 71   | 0.98297         | 0.98359 | 0.98428 | 0.98506 | 0.98587 | 0.98666 | 0.98743 | 0.98810 | 0.98864 | 0.98902 | 0.98916 |
| 72   | 0.98340         | 0.98395 | 0.98462 | 0.98532 | 0.98607 | 0.98684 | 0.98756 | 0.98821 | 0.98873 | 0.98909 | 0.98923 |
| 73   | 0.98389         | 0.98434 | 0.98493 | 0.98561 | 0.98630 | 0.98701 | 0.98771 | 0.98832 | 0.98882 | 0.98917 | 0.98930 |
| 74   | 0.98446         | 0.98477 | 0.98527 | 0.98588 | 0.98653 | 0.98720 | 0.98785 | 0.98844 | 0.98891 | 0.98924 | 0.98937 |
| 75   | 0.98509         | 0.98526 | 0.98563 | 0.98615 | 0.98676 | 0.98739 | 0.98799 | 0.98854 | 0.98900 | 0.98932 | 0.98944 |
| 76   | 0.98574         | 0.98581 | 0.98604 | 0.98645 | 0.98698 | 0.98756 | 0.98813 | 0.98865 | 0.98908 | 0.98938 | 0.98950 |
| 77   | 0.98642         | 0.98637 | 0.98651 | 0.98678 | 0.98721 | 0.98772 | 0.98825 | 0.98874 | 0.98915 | 0.98944 | 0.98955 |
| 78   | 0.98713         | 0.98696 | 0.98699 | 0.98717 | 0.98747 | 0.98790 | 0.98837 | 0.98883 | 0.98922 | 0.98948 | 0.98959 |
| 79   | 0.98783         | 0.98757 | 0.98748 | 0.98756 | 0.98778 | 0.98808 | 0.98849 | 0.98890 | 0.98926 | 0.98952 | 0.98961 |
| 80   | 0.98847         | 0.98817 | 0.98799 | 0.98797 | 0.98809 | 0.98832 | 0.98861 | 0.98897 | 0.98930 | 0.98954 | 0.98963 |
| 81   | 0.98903         | 0.98872 | 0.98850 | 0.98839 | 0.98842 | 0.98857 | 0.98879 | 0.98904 | 0.98933 | 0.98955 | 0.98964 |
| 82   | 0.98951         | 0.98920 | 0.98896 | 0.98880 | 0.98875 | 0.98882 | 0.98898 | 0.98918 | 0.98937 | 0.98956 | 0.98965 |
| 83   | 0.98990         | 0.98961 | 0.98936 | 0.98918 | 0.98908 | 0.98908 | 0.98917 | 0.98931 | 0.98946 | 0.98957 | 0.98964 |
| 84   | 0.99021         | 0.98995 | 0.98971 | 0.98951 | 0.98938 | 0.98933 | 0.98935 | 0.98944 | 0.98956 | 0.98964 | 0.98963 |
| 85   | 0.99052         | 0.99021 | 0.98999 | 0.98980 | 0.98964 | 0.98955 | 0.98954 | 0.98957 | 0.98965 | 0.98971 | 0.98969 |
| 86   | 0.99083         | 0.99057 | 0.99029 | 0.99010 | 0.98994 | 0.98983 | 0.98978 | 0.98977 | 0.98981 | 0.98984 | 0.98982 |
| 87   | 0.99109         | 0.99087 | 0.99062 | 0.99036 | 0.99019 | 0.99007 | 0.98999 | 0.98995 | 0.98996 | 0.98997 | 0.98993 |
| 88   | 0.99128         | 0.99111 | 0.99090 | 0.99066 | 0.99040 | 0.99028 | 0.99018 | 0.99012 | 0.99009 | 0.99008 | 0.99004 |
| 89   | 0.99143         | 0.99131 | 0.99114 | 0.99093 | 0.99069 | 0.99045 | 0.99035 | 0.99027 | 0.99022 | 0.99019 | 0.99014 |
| 90   | 0.99155         | 0.99146 | 0.99134 | 0.99116 | 0.99094 | 0.99072 | 0.99049 | 0.99040 | 0.99034 | 0.99029 | 0.99024 |
| 91   | 0.99166         | 0.99160 | 0.99150 | 0.99136 | 0.99117 | 0.99096 | 0.99075 | 0.99052 | 0.99045 | 0.99039 | 0.99033 |
| 92   | 0.99178         | 0.99173 | 0       |         |         |         |         |         |         |         |         |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Nondisability Retirees from Reserve Duty -- Officer [Factors only shown through 2034.]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99657 | 0.99524 | 0.99387 | 0.99308 | 0.99208 | 0.99169 |
| 21   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99567 | 0.99434 | 0.99297 | 0.99232 | 0.99137 | 0.99112 |
| 22   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99571 | 0.99439 | 0.99301 | 0.99235 | 0.99140 | 0.99115 |
| 23   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99577 | 0.99444 | 0.99307 | 0.99240 | 0.99145 | 0.99119 |
| 24   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99584 | 0.99452 | 0.99314 | 0.99246 | 0.99151 | 0.99124 |
| 25   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99593 | 0.99461 | 0.99323 | 0.99254 | 0.99158 | 0.99129 |
| 26   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99602 | 0.99469 | 0.99332 | 0.99261 | 0.99165 | 0.99135 |
| 27   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99612 | 0.99479 | 0.99341 | 0.99270 | 0.99172 | 0.99141 |
| 28   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99623 | 0.99490 | 0.99352 | 0.99279 | 0.99181 | 0.99148 |
| 29   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99629 | 0.99496 | 0.99359 | 0.99284 | 0.99186 | 0.99152 |
| 30   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99630 | 0.99497 | 0.99360 | 0.99285 | 0.99187 | 0.99153 |
| 31   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99628 | 0.99495 | 0.99357 | 0.99283 | 0.99185 | 0.99151 |
| 32   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99624 | 0.99491 | 0.99353 | 0.99280 | 0.99182 | 0.99149 |
| 33   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99621 | 0.99488 | 0.99350 | 0.99277 | 0.99179 | 0.99147 |
| 34   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99625 | 0.99492 | 0.99354 | 0.99281 | 0.99183 | 0.99149 |
| 35   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99630 | 0.99497 | 0.99359 | 0.99285 | 0.99187 | 0.99152 |
| 36   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99637 | 0.99505 | 0.99367 | 0.99291 | 0.99193 | 0.99157 |
| 37   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99648 | 0.99515 | 0.99377 | 0.99300 | 0.99201 | 0.99164 |
| 38   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99657 | 0.99524 | 0.99387 | 0.99308 | 0.99208 | 0.99170 |
| 39   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99666 | 0.99533 | 0.99396 | 0.99316 | 0.99216 | 0.99175 |
| 40   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99681 | 0.99548 | 0.99410 | 0.99329 | 0.99227 | 0.99185 |
| 41   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99699 | 0.99566 | 0.99428 | 0.99344 | 0.99241 | 0.99196 |
| 42   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99730 | 0.99597 | 0.99460 | 0.99370 | 0.99266 | 0.99216 |
| 43   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99779 | 0.99646 | 0.99508 | 0.99412 | 0.99305 | 0.99246 |
| 44   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99823 | 0.99690 | 0.99552 | 0.99449 | 0.99340 | 0.99274 |
| 45   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99864 | 0.99730 | 0.99592 | 0.99483 | 0.99372 | 0.99299 |
| 46   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99904 | 0.99771 | 0.99633 | 0.99517 | 0.99403 | 0.99324 |
| 47   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99930 | 0.99796 | 0.99658 | 0.99539 | 0.99424 | 0.99340 |
| 48   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99936 | 0.99803 | 0.99665 | 0.99545 | 0.99429 | 0.99345 |
| 49   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99946 | 0.99813 | 0.99674 | 0.99553 | 0.99436 | 0.99350 |
| 50   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99957 | 0.99824 | 0.99685 | 0.99562 | 0.99445 | 0.99357 |
| 51   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99964 | 0.99831 | 0.99693 | 0.99568 | 0.99451 | 0.99362 |
| 52   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99966 | 0.99833 | 0.99695 | 0.99570 | 0.99452 | 0.99363 |
| 53   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99963 | 0.99830 | 0.99691 | 0.99567 | 0.99450 | 0.99361 |
| 54   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99952 | 0.99819 | 0.99681 | 0.99558 | 0.99441 | 0.99354 |
| 55   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99936 | 0.99802 | 0.99664 | 0.99544 | 0.99428 | 0.99344 |
| 56   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99916 | 0.99782 | 0.99644 | 0.99527 | 0.99413 | 0.99332 |
| 57   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99896 | 0.99763 | 0.99624 | 0.99510 | 0.99397 | 0.99319 |
| 58   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99879 | 0.99746 | 0.99608 | 0.99497 | 0.99384 | 0.99309 |
| 59   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99868 | 0.99735 | 0.99597 | 0.99487 | 0.99375 | 0.99302 |
| 60   | 0.99343         | 1.00331 | 1.00308 | 1.00243 | 1.00147 | 0.99860 | 0.99727 | 0.99589 | 0.99480 | 0.99369 | 0.99297 |
| 61   | 0.99248         | 1.00141 | 1.00121 | 1.00158 | 1.00072 | 0.99793 | 0.99674 | 0.99550 | 0.99455 | 0.99355 | 0.99291 |
| 62   | 0.99139         | 0.99924 | 0.99908 | 0.99968 | 0.99987 | 0.99718 | 0.99615 | 0.99507 | 0.99428 | 0.99340 | 0.99285 |
| 63   | 0.98974         | 0.99662 | 0.99651 | 0.99746 | 0.99795 | 0.99629 | 0.99545 | 0.99456 | 0.99395 | 0.99322 | 0.99278 |
| 64   | 0.98760         | 0.99398 | 0.99391 | 0.99500 | 0.99590 | 0.99455 | 0.99476 | 0.99407 | 0.99364 | 0.99306 | 0.99273 |
| 65   | 0.98592         | 0.99139 | 0.99136 | 0.99255 | 0.99365 | 0.99274 | 0.99331 | 0.99361 | 0.99336 | 0.99293 | 0.99269 |
| 66   | 0.98439         | 0.98875 | 0.98877 | 0.99011 | 0.99138 | 0.99076 | 0.99178 | 0.99245 | 0.99312 | 0.99282 | 0.99268 |
| 67   | 0.98266         | 0.98610 | 0.98617 | 0.98765 | 0.98912 | 0.98881 | 0.99011 | 0.99122 | 0.99222 | 0.99276 | 0.99270 |
| 68   | 0.98132         | 0.98319 | 0.98331 | 0.98506 | 0.98675 | 0.98684 | 0.98840 | 0.98982 | 0.99124 | 0.99209 | 0.99274 |
| 69   | 0.97978         | 0.98064 | 0.98081 | 0.98250 | 0.98451 | 0.98498 | 0.98681 | 0.98848 | 0.99015 | 0.99137 | 0.99225 |
| 70   | 0.97835         | 0.97866 | 0.97886 | 0.98038 | 0.98237 | 0.98330 | 0.98536 | 0.98725 | 0.98911 | 0.99053 | 0.99169 |
| 71   | 0.97713         | 0.97717 | 0.97740 | 0.97875 | 0.98060 | 0.98166 | 0.98401 | 0.98611 | 0.98813 | 0.98971 | 0.99100 |
| 72   | 0.97656         | 0.97641 | 0.97665 | 0.97769 | 0.97937 | 0.98041 | 0.98273 | 0.98508 | 0.98723 | 0.98892 | 0.99031 |
| 73   | 0.97649         | 0.97607 | 0.97632 | 0.97717 | 0.97854 | 0.97953 | 0.98170 | 0.98401 | 0.98636 | 0.98817 | 0.98963 |
| 74   | 0.97667         | 0.97599 | 0.97624 | 0.97697 | 0.97816 | 0.97897 | 0.98098 | 0.98314 | 0.98543 | 0.98743 | 0.98898 |
| 75   | 0.97711         | 0.97619 | 0.97644 | 0.97702 | 0.97808 | 0.97882 | 0.98053 | 0.98253 | 0.98466 | 0.98662 | 0.98832 |
| 76   | 0.97787         | 0.97668 | 0.97693 | 0.97735 | 0.97824 | 0.97894 | 0.98045 | 0.98215 | 0.98411 | 0.98593 | 0.98759 |
| 77   | 0.97876         | 0.97758 | 0.97781 | 0.97799 | 0.97869 | 0.97929 | 0.98063 | 0.98212 | 0.98377 | 0.98543 | 0.98696 |
| 78   | 0.97978         | 0.97859 | 0.97880 | 0.97933 | 0.97979 | 0.97979 | 0.98093 | 0.98225 | 0.98369 | 0.98509 | 0.98648 |
| 79   | 0.98096         | 0.97977 | 0.97996 | 0.97991 | 0.98023 | 0.98047 | 0.98138 | 0.98250 | 0.98376 | 0.98497 | 0.98614 |
| 80   | 0.98221         | 0.98109 | 0.98126 | 0.98108 | 0.98124 | 0.98137 | 0.98200 | 0.98288 | 0.98394 | 0.98500 | 0.98600 |
| 81   | 0.98360         | 0.98254 | 0.98268 | 0.98238 | 0.98236 | 0.98236 | 0.98282 | 0.98342 | 0.98423 | 0.98511 | 0.98599 |
| 82   | 0.98504         | 0.98419 | 0.98431 | 0.98383 | 0.98365 | 0.98348 | 0.98374 | 0.98415 | 0.98468 | 0.98532 | 0.98605 |
| 83   | 0.98655         | 0.98593 | 0.98602 | 0.98542 | 0.98502 | 0.98470 | 0.98473 | 0.98493 | 0.98528 | 0.98567 | 0.98618 |
| 84   | 0.98812         | 0.98774 | 0.98780 | 0.98708 | 0.98652 | 0.98597 | 0.98580 | 0.98578 | 0.98591 | 0.98615 | 0.98645 |
| 85   | 0.98962         | 0.98946 | 0.98949 | 0.98874 | 0.98803 | 0.98730 | 0.98687 | 0.98665 | 0.98658 | 0.98664 | 0.98682 |
| 86   | 0.99095         | 0.99100 | 0.99101 | 0.99028 | 0.98951 | 0.98860 | 0.98800 | 0.98755 | 0.98732 | 0.98722 | 0.98728 |
| 87   | 0.99207         | 0.99235 | 0.99234 | 0.99164 | 0.99088 | 0.98985 | 0.98909 | 0.98848 | 0.98806 | 0.98782 | 0.98777 |
| 88   | 0.99298         | 0.99346 | 0.99344 | 0.99281 | 0.99206 | 0.99095 | 0.99013 | 0.98938 | 0.98883 | 0.98843 | 0.98829 |
| 89   | 0.99374         | 0.99434 | 0.99430 | 0.99376 | 0.99307 | 0.99188 | 0.99106 | 0.99025 | 0.98959 | 0.98909 | 0.98882 |
| 90   | 0.99440         | 0.99500 | 0.99495 | 0.99450 | 0.99388 | 0.99265 | 0.99184 | 0.99103 | 0.99035 | 0.98975 | 0.98941 |
| 91   | 0.99494         | 0.99553 | 0.99547 | 0.99506 | 0.99453 | 0.99327 | 0.99251 | 0.99172 | 0.99106 | 0.99042 | 0.99001 |
| 92   | 0.99537         | 0.99598 | 0.99592 | 0.99    |         |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Nondisability Retirees from Reserve Duty -- Officer [Factors only shown through 2034.]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |
| < 21 | 0.99113         | 0.99072 | 0.99032 | 0.99003 | 0.98965 | 0.98929 | 0.98900 | 0.98867 | 0.98843 | 0.98826 | 0.98817 |
| 21   | 0.99059         | 0.99021 | 0.98983 | 0.98958 | 0.98922 | 0.98887 | 0.98859 | 0.98825 | 0.98801 | 0.98782 | 0.98773 |
| 22   | 0.99062         | 0.99023 | 0.98985 | 0.98960 | 0.98924 | 0.98889 | 0.98861 | 0.98827 | 0.98803 | 0.98784 | 0.98775 |
| 23   | 0.99065         | 0.99026 | 0.98989 | 0.98963 | 0.98927 | 0.98892 | 0.98864 | 0.98830 | 0.98806 | 0.98787 | 0.98778 |
| 24   | 0.99070         | 0.99031 | 0.98993 | 0.98967 | 0.98931 | 0.98895 | 0.98867 | 0.98833 | 0.98809 | 0.98791 | 0.98782 |
| 25   | 0.99075         | 0.99036 | 0.98998 | 0.98972 | 0.98935 | 0.98900 | 0.98872 | 0.98838 | 0.98814 | 0.98795 | 0.98787 |
| 26   | 0.99080         | 0.99041 | 0.99003 | 0.98976 | 0.98939 | 0.98904 | 0.98876 | 0.98842 | 0.98818 | 0.98800 | 0.98791 |
| 27   | 0.99086         | 0.99046 | 0.99008 | 0.98981 | 0.98944 | 0.98909 | 0.98880 | 0.98846 | 0.98823 | 0.98805 | 0.98796 |
| 28   | 0.99093         | 0.99053 | 0.99014 | 0.98986 | 0.98950 | 0.98914 | 0.98885 | 0.98852 | 0.98828 | 0.98810 | 0.98801 |
| 29   | 0.99097         | 0.99057 | 0.99018 | 0.98990 | 0.98953 | 0.98917 | 0.98888 | 0.98855 | 0.98831 | 0.98813 | 0.98805 |
| 30   | 0.99097         | 0.99057 | 0.99018 | 0.98990 | 0.98953 | 0.98918 | 0.98889 | 0.98855 | 0.98832 | 0.98814 | 0.98805 |
| 31   | 0.99096         | 0.99056 | 0.99017 | 0.98989 | 0.98952 | 0.98916 | 0.98888 | 0.98854 | 0.98830 | 0.98813 | 0.98804 |
| 32   | 0.99094         | 0.99054 | 0.99015 | 0.98987 | 0.98950 | 0.98915 | 0.98886 | 0.98852 | 0.98829 | 0.98811 | 0.98802 |
| 33   | 0.99092         | 0.99052 | 0.99013 | 0.98985 | 0.98949 | 0.98913 | 0.98884 | 0.98851 | 0.98827 | 0.98809 | 0.98800 |
| 34   | 0.99094         | 0.99054 | 0.99015 | 0.98988 | 0.98951 | 0.98915 | 0.98886 | 0.98853 | 0.98829 | 0.98811 | 0.98802 |
| 35   | 0.99097         | 0.99057 | 0.99018 | 0.98990 | 0.98953 | 0.98917 | 0.98889 | 0.98855 | 0.98832 | 0.98814 | 0.98805 |
| 36   | 0.99102         | 0.99061 | 0.99022 | 0.98994 | 0.98957 | 0.98921 | 0.98892 | 0.98859 | 0.98835 | 0.98817 | 0.98809 |
| 37   | 0.99108         | 0.99067 | 0.99028 | 0.98999 | 0.98962 | 0.98926 | 0.98897 | 0.98864 | 0.98840 | 0.98822 | 0.98814 |
| 38   | 0.99114         | 0.99073 | 0.99033 | 0.99004 | 0.98966 | 0.98931 | 0.98901 | 0.98868 | 0.98845 | 0.98827 | 0.98819 |
| 39   | 0.99119         | 0.99078 | 0.99038 | 0.99009 | 0.98971 | 0.98935 | 0.98906 | 0.98873 | 0.98849 | 0.98832 | 0.98823 |
| 40   | 0.99128         | 0.99087 | 0.99046 | 0.99016 | 0.98978 | 0.98942 | 0.98912 | 0.98880 | 0.98856 | 0.98839 | 0.98831 |
| 41   | 0.99139         | 0.99097 | 0.99056 | 0.99025 | 0.98987 | 0.98950 | 0.98921 | 0.98888 | 0.98865 | 0.98848 | 0.98840 |
| 42   | 0.99157         | 0.99115 | 0.99073 | 0.99041 | 0.99002 | 0.98965 | 0.98935 | 0.98903 | 0.98880 | 0.98863 | 0.98855 |
| 43   | 0.99186         | 0.99143 | 0.99100 | 0.99065 | 0.99025 | 0.98988 | 0.98957 | 0.98926 | 0.98903 | 0.98887 | 0.98880 |
| 44   | 0.99212         | 0.99168 | 0.99124 | 0.99087 | 0.99047 | 0.99009 | 0.98977 | 0.98946 | 0.98924 | 0.98908 | 0.98901 |
| 45   | 0.99236         | 0.99191 | 0.99146 | 0.99107 | 0.99066 | 0.99028 | 0.98996 | 0.98965 | 0.98943 | 0.98927 | 0.98921 |
| 46   | 0.99260         | 0.99214 | 0.99168 | 0.99127 | 0.99085 | 0.99047 | 0.99014 | 0.98984 | 0.98962 | 0.98947 | 0.98941 |
| 47   | 0.99275         | 0.99228 | 0.99182 | 0.99140 | 0.99098 | 0.99059 | 0.99026 | 0.98996 | 0.98974 | 0.98959 | 0.98953 |
| 48   | 0.99279         | 0.99232 | 0.99185 | 0.99143 | 0.99101 | 0.99062 | 0.99029 | 0.98999 | 0.98977 | 0.98962 | 0.98956 |
| 49   | 0.99285         | 0.99237 | 0.99190 | 0.99148 | 0.99105 | 0.99066 | 0.99033 | 0.99003 | 0.98981 | 0.98966 | 0.98961 |
| 50   | 0.99291         | 0.99243 | 0.99196 | 0.99153 | 0.99110 | 0.99071 | 0.99038 | 0.99008 | 0.98986 | 0.98972 | 0.98966 |
| 51   | 0.99295         | 0.99247 | 0.99200 | 0.99156 | 0.99114 | 0.99075 | 0.99041 | 0.99011 | 0.98989 | 0.98975 | 0.98970 |
| 52   | 0.99297         | 0.99249 | 0.99201 | 0.99158 | 0.99115 | 0.99076 | 0.99042 | 0.99013 | 0.98991 | 0.98976 | 0.98971 |
| 53   | 0.99295         | 0.99247 | 0.99200 | 0.99156 | 0.99113 | 0.99074 | 0.99040 | 0.99011 | 0.98989 | 0.98974 | 0.98969 |
| 54   | 0.99289         | 0.99241 | 0.99194 | 0.99151 | 0.99108 | 0.99069 | 0.99036 | 0.99006 | 0.98984 | 0.98969 | 0.98964 |
| 55   | 0.99279         | 0.99231 | 0.99185 | 0.99143 | 0.99100 | 0.99062 | 0.99028 | 0.98998 | 0.98976 | 0.98962 | 0.98956 |
| 56   | 0.99267         | 0.99220 | 0.99174 | 0.99133 | 0.99091 | 0.99052 | 0.99019 | 0.98989 | 0.98967 | 0.98952 | 0.98946 |
| 57   | 0.99255         | 0.99209 | 0.99163 | 0.99123 | 0.99081 | 0.99043 | 0.99010 | 0.98980 | 0.98958 | 0.98943 | 0.98937 |
| 58   | 0.99246         | 0.99200 | 0.99155 | 0.99115 | 0.99074 | 0.99035 | 0.99003 | 0.98973 | 0.98950 | 0.98935 | 0.98929 |
| 59   | 0.99239         | 0.99193 | 0.99148 | 0.99109 | 0.99068 | 0.99030 | 0.98998 | 0.98967 | 0.98945 | 0.98929 | 0.98923 |
| 60   | 0.99234         | 0.99189 | 0.99144 | 0.99105 | 0.99065 | 0.99027 | 0.98994 | 0.98964 | 0.98941 | 0.98926 | 0.98920 |
| 61   | 0.99231         | 0.99186 | 0.99141 | 0.99103 | 0.99062 | 0.99024 | 0.98992 | 0.98961 | 0.98939 | 0.98923 | 0.98917 |
| 62   | 0.99228         | 0.99183 | 0.99139 | 0.99100 | 0.99059 | 0.99022 | 0.98990 | 0.98959 | 0.98936 | 0.98921 | 0.98914 |
| 63   | 0.99225         | 0.99180 | 0.99136 | 0.99098 | 0.99057 | 0.99019 | 0.98988 | 0.98957 | 0.98934 | 0.98919 | 0.98912 |
| 64   | 0.99224         | 0.99178 | 0.99134 | 0.99096 | 0.99056 | 0.99018 | 0.98986 | 0.98955 | 0.98933 | 0.98917 | 0.98911 |
| 65   | 0.99224         | 0.99178 | 0.99134 | 0.99096 | 0.99056 | 0.99018 | 0.98986 | 0.98955 | 0.98933 | 0.98917 | 0.98911 |
| 66   | 0.99226         | 0.99181 | 0.99137 | 0.99099 | 0.99058 | 0.99020 | 0.98988 | 0.98957 | 0.98935 | 0.98919 | 0.98913 |
| 67   | 0.99232         | 0.99186 | 0.99142 | 0.99103 | 0.99062 | 0.99024 | 0.98992 | 0.98962 | 0.98939 | 0.98924 | 0.98917 |
| 68   | 0.99239         | 0.99193 | 0.99149 | 0.99109 | 0.99068 | 0.99030 | 0.98998 | 0.98967 | 0.98945 | 0.98930 | 0.98923 |
| 69   | 0.99248         | 0.99201 | 0.99156 | 0.99116 | 0.99075 | 0.99037 | 0.99004 | 0.98974 | 0.98952 | 0.98936 | 0.98930 |
| 70   | 0.99209         | 0.99210 | 0.99164 | 0.99124 | 0.99082 | 0.99044 | 0.99011 | 0.98981 | 0.98958 | 0.98943 | 0.98937 |
| 71   | 0.99162         | 0.99177 | 0.99171 | 0.99130 | 0.99088 | 0.99050 | 0.99017 | 0.98987 | 0.98965 | 0.98950 | 0.98944 |
| 72   | 0.99104         | 0.99138 | 0.99145 | 0.99136 | 0.99094 | 0.99056 | 0.99023 | 0.98993 | 0.98970 | 0.98956 | 0.98950 |
| 73   | 0.99045         | 0.99089 | 0.99113 | 0.99115 | 0.99100 | 0.99061 | 0.99028 | 0.98998 | 0.98976 | 0.98961 | 0.98956 |
| 74   | 0.98988         | 0.99039 | 0.99073 | 0.99091 | 0.99085 | 0.99067 | 0.99033 | 0.99004 | 0.98982 | 0.98967 | 0.98962 |
| 75   | 0.98932         | 0.98991 | 0.99033 | 0.99060 | 0.99067 | 0.99057 | 0.99039 | 0.99009 | 0.98987 | 0.98973 | 0.98967 |
| 76   | 0.98876         | 0.98945 | 0.98993 | 0.99028 | 0.99044 | 0.99045 | 0.99033 | 0.99014 | 0.98992 | 0.98978 | 0.98972 |
| 77   | 0.98812         | 0.98898 | 0.98957 | 0.98996 | 0.99020 | 0.99029 | 0.99026 | 0.99012 | 0.98996 | 0.98982 | 0.98977 |
| 78   | 0.98757         | 0.98845 | 0.98919 | 0.98968 | 0.98995 | 0.99012 | 0.99016 | 0.99009 | 0.98997 | 0.98985 | 0.98980 |
| 79   | 0.98714         | 0.98798 | 0.98876 | 0.98938 | 0.98976 | 0.98994 | 0.99005 | 0.99004 | 0.98997 | 0.98987 | 0.98983 |
| 80   | 0.98684         | 0.98763 | 0.98838 | 0.98905 | 0.98955 | 0.98983 | 0.98994 | 0.98998 | 0.98995 | 0.98989 | 0.98985 |
| 81   | 0.98671         | 0.98739 | 0.98811 | 0.98877 | 0.98932 | 0.98970 | 0.98989 | 0.98992 | 0.98994 | 0.98990 | 0.98988 |
| 82   | 0.98669         | 0.98729 | 0.98792 | 0.98857 | 0.98912 | 0.98956 | 0.98983 | 0.98993 | 0.98992 | 0.98991 | 0.98990 |
| 83   | 0.98673         | 0.98728 | 0.98785 | 0.98843 | 0.98898 | 0.98944 | 0.98977 | 0.98994 | 0.98997 | 0.98992 | 0.98991 |
| 84   | 0.98683         | 0.98732 | 0.98785 | 0.98838 | 0.98889 | 0.98936 | 0.98971 | 0.98993 | 0.99002 | 0.98999 | 0.98992 |
| 85   | 0.98706         | 0.98741 | 0.98789 | 0.98839 | 0.98887 | 0.98930 | 0.98967 | 0.98992 | 0.99005 | 0.99006 | 0.99000 |
| 86   | 0.98745         | 0.98769 | 0.98803 | 0.98850 | 0.98895 | 0.98937 | 0.98973 | 0.99000 | 0.99015 | 0.99019 | 0.99014 |
| 87   | 0.98785         | 0.98805 | 0.98830 | 0.98863 | 0.98906 | 0.98946 | 0.98981 | 0.99008 | 0.99025 | 0.99030 | 0.99026 |
| 88   | 0.98828         | 0.98842 | 0.98863 | 0.98899 | 0.98918 | 0.98956 | 0.98990 | 0.99016 | 0.99034 | 0.99041 | 0.99038 |
| 89   | 0.98874         | 0.98882 | 0.98898 | 0.98920 | 0.98943 | 0.98967 | 0.99000 | 0.99026 | 0.99044 | 0.99051 | 0.99048 |
| 90   | 0.98923         | 0.98924 | 0.98934 | 0.98952 | 0.98972 | 0.98992 | 0.99011 | 0.99035 | 0.99053 | 0.99061 | 0.99059 |
| 91   | 0.98976         | 0.98969 | 0.98973 | 0.98986 | 0.99002 | 0.99019 | 0.99035 | 0.99046 | 0.99063 | 0.99071 | 0.99069 |
| 92   | 0.99032         | 0.99018 | 0.99015 | 0.99023 | 0.99034 | 0.99048 | 0       |         |         |         |         |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Nondisability Retirees from Reserve Duty -- Enlisted [Factors only shown through 2034.]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age | Projection Year |         |         |         |         |         |         |         |         |         |         |
|-----|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|     | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| <21 | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97877 | 0.97983 | 0.98094 | 0.98222 | 0.98326 | 0.98433 |
| 21  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97804 | 0.97911 | 0.98021 | 0.98154 | 0.98260 | 0.98373 |
| 22  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97807 | 0.97914 | 0.98025 | 0.98157 | 0.98263 | 0.98376 |
| 23  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97812 | 0.97919 | 0.98029 | 0.98162 | 0.98267 | 0.98380 |
| 24  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97818 | 0.97924 | 0.98035 | 0.98167 | 0.98273 | 0.98384 |
| 25  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97825 | 0.97932 | 0.98042 | 0.98174 | 0.98279 | 0.98390 |
| 26  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97832 | 0.97939 | 0.98049 | 0.98180 | 0.98286 | 0.98396 |
| 27  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97840 | 0.97946 | 0.98057 | 0.98187 | 0.98292 | 0.98402 |
| 28  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97875 | 0.97981 | 0.98092 | 0.98220 | 0.98325 | 0.98432 |
| 29  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97910 | 0.98016 | 0.98127 | 0.98253 | 0.98357 | 0.98460 |
| 30  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97941 | 0.98048 | 0.98159 | 0.98283 | 0.98386 | 0.98486 |
| 31  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97970 | 0.98077 | 0.98188 | 0.98310 | 0.98412 | 0.98510 |
| 32  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97998 | 0.98105 | 0.98215 | 0.98336 | 0.98437 | 0.98533 |
| 33  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97997 | 0.98104 | 0.98215 | 0.98335 | 0.98437 | 0.98533 |
| 34  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97998 | 0.98105 | 0.98216 | 0.98336 | 0.98438 | 0.98534 |
| 35  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97998 | 0.98105 | 0.98216 | 0.98336 | 0.98438 | 0.98534 |
| 36  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98001 | 0.98108 | 0.98219 | 0.98339 | 0.98440 | 0.98536 |
| 37  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98009 | 0.98116 | 0.98227 | 0.98346 | 0.98448 | 0.98542 |
| 38  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98023 | 0.98130 | 0.98240 | 0.98359 | 0.98460 | 0.98554 |
| 39  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98035 | 0.98141 | 0.98252 | 0.98370 | 0.98471 | 0.98563 |
| 40  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98048 | 0.98155 | 0.98266 | 0.98383 | 0.98483 | 0.98574 |
| 41  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98053 | 0.98160 | 0.98271 | 0.98387 | 0.98488 | 0.98579 |
| 42  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98058 | 0.98165 | 0.98276 | 0.98392 | 0.98492 | 0.98583 |
| 43  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98062 | 0.98169 | 0.98280 | 0.98396 | 0.98496 | 0.98586 |
| 44  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98072 | 0.98178 | 0.98289 | 0.98404 | 0.98504 | 0.98594 |
| 45  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98082 | 0.98189 | 0.98300 | 0.98414 | 0.98514 | 0.98602 |
| 46  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98098 | 0.98205 | 0.98316 | 0.98429 | 0.98528 | 0.98615 |
| 47  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98105 | 0.98212 | 0.98323 | 0.98436 | 0.98535 | 0.98621 |
| 48  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98105 | 0.98212 | 0.98323 | 0.98436 | 0.98535 | 0.98621 |
| 49  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98098 | 0.98205 | 0.98316 | 0.98429 | 0.98528 | 0.98615 |
| 50  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98087 | 0.98194 | 0.98305 | 0.98419 | 0.98518 | 0.98606 |
| 51  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98075 | 0.98182 | 0.98293 | 0.98408 | 0.98508 | 0.98597 |
| 52  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98067 | 0.98174 | 0.98285 | 0.98400 | 0.98500 | 0.98590 |
| 53  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98056 | 0.98163 | 0.98274 | 0.98390 | 0.98490 | 0.98581 |
| 54  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98042 | 0.98149 | 0.98260 | 0.98377 | 0.98477 | 0.98569 |
| 55  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98027 | 0.98134 | 0.98244 | 0.98363 | 0.98464 | 0.98557 |
| 56  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.98011 | 0.98118 | 0.98229 | 0.98348 | 0.98450 | 0.98544 |
| 57  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97994 | 0.98101 | 0.98211 | 0.98332 | 0.98434 | 0.98530 |
| 58  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97980 | 0.98087 | 0.98198 | 0.98319 | 0.98421 | 0.98519 |
| 59  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97972 | 0.98079 | 0.98190 | 0.98311 | 0.98414 | 0.98512 |
| 60  | 0.97539         | 0.97931 | 0.97950 | 0.98002 | 0.98079 | 0.97967 | 0.98074 | 0.98185 | 0.98307 | 0.98409 | 0.98508 |
| 61  | 0.97686         | 0.98089 | 0.98105 | 0.98072 | 0.98141 | 0.98015 | 0.98110 | 0.98210 | 0.98321 | 0.98415 | 0.98508 |
| 62  | 0.97823         | 0.98206 | 0.98220 | 0.98201 | 0.98187 | 0.98053 | 0.98140 | 0.98230 | 0.98334 | 0.98421 | 0.98509 |
| 63  | 0.97961         | 0.98296 | 0.98309 | 0.98299 | 0.98296 | 0.98082 | 0.98161 | 0.98245 | 0.98343 | 0.98425 | 0.98510 |
| 64  | 0.98091         | 0.98346 | 0.98358 | 0.98365 | 0.98371 | 0.98167 | 0.98173 | 0.98253 | 0.98347 | 0.98427 | 0.98510 |
| 65  | 0.98216         | 0.98358 | 0.98370 | 0.98395 | 0.98418 | 0.98225 | 0.98244 | 0.98256 | 0.98350 | 0.98428 | 0.98511 |
| 66  | 0.98298         | 0.98366 | 0.98377 | 0.98404 | 0.98445 | 0.98271 | 0.98298 | 0.98322 | 0.98353 | 0.98431 | 0.98514 |
| 67  | 0.98364         | 0.98369 | 0.98381 | 0.98410 | 0.98451 | 0.98298 | 0.98340 | 0.98373 | 0.98414 | 0.98455 | 0.98517 |
| 68  | 0.98437         | 0.98379 | 0.98390 | 0.98416 | 0.98459 | 0.98313 | 0.98370 | 0.98416 | 0.98463 | 0.98492 | 0.98522 |
| 69  | 0.98512         | 0.98418 | 0.98429 | 0.98438 | 0.98477 | 0.98338 | 0.98394 | 0.98451 | 0.98507 | 0.98540 | 0.98575 |
| 70  | 0.98588         | 0.98461 | 0.98471 | 0.98477 | 0.98498 | 0.98365 | 0.98419 | 0.98474 | 0.98540 | 0.98581 | 0.98618 |
| 71  | 0.98649         | 0.98518 | 0.98527 | 0.98523 | 0.98540 | 0.98400 | 0.98448 | 0.98501 | 0.98561 | 0.98611 | 0.98654 |
| 72  | 0.98718         | 0.98594 | 0.98601 | 0.98585 | 0.98590 | 0.98456 | 0.98485 | 0.98530 | 0.98587 | 0.98631 | 0.98680 |
| 73  | 0.98798         | 0.98680 | 0.98686 | 0.98661 | 0.98651 | 0.98518 | 0.98538 | 0.98564 | 0.98612 | 0.98653 | 0.98696 |
| 74  | 0.98864         | 0.98781 | 0.98785 | 0.98748 | 0.98726 | 0.98591 | 0.98597 | 0.98613 | 0.98642 | 0.98675 | 0.98715 |
| 75  | 0.98922         | 0.98891 | 0.98894 | 0.98847 | 0.98811 | 0.98675 | 0.98663 | 0.98664 | 0.98682 | 0.98699 | 0.98732 |
| 76  | 0.98978         | 0.98966 | 0.98997 | 0.98947 | 0.98900 | 0.98760 | 0.98734 | 0.98719 | 0.98722 | 0.98730 | 0.98749 |
| 77  | 0.99028         | 0.99087 | 0.99087 | 0.99040 | 0.98988 | 0.98845 | 0.98804 | 0.98776 | 0.98764 | 0.98760 | 0.98772 |
| 78  | 0.99076         | 0.99159 | 0.99157 | 0.99117 | 0.99066 | 0.98927 | 0.98874 | 0.98832 | 0.98808 | 0.98793 | 0.98796 |
| 79  | 0.99113         | 0.99213 | 0.99210 | 0.99176 | 0.99132 | 0.98999 | 0.98941 | 0.98888 | 0.98853 | 0.98827 | 0.98820 |
| 80  | 0.99145         | 0.99257 | 0.99253 | 0.99223 | 0.99184 | 0.99060 | 0.99003 | 0.98944 | 0.98899 | 0.98864 | 0.98849 |
| 81  | 0.99172         | 0.99294 | 0.99290 | 0.99261 | 0.99225 | 0.99108 | 0.99056 | 0.98998 | 0.98946 | 0.98902 | 0.98879 |
| 82  | 0.99196         | 0.99327 | 0.99322 | 0.99295 | 0.99260 | 0.99146 | 0.99098 | 0.99045 | 0.98994 | 0.98943 | 0.98912 |
| 83  | 0.99220         | 0.99351 | 0.99346 | 0.99322 | 0.99288 | 0.99175 | 0.99130 | 0.99081 | 0.99035 | 0.98985 | 0.98947 |
| 84  | 0.99244         | 0.99363 | 0.99358 | 0.99340 | 0.99309 | 0.99195 | 0.99153 | 0.99107 | 0.99066 | 0.99021 | 0.98984 |
| 85  | 0.99265         | 0.99366 | 0.99362 | 0.99348 | 0.99323 | 0.99210 | 0.99169 | 0.99126 | 0.99088 | 0.99049 | 0.99017 |
| 86  | 0.99285         | 0.99365 | 0.99361 | 0.99351 | 0.99331 | 0.99221 | 0.99185 | 0.99145 | 0.99112 | 0.99076 | 0.99050 |
| 87  | 0.99306         | 0.99360 | 0.99357 | 0.99349 | 0.99334 | 0.99223 | 0.99194 | 0.99160 | 0.99130 | 0.99099 | 0.99076 |
| 88  | 0.99328         | 0.99354 | 0.99351 | 0.99345 | 0.99334 | 0.99219 | 0.99197 | 0.99169 | 0.99145 | 0.99117 | 0.99098 |
| 89  | 0.99351         | 0.99350 | 0.99347 | 0.99342 | 0.99333 | 0.99212 | 0.99194 | 0.99173 | 0.99156 | 0.99132 | 0.99117 |
| 90  | 0.99374         | 0.99347 | 0.99344 | 0.99340 | 0.99332 | 0.99202 | 0.99189 | 0.99172 | 0.99162 | 0.99144 | 0.99134 |
| 91  | 0.99398         | 0.99342 | 0.99341 | 0.99338 | 0.99331 | 0.99192 | 0.99182 | 0.99169 | 0.99164 | 0.99152 | 0.99148 |
| 92  | 0.99422         | 0.99338 | 0.99337 | 0.99335 | 0.99331 | 0       |         |         |         |         |         |



**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Nondisability Retirees from Reserve Duty -- Enlisted [Factors only shown through 2034.]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |
| < 21 | 0.98512         | 0.98571 | 0.98626 | 0.98687 | 0.98725 | 0.98758 | 0.98790 | 0.98810 | 0.98827 | 0.98837 | 0.98838 |
| 21   | 0.98459         | 0.98522 | 0.98580 | 0.98647 | 0.98686 | 0.98720 | 0.98752 | 0.98772 | 0.98788 | 0.98798 | 0.98798 |
| 22   | 0.98461         | 0.98524 | 0.98582 | 0.98649 | 0.98688 | 0.98722 | 0.98754 | 0.98773 | 0.98790 | 0.98800 | 0.98800 |
| 23   | 0.98465         | 0.98528 | 0.98585 | 0.98652 | 0.98690 | 0.98724 | 0.98757 | 0.98776 | 0.98793 | 0.98802 | 0.98802 |
| 24   | 0.98469         | 0.98531 | 0.98589 | 0.98655 | 0.98694 | 0.98727 | 0.98760 | 0.98779 | 0.98796 | 0.98806 | 0.98806 |
| 25   | 0.98474         | 0.98536 | 0.98594 | 0.98659 | 0.98698 | 0.98731 | 0.98763 | 0.98783 | 0.98800 | 0.98810 | 0.98810 |
| 26   | 0.98480         | 0.98541 | 0.98598 | 0.98663 | 0.98701 | 0.98735 | 0.98767 | 0.98787 | 0.98804 | 0.98813 | 0.98814 |
| 27   | 0.98485         | 0.98546 | 0.98603 | 0.98667 | 0.98705 | 0.98739 | 0.98771 | 0.98791 | 0.98808 | 0.98818 | 0.98818 |
| 28   | 0.98511         | 0.98570 | 0.98625 | 0.98686 | 0.98724 | 0.98758 | 0.98790 | 0.98810 | 0.98827 | 0.98837 | 0.98837 |
| 29   | 0.98537         | 0.98594 | 0.98647 | 0.98706 | 0.98743 | 0.98777 | 0.98808 | 0.98828 | 0.98845 | 0.98856 | 0.98857 |
| 30   | 0.98561         | 0.98616 | 0.98667 | 0.98723 | 0.98760 | 0.98794 | 0.98824 | 0.98845 | 0.98862 | 0.98873 | 0.98874 |
| 31   | 0.98582         | 0.98635 | 0.98685 | 0.98739 | 0.98776 | 0.98809 | 0.98840 | 0.98861 | 0.98878 | 0.98888 | 0.98890 |
| 32   | 0.98603         | 0.98654 | 0.98702 | 0.98754 | 0.98791 | 0.98824 | 0.98854 | 0.98875 | 0.98893 | 0.98903 | 0.98905 |
| 33   | 0.98603         | 0.98654 | 0.98702 | 0.98754 | 0.98791 | 0.98824 | 0.98854 | 0.98875 | 0.98893 | 0.98903 | 0.98905 |
| 34   | 0.98603         | 0.98654 | 0.98703 | 0.98754 | 0.98791 | 0.98824 | 0.98854 | 0.98876 | 0.98893 | 0.98904 | 0.98906 |
| 35   | 0.98603         | 0.98654 | 0.98703 | 0.98754 | 0.98791 | 0.98824 | 0.98854 | 0.98876 | 0.98893 | 0.98904 | 0.98906 |
| 36   | 0.98605         | 0.98656 | 0.98704 | 0.98756 | 0.98793 | 0.98826 | 0.98856 | 0.98877 | 0.98895 | 0.98905 | 0.98907 |
| 37   | 0.98611         | 0.98662 | 0.98709 | 0.98760 | 0.98797 | 0.98830 | 0.98860 | 0.98881 | 0.98899 | 0.98909 | 0.98911 |
| 38   | 0.98621         | 0.98671 | 0.98718 | 0.98768 | 0.98804 | 0.98837 | 0.98867 | 0.98889 | 0.98906 | 0.98916 | 0.98919 |
| 39   | 0.98630         | 0.98679 | 0.98725 | 0.98774 | 0.98810 | 0.98843 | 0.98873 | 0.98895 | 0.98912 | 0.98923 | 0.98925 |
| 40   | 0.98640         | 0.98688 | 0.98734 | 0.98781 | 0.98818 | 0.98850 | 0.98880 | 0.98902 | 0.98919 | 0.98930 | 0.98933 |
| 41   | 0.98644         | 0.98691 | 0.98737 | 0.98784 | 0.98820 | 0.98853 | 0.98883 | 0.98905 | 0.98922 | 0.98933 | 0.98935 |
| 42   | 0.98647         | 0.98695 | 0.98740 | 0.98787 | 0.98823 | 0.98856 | 0.98885 | 0.98907 | 0.98925 | 0.98935 | 0.98938 |
| 43   | 0.98650         | 0.98697 | 0.98742 | 0.98789 | 0.98825 | 0.98858 | 0.98887 | 0.98909 | 0.98927 | 0.98937 | 0.98940 |
| 44   | 0.98657         | 0.98704 | 0.98748 | 0.98794 | 0.98830 | 0.98863 | 0.98892 | 0.98914 | 0.98931 | 0.98942 | 0.98945 |
| 45   | 0.98665         | 0.98711 | 0.98755 | 0.98800 | 0.98836 | 0.98868 | 0.98897 | 0.98919 | 0.98937 | 0.98948 | 0.98951 |
| 46   | 0.98677         | 0.98721 | 0.98765 | 0.98808 | 0.98844 | 0.98877 | 0.98905 | 0.98928 | 0.98945 | 0.98956 | 0.98959 |
| 47   | 0.98682         | 0.98726 | 0.98769 | 0.98812 | 0.98848 | 0.98880 | 0.98909 | 0.98932 | 0.98949 | 0.98960 | 0.98963 |
| 48   | 0.98682         | 0.98726 | 0.98769 | 0.98812 | 0.98848 | 0.98880 | 0.98909 | 0.98932 | 0.98949 | 0.98960 | 0.98963 |
| 49   | 0.98677         | 0.98721 | 0.98765 | 0.98808 | 0.98844 | 0.98877 | 0.98905 | 0.98928 | 0.98945 | 0.98956 | 0.98959 |
| 50   | 0.98668         | 0.98714 | 0.98758 | 0.98802 | 0.98838 | 0.98871 | 0.98900 | 0.98922 | 0.98939 | 0.98950 | 0.98953 |
| 51   | 0.98660         | 0.98706 | 0.98751 | 0.98796 | 0.98832 | 0.98865 | 0.98894 | 0.98916 | 0.98933 | 0.98944 | 0.98947 |
| 52   | 0.98654         | 0.98701 | 0.98745 | 0.98792 | 0.98828 | 0.98860 | 0.98890 | 0.98912 | 0.98929 | 0.98940 | 0.98943 |
| 53   | 0.98646         | 0.98693 | 0.98739 | 0.98786 | 0.98822 | 0.98855 | 0.98884 | 0.98906 | 0.98923 | 0.98934 | 0.98937 |
| 54   | 0.98635         | 0.98684 | 0.98730 | 0.98778 | 0.98814 | 0.98847 | 0.98877 | 0.98899 | 0.98916 | 0.98927 | 0.98929 |
| 55   | 0.98624         | 0.98674 | 0.98720 | 0.98767 | 0.98806 | 0.98839 | 0.98869 | 0.98891 | 0.98908 | 0.98919 | 0.98921 |
| 56   | 0.98613         | 0.98663 | 0.98711 | 0.98758 | 0.98798 | 0.98831 | 0.98861 | 0.98883 | 0.98900 | 0.98910 | 0.98913 |
| 57   | 0.98600         | 0.98651 | 0.98700 | 0.98752 | 0.98799 | 0.98832 | 0.98862 | 0.98884 | 0.98899 | 0.98910 | 0.98913 |
| 58   | 0.98590         | 0.98642 | 0.98691 | 0.98744 | 0.98792 | 0.98825 | 0.98855 | 0.98877 | 0.98892 | 0.98903 | 0.98905 |
| 59   | 0.98584         | 0.98637 | 0.98686 | 0.98740 | 0.98787 | 0.98820 | 0.98850 | 0.98872 | 0.98887 | 0.98898 | 0.98900 |
| 60   | 0.98580         | 0.98633 | 0.98683 | 0.98737 | 0.98785 | 0.98818 | 0.98848 | 0.98869 | 0.98884 | 0.98895 | 0.98897 |
| 61   | 0.98578         | 0.98631 | 0.98681 | 0.98736 | 0.98784 | 0.98817 | 0.98847 | 0.98868 | 0.98883 | 0.98894 | 0.98896 |
| 62   | 0.98577         | 0.98631 | 0.98681 | 0.98736 | 0.98784 | 0.98817 | 0.98847 | 0.98868 | 0.98883 | 0.98894 | 0.98896 |
| 63   | 0.98577         | 0.98631 | 0.98681 | 0.98736 | 0.98784 | 0.98817 | 0.98847 | 0.98868 | 0.98883 | 0.98894 | 0.98896 |
| 64   | 0.98577         | 0.98631 | 0.98681 | 0.98736 | 0.98784 | 0.98817 | 0.98847 | 0.98868 | 0.98883 | 0.98894 | 0.98896 |
| 65   | 0.98578         | 0.98631 | 0.98681 | 0.98736 | 0.98784 | 0.98817 | 0.98847 | 0.98868 | 0.98883 | 0.98894 | 0.98896 |
| 66   | 0.98580         | 0.98633 | 0.98683 | 0.98737 | 0.98785 | 0.98818 | 0.98848 | 0.98869 | 0.98884 | 0.98895 | 0.98897 |
| 67   | 0.98583         | 0.98636 | 0.98686 | 0.98739 | 0.98787 | 0.98820 | 0.98850 | 0.98872 | 0.98887 | 0.98898 | 0.98900 |
| 68   | 0.98587         | 0.98640 | 0.98690 | 0.98743 | 0.98791 | 0.98824 | 0.98854 | 0.98876 | 0.98891 | 0.98902 | 0.98904 |
| 69   | 0.98594         | 0.98646 | 0.98696 | 0.98749 | 0.98797 | 0.98830 | 0.98860 | 0.98882 | 0.98897 | 0.98908 | 0.98910 |
| 70   | 0.98601         | 0.98653 | 0.98705 | 0.98758 | 0.98806 | 0.98839 | 0.98869 | 0.98891 | 0.98906 | 0.98917 | 0.98919 |
| 71   | 0.98609         | 0.98661 | 0.98713 | 0.98766 | 0.98814 | 0.98847 | 0.98877 | 0.98899 | 0.98914 | 0.98925 | 0.98927 |
| 72   | 0.98711         | 0.98763 | 0.98815 | 0.98868 | 0.98916 | 0.98949 | 0.98979 | 0.98999 | 0.99014 | 0.99025 | 0.99027 |
| 73   | 0.98733         | 0.98785 | 0.98837 | 0.98890 | 0.98938 | 0.98986 | 0.99034 | 0.99082 | 0.99130 | 0.99178 | 0.99226 |
| 74   | 0.98747         | 0.98799 | 0.98851 | 0.98904 | 0.98952 | 0.98999 | 0.99047 | 0.99095 | 0.99143 | 0.99191 | 0.99239 |
| 75   | 0.98763         | 0.98815 | 0.98868 | 0.98920 | 0.98968 | 0.99016 | 0.99064 | 0.99112 | 0.99160 | 0.99208 | 0.99256 |
| 76   | 0.98776         | 0.98828 | 0.98881 | 0.98933 | 0.98981 | 0.99029 | 0.99077 | 0.99125 | 0.99173 | 0.99221 | 0.99269 |
| 77   | 0.98789         | 0.98841 | 0.98894 | 0.98946 | 0.98994 | 0.99042 | 0.99090 | 0.99138 | 0.99186 | 0.99234 | 0.99282 |
| 78   | 0.98809         | 0.98861 | 0.98914 | 0.98966 | 0.99014 | 0.99062 | 0.99110 | 0.99158 | 0.99206 | 0.99254 | 0.99302 |
| 79   | 0.98827         | 0.98879 | 0.98932 | 0.98984 | 0.99032 | 0.99080 | 0.99128 | 0.99176 | 0.99224 | 0.99272 | 0.99320 |
|      |                 |         |         |         |         |         |         |         |         |         |         |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Permanent Disability Retirees -- Officer [*Factors only shown through 2034.*]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93617 | 0.94290 | 0.94988 | 0.95679 | 0.96306 | 0.96820 |
| 21   | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93623 | 0.94295 | 0.94993 | 0.95684 | 0.96310 | 0.96825 |
| 22   | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93630 | 0.94303 | 0.95001 | 0.95692 | 0.96317 | 0.96831 |
| 23   | 0.94025         | 0.93004 | 0.93109 | 0.93042 | 0.93488 | 0.93879 | 0.94497 | 0.95141 | 0.95781 | 0.96364 | 0.96850 |
| 24   | 0.94536         | 0.93783 | 0.93875 | 0.93748 | 0.93793 | 0.94142 | 0.94703 | 0.95289 | 0.95875 | 0.96414 | 0.96870 |
| 25   | 0.95030         | 0.94564 | 0.94642 | 0.94477 | 0.94445 | 0.94406 | 0.94909 | 0.95438 | 0.95970 | 0.96465 | 0.96890 |
| 26   | 0.95475         | 0.95283 | 0.95349 | 0.95179 | 0.95093 | 0.94978 | 0.95099 | 0.95574 | 0.96057 | 0.96511 | 0.96908 |
| 27   | 0.95829         | 0.95932 | 0.95986 | 0.95819 | 0.95714 | 0.95545 | 0.95580 | 0.95698 | 0.96136 | 0.96553 | 0.96924 |
| 28   | 0.96031         | 0.96469 | 0.96513 | 0.96375 | 0.96262 | 0.96077 | 0.96050 | 0.96088 | 0.96201 | 0.96588 | 0.96938 |
| 29   | 0.96149         | 0.96895 | 0.96932 | 0.96827 | 0.96734 | 0.96543 | 0.96492 | 0.96475 | 0.96517 | 0.96615 | 0.96949 |
| 30   | 0.96229         | 0.97246 | 0.97277 | 0.97191 | 0.97124 | 0.96950 | 0.96887 | 0.96846 | 0.96838 | 0.96875 | 0.96957 |
| 31   | 0.96247         | 0.97519 | 0.97545 | 0.97484 | 0.97431 | 0.97281 | 0.97230 | 0.97177 | 0.97150 | 0.97143 | 0.97174 |
| 32   | 0.96150         | 0.97696 | 0.97719 | 0.97696 | 0.97665 | 0.97529 | 0.97501 | 0.97463 | 0.97427 | 0.97405 | 0.97400 |
| 33   | 0.96005         | 0.97782 | 0.97803 | 0.97820 | 0.97827 | 0.97714 | 0.97702 | 0.97688 | 0.97669 | 0.97642 | 0.97626 |
| 34   | 0.95871         | 0.97765 | 0.97786 | 0.97855 | 0.97903 | 0.97831 | 0.97846 | 0.97852 | 0.97860 | 0.97852 | 0.97832 |
| 35   | 0.95773         | 0.97697 | 0.97720 | 0.97816 | 0.97917 | 0.97888 | 0.97944 | 0.97978 | 0.98006 | 0.98022 | 0.98017 |
| 36   | 0.95701         | 0.97631 | 0.97655 | 0.97754 | 0.97883 | 0.97907 | 0.98004 | 0.98075 | 0.98126 | 0.98158 | 0.98172 |
| 37   | 0.95665         | 0.97559 | 0.97584 | 0.97689 | 0.97823 | 0.97881 | 0.98027 | 0.98136 | 0.98221 | 0.98272 | 0.98297 |
| 38   | 0.95626         | 0.97359 | 0.97388 | 0.97565 | 0.97714 | 0.97794 | 0.97978 | 0.98143 | 0.98270 | 0.98357 | 0.98402 |
| 39   | 0.95513         | 0.97060 | 0.97094 | 0.97334 | 0.97563 | 0.97675 | 0.97882 | 0.98091 | 0.98275 | 0.98405 | 0.98482 |
| 40   | 0.95338         | 0.96688 | 0.96729 | 0.97022 | 0.97323 | 0.97530 | 0.97770 | 0.98007 | 0.98237 | 0.98421 | 0.98533 |
| 41   | 0.95126         | 0.96306 | 0.96354 | 0.96670 | 0.97033 | 0.97321 | 0.97647 | 0.97917 | 0.98174 | 0.98398 | 0.98555 |
| 42   | 0.94888         | 0.95939 | 0.95993 | 0.96320 | 0.96715 | 0.97071 | 0.97474 | 0.97827 | 0.98114 | 0.98359 | 0.98548 |
| 43   | 0.94630         | 0.95544 | 0.95605 | 0.95964 | 0.96380 | 0.96779 | 0.97251 | 0.97682 | 0.98047 | 0.98320 | 0.98525 |
| 44   | 0.94389         | 0.95175 | 0.95242 | 0.95607 | 0.96063 | 0.96494 | 0.97008 | 0.97505 | 0.97941 | 0.98282 | 0.98505 |
| 45   | 0.94212         | 0.94848 | 0.94921 | 0.95281 | 0.95750 | 0.96230 | 0.96771 | 0.97308 | 0.97804 | 0.98205 | 0.98484 |
| 46   | 0.94109         | 0.94585 | 0.94662 | 0.95004 | 0.95473 | 0.95977 | 0.96560 | 0.97122 | 0.97651 | 0.98103 | 0.98431 |
| 47   | 0.94061         | 0.94387 | 0.94469 | 0.94788 | 0.95242 | 0.95752 | 0.96348 | 0.96948 | 0.97497 | 0.97976 | 0.98346 |
| 48   | 0.94084         | 0.94269 | 0.94353 | 0.94639 | 0.95072 | 0.95567 | 0.96163 | 0.96772 | 0.97352 | 0.97846 | 0.98237 |
| 49   | 0.94165         | 0.94192 | 0.94277 | 0.94547 | 0.94949 | 0.95420 | 0.96002 | 0.96610 | 0.97198 | 0.97720 | 0.98123 |
| 50   | 0.94298         | 0.94142 | 0.94228 | 0.94487 | 0.94874 | 0.95309 | 0.95872 | 0.96466 | 0.97054 | 0.97583 | 0.98012 |
| 51   | 0.94476         | 0.94189 | 0.94273 | 0.94484 | 0.94856 | 0.95264 | 0.95794 | 0.96364 | 0.96935 | 0.97460 | 0.97893 |
| 52   | 0.94754         | 0.94322 | 0.94404 | 0.94566 | 0.94885 | 0.95268 | 0.95772 | 0.96306 | 0.96850 | 0.97357 | 0.97785 |
| 53   | 0.95112         | 0.94564 | 0.94642 | 0.94739 | 0.95002 | 0.95318 | 0.95794 | 0.96296 | 0.96800 | 0.97279 | 0.97690 |
| 54   | 0.95517         | 0.94874 | 0.94947 | 0.94996 | 0.95186 | 0.95431 | 0.95842 | 0.96312 | 0.96783 | 0.97224 | 0.97612 |
| 55   | 0.95984         | 0.95270 | 0.95336 | 0.95324 | 0.95455 | 0.95610 | 0.95951 | 0.96353 | 0.96790 | 0.97199 | 0.97553 |
| 56   | 0.96510         | 0.95715 | 0.95773 | 0.95716 | 0.95775 | 0.95853 | 0.96110 | 0.96440 | 0.96811 | 0.97189 | 0.97519 |
| 57   | 0.97062         | 0.96240 | 0.96289 | 0.96167 | 0.96166 | 0.96151 | 0.96332 | 0.96574 | 0.96875 | 0.97191 | 0.97495 |
| 58   | 0.97596         | 0.96822 | 0.96860 | 0.96683 | 0.96603 | 0.96509 | 0.96600 | 0.96763 | 0.96978 | 0.97229 | 0.97483 |
| 59   | 0.98106         | 0.97387 | 0.97415 | 0.97219 | 0.97071 | 0.96886 | 0.96903 | 0.96979 | 0.97121 | 0.97297 | 0.97500 |
| 60   | 0.98522         | 0.97930 | 0.97949 | 0.97737 | 0.97558 | 0.97294 | 0.97223 | 0.97226 | 0.97288 | 0.97402 | 0.97544 |
| 61   | 0.98846         | 0.98405 | 0.98415 | 0.98213 | 0.98009 | 0.97706 | 0.97561 | 0.97482 | 0.97480 | 0.97525 | 0.97619 |
| 62   | 0.99050         | 0.98787 | 0.98791 | 0.98616 | 0.98414 | 0.98082 | 0.97902 | 0.97755 | 0.97681 | 0.97673 | 0.97713 |
| 63   | 0.99143         | 0.99069 | 0.99068 | 0.98928 | 0.98747 | 0.98416 | 0.98210 | 0.98032 | 0.97899 | 0.97831 | 0.97830 |
| 64   | 0.99119         | 0.99190 | 0.99187 | 0.99119 | 0.98975 | 0.98667 | 0.98469 | 0.98274 | 0.98120 | 0.98007 | 0.97959 |
| 65   | 0.98958         | 0.99148 | 0.99145 | 0.99159 | 0.99090 | 0.98825 | 0.98659 | 0.98480 | 0.98319 | 0.98194 | 0.98110 |
| 66   | 0.98715         | 0.98957 | 0.98958 | 0.99053 | 0.99073 | 0.98891 | 0.98774 | 0.98634 | 0.98495 | 0.98368 | 0.98275 |
| 67   | 0.98481         | 0.98685 | 0.98690 | 0.98838 | 0.98946 | 0.98860 | 0.98827 | 0.98738 | 0.98638 | 0.98532 | 0.98436 |
| 68   | 0.98281         | 0.98409 | 0.98420 | 0.98582 | 0.98749 | 0.98756 | 0.98813 | 0.98804 | 0.98749 | 0.98675 | 0.98591 |
| 69   | 0.98136         | 0.98197 | 0.98211 | 0.98353 | 0.98538 | 0.98608 | 0.98748 | 0.98819 | 0.98832 | 0.98792 | 0.98728 |
| 70   | 0.98071         | 0.98069 | 0.98086 | 0.98193 | 0.98359 | 0.98452 | 0.98643 | 0.98787 | 0.98868 | 0.98882 | 0.98842 |
| 71   | 0.98072         | 0.98034 | 0.98052 | 0.98116 | 0.98246 | 0.98325 | 0.98528 | 0.98715 | 0.98856 | 0.98926 | 0.98928 |
| 72   | 0.98121         | 0.98075 | 0.98092 | 0.98118 | 0.98203 | 0.98252 | 0.98431 | 0.98625 | 0.98801 | 0.98921 | 0.98969 |
| 73   | 0.98218         | 0.98166 | 0.98181 | 0.98178 | 0.98222 | 0.98233 | 0.98373 | 0.98542 | 0.98723 | 0.98873 | 0.98965 |
| 74   | 0.98348         | 0.98295 | 0.98308 | 0.98280 | 0.98292 | 0.98268 | 0.98362 | 0.98492 | 0.98648 | 0.98802 | 0.98922 |
| 75   | 0.98514         | 0.98467 | 0.98477 | 0.98421 | 0.98403 | 0.98352 | 0.98399 | 0.98482 | 0.98600 | 0.98731 | 0.98856 |
| 76   | 0.98720         | 0.98682 | 0.98689 | 0.98601 | 0.98548 | 0.98470 | 0.98479 | 0.98515 | 0.98586 | 0.98682 | 0.98788 |
| 77   | 0.98948         | 0.98927 | 0.98929 | 0.98815 | 0.98726 | 0.98613 | 0.98585 | 0.98582 | 0.98608 | 0.98661 | 0.98738 |
| 78   | 0.99188         | 0.99188 | 0.99186 | 0.99052 | 0.98930 | 0.98781 | 0.98711 | 0.98670 | 0.98657 | 0.98671 | 0.98712 |
| 79   | 0.99432         | 0.99454 | 0.99447 | 0.99299 | 0.99151 | 0.98969 | 0.98854 | 0.98772 | 0.98724 | 0.98703 | 0.98712 |
| 80   | 0.99665         | 0.99709 | 0.99697 | 0.9     |         |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Nondisability Retirees -- Officer [*Factors only shown through 2034.*]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age | Projection Year |         |         |         |         |         |         |         |         |         |         |  |
|-----|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
|     | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |  |
| <21 | 0.97173         | 0.97430 | 0.97681 | 0.97921 | 0.98145 | 0.98350 | 0.98529 | 0.98677 | 0.98790 | 0.98863 | 0.98890 |  |
| 21  | 0.97177         | 0.97433 | 0.97684 | 0.97925 | 0.98149 | 0.98353 | 0.98532 | 0.98680 | 0.98793 | 0.98866 | 0.98893 |  |
| 22  | 0.97183         | 0.97439 | 0.97690 | 0.97930 | 0.98155 | 0.98358 | 0.98537 | 0.98685 | 0.98798 | 0.98871 | 0.98897 |  |
| 23  | 0.97191         | 0.97447 | 0.97698 | 0.97938 | 0.98162 | 0.98365 | 0.98544 | 0.98692 | 0.98805 | 0.98877 | 0.98904 |  |
| 24  | 0.97200         | 0.97455 | 0.97706 | 0.97945 | 0.98169 | 0.98373 | 0.98551 | 0.98699 | 0.98812 | 0.98884 | 0.98910 |  |
| 25  | 0.97208         | 0.97464 | 0.97714 | 0.97953 | 0.98177 | 0.98381 | 0.98559 | 0.98707 | 0.98819 | 0.98891 | 0.98917 |  |
| 26  | 0.97216         | 0.97472 | 0.97721 | 0.97960 | 0.98184 | 0.98387 | 0.98565 | 0.98713 | 0.98825 | 0.98897 | 0.98923 |  |
| 27  | 0.97223         | 0.97478 | 0.97728 | 0.97967 | 0.98190 | 0.98393 | 0.98571 | 0.98719 | 0.98831 | 0.98902 | 0.98929 |  |
| 28  | 0.97229         | 0.97484 | 0.97734 | 0.97972 | 0.98196 | 0.98399 | 0.98576 | 0.98724 | 0.98836 | 0.98907 | 0.98933 |  |
| 29  | 0.97234         | 0.97489 | 0.97738 | 0.97977 | 0.98200 | 0.98403 | 0.98581 | 0.98728 | 0.98840 | 0.98911 | 0.98937 |  |
| 30  | 0.97237         | 0.97492 | 0.97741 | 0.97979 | 0.98203 | 0.98405 | 0.98583 | 0.98730 | 0.98842 | 0.98913 | 0.98939 |  |
| 31  | 0.97238         | 0.97493 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98914 | 0.98940 |  |
| 32  | 0.97243         | 0.97493 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98915 | 0.98940 |  |
| 33  | 0.97617         | 0.97649 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98914 | 0.98940 |  |
| 34  | 0.97813         | 0.97815 | 0.97872 | 0.97981 | 0.98204 | 0.98407 | 0.98585 | 0.98732 | 0.98843 | 0.98915 | 0.98941 |  |
| 35  | 0.97992         | 0.97981 | 0.98009 | 0.98085 | 0.98204 | 0.98407 | 0.98585 | 0.98732 | 0.98843 | 0.98915 | 0.98941 |  |
| 36  | 0.98155         | 0.98135 | 0.98148 | 0.98195 | 0.98285 | 0.98408 | 0.98586 | 0.98733 | 0.98844 | 0.98916 | 0.98942 |  |
| 37  | 0.98293         | 0.98276 | 0.98277 | 0.98309 | 0.98372 | 0.98469 | 0.98589 | 0.98736 | 0.98847 | 0.98919 | 0.98944 |  |
| 38  | 0.98406         | 0.98397 | 0.98397 | 0.98416 | 0.98462 | 0.98535 | 0.98632 | 0.98741 | 0.98852 | 0.98923 | 0.98949 |  |
| 39  | 0.98499         | 0.98492 | 0.98496 | 0.98512 | 0.98544 | 0.98600 | 0.98677 | 0.98767 | 0.98856 | 0.98927 | 0.98953 |  |
| 40  | 0.98573         | 0.98573 | 0.98577 | 0.98593 | 0.98619 | 0.98662 | 0.98723 | 0.98796 | 0.98872 | 0.98932 | 0.98958 |  |
| 41  | 0.98620         | 0.98633 | 0.98641 | 0.98655 | 0.98679 | 0.98714 | 0.98762 | 0.98822 | 0.98884 | 0.98937 | 0.98959 |  |
| 42  | 0.98643         | 0.98673 | 0.98691 | 0.98706 | 0.98727 | 0.98758 | 0.98797 | 0.98845 | 0.98897 | 0.98941 | 0.98961 |  |
| 43  | 0.98641         | 0.98693 | 0.98724 | 0.98746 | 0.98767 | 0.98793 | 0.98827 | 0.98866 | 0.98908 | 0.98945 | 0.98962 |  |
| 44  | 0.98628         | 0.98693 | 0.98743 | 0.98775 | 0.98800 | 0.98824 | 0.98852 | 0.98886 | 0.98921 | 0.98951 | 0.98966 |  |
| 45  | 0.98616         | 0.98683 | 0.98744 | 0.98791 | 0.98823 | 0.98849 | 0.98875 | 0.98903 | 0.98932 | 0.98957 | 0.98969 |  |
| 46  | 0.98606         | 0.98676 | 0.98739 | 0.98795 | 0.98839 | 0.98869 | 0.98895 | 0.98919 | 0.98944 | 0.98965 | 0.98974 |  |
| 47  | 0.98559         | 0.98664 | 0.98731 | 0.98789 | 0.98840 | 0.98879 | 0.98907 | 0.98930 | 0.98951 | 0.98969 | 0.98977 |  |
| 48  | 0.98484         | 0.98622 | 0.98718 | 0.98780 | 0.98832 | 0.98877 | 0.98911 | 0.98936 | 0.98955 | 0.98970 | 0.98977 |  |
| 49  | 0.98388         | 0.98555 | 0.98680 | 0.98766 | 0.98822 | 0.98869 | 0.98908 | 0.98935 | 0.98955 | 0.98968 | 0.98974 |  |
| 50  | 0.98288         | 0.98471 | 0.98622 | 0.98734 | 0.98810 | 0.98860 | 0.98900 | 0.98931 | 0.98952 | 0.98965 | 0.98971 |  |
| 51  | 0.98191         | 0.98385 | 0.98552 | 0.98687 | 0.98784 | 0.98850 | 0.98892 | 0.98925 | 0.98948 | 0.98962 | 0.98967 |  |
| 52  | 0.98088         | 0.98303 | 0.98482 | 0.98631 | 0.98749 | 0.98831 | 0.98885 | 0.98920 | 0.98944 | 0.98959 | 0.98964 |  |
| 53  | 0.97991         | 0.98215 | 0.98412 | 0.98573 | 0.98704 | 0.98804 | 0.98871 | 0.98914 | 0.98939 | 0.98955 | 0.98960 |  |
| 54  | 0.97903         | 0.98130 | 0.98337 | 0.98516 | 0.98657 | 0.98769 | 0.98850 | 0.98902 | 0.98933 | 0.98949 | 0.98955 |  |
| 55  | 0.97830         | 0.98054 | 0.98266 | 0.98454 | 0.98612 | 0.98733 | 0.98825 | 0.98888 | 0.98925 | 0.98944 | 0.98950 |  |
| 56  | 0.97774         | 0.97991 | 0.98202 | 0.98396 | 0.98563 | 0.98699 | 0.98799 | 0.98871 | 0.98915 | 0.98938 | 0.98945 |  |
| 57  | 0.97737         | 0.97942 | 0.98148 | 0.98342 | 0.98516 | 0.98661 | 0.98774 | 0.98853 | 0.98904 | 0.98930 | 0.98939 |  |
| 58  | 0.97711         | 0.97911 | 0.98108 | 0.98300 | 0.98475 | 0.98627 | 0.98748 | 0.98836 | 0.98893 | 0.98924 | 0.98934 |  |
| 59  | 0.97695         | 0.97891 | 0.98083 | 0.98269 | 0.98444 | 0.98598 | 0.98726 | 0.98821 | 0.98885 | 0.98920 | 0.98931 |  |
| 60  | 0.97705         | 0.97878 | 0.98068 | 0.98250 | 0.98420 | 0.98576 | 0.98707 | 0.98808 | 0.98878 | 0.98917 | 0.98930 |  |
| 61  | 0.97736         | 0.97887 | 0.98058 | 0.98238 | 0.98407 | 0.98559 | 0.98692 | 0.98797 | 0.98872 | 0.98915 | 0.98929 |  |
| 62  | 0.97797         | 0.97915 | 0.98066 | 0.98231 | 0.98398 | 0.98550 | 0.98682 | 0.98789 | 0.98867 | 0.98913 | 0.98929 |  |
| 63  | 0.97874         | 0.97966 | 0.98089 | 0.98237 | 0.98392 | 0.98544 | 0.98675 | 0.98783 | 0.98863 | 0.98912 | 0.98929 |  |
| 64  | 0.97973         | 0.98032 | 0.98131 | 0.98256 | 0.98397 | 0.98539 | 0.98671 | 0.98779 | 0.98860 | 0.98911 | 0.98928 |  |
| 65  | 0.98084         | 0.98116 | 0.98186 | 0.98290 | 0.98412 | 0.98543 | 0.98669 | 0.98777 | 0.98859 | 0.98910 | 0.98929 |  |
| 66  | 0.98217         | 0.98212 | 0.98257 | 0.98335 | 0.98439 | 0.98555 | 0.98672 | 0.98777 | 0.98859 | 0.98911 | 0.98930 |  |
| 67  | 0.98364         | 0.98325 | 0.98337 | 0.98392 | 0.98474 | 0.98575 | 0.98681 | 0.98780 | 0.98860 | 0.98912 | 0.98931 |  |
| 68  | 0.98508         | 0.98452 | 0.98432 | 0.98458 | 0.98520 | 0.98602 | 0.98696 | 0.98786 | 0.98863 | 0.98914 | 0.98933 |  |
| 69  | 0.98647         | 0.98575 | 0.98538 | 0.98535 | 0.98571 | 0.98636 | 0.98715 | 0.98797 | 0.98868 | 0.98917 | 0.98936 |  |
| 70  | 0.98771         | 0.98695 | 0.98642 | 0.98621 | 0.98632 | 0.98675 | 0.98740 | 0.98810 | 0.98875 | 0.98921 | 0.98940 |  |
| 71  | 0.98872         | 0.98801 | 0.98742 | 0.98706 | 0.98699 | 0.98721 | 0.98767 | 0.98826 | 0.98883 | 0.98926 | 0.98944 |  |
| 72  | 0.98948         | 0.98888 | 0.98831 | 0.98787 | 0.98766 | 0.98771 | 0.98799 | 0.98845 | 0.98894 | 0.98932 | 0.98948 |  |
| 73  | 0.98984         | 0.98954 | 0.98904 | 0.98860 | 0.98830 | 0.98821 | 0.98835 | 0.98865 | 0.98905 | 0.98938 | 0.98953 |  |
| 74  | 0.98980         | 0.98986 | 0.98960 | 0.98919 | 0.98887 | 0.98869 | 0.98870 | 0.98888 | 0.98917 | 0.98945 | 0.98958 |  |
| 75  | 0.98943         | 0.98983 | 0.98987 | 0.98965 | 0.98933 | 0.98911 | 0.98903 | 0.98911 | 0.98930 | 0.98952 | 0.98962 |  |
| 76  | 0.98884         | 0.98952 | 0.98984 | 0.98986 | 0.98968 | 0.98945 | 0.98932 | 0.98931 | 0.98942 | 0.98958 | 0.98966 |  |
| 77  | 0.98823         | 0.98903 | 0.98960 | 0.98984 | 0.98985 | 0.98971 | 0.98955 | 0.98949 | 0.98953 | 0.98963 | 0.98970 |  |
| 78  | 0.98777         | 0.98852 | 0.98920 | 0.98966 | 0.98984 | 0.98984 | 0.98973 | 0.98964 | 0.98963 | 0.98968 | 0.98972 |  |
| 79  | 0.98752         | 0.98813 | 0.98879 | 0.98935 | 0.98971 | 0.98982 | 0.98981 | 0.98974 | 0.98970 | 0.98972 | 0.98974 |  |
| 80  | 0.98748         | 0.98792 | 0.98848 | 0.98903 | 0.98949 | 0.98975 | 0.98981 | 0.98979 | 0.98975 | 0.98974 | 0.98975 |  |
| 81  | 0.98763         | 0.98790 | 0.98831 | 0.98880 | 0.98926 | 0.98961 | 0.98978 | 0.98979 | 0.98978 | 0.98976 | 0.98976 |  |
| 82  | 0.98790         | 0.98803 | 0.98830 | 0.98867 | 0.98909 | 0.98946 | 0.98971 | 0.98980 | 0.98977 | 0.98976 | 0.98976 |  |
| 83  | 0.98825         | 0.98826 | 0.98842 | 0.98868 | 0.98901 | 0.98935 | 0.98963 | 0.98979 | 0.98982 | 0.98976 | 0.98976 |  |
| 84  | 0.98871         | 0.98857 | 0.98862 | 0.98878 | 0.98902 | 0.98931 | 0.98958 | 0.98977 | 0.98984 | 0.98982 | 0.98975 |  |
| 85  | 0.98934         | 0.98897 | 0.98888 | 0.98895 | 0.98911 | 0.98933 | 0.98957 | 0.98976 | 0.98987 | 0.98987 | 0.98982 |  |
| 86  | 0.99011         | 0.98960 | 0.98929 | 0.98924 | 0.98933 | 0.98949 | 0.98968 | 0.98985 | 0.98997 | 0.99000 | 0.98995 |  |
| 87  | 0.99092         | 0.99029 | 0.98985 | 0.98959 | 0.98957 | 0.98967 | 0.98981 | 0.98996 | 0.99008 | 0.99012 | 0.99008 |  |
| 88  | 0.99173         | 0.99101 | 0.99046 | 0.99008 | 0.98986 | 0.98988 | 0.98997 | 0.99009 | 0.99019 | 0.99023 | 0.99020 |  |
| 89  | 0.99250         | 0.99173 | 0.99109 | 0.99061 | 0.99030 | 0.99011 | 0.99014 | 0.99023 | 0.99031 | 0.99035 | 0.99032 |  |
| 90  | 0.99321         | 0.99242 | 0.99172 | 0.99116 | 0.99076 | 0.99049 | 0.99034 | 0.99037 | 0.99043 | 0.99046 |         |  |

## MORTALITY IMPROVEMENT FACTORS

Applied to: Permanent Disability Retirees -- Enlisted [Factors only shown through 2034.]Gender Mix: Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93617 | 0.94290 | 0.94988 | 0.95679 | 0.96306 | 0.96820 |
| 21   | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93623 | 0.94295 | 0.94993 | 0.95684 | 0.96310 | 0.96825 |
| 22   | 0.93518         | 0.92268 | 0.92387 | 0.92712 | 0.93200 | 0.93630 | 0.94303 | 0.95001 | 0.95692 | 0.96317 | 0.96831 |
| 23   | 0.94025         | 0.93004 | 0.93109 | 0.93042 | 0.93488 | 0.93879 | 0.94497 | 0.95141 | 0.95781 | 0.96364 | 0.96850 |
| 24   | 0.94536         | 0.93783 | 0.93875 | 0.93748 | 0.93793 | 0.94142 | 0.94703 | 0.95289 | 0.95875 | 0.96414 | 0.96870 |
| 25   | 0.95030         | 0.94564 | 0.94642 | 0.94477 | 0.94445 | 0.94406 | 0.94909 | 0.95438 | 0.95970 | 0.96465 | 0.96890 |
| 26   | 0.95475         | 0.95283 | 0.95349 | 0.95179 | 0.95093 | 0.94978 | 0.95099 | 0.95574 | 0.96057 | 0.96511 | 0.96908 |
| 27   | 0.95829         | 0.95932 | 0.95986 | 0.95819 | 0.95714 | 0.95545 | 0.95580 | 0.95698 | 0.96136 | 0.96553 | 0.96924 |
| 28   | 0.96031         | 0.96469 | 0.96513 | 0.96375 | 0.96262 | 0.96077 | 0.96050 | 0.96088 | 0.96201 | 0.96588 | 0.96938 |
| 29   | 0.96149         | 0.96895 | 0.96932 | 0.96827 | 0.96734 | 0.96543 | 0.96492 | 0.96475 | 0.96517 | 0.96615 | 0.96949 |
| 30   | 0.96229         | 0.97246 | 0.97277 | 0.97191 | 0.97124 | 0.96950 | 0.96887 | 0.96846 | 0.96838 | 0.96875 | 0.96957 |
| 31   | 0.96247         | 0.97519 | 0.97545 | 0.97484 | 0.97431 | 0.97281 | 0.97230 | 0.97177 | 0.97150 | 0.97143 | 0.97174 |
| 32   | 0.96150         | 0.97696 | 0.97719 | 0.97696 | 0.97665 | 0.97529 | 0.97501 | 0.97463 | 0.97427 | 0.97405 | 0.97400 |
| 33   | 0.96005         | 0.97782 | 0.97803 | 0.97820 | 0.97827 | 0.97714 | 0.97702 | 0.97688 | 0.97669 | 0.97642 | 0.97626 |
| 34   | 0.95871         | 0.97765 | 0.97786 | 0.97855 | 0.97903 | 0.97831 | 0.97846 | 0.97852 | 0.97860 | 0.97852 | 0.97832 |
| 35   | 0.95773         | 0.97697 | 0.97720 | 0.97816 | 0.97917 | 0.97888 | 0.97944 | 0.97978 | 0.98006 | 0.98022 | 0.98017 |
| 36   | 0.95701         | 0.97631 | 0.97655 | 0.97754 | 0.97883 | 0.97907 | 0.98004 | 0.98075 | 0.98126 | 0.98158 | 0.98172 |
| 37   | 0.95665         | 0.97559 | 0.97584 | 0.97689 | 0.97823 | 0.97881 | 0.98027 | 0.98136 | 0.98221 | 0.98272 | 0.98297 |
| 38   | 0.95626         | 0.97359 | 0.97388 | 0.97565 | 0.97714 | 0.97794 | 0.97978 | 0.98143 | 0.98270 | 0.98357 | 0.98402 |
| 39   | 0.95513         | 0.97060 | 0.97094 | 0.97334 | 0.97563 | 0.97675 | 0.97882 | 0.98091 | 0.98275 | 0.98405 | 0.98482 |
| 40   | 0.95338         | 0.96688 | 0.96729 | 0.97022 | 0.97323 | 0.97530 | 0.97770 | 0.98007 | 0.98237 | 0.98421 | 0.98533 |
| 41   | 0.95126         | 0.96306 | 0.96354 | 0.96670 | 0.97033 | 0.97321 | 0.97647 | 0.97917 | 0.98174 | 0.98398 | 0.98555 |
| 42   | 0.94888         | 0.95939 | 0.95993 | 0.96320 | 0.96715 | 0.97071 | 0.97474 | 0.97827 | 0.98114 | 0.98359 | 0.98548 |
| 43   | 0.94630         | 0.95544 | 0.95605 | 0.95964 | 0.96380 | 0.96779 | 0.97251 | 0.97682 | 0.98047 | 0.98320 | 0.98525 |
| 44   | 0.94389         | 0.95175 | 0.95242 | 0.95607 | 0.96063 | 0.96494 | 0.97008 | 0.97505 | 0.97941 | 0.98282 | 0.98505 |
| 45   | 0.94212         | 0.94848 | 0.94921 | 0.95281 | 0.95750 | 0.96230 | 0.96771 | 0.97308 | 0.97804 | 0.98205 | 0.98484 |
| 46   | 0.94109         | 0.94585 | 0.94662 | 0.95004 | 0.95473 | 0.95977 | 0.96560 | 0.97122 | 0.97651 | 0.98103 | 0.98431 |
| 47   | 0.94061         | 0.94387 | 0.94469 | 0.94788 | 0.95242 | 0.95752 | 0.96348 | 0.96948 | 0.97497 | 0.97976 | 0.98346 |
| 48   | 0.94084         | 0.94269 | 0.94353 | 0.94639 | 0.95072 | 0.95567 | 0.96163 | 0.96772 | 0.97352 | 0.97846 | 0.98237 |
| 49   | 0.94165         | 0.94192 | 0.94277 | 0.94547 | 0.94949 | 0.95420 | 0.96002 | 0.96610 | 0.97198 | 0.97720 | 0.98123 |
| 50   | 0.94298         | 0.94142 | 0.94228 | 0.94487 | 0.94874 | 0.95309 | 0.95872 | 0.96466 | 0.97054 | 0.97583 | 0.98012 |
| 51   | 0.94476         | 0.94189 | 0.94273 | 0.94484 | 0.94856 | 0.95264 | 0.95794 | 0.96364 | 0.96935 | 0.97460 | 0.97893 |
| 52   | 0.94754         | 0.94322 | 0.94404 | 0.94566 | 0.94885 | 0.95268 | 0.95772 | 0.96306 | 0.96850 | 0.97357 | 0.97785 |
| 53   | 0.95112         | 0.94564 | 0.94642 | 0.94739 | 0.95002 | 0.95318 | 0.95794 | 0.96296 | 0.96800 | 0.97279 | 0.97690 |
| 54   | 0.95517         | 0.94874 | 0.94947 | 0.94996 | 0.95186 | 0.95431 | 0.95842 | 0.96312 | 0.96783 | 0.97224 | 0.97612 |
| 55   | 0.95984         | 0.95270 | 0.95336 | 0.95324 | 0.95455 | 0.95610 | 0.95951 | 0.96353 | 0.96790 | 0.97199 | 0.97553 |
| 56   | 0.96510         | 0.95715 | 0.95773 | 0.95716 | 0.95775 | 0.95853 | 0.96110 | 0.96440 | 0.96811 | 0.97189 | 0.97519 |
| 57   | 0.97062         | 0.96240 | 0.96289 | 0.96167 | 0.96166 | 0.96151 | 0.96332 | 0.96574 | 0.96875 | 0.97191 | 0.97495 |
| 58   | 0.97596         | 0.96822 | 0.96860 | 0.96683 | 0.96603 | 0.96509 | 0.96600 | 0.96763 | 0.96978 | 0.97229 | 0.97483 |
| 59   | 0.98106         | 0.97387 | 0.97415 | 0.97219 | 0.97071 | 0.96886 | 0.96903 | 0.96979 | 0.97121 | 0.97297 | 0.97500 |
| 60   | 0.98522         | 0.97930 | 0.97949 | 0.97737 | 0.97558 | 0.97294 | 0.97223 | 0.97226 | 0.97288 | 0.97402 | 0.97544 |
| 61   | 0.98846         | 0.98405 | 0.98415 | 0.98213 | 0.98009 | 0.97706 | 0.97561 | 0.97482 | 0.97480 | 0.97525 | 0.97619 |
| 62   | 0.99050         | 0.98787 | 0.98791 | 0.98616 | 0.98414 | 0.98082 | 0.97902 | 0.97755 | 0.97681 | 0.97673 | 0.97713 |
| 63   | 0.99143         | 0.99069 | 0.99068 | 0.98928 | 0.98747 | 0.98416 | 0.98210 | 0.98032 | 0.97899 | 0.97831 | 0.97830 |
| 64   | 0.99119         | 0.99190 | 0.99187 | 0.99119 | 0.98975 | 0.98667 | 0.98469 | 0.98274 | 0.98120 | 0.98007 | 0.97959 |
| 65   | 0.98958         | 0.99148 | 0.99145 | 0.99159 | 0.99090 | 0.98825 | 0.98659 | 0.98480 | 0.98319 | 0.98194 | 0.98110 |
| 66   | 0.98715         | 0.98957 | 0.98958 | 0.99053 | 0.99073 | 0.98891 | 0.98774 | 0.98634 | 0.98495 | 0.98368 | 0.98275 |
| 67   | 0.98481         | 0.98685 | 0.98690 | 0.98838 | 0.98946 | 0.98860 | 0.98827 | 0.98738 | 0.98638 | 0.98532 | 0.98436 |
| 68   | 0.98281         | 0.98409 | 0.98420 | 0.98582 | 0.98749 | 0.98756 | 0.98813 | 0.98804 | 0.98749 | 0.98675 | 0.98591 |
| 69   | 0.98136         | 0.98197 | 0.98211 | 0.98353 | 0.98538 | 0.98608 | 0.98748 | 0.98819 | 0.98832 | 0.98792 | 0.98728 |
| 70   | 0.98071         | 0.98069 | 0.98086 | 0.98193 | 0.98359 | 0.98452 | 0.98643 | 0.98787 | 0.98868 | 0.98882 | 0.98842 |
| 71   | 0.98072         | 0.98034 | 0.98052 | 0.98116 | 0.98246 | 0.98325 | 0.98528 | 0.98715 | 0.98856 | 0.98926 | 0.98928 |
| 72   | 0.98121         | 0.98075 | 0.98092 | 0.98118 | 0.98203 | 0.98252 | 0.98431 | 0.98625 | 0.98801 | 0.98921 | 0.98969 |
| 73   | 0.98218         | 0.98166 | 0.98181 | 0.98178 | 0.98222 | 0.98233 | 0.98373 | 0.98542 | 0.98723 | 0.98873 | 0.98965 |
| 74   | 0.98348         | 0.98295 | 0.98308 | 0.98280 | 0.98292 | 0.98268 | 0.98362 | 0.98492 | 0.98648 | 0.98802 | 0.98922 |
| 75   | 0.98514         | 0.98467 | 0.98477 | 0.98421 | 0.98403 | 0.98352 | 0.98399 | 0.98482 | 0.98600 | 0.98731 | 0.98856 |
| 76   | 0.98720         | 0.98682 | 0.98689 | 0.98601 | 0.98548 | 0.98470 | 0.98479 | 0.98515 | 0.98586 | 0.98682 | 0.98788 |
| 77   | 0.98948         | 0.98927 | 0.98929 | 0.98815 | 0.98726 | 0.98613 | 0.98585 | 0.98582 | 0.98608 | 0.98661 | 0.98738 |
| 78   | 0.99188         | 0.99188 | 0.99186 | 0.99052 | 0.98930 | 0.98781 | 0.98711 | 0.98670 | 0.98657 | 0.98671 | 0.98712 |
| 79   | 0.99432         | 0.99454 | 0.99447 | 0.99299 | 0.99151 | 0.98969 | 0.98854 | 0.98772 | 0.98724 | 0.98703 | 0.98712 |
| 80   | 0.99665         | 0.99709 | 0.99697 | 0.99543 | 0.99374 |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Permanent Disability Retirees -- Enlisted [Factors only shown through 2034.]**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034    |
| < 21 | 0.97173         | 0.97430 | 0.97681 | 0.97921 | 0.98145 | 0.98350 | 0.98529 | 0.98677 | 0.98790 | 0.98863 | 0.98890 |
| 21   | 0.97177         | 0.97433 | 0.97684 | 0.97925 | 0.98149 | 0.98353 | 0.98532 | 0.98680 | 0.98793 | 0.98866 | 0.98893 |
| 22   | 0.97183         | 0.97439 | 0.97690 | 0.97930 | 0.98155 | 0.98358 | 0.98537 | 0.98685 | 0.98798 | 0.98871 | 0.98897 |
| 23   | 0.97191         | 0.97447 | 0.97698 | 0.97938 | 0.98162 | 0.98365 | 0.98544 | 0.98692 | 0.98805 | 0.98877 | 0.98904 |
| 24   | 0.97200         | 0.97455 | 0.97706 | 0.97945 | 0.98169 | 0.98373 | 0.98551 | 0.98699 | 0.98812 | 0.98884 | 0.98910 |
| 25   | 0.97208         | 0.97464 | 0.97714 | 0.97953 | 0.98177 | 0.98381 | 0.98559 | 0.98707 | 0.98819 | 0.98891 | 0.98917 |
| 26   | 0.97216         | 0.97472 | 0.97721 | 0.97960 | 0.98184 | 0.98387 | 0.98565 | 0.98713 | 0.98825 | 0.98897 | 0.98923 |
| 27   | 0.97223         | 0.97478 | 0.97728 | 0.97967 | 0.98190 | 0.98393 | 0.98571 | 0.98719 | 0.98831 | 0.98902 | 0.98929 |
| 28   | 0.97229         | 0.97484 | 0.97734 | 0.97972 | 0.98196 | 0.98399 | 0.98576 | 0.98724 | 0.98836 | 0.98907 | 0.98933 |
| 29   | 0.97234         | 0.97489 | 0.97738 | 0.97977 | 0.98200 | 0.98403 | 0.98581 | 0.98728 | 0.98840 | 0.98911 | 0.98937 |
| 30   | 0.97237         | 0.97492 | 0.97741 | 0.97979 | 0.98203 | 0.98405 | 0.98583 | 0.98730 | 0.98842 | 0.98913 | 0.98939 |
| 31   | 0.97238         | 0.97493 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98914 | 0.98940 |
| 32   | 0.97243         | 0.97493 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98915 | 0.98940 |
| 33   | 0.97617         | 0.97649 | 0.97742 | 0.97981 | 0.98204 | 0.98407 | 0.98584 | 0.98731 | 0.98843 | 0.98914 | 0.98940 |
| 34   | 0.97813         | 0.97815 | 0.97872 | 0.97981 | 0.98204 | 0.98407 | 0.98585 | 0.98732 | 0.98843 | 0.98915 | 0.98941 |
| 35   | 0.97992         | 0.97981 | 0.98009 | 0.98085 | 0.98204 | 0.98407 | 0.98585 | 0.98732 | 0.98843 | 0.98915 | 0.98941 |
| 36   | 0.98155         | 0.98135 | 0.98148 | 0.98195 | 0.98285 | 0.98408 | 0.98586 | 0.98733 | 0.98844 | 0.98916 | 0.98942 |
| 37   | 0.98293         | 0.98276 | 0.98277 | 0.98309 | 0.98372 | 0.98469 | 0.98589 | 0.98736 | 0.98847 | 0.98919 | 0.98944 |
| 38   | 0.98406         | 0.98397 | 0.98397 | 0.98416 | 0.98462 | 0.98535 | 0.98632 | 0.98741 | 0.98852 | 0.98923 | 0.98949 |
| 39   | 0.98499         | 0.98492 | 0.98496 | 0.98512 | 0.98544 | 0.98600 | 0.98677 | 0.98767 | 0.98856 | 0.98927 | 0.98953 |
| 40   | 0.98573         | 0.98573 | 0.98577 | 0.98593 | 0.98619 | 0.98662 | 0.98723 | 0.98796 | 0.98872 | 0.98932 | 0.98958 |
| 41   | 0.98620         | 0.98633 | 0.98641 | 0.98655 | 0.98679 | 0.98714 | 0.98762 | 0.98822 | 0.98884 | 0.98937 | 0.98959 |
| 42   | 0.98643         | 0.98673 | 0.98691 | 0.98706 | 0.98727 | 0.98758 | 0.98797 | 0.98845 | 0.98897 | 0.98941 | 0.98961 |
| 43   | 0.98641         | 0.98693 | 0.98724 | 0.98746 | 0.98767 | 0.98793 | 0.98827 | 0.98866 | 0.98908 | 0.98945 | 0.98962 |
| 44   | 0.98628         | 0.98693 | 0.98743 | 0.98775 | 0.98800 | 0.98824 | 0.98852 | 0.98886 | 0.98921 | 0.98951 | 0.98966 |
| 45   | 0.98616         | 0.98683 | 0.98744 | 0.98791 | 0.98823 | 0.98849 | 0.98875 | 0.98903 | 0.98932 | 0.98957 | 0.98969 |
| 46   | 0.98606         | 0.98676 | 0.98739 | 0.98795 | 0.98839 | 0.98869 | 0.98895 | 0.98919 | 0.98944 | 0.98965 | 0.98974 |
| 47   | 0.98559         | 0.98664 | 0.98731 | 0.98789 | 0.98840 | 0.98879 | 0.98907 | 0.98930 | 0.98951 | 0.98969 | 0.98977 |
| 48   | 0.98484         | 0.98622 | 0.98718 | 0.98780 | 0.98832 | 0.98877 | 0.98911 | 0.98936 | 0.98955 | 0.98970 | 0.98977 |
| 49   | 0.98388         | 0.98555 | 0.98680 | 0.98766 | 0.98822 | 0.98869 | 0.98908 | 0.98935 | 0.98955 | 0.98968 | 0.98974 |
| 50   | 0.98288         | 0.98471 | 0.98622 | 0.98734 | 0.98810 | 0.98860 | 0.98900 | 0.98931 | 0.98952 | 0.98965 | 0.98971 |
| 51   | 0.98191         | 0.98385 | 0.98552 | 0.98687 | 0.98784 | 0.98850 | 0.98892 | 0.98925 | 0.98948 | 0.98962 | 0.98967 |
| 52   | 0.98088         | 0.98303 | 0.98482 | 0.98631 | 0.98749 | 0.98831 | 0.98885 | 0.98920 | 0.98944 | 0.98959 | 0.98964 |
| 53   | 0.97991         | 0.98215 | 0.98412 | 0.98573 | 0.98704 | 0.98804 | 0.98871 | 0.98914 | 0.98939 | 0.98955 | 0.98960 |
| 54   | 0.97903         | 0.98130 | 0.98337 | 0.98516 | 0.98657 | 0.98769 | 0.98850 | 0.98902 | 0.98933 | 0.98949 | 0.98955 |
| 55   | 0.97830         | 0.98054 | 0.98266 | 0.98454 | 0.98612 | 0.98733 | 0.98825 | 0.98888 | 0.98925 | 0.98944 | 0.98950 |
| 56   | 0.97774         | 0.97991 | 0.98202 | 0.98396 | 0.98563 | 0.98699 | 0.98799 | 0.98871 | 0.98915 | 0.98938 | 0.98945 |
| 57   | 0.97737         | 0.97942 | 0.98148 | 0.98342 | 0.98516 | 0.98661 | 0.98774 | 0.98853 | 0.98904 | 0.98930 | 0.98939 |
| 58   | 0.97711         | 0.97911 | 0.98108 | 0.98300 | 0.98475 | 0.98627 | 0.98748 | 0.98836 | 0.98893 | 0.98924 | 0.98934 |
| 59   | 0.97695         | 0.97891 | 0.98083 | 0.98269 | 0.98444 | 0.98598 | 0.98726 | 0.98821 | 0.98885 | 0.98920 | 0.98931 |
| 60   | 0.97705         | 0.97878 | 0.98068 | 0.98250 | 0.98420 | 0.98576 | 0.98707 | 0.98808 | 0.98878 | 0.98917 | 0.98930 |
| 61   | 0.97736         | 0.97887 | 0.98058 | 0.98238 | 0.98407 | 0.98559 | 0.98692 | 0.98797 | 0.98872 | 0.98915 | 0.98929 |
| 62   | 0.97797         | 0.97915 | 0.98066 | 0.98231 | 0.98398 | 0.98550 | 0.98682 | 0.98789 | 0.98867 | 0.98913 | 0.98929 |
| 63   | 0.97874         | 0.97966 | 0.98089 | 0.98237 | 0.98392 | 0.98544 | 0.98675 | 0.98783 | 0.98863 | 0.98912 | 0.98929 |
| 64   | 0.97973         | 0.98032 | 0.98131 | 0.98256 | 0.98397 | 0.98539 | 0.98671 | 0.98779 | 0.98860 | 0.98911 | 0.98928 |
| 65   | 0.98084         | 0.98116 | 0.98186 | 0.98290 | 0.98412 | 0.98543 | 0.98669 | 0.98777 | 0.98859 | 0.98910 | 0.98929 |
| 66   | 0.98217         | 0.98212 | 0.98257 | 0.98335 | 0.98439 | 0.98555 | 0.98672 | 0.98777 | 0.98859 | 0.98911 | 0.98930 |
| 67   | 0.98364         | 0.98325 | 0.98337 | 0.98392 | 0.98474 | 0.98575 | 0.98681 | 0.98780 | 0.98860 | 0.98912 | 0.98931 |
| 68   | 0.98508         | 0.98452 | 0.98432 | 0.98458 | 0.98520 | 0.98602 | 0.98696 | 0.98786 | 0.98863 | 0.98914 | 0.98933 |
| 69   | 0.98647         | 0.98575 | 0.98538 | 0.98535 | 0.98571 | 0.98636 | 0.98715 | 0.98797 | 0.98868 | 0.98917 | 0.98936 |
| 70   | 0.98771         | 0.98695 | 0.98642 | 0.98621 | 0.98632 | 0.98675 | 0.98740 | 0.98810 | 0.98875 | 0.98921 | 0.98940 |
| 71   | 0.98872         | 0.98801 | 0.98742 | 0.98706 | 0.98699 | 0.98721 | 0.98767 | 0.98826 | 0.98883 | 0.98926 | 0.98944 |
| 72   | 0.98948         | 0.98888 | 0.98831 | 0.98787 | 0.98766 | 0.98771 | 0.98799 | 0.98845 | 0.98894 | 0.98932 | 0.98948 |
| 73   | 0.98984         | 0.98954 | 0.98904 | 0.98860 | 0.98830 | 0.98821 | 0.98835 | 0.98865 | 0.98905 | 0.98938 | 0.98953 |
| 74   | 0.98980         | 0.98986 | 0.98960 | 0.98919 | 0.98887 | 0.98869 | 0.98870 | 0.98888 | 0.98917 | 0.98945 | 0.98958 |
| 75   | 0.98943         | 0.98983 | 0.98987 | 0.98965 | 0.98933 | 0.98911 | 0.98903 | 0.98911 | 0.98930 | 0.98952 | 0.98962 |
| 76   | 0.98884         | 0.98952 | 0.98984 | 0.98986 | 0.98968 | 0.98945 | 0.98932 | 0.98931 | 0.98942 | 0.98958 | 0.98966 |
| 77   | 0.98823         | 0.98903 | 0.98960 | 0.98984 | 0.98985 | 0.98971 | 0.98955 | 0.98949 | 0.98953 | 0.98963 | 0.98970 |
| 78   | 0.98777         | 0.98852 | 0.98920 | 0.98966 | 0.98984 | 0.98984 | 0.98973 | 0.98964 | 0.98963 | 0.98968 | 0.98972 |
| 79   | 0.98752         | 0.98813 | 0.98879 | 0.98935 | 0.98971 | 0.98982 | 0.98981 | 0.98974 | 0.98970 | 0.98972 | 0.98974 |
| 80   | 0.98748         | 0.98792 | 0.98848 | 0.98903 | 0.98949 | 0.98975 | 0.98981 | 0.98979 | 0.98975 | 0.98974 | 0.98975 |
| 81   | 0.98763         | 0.98790 | 0.98831 | 0.98880 |         |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS****Applied to:** Surviving Spouses, and Current Spouses**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2013            | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    |
| < 21 | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 21   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 22   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 23   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 24   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 25   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 26   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 27   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 28   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 29   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 30   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 31   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 32   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 33   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 34   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 35   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 36   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 37   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 38   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 39   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 40   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 41   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 42   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 43   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 44   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 45   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 46   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 47   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 48   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 49   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 50   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 51   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 52   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 53   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 54   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 55   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 56   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 57   | 0.99703         | 0.99322 | 0.99316 | 0.99301 | 0.99277 | 0.99249 | 0.99216 | 0.99183 | 0.99150 | 0.99121 | 0.99097 |
| 58   | 0.99535         | 0.99176 | 0.99173 | 0.99236 | 0.99220 | 0.99201 | 0.99180 | 0.99157 | 0.99135 | 0.99114 | 0.99095 |
| 59   | 0.99378         | 0.99032 | 0.99031 | 0.99100 | 0.99164 | 0.99155 | 0.99144 | 0.99132 | 0.99119 | 0.99106 | 0.99093 |
| 60   | 0.99220         | 0.98887 | 0.98889 | 0.98965 | 0.99039 | 0.99108 | 0.99108 | 0.99106 | 0.99103 | 0.99098 | 0.99091 |
| 61   | 0.99088         | 0.98745 | 0.98749 | 0.98831 | 0.98915 | 0.98996 | 0.99072 | 0.99081 | 0.99088 | 0.99091 | 0.99089 |
| 62   | 0.98978         | 0.98627 | 0.98633 | 0.98709 | 0.98801 | 0.98893 | 0.98981 | 0.99061 | 0.99075 | 0.99085 | 0.99087 |
| 63   | 0.98880         | 0.98529 | 0.98537 | 0.98608 | 0.98696 | 0.98797 | 0.98896 | 0.98986 | 0.99065 | 0.99080 | 0.99086 |
| 64   | 0.98799         | 0.98446 | 0.98455 | 0.98523 | 0.98607 | 0.98706 | 0.98814 | 0.98915 | 0.99003 | 0.99076 | 0.99085 |
| 65   | 0.98746         | 0.98393 | 0.98403 | 0.98458 | 0.98541 | 0.98636 | 0.98741 | 0.98849 | 0.98946 | 0.99026 | 0.99084 |
| 66   | 0.98730         | 0.98376 | 0.98387 | 0.98425 | 0.98495 | 0.98587 | 0.98687 | 0.98790 | 0.98892 | 0.98978 | 0.99042 |
| 67   | 0.98738         | 0.98405 | 0.98416 | 0.98431 | 0.98481 | 0.98559 | 0.98653 | 0.98749 | 0.98844 | 0.98933 | 0.99001 |
| 68   | 0.98747         | 0.98462 | 0.98472 | 0.98470 | 0.98497 | 0.98554 | 0.98632 | 0.98721 | 0.98808 | 0.98899 | 0.98960 |
| 69   | 0.98764         | 0.98533 | 0.98541 | 0.98530 | 0.98538 | 0.98570 | 0.98627 | 0.98700 | 0.98780 | 0.98855 | 0.98920 |
| 70   | 0.98786         | 0.98610 | 0.98618 | 0.98599 | 0.98596 | 0.98609 | 0.98641 | 0.98693 | 0.98759 | 0.98827 | 0.98887 |
| 71   | 0.98822         | 0.98698 | 0.98703 | 0.98676 | 0.98664 | 0.98663 | 0.98676 | 0.98704 | 0.98749 | 0.98805 | 0.98860 |
| 72   | 0.98866         | 0.98779 | 0.98783 | 0.98755 | 0.98733 | 0.98722 | 0.98721 | 0.98731 | 0.98754 | 0.98792 | 0.98838 |
| 73   | 0.98914         | 0.98852 | 0.98855 | 0.98828 | 0.98803 | 0.98782 | 0.98771 | 0.98768 | 0.98775 | 0.98793 | 0.98823 |
| 74   | 0.98946         | 0.98915 | 0.98917 | 0.98892 | 0.98866 | 0.98842 | 0.98820 | 0.98809 | 0.98804 | 0.98808 | 0.98823 |
| 75   | 0.98980         | 0.98966 | 0.98968 | 0.98946 | 0.98921 | 0.98895 | 0.98871 | 0.98849 | 0.98837 | 0.98832 | 0.98835 |
| 76   | 0.99026         | 0.99010 | 0.99011 | 0.98990 | 0.98968 | 0.98943 | 0.98917 | 0.98893 | 0.98872 | 0.98860 | 0.98855 |
| 77   | 0.99091         | 0.99068 | 0.99067 | 0.99038 | 0.99015 | 0.98991 | 0.98964 | 0.98936 | 0.98911 | 0.98891 | 0.98880 |
| 78   | 0.99167         | 0.99144 | 0.99142 | 0.99100 | 0.99067 | 0.99039 | 0.99011 | 0.98980 | 0.98951 | 0.98925 | 0.98906 |
| 79   | 0.99241         | 0.99240 | 0.99237 | 0.99181 | 0.99133 | 0.99092 | 0.99057 | 0.99024 | 0.98990 | 0.98959 | 0.98936 |
| 80   | 0.99324         | 0.99351 | 0.99346 | 0.99278 | 0.99213 | 0.99156 | 0.99107 | 0.99065 | 0.99026 | 0.98991 | 0.98964 |
| 81   | 0.99421         | 0.99469 | 0.99462 | 0.99386 | 0.99306 | 0.99231 | 0.99164 | 0.99107 | 0.99060 | 0.99021 | 0.98990 |
| 82   | 0.99521         | 0.99588 | 0.99579 | 0.99497 | 0.99406 | 0.99314 | 0.99229 | 0.99155 | 0.99094 | 0.99046 | 0.99013 |
| 83   | 0.99620         | 0.99696 | 0.99686 | 0.99604 | 0.99506 | 0.99401 | 0.99300 | 0.99209 | 0.99133 | 0.99073 | 0.99032 |
| 84   | 0.99716         | 0.99797 | 0.99785 | 0.99702 | 0.99602 | 0.99490 | 0.99375 | 0.99269 | 0.99177 | 0.99105 | 0.99055 |
| 85   | 0.99804         | 0.99884 | 0.99870 | 0.99791 | 0.99688 | 0.99573 | 0.99451 | 0.99332 | 0.99227 | 0.99141 | 0.99082 |
| 86   | 0.99882         | 0.99958 | 0.99943 | 0.99867 | 0.99768 | 0.99650 | 0.99526 | 0.99401 | 0.99286 | 0.99191 | 0.99121 |
| 87   | 0.99942         | 1.00007 | 0.99992 | 0.99927 | 0.99831 | 0.99716 | 0.99591 | 0.99466 | 0.99346 | 0.99243 | 0.99166 |
| 88   | 0.99984         | 1.00032 | 1.00017 | 0.99963 | 0.99878 | 0.99768 | 0.99647 | 0.99522 | 0.99403 | 0.99297 | 0.99214 |
| 89   | 1.00003         | 1.00025 | 1.00011 | 0.99974 | 0.99902 | 0.99804 | 0.99689 | 0.99570 | 0.99453 | 0.99349 | 0.99264 |
| 90   | 0.99997         |         |         |         |         |         |         |         |         |         |         |

**MORTALITY IMPROVEMENT FACTORS (continued)****Applied to:** Surviving Spouses, and Current Spouses**Gender Mix:** Uses gender-based projection adjustment factors/scales

(Age Nearest Birthday)

| Age  | Projection Year |         |         |         |         |         |         |         |         |         |         |
|------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | 2024            | 2025    | 2026    | 2027    | 2028    | 2029    | 2030    | 2031    | 2032    | 2033    | 2034+   |
| < 21 | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 21   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 22   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 23   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 24   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 25   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 26   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 27   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 28   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 29   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 30   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 31   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 32   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 33   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 34   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 35   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 36   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 37   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 38   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 39   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 40   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 41   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 42   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 43   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 44   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 45   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 46   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 47   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 48   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 49   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 50   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 51   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 52   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 53   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 54   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 55   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 56   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 57   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 58   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 59   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 60   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 61   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 62   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 63   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 64   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 65   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 66   | 0.99081         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 67   | 0.99044         | 0.99068 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 68   | 0.99008         | 0.99037 | 0.99057 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 69   | 0.98972         | 0.99007 | 0.99031 | 0.99045 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 70   | 0.98936         | 0.98976 | 0.99006 | 0.99025 | 0.99035 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 71   | 0.98907         | 0.98946 | 0.98980 | 0.99004 | 0.99019 | 0.99025 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 72   | 0.98882         | 0.98921 | 0.98955 | 0.98984 | 0.99003 | 0.99014 | 0.99017 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 73   | 0.98861         | 0.98900 | 0.98934 | 0.98964 | 0.98988 | 0.99002 | 0.99009 | 0.99010 | 0.99005 | 0.99001 | 0.99000 |
| 74   | 0.98848         | 0.98882 | 0.98917 | 0.98947 | 0.98972 | 0.98991 | 0.99002 | 0.99005 | 0.99005 | 0.99001 | 0.99000 |
| 75   | 0.98848         | 0.98871 | 0.98902 | 0.98934 | 0.98960 | 0.98980 | 0.98994 | 0.99001 | 0.99002 | 0.99001 | 0.99000 |
| 76   | 0.98859         | 0.98872 | 0.98893 | 0.98922 | 0.98949 | 0.98971 | 0.98987 | 0.98997 | 0.99000 | 0.99001 | 0.99000 |
| 77   | 0.98877         | 0.98882 | 0.98895 | 0.98914 | 0.98940 | 0.98963 | 0.98981 | 0.98992 | 0.98998 | 0.99000 | 0.99000 |
| 78   | 0.98898         | 0.98899 | 0.98905 | 0.98918 | 0.98934 | 0.98957 | 0.98976 | 0.98989 | 0.98996 | 0.99000 | 0.99000 |
| 79   | 0.98921         | 0.98918 | 0.98920 | 0.98927 | 0.98939 | 0.98953 | 0.98971 | 0.98986 | 0.98995 | 0.98999 | 0.99000 |
| 80   | 0.98947         | 0.98939 | 0.98937 | 0.98940 | 0.98948 | 0.98958 | 0.98968 | 0.98983 | 0.98993 | 0.98999 | 0.99000 |
| 81   | 0.98971         | 0.98962 | 0.98956 | 0.98956 | 0.98960 | 0.98966 | 0.98974 | 0.98982 | 0.98992 | 0.98998 | 0.99000 |
| 82   | 0.98993         | 0.98983 | 0.98976 | 0.98972 | 0.98973 | 0.98977 | 0.98983 | 0.98988 | 0.98991 | 0.98998 | 0.99000 |
| 83   | 0.99013         | 0.99003 | 0.98995 | 0.98990 | 0.98987 | 0.98989 | 0.98992 | 0.98996 | 0.98999 | 0.98998 | 0.99000 |
| 84   | 0.99029         | 0.99021 | 0.99013 | 0.99007 | 0.99003 | 0.99001 | 0.99003 | 0.99005 | 0.99006 | 0.99005 | 0.99000 |
| 85   | 0.99051         | 0.99036 | 0.99029 | 0.99022 | 0.99017 | 0.99014 | 0.99013 | 0.99014 | 0.99014 | 0.99013 | 0.99008 |
| 86   | 0.99083         | 0.99065 | 0.99050 | 0.99044 | 0.99039 | 0.99035 | 0.99032 | 0.99031 | 0.99030 | 0.99028 | 0.99023 |
| 87   | 0.99120         | 0.99097 | 0.99079 | 0.99064 | 0.99059 | 0.99054 | 0.99051 | 0.99048 | 0.99046 | 0.99043 | 0.99038 |
| 88   | 0.99162         | 0.99133 | 0.99111 | 0.99093 | 0.99078 | 0.99073 | 0.99069 | 0.99065 | 0.99062 | 0.99058 | 0.99053 |
| 89   | 0.99208         | 0.99173 | 0.99145 | 0.99124 | 0.99107 | 0.99091 | 0.99086 | 0.99082 | 0.99078 | 0.99074 | 0.99068 |
| 90   | 0.99256         | 0.99216 | 0.99183 | 0.99157 | 0.99137 | 0.99119 | 0.99103 | 0.99098 | 0.99094 | 0.99089 | 0.99083 |
| 91   | 0.99304         | 0.99261 | 0.99224 | 0.99194 | 0.99169 | 0.99149 | 0.99132 | 0.99114 | 0.99109 | 0.99104 | 0.99098 |
| 92   | 0.99349         | 0       |         |         |         |         |         |         |         |         |         |

APPENDIX K

25 YEAR PROJECTIONS

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## PROJECTION NOTES

The following are relevant notes to the projections depicted in this appendix:

- Refer to the “NOTE REGARDING OPEN GROUP PROJECTIONS” in the Table 8 Footnotes for important caveats related to this appendix.
- Columns in this appendix may not add due to rounding.
- In some cases the number of personnel may show zero with the corresponding pay showing a non-zero value. This is a result of rounding the display to the nearest person.
- Future mortality improvement is assumed throughout this appendix (with the exception of temporary disabled retirees).
- Although Combat Related Special Compensation (CRSC) is not technically considered retired pay, it is paid from the MRF; hence these projections include CRSC.
- The FY 2011 National Defense Authorization Act (P.L. 111-383) required “amounts of retired pay and retainer pay due a retired member of the uniformed services shall be paid on the first day of each month beginning after the month in which the right to such pay accrues.” This means that when the first day of the month falls on a non-business day (weekend/holiday), the pay must be paid the preceding business day. This legislation did not apply to survivor annuitant pay and CRSC, which were included in later legislation. This results in retirees receiving 13 payments in some fiscal years and 11 payments in others, with 12 payments occurring in a typical fiscal year. Annual fiscal year amounts shown in this appendix assume 12 monthly payments each year.
- The following economic assumptions are applied to the projection of basic pay and retired outlays. This table is partially replicated from the Table 8 footnotes in the main text:

### ANNUAL ECONOMIC ASSUMPTIONS USED IN PROJECTIONS OF BASIC PAY AND RETIRED OUTLAYS

| <u>Fiscal Year</u> | <u>Full COLA</u> | <u>Basic Pay</u> |
|--------------------|------------------|------------------|
| 2019               | 2.8%             | 2.6%             |
| 2020               | 1.8              | 3.1              |
| 2021               | 2.3              | 3.7              |
| 2022               | 2.3              | 3.7              |
| 2023               | 2.3              | 3.7              |
| 2024               | 2.3              | 3.7              |
| 2025               | 2.3              | 3.7              |
| 2026               | 2.3              | 3.7              |
| 2027               | 2.3              | 3.7              |
| 2028               | 2.75             | 3.7              |
| 2029+              | 2.75             | 3.25             |

**ACTIVE DUTY PERSONNEL AND PAY BY FISCAL YEAR**

(Dollar Amounts in Thousands)

| Fiscal<br>Year | People at Year End (September 30th) |           |           | Dollars During Fiscal Year |              |               |
|----------------|-------------------------------------|-----------|-----------|----------------------------|--------------|---------------|
|                | Officers                            | Enlisted  | Total     | Officers                   | Enlisted     | Total         |
| 2018           | 247,868                             | 1,134,650 | 1,382,518 |                            |              |               |
| 2019           | 249,497                             | 1,159,839 | 1,409,336 | \$19,122,009               | \$39,201,515 | \$58,323,524  |
| 2020           | 251,576                             | 1,175,521 | 1,427,097 | \$19,906,999               | \$41,279,755 | \$61,186,754  |
| 2021           | 252,507                             | 1,185,790 | 1,438,297 | \$20,982,460               | \$43,761,960 | \$64,744,420  |
| 2022           | 253,869                             | 1,189,985 | 1,443,854 | \$21,788,367               | \$45,571,706 | \$67,360,072  |
| 2023           | 254,967                             | 1,193,663 | 1,448,630 | \$22,640,157               | \$47,343,853 | \$69,984,010  |
| 2024           | 255,678                             | 1,197,227 | 1,452,905 | \$23,506,724               | \$49,140,567 | \$72,647,291  |
| 2025           | 255,678                             | 1,197,227 | 1,452,905 | \$24,384,247               | \$50,977,872 | \$75,362,119  |
| 2026           | 255,678                             | 1,197,227 | 1,452,905 | \$25,281,713               | \$52,852,858 | \$78,134,572  |
| 2027           | 255,678                             | 1,197,227 | 1,452,905 | \$26,208,630               | \$54,788,547 | \$80,997,176  |
| 2028           | 255,678                             | 1,197,227 | 1,452,905 | \$27,163,348               | \$56,814,640 | \$83,977,988  |
| 2029           | 255,678                             | 1,197,227 | 1,452,905 | \$28,030,785               | \$58,676,322 | \$86,707,108  |
| 2030           | 255,678                             | 1,197,227 | 1,452,905 | \$28,927,363               | \$60,600,794 | \$89,528,157  |
| 2031           | 255,678                             | 1,197,227 | 1,452,905 | \$29,852,716               | \$62,579,829 | \$92,432,546  |
| 2032           | 255,678                             | 1,197,227 | 1,452,905 | \$30,811,987               | \$64,618,629 | \$95,430,616  |
| 2033           | 255,678                             | 1,197,227 | 1,452,905 | \$31,806,659               | \$66,664,163 | \$98,470,822  |
| 2034           | 255,678                             | 1,197,227 | 1,452,905 | \$32,846,957               | \$68,731,256 | \$101,578,213 |
| 2035           | 255,678                             | 1,197,227 | 1,452,905 | \$33,938,900               | \$70,882,299 | \$104,821,198 |
| 2036           | 255,678                             | 1,197,227 | 1,452,905 | \$35,081,999               | \$73,146,835 | \$108,228,834 |
| 2037           | 255,678                             | 1,197,227 | 1,452,905 | \$36,267,526               | \$75,510,421 | \$111,777,947 |
| 2038           | 255,678                             | 1,197,227 | 1,452,905 | \$37,484,774               | \$77,965,577 | \$115,450,352 |
| 2039           | 255,678                             | 1,197,227 | 1,452,905 | \$38,719,612               | \$80,470,629 | \$119,190,241 |
| 2040           | 255,678                             | 1,197,227 | 1,452,905 | \$39,959,859               | \$83,011,836 | \$122,971,695 |
| 2041           | 255,678                             | 1,197,227 | 1,452,905 | \$41,237,451               | \$85,645,605 | \$126,883,056 |
| 2042           | 255,678                             | 1,197,227 | 1,452,905 | \$42,566,190               | \$88,384,687 | \$130,950,878 |
| 2043           | 255,678                             | 1,197,227 | 1,452,905 | \$43,933,385               | \$91,210,907 | \$135,144,291 |

## NONRETIRED RESERVISTS PERSONNEL AND PAY BY FISCAL YEAR

(Dollar Amounts in Thousands)

| Fiscal<br>Year | People at Year End (September 30th) |          |         | Dollars During Fiscal Year |              |              |
|----------------|-------------------------------------|----------|---------|----------------------------|--------------|--------------|
|                | Officers                            | Enlisted | Total   | Officers                   | Enlisted     | Total        |
| 2018           | 113,659                             | 603,338  | 716,997 |                            |              |              |
| 2019           | 113,695                             | 617,390  | 731,085 | \$2,282,439                | \$5,133,402  | \$7,415,841  |
| 2020           | 116,628                             | 610,995  | 727,623 | \$2,943,771                | \$6,626,669  | \$9,570,440  |
| 2021           | 116,118                             | 611,179  | 727,297 | \$2,666,078                | \$5,923,527  | \$8,589,605  |
| 2022           | 116,031                             | 611,221  | 727,252 | \$2,776,905                | \$6,160,334  | \$8,937,239  |
| 2023           | 116,057                             | 611,574  | 727,631 | \$2,901,168                | \$6,392,173  | \$9,293,341  |
| 2024           | 116,057                             | 611,571  | 727,628 | \$3,025,720                | \$6,630,818  | \$9,656,538  |
| 2025           | 116,057                             | 611,571  | 727,628 | \$3,152,164                | \$6,877,129  | \$10,029,293 |
| 2026           | 116,057                             | 611,571  | 727,628 | \$3,291,406                | \$7,139,038  | \$10,430,445 |
| 2027           | 116,057                             | 611,571  | 727,628 | \$3,436,751                | \$7,415,271  | \$10,852,022 |
| 2028           | 116,057                             | 611,571  | 727,628 | \$3,586,978                | \$7,703,722  | \$11,290,700 |
| 2029           | 116,057                             | 611,571  | 727,628 | \$3,728,773                | \$7,965,901  | \$11,694,673 |
| 2030           | 116,057                             | 611,571  | 727,628 | \$3,877,118                | \$8,238,311  | \$12,115,429 |
| 2031           | 116,057                             | 611,571  | 727,628 | \$4,031,014                | \$8,519,270  | \$12,550,283 |
| 2032           | 116,057                             | 611,571  | 727,628 | \$4,191,565                | \$8,811,119  | \$13,002,684 |
| 2033           | 116,057                             | 611,571  | 727,628 | \$4,352,916                | \$9,107,859  | \$13,460,774 |
| 2034           | 116,057                             | 611,571  | 727,628 | \$4,516,772                | \$9,410,122  | \$13,926,894 |
| 2035           | 116,057                             | 611,571  | 727,628 | \$4,691,878                | \$9,725,431  | \$14,417,309 |
| 2036           | 116,057                             | 611,571  | 727,628 | \$4,871,811                | \$10,048,525 | \$14,920,337 |
| 2037           | 116,057                             | 611,571  | 727,628 | \$5,058,266                | \$10,378,261 | \$15,436,527 |
| 2038           | 116,057                             | 611,571  | 727,628 | \$5,251,592                | \$10,718,466 | \$15,970,058 |
| 2039           | 116,057                             | 611,571  | 727,628 | \$5,452,947                | \$11,069,846 | \$16,522,793 |
| 2040           | 116,057                             | 611,571  | 727,628 | \$5,659,829                | \$11,431,117 | \$17,090,946 |
| 2041           | 116,057                             | 611,571  | 727,628 | \$5,867,143                | \$11,803,003 | \$17,670,145 |
| 2042           | 116,057                             | 611,571  | 727,628 | \$6,078,635                | \$12,187,679 | \$18,266,314 |
| 2043           | 116,057                             | 611,571  | 727,628 | \$6,294,783                | \$12,583,735 | \$18,878,518 |

TOTAL NUMBER OF RETIREES ON SEPTEMBER 30 OF EACH FISCAL YEAR

| Fiscal Year | Nondisabled (non-CSB/Redux) |           |           | Nondisabled (CSB/Redux) |          |         | Disabled |          |         | Grand Total |
|-------------|-----------------------------|-----------|-----------|-------------------------|----------|---------|----------|----------|---------|-------------|
|             | Officers                    | Enlisted  | Total     | Officers                | Enlisted | Total   | Officers | Enlisted | Total   |             |
| 2018        | 518,205                     | 1,284,210 | 1,802,415 | 4,278                   | 71,400   | 75,678  | 20,563   | 102,698  | 123,261 | 2,001,354   |
| 2019        | 520,777                     | 1,283,994 | 1,804,771 | 4,711                   | 76,437   | 81,148  | 20,772   | 106,406  | 127,177 | 2,013,096   |
| 2020        | 522,235                     | 1,282,900 | 1,805,136 | 5,073                   | 80,828   | 85,902  | 20,847   | 109,145  | 129,992 | 2,021,030   |
| 2021        | 523,978                     | 1,283,478 | 1,807,456 | 5,389                   | 84,536   | 89,925  | 20,808   | 110,637  | 131,444 | 2,028,825   |
| 2022        | 525,691                     | 1,284,547 | 1,810,239 | 5,687                   | 87,729   | 93,416  | 20,833   | 111,884  | 132,718 | 2,036,372   |
| 2023        | 527,619                     | 1,286,003 | 1,813,622 | 5,936                   | 90,385   | 96,321  | 20,876   | 113,077  | 133,954 | 2,043,897   |
|             |                             |           |           |                         |          |         |          |          |         |             |
| 2024        | 534,798                     | 1,302,644 | 1,837,443 | 6,121                   | 91,925   | 98,046  | 20,933   | 114,213  | 135,145 | 2,070,634   |
| 2025        | 536,026                     | 1,302,396 | 1,838,422 | 6,263                   | 92,930   | 99,192  | 20,999   | 115,299  | 136,298 | 2,073,912   |
| 2026        | 536,786                     | 1,301,637 | 1,838,424 | 6,373                   | 93,574   | 99,947  | 21,073   | 116,355  | 137,428 | 2,075,798   |
| 2027        | 537,163                     | 1,300,152 | 1,837,315 | 6,457                   | 93,940   | 100,397 | 21,152   | 117,383  | 138,534 | 2,076,247   |
| 2028        | 536,792                     | 1,297,180 | 1,833,972 | 6,522                   | 94,068   | 100,590 | 21,234   | 118,380  | 139,614 | 2,074,177   |
|             |                             |           |           |                         |          |         |          |          |         |             |
| 2029        | 536,011                     | 1,293,352 | 1,829,363 | 6,569                   | 94,037   | 100,606 | 21,320   | 119,353  | 140,673 | 2,070,641   |
| 2030        | 534,749                     | 1,288,986 | 1,823,736 | 6,599                   | 93,842   | 100,441 | 21,408   | 120,307  | 141,715 | 2,065,892   |
| 2031        | 532,681                     | 1,282,657 | 1,815,338 | 6,616                   | 93,528   | 100,144 | 21,497   | 121,248  | 142,745 | 2,058,227   |
| 2032        | 530,168                     | 1,275,576 | 1,805,743 | 6,622                   | 93,108   | 99,730  | 21,587   | 122,181  | 143,768 | 2,049,241   |
| 2033        | 530,452                     | 1,276,225 | 1,806,677 | 6,617                   | 92,590   | 99,206  | 21,678   | 123,125  | 144,803 | 2,050,686   |
|             |                             |           |           |                         |          |         |          |          |         |             |
| 2034        | 527,409                     | 1,269,704 | 1,797,113 | 6,601                   | 91,949   | 98,550  | 21,769   | 124,067  | 145,836 | 2,041,499   |
| 2035        | 524,192                     | 1,262,303 | 1,786,496 | 6,579                   | 91,224   | 97,802  | 21,862   | 124,997  | 146,858 | 2,031,156   |
| 2036        | 520,923                     | 1,254,614 | 1,775,537 | 6,551                   | 90,415   | 96,967  | 21,956   | 125,907  | 147,863 | 2,020,366   |
| 2037        | 517,631                     | 1,246,684 | 1,764,315 | 6,519                   | 89,520   | 96,039  | 22,053   | 126,799  | 148,852 | 2,009,205   |
| 2038        | 514,542                     | 1,238,558 | 1,753,099 | 6,481                   | 88,532   | 95,013  | 22,151   | 127,671  | 149,822 | 1,997,935   |
|             |                             |           |           |                         |          |         |          |          |         |             |
| 2039        | 512,020                     | 1,232,391 | 1,744,411 | 6,438                   | 87,445   | 93,883  | 22,252   | 128,546  | 150,799 | 1,989,092   |
| 2040        | 509,734                     | 1,226,696 | 1,736,430 | 6,389                   | 86,255   | 92,644  | 22,357   | 129,420  | 151,777 | 1,980,851   |
| 2041        | 507,368                     | 1,221,109 | 1,728,477 | 6,334                   | 84,956   | 91,290  | 22,462   | 130,282  | 152,744 | 1,972,511   |
| 2042        | 505,003                     | 1,215,167 | 1,720,170 | 6,272                   | 83,543   | 89,815  | 22,566   | 131,133  | 153,699 | 1,963,684   |
| 2043        | 502,702                     | 1,209,475 | 1,712,177 | 6,202                   | 82,010   | 88,212  | 22,669   | 131,975  | 154,644 | 1,955,033   |

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both active and reserve duty retirees, while CSB/Redux figures include only active duty retirees.

\*\*The number of retirees projected only considers those receiving non-zero retired pay from the Military Retirement Fund.

\*\*\*The number of disabled retirees includes excess disability retirees, which are assumed to wind down over the next 2 years, to account for the difference between what the disability rates produce and elevated future expected experience. E.g., there were 2,460 added to disabled retirees in FY 2019.

**TOTAL ANNUAL RETIRED PAY FOR EACH FISCAL YEAR**

(Dollar Amounts in Thousands)

| Fiscal Year | Nondisabled (non-CSB/Redux) |              |               | Nondisabled (CSB/Redux) |             |             | Disabled    |             |             | Grand Total   |
|-------------|-----------------------------|--------------|---------------|-------------------------|-------------|-------------|-------------|-------------|-------------|---------------|
|             | Officers                    | Enlisted     | Total         | Officers                | Enlisted    | Total       | Officers    | Enlisted    | Total       |               |
| 2019        | \$24,091,825                | \$28,920,645 | \$53,012,470  | \$187,555               | \$1,643,251 | \$1,830,807 | \$610,136   | \$1,225,218 | \$1,835,354 | \$56,678,631  |
| 2020        | \$24,778,565                | \$29,502,580 | \$54,281,145  | \$214,034               | \$1,802,009 | \$2,016,043 | \$619,583   | \$1,289,693 | \$1,909,275 | \$58,206,463  |
| 2021        | \$25,486,450                | \$30,161,604 | \$55,648,054  | \$238,876               | \$1,948,548 | \$2,187,424 | \$628,477   | \$1,330,914 | \$1,959,392 | \$59,794,870  |
| 2022        | \$26,252,260                | \$30,912,161 | \$57,164,420  | \$263,398               | \$2,086,417 | \$2,349,815 | \$639,736   | \$1,369,260 | \$2,008,996 | \$61,523,232  |
| 2023        | \$27,045,557                | \$31,718,581 | \$58,764,138  | \$287,339               | \$2,216,414 | \$2,503,753 | \$652,347   | \$1,407,151 | \$2,059,497 | \$63,327,388  |
| 2024        | \$27,967,058                | \$32,716,594 | \$60,683,652  | \$309,023               | \$2,331,484 | \$2,640,507 | \$666,522   | \$1,446,449 | \$2,112,971 | \$65,437,130  |
| 2025        | \$28,898,727                | \$33,731,197 | \$62,629,924  | \$328,800               | \$2,430,997 | \$2,759,797 | \$682,034   | \$1,487,381 | \$2,169,415 | \$67,559,137  |
| 2026        | \$29,758,839                | \$34,662,186 | \$64,421,025  | \$347,208               | \$2,523,662 | \$2,870,869 | \$698,778   | \$1,530,018 | \$2,228,796 | \$69,520,691  |
| 2027        | \$30,629,266                | \$35,632,218 | \$66,261,485  | \$364,998               | \$2,612,498 | \$2,977,496 | \$716,780   | \$1,574,602 | \$2,291,382 | \$71,530,363  |
| 2028        | \$31,608,539                | \$36,742,569 | \$68,351,108  | \$384,257               | \$2,708,232 | \$3,092,489 | \$738,428   | \$1,625,872 | \$2,364,300 | \$73,807,897  |
| 2029        | \$32,630,083                | \$37,913,873 | \$70,543,956  | \$404,755               | \$2,811,357 | \$3,216,112 | \$761,993   | \$1,680,135 | \$2,442,128 | \$76,202,196  |
| 2030        | \$33,664,794                | \$39,136,933 | \$72,801,727  | \$425,986               | \$2,928,737 | \$3,354,723 | \$786,795   | \$1,736,032 | \$2,522,827 | \$78,679,277  |
| 2031        | \$34,701,633                | \$40,375,936 | \$75,077,569  | \$449,401               | \$3,071,095 | \$3,520,496 | \$812,861   | \$1,793,558 | \$2,606,419 | \$81,204,483  |
| 2032        | \$35,739,866                | \$41,676,861 | \$77,416,727  | \$474,494               | \$3,234,289 | \$3,708,783 | \$840,036   | \$1,852,942 | \$2,692,978 | \$83,818,489  |
| 2033        | \$36,859,278                | \$43,146,293 | \$80,005,571  | \$497,416               | \$3,396,432 | \$3,893,848 | \$868,451   | \$1,914,743 | \$2,783,194 | \$86,682,613  |
| 2034        | \$37,973,796                | \$44,574,332 | \$82,548,128  | \$517,949               | \$3,541,971 | \$4,059,920 | \$898,042   | \$1,979,088 | \$2,877,130 | \$89,485,178  |
| 2035        | \$39,019,021                | \$45,847,597 | \$84,866,618  | \$535,942               | \$3,672,847 | \$4,208,789 | \$928,908   | \$2,045,552 | \$2,974,460 | \$92,049,867  |
| 2036        | \$40,067,270                | \$47,087,584 | \$87,154,854  | \$552,262               | \$3,793,317 | \$4,345,579 | \$961,123   | \$2,113,642 | \$3,074,766 | \$94,575,199  |
| 2037        | \$41,129,106                | \$48,369,035 | \$89,498,141  | \$567,051               | \$3,903,253 | \$4,470,304 | \$994,777   | \$2,183,346 | \$3,178,123 | \$97,146,568  |
| 2038        | \$42,205,412                | \$49,632,722 | \$91,838,135  | \$580,899               | \$4,002,721 | \$4,583,620 | \$1,030,022 | \$2,254,807 | \$3,284,829 | \$99,706,584  |
| 2039        | \$43,323,933                | \$51,002,916 | \$94,326,848  | \$593,542               | \$4,093,744 | \$4,687,286 | \$1,066,860 | \$2,328,718 | \$3,395,577 | \$102,409,712 |
| 2040        | \$44,472,217                | \$52,329,289 | \$96,801,507  | \$605,333               | \$4,177,365 | \$4,782,698 | \$1,105,487 | \$2,405,516 | \$3,511,004 | \$105,095,209 |
| 2041        | \$45,633,416                | \$53,661,039 | \$99,294,455  | \$616,206               | \$4,252,798 | \$4,869,004 | \$1,146,064 | \$2,484,848 | \$3,630,912 | \$107,794,371 |
| 2042        | \$46,807,394                | \$54,990,624 | \$101,798,018 | \$626,448               | \$4,321,170 | \$4,947,617 | \$1,188,394 | \$2,566,392 | \$3,754,786 | \$110,500,421 |
| 2043        | \$47,998,782                | \$56,372,402 | \$104,371,184 | \$635,478               | \$4,378,302 | \$5,013,780 | \$1,232,358 | \$2,650,273 | \$3,882,632 | \$113,267,596 |

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both active and reserve duty retirees, while CSB/Redux figures include only active duty retirees.

\*\*The disabled retiree outlays includes amounts for excess disability retirees, which are assumed to wind down over the next 2 years, to account for the difference between what the disability rates produce and elevated future expected experience. E.g., there were \$20.6 million added to disabled retiree outlays in FY 2019.

## RETIREE GAIN STATEMENT

| Fiscal Year | Gains During the Fiscal Year |          |                         |          |          |          | Average Starting Net Retired Pay Before CPI Increase |          |                         |           |           |          |
|-------------|------------------------------|----------|-------------------------|----------|----------|----------|------------------------------------------------------|----------|-------------------------|-----------|-----------|----------|
|             | Nondisabled (non-CSB/Redux)  |          | Nondisabled (CSB/Redux) |          | Disabled |          | Nondisabled (non-CSB/Redux)                          |          | Nondisabled (CSB/Redux) |           | Disabled  |          |
|             | Officers                     | Enlisted | Officers                | Enlisted | Officers | Enlisted | Officers                                             | Enlisted | Officers                | Enlisted  | Officers  | Enlisted |
| 2019        | 15,780                       | 33,345   | 438                     | 5,147    | 745      | 7,214    | \$50,196                                             | \$20,693 | \$60,763                | \$29,255  | \$66,475  | \$29,813 |
| 2020        | 14,687                       | 32,914   | 368                     | 4,517    | 736      | 7,249    | \$49,947                                             | \$21,971 | \$63,307                | \$29,895  | \$69,035  | \$31,318 |
| 2021        | 15,023                       | 34,996   | 322                     | 3,849    | 731      | 7,311    | \$50,787                                             | \$22,632 | \$65,660                | \$30,513  | \$72,266  | \$33,013 |
| 2022        | 15,073                       | 35,868   | 306                     | 3,353    | 728      | 7,386    | \$52,096                                             | \$23,734 | \$69,961                | \$31,848  | \$76,005  | \$34,942 |
| 2023        | 15,393                       | 36,609   | 257                     | 2,837    | 724      | 7,431    | \$53,124                                             | \$24,940 | \$74,344                | \$33,941  | \$80,247  | \$37,100 |
| 2024        | 20,781                       | 52,167   | 194                     | 1,744    | 723      | 7,461    | \$49,546                                             | \$23,513 | \$82,002                | \$40,498  | \$85,026  | \$39,458 |
| 2025        | 14,980                       | 35,612   | 152                     | 1,235    | 722      | 7,482    | \$57,397                                             | \$27,627 | \$88,681                | \$46,290  | \$90,154  | \$41,973 |
| 2026        | 14,670                       | 35,309   | 122                     | 903      | 721      | 7,507    | \$59,404                                             | \$29,190 | \$94,858                | \$52,135  | \$95,657  | \$44,630 |
| 2027        | 14,458                       | 34,734   | 97                      | 658      | 721      | 7,523    | \$61,746                                             | \$30,315 | \$101,192               | \$57,428  | \$101,674 | \$47,460 |
| 2028        | 13,890                       | 33,368   | 79                      | 458      | 721      | 7,526    | \$64,716                                             | \$31,844 | \$108,742               | \$63,838  | \$108,067 | \$50,403 |
| 2029        | 13,663                       | 32,607   | 62                      | 339      | 722      | 7,528    | \$67,039                                             | \$33,037 | \$115,784               | \$69,142  | \$114,788 | \$53,501 |
| 2030        | 13,363                       | 32,035   | 47                      | 223      | 723      | 7,529    | \$69,667                                             | \$34,542 | \$124,259               | \$76,596  | \$121,892 | \$56,710 |
| 2031        | 12,726                       | 29,987   | 35                      | 154      | 723      | 7,530    | \$72,980                                             | \$36,066 | \$132,828               | \$82,325  | \$129,406 | \$59,975 |
| 2032        | 12,430                       | 28,832   | 26                      | 107      | 721      | 7,535    | \$75,361                                             | \$37,394 | \$140,226               | \$87,898  | \$137,141 | \$63,314 |
| 2033        | 15,360                       | 35,821   | 17                      | 71       | 721      | 7,558    | \$70,730                                             | \$34,532 | \$150,727               | \$92,471  | \$145,342 | \$66,777 |
| 2034        | 12,146                       | 28,226   | 9                       | 17       | 720      | 7,569    | \$78,152                                             | \$38,140 | \$167,311               | \$102,171 | \$154,039 | \$70,216 |
| 2035        | 12,062                       | 27,259   | 5                       | 7        | 719      | 7,572    | \$79,532                                             | \$38,594 | \$180,452               | \$111,031 | \$163,042 | \$73,405 |
| 2036        | 12,082                       | 27,008   | 4                       | 4        | 719      | 7,566    | \$80,693                                             | \$39,216 | \$193,136               | \$117,300 | \$172,114 | \$76,407 |
| 2037        | 12,085                       | 26,566   | 3                       | 2        | 719      | 7,559    | \$81,803                                             | \$39,473 | \$204,856               | \$124,070 | \$181,510 | \$79,515 |
| 2038        | 12,285                       | 26,274   | 1                       | 1        | 719      | 7,545    | \$82,593                                             | \$40,104 | \$213,028               | \$129,486 | \$191,025 | \$82,604 |
| 2039        | 12,794                       | 27,713   | 0                       | 0        | 719      | 7,552    | \$83,267                                             | \$40,158 | \$0                     | \$0       | \$200,639 | \$85,839 |
| 2040        | 12,957                       | 28,043   | 0                       | 0        | 722      | 7,556    | \$84,553                                             | \$40,744 | \$0                     | \$0       | \$210,804 | \$89,197 |
| 2041        | 12,784                       | 28,023   | 0                       | 0        | 722      | 7,551    | \$86,475                                             | \$41,397 | \$0                     | \$0       | \$221,194 | \$92,501 |
| 2042        | 12,658                       | 27,542   | 0                       | 0        | 721      | 7,549    | \$88,401                                             | \$42,481 | \$0                     | \$0       | \$231,602 | \$95,875 |
| 2043        | 12,574                       | 27,477   | 0                       | 0        | 720      | 7,549    | \$90,442                                             | \$43,526 | \$0                     | \$0       | \$241,390 | \$99,537 |

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both new active and reserve duty retirements, while CSB/Redux figures include only new active duty retirements.

\*\*Gains during the year include those people who die before year end. All figures are after total and partial VA offsets.

\*\*\*The dramatic retiree gain increases in FY 2024 and FY 2033 are a result of the modeling due to section 647 of the 2008 NDAA.

Please refer to Appendix F and Appendix H for more information.

\*\*\*\*Excess disability retirees used to account for anticipated experience over the next 2 years are not included in this display.

**TOTAL NUMBER OF SURVIVORS ON SEPTEMBER 30 OF EACH FISCAL YEAR**

| <b>Fiscal Year</b> | <b>SBP<br/>Non-CSB/Redux</b> | <b>SBP<br/>CSB/Redux</b> | <b>RCSBP</b> | <b>Minimum<br/>Income</b> | <b>Death on<br/>Active Duty</b> | <b>RSFPP</b> | <b>Total</b> |
|--------------------|------------------------------|--------------------------|--------------|---------------------------|---------------------------------|--------------|--------------|
| 2018               | 213,367                      | 169                      | 89,520       | 52                        | 13,668                          | 4,636        | 321,412      |
| 2019               | 213,965                      | 202                      | 91,370       | 43                        | 13,746                          | 4,082        | 323,408      |
| 2020               | 214,205                      | 241                      | 93,220       | 37                        | 13,806                          | 3,568        | 325,078      |
| 2021               | 214,120                      | 287                      | 95,165       | 31                        | 13,798                          | 3,102        | 326,504      |
| 2022               | 213,728                      | 341                      | 97,215       | 27                        | 13,718                          | 2,685        | 327,714      |
| 2023               | 213,061                      | 404                      | 99,362       | 23                        | 13,527                          | 2,315        | 328,692      |
| 2024               | 212,145                      | 478                      | 101,668      | 19                        | 13,262                          | 1,989        | 329,561      |
| 2025               | 211,008                      | 562                      | 103,991      | 16                        | 12,951                          | 1,704        | 330,233      |
| 2026               | 209,671                      | 660                      | 106,359      | 14                        | 12,535                          | 1,457        | 330,696      |
| 2027               | 208,165                      | 773                      | 108,742      | 12                        | 11,998                          | 1,244        | 330,933      |
| 2028               | 206,523                      | 902                      | 111,120      | 10                        | 11,435                          | 1,063        | 331,051      |
| 2029               | 204,793                      | 1,049                    | 113,472      | 8                         | 11,009                          | 909          | 331,238      |
| 2030               | 203,015                      | 1,216                    | 115,769      | 7                         | 10,613                          | 779          | 331,397      |
| 2031               | 201,232                      | 1,406                    | 117,980      | 5                         | 10,246                          | 670          | 331,537      |
| 2032               | 199,484                      | 1,620                    | 120,076      | 4                         | 9,951                           | 580          | 331,709      |
| 2033               | 197,805                      | 1,860                    | 122,069      | 4                         | 9,749                           | 505          | 331,982      |
| 2034               | 196,225                      | 2,128                    | 123,870      | 3                         | 9,624                           | 443          | 332,279      |
| 2035               | 194,763                      | 2,427                    | 125,483      | 2                         | 9,543                           | 392          | 332,589      |
| 2036               | 193,427                      | 2,757                    | 126,877      | 2                         | 9,493                           | 351          | 332,876      |
| 2037               | 192,224                      | 3,121                    | 128,034      | 2                         | 9,453                           | 317          | 333,108      |
| 2038               | 191,154                      | 3,520                    | 128,937      | 1                         | 9,438                           | 289          | 333,282      |
| 2039               | 190,207                      | 3,956                    | 129,574      | 1                         | 9,429                           | 266          | 333,358      |
| 2040               | 189,364                      | 4,429                    | 129,941      | 1                         | 9,419                           | 246          | 333,303      |
| 2041               | 188,607                      | 4,940                    | 130,039      | 1                         | 9,407                           | 229          | 333,102      |
| 2042               | 187,920                      | 5,490                    | 129,877      | 0                         | 9,395                           | 215          | 332,746      |
| 2043               | 187,278                      | 6,077                    | 129,471      | 0                         | 9,380                           | 202          | 332,224      |

\*This projection includes survivors of members who retired from active and reserve duty.

Non-CSB/Redux figures include both survivors of active and reserve duty retirees, while CSB/Redux figures include only survivors of active duty retirees.

\*\*The number of survivors projected only considers those receiving non-zero pay from the Military Retirement Fund.

\*\*\*RCSBP survivors include all survivors of reservists, not just those electing pre-age 60 coverage.

\*\*\*\*The Special Survivor Indemnity Allowance counts are included with the appropriate survivor category.

\*\*\*\*\*Survivors of excess disability retirees used to account for anticipated experience over the next 2 years are not included in this display.

**TOTAL ANNUAL SURVIVOR BENEFITS FOR EACH FISCAL YEAR**

(Dollar Amounts in Thousands)

| <b>Fiscal Year</b> | <b>SBP<br/>Non-CSB/Redux</b> | <b>SBP<br/>CSB/Redux</b> | <b>RCSBP</b> | <b>Minimum<br/>Income</b> | <b>Death on<br/>Active Duty</b> | <b>RSFPP</b> | <b>Total</b> |
|--------------------|------------------------------|--------------------------|--------------|---------------------------|---------------------------------|--------------|--------------|
| 2019               | \$3,104,505                  | \$1,637                  | \$766,881    | \$402                     | \$136,467                       | \$13,209     | \$4,023,101  |
| 2020               | \$3,158,132                  | \$2,194                  | \$798,235    | \$344                     | \$141,256                       | \$11,671     | \$4,111,833  |
| 2021               | \$3,214,574                  | \$2,872                  | \$832,693    | \$300                     | \$145,813                       | \$10,249     | \$4,206,501  |
| 2022               | \$3,274,101                  | \$3,684                  | \$871,083    | \$262                     | \$149,931                       | \$8,973      | \$4,308,034  |
| 2023               | \$3,333,046                  | \$4,667                  | \$912,679    | \$229                     | \$153,209                       | \$7,836      | \$4,411,665  |
| 2024               | \$3,391,466                  | \$5,846                  | \$957,855    | \$199                     | \$155,529                       | \$6,831      | \$4,517,726  |
| 2025               | \$3,449,416                  | \$7,262                  | \$1,006,749  | \$173                     | \$157,461                       | \$5,949      | \$4,627,011  |
| 2026               | \$3,506,791                  | \$8,960                  | \$1,058,578  | \$150                     | \$159,153                       | \$5,181      | \$4,738,812  |
| 2027               | \$3,563,579                  | \$10,976                 | \$1,113,572  | \$129                     | \$160,042                       | \$4,516      | \$4,852,814  |
| 2028               | \$3,632,013                  | \$13,434                 | \$1,175,469  | \$112                     | \$160,890                       | \$3,946      | \$4,985,864  |
| 2029               | \$3,704,803                  | \$16,404                 | \$1,242,015  | \$96                      | \$162,780                       | \$3,465      | \$5,129,563  |
| 2030               | \$3,778,524                  | \$19,959                 | \$1,311,887  | \$82                      | \$165,394                       | \$3,058      | \$5,278,903  |
| 2031               | \$3,853,683                  | \$24,132                 | \$1,384,824  | \$70                      | \$168,167                       | \$2,716      | \$5,433,592  |
| 2032               | \$3,930,961                  | \$28,964                 | \$1,460,527  | \$60                      | \$171,365                       | \$2,432      | \$5,594,308  |
| 2033               | \$4,011,043                  | \$34,531                 | \$1,538,854  | \$50                      | \$175,372                       | \$2,196      | \$5,762,047  |
| 2034               | \$4,094,548                  | \$40,960                 | \$1,619,509  | \$42                      | \$180,050                       | \$2,003      | \$5,937,112  |
| 2035               | \$4,182,188                  | \$48,327                 | \$1,701,570  | \$35                      | \$185,128                       | \$1,845      | \$6,119,093  |
| 2036               | \$4,274,464                  | \$56,726                 | \$1,784,844  | \$29                      | \$190,542                       | \$1,718      | \$6,308,323  |
| 2037               | \$4,371,853                  | \$66,260                 | \$1,868,749  | \$24                      | \$196,183                       | \$1,615      | \$6,504,683  |
| 2038               | \$4,474,810                  | \$77,064                 | \$1,952,779  | \$20                      | \$202,174                       | \$1,532      | \$6,708,380  |
| 2039               | \$4,583,621                  | \$89,277                 | \$2,036,501  | \$16                      | \$208,390                       | \$1,465      | \$6,919,271  |
| 2040               | \$4,698,389                  | \$103,031                | \$2,119,516  | \$13                      | \$214,723                       | \$1,411      | \$7,137,084  |
| 2041               | \$4,819,084                  | \$118,479                | \$2,201,493  | \$11                      | \$221,173                       | \$1,366      | \$7,361,605  |
| 2042               | \$4,945,822                  | \$135,770                | \$2,282,197  | \$9                       | \$227,737                       | \$1,327      | \$7,592,862  |
| 2043               | \$5,078,415                  | \$155,056                | \$2,361,516  | \$7                       | \$234,379                       | \$1,293      | \$7,830,665  |

\*This projection includes survivors of members who retired from active and reserve duty.

Non-CSB/Redux figures include both survivors of active and reserve duty retirees, while CSB/Redux figures include only survivors of active duty retirees.

\*\*RCSBP survivors include all survivors of reservists, not just those electing pre-age 60 coverage.

\*\*\*The Special Survivor Indemnity Allowance benefits are included with the appropriate survivor category.

\*\*\*\*Survivors of excess disability retirees used to account for anticipated experience over the next 2 years are not included in this display.



**TOTAL PROJECTED BASIC PAY AND RETIRED OUTLAYS**

(Dollar Amounts in Thousands)

| <b>Fiscal<br/>Year</b> | <b>Total Projected<br/>Basic Pay</b> | <b>Total Projected<br/>Outlays</b> | <b>Retired Outlays<br/>Over Basic Pay</b> |
|------------------------|--------------------------------------|------------------------------------|-------------------------------------------|
| 2019                   | \$65,739,365                         | \$60,701,731                       | 92.3%                                     |
| 2020                   | \$70,757,194                         | \$62,318,296                       | 88.1%                                     |
| 2021                   | \$73,334,025                         | \$64,001,370                       | 87.3%                                     |
| 2022                   | \$76,297,311                         | \$65,831,266                       | 86.3%                                     |
| 2023                   | \$79,277,351                         | \$67,739,053                       | 85.4%                                     |
| 2024                   | \$82,303,829                         | \$69,954,855                       | 85.0%                                     |
| 2025                   | \$85,391,412                         | \$72,186,148                       | 84.5%                                     |
| 2026                   | \$88,565,016                         | \$74,259,503                       | 83.8%                                     |
| 2027                   | \$91,849,198                         | \$76,383,177                       | 83.2%                                     |
| 2028                   | \$95,268,688                         | \$78,793,761                       | 82.7%                                     |
| 2029                   | \$98,401,781                         | \$81,331,759                       | 82.7%                                     |
| 2030                   | \$101,643,586                        | \$83,958,180                       | 82.6%                                     |
| 2031                   | \$104,982,829                        | \$86,638,076                       | 82.5%                                     |
| 2032                   | \$108,433,300                        | \$89,412,797                       | 82.5%                                     |
| 2033                   | \$111,931,596                        | \$92,444,660                       | 82.6%                                     |
| 2034                   | \$115,505,107                        | \$95,422,290                       | 82.6%                                     |
| 2035                   | \$119,238,508                        | \$98,168,961                       | 82.3%                                     |
| 2036                   | \$123,149,171                        | \$100,883,522                      | 81.9%                                     |
| 2037                   | \$127,214,474                        | \$103,651,251                      | 81.5%                                     |
| 2038                   | \$131,420,410                        | \$106,414,964                      | 81.0%                                     |
| 2039                   | \$135,713,035                        | \$109,328,983                      | 80.6%                                     |
| 2040                   | \$140,062,640                        | \$112,232,293                      | 80.1%                                     |
| 2041                   | \$144,553,201                        | \$115,155,976                      | 79.7%                                     |
| 2042                   | \$149,217,192                        | \$118,093,283                      | 79.1%                                     |
| 2043                   | \$154,022,809                        | \$121,098,261                      | 78.6%                                     |

\*Basic pay includes reserve and active duty basic pay; outlays include retired pay and survivor benefits.

\*\*This projection includes retired from active and reserve duty.

\*\*\*This projection includes pay for those retirees eligible for Concurrent Receipt.

\*\*\*\*Excess disability retirees used to account for anticipated experience over the next 2 years are included in outlays.  
However, the outlays of their survivors are not included.

APPENDIX L

FINANCIAL STATEMENT DISCLOSURES

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## **STATEMENT OF NET ASSETS AVAILABLE FOR BENEFITS**

Federal trust funds like the Military Retirement Fund are not subject to the same pension regulations as private sector and state/local governmental plans. Under the applicable financial reporting standards, both private sector and state/local pension plans have been required to include a table showing the “Statement of Net Assets Available for Benefits” and a “Statement of Changes in Net Assets Available for Benefits,” where assets are valued at fair market value in their accounting statements. For the Military Retirement Fund, fair market value is based on the bid prices of public issue securities with the same maturity dates and coupon rates as the special issue securities held by the Fund. These statements are included in Tables L-1 and L-2, respectively.

The market values shown in this appendix can be found in the *Fiscal Year 2018 Military Retirement Fund Audited Financial Statements*. The financial statements are available through the website of the Office of the Under Secretary of Defense (Comptroller) at: <https://comptroller.defense.gov/odcfo/afr2018.aspx>.

TABLE L-1

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF NET ASSETS AVAILABLE FOR BENEFITS  
(\$ in millions)

|                                                                                      | For the Plan Year Ended September 30: |                  |
|--------------------------------------------------------------------------------------|---------------------------------------|------------------|
|                                                                                      | <u>2018</u>                           | <u>2017</u>      |
| <u>Assets</u>                                                                        |                                       |                  |
| 1) Investments, at fair market value,<br>in U.S. Government securities: <sup>1</sup> | \$831,173                             | \$784,242        |
| 2) Accounts receivable:                                                              |                                       |                  |
| a) Accrued interest <sup>2</sup>                                                     | \$5,471                               | \$5,141          |
| b) Due from military retirees or their survivors                                     | \$129                                 | \$133            |
| c) Intragovernmental                                                                 | \$165                                 | \$0              |
| 3) Cash:                                                                             | \$25                                  | \$329            |
| <u>Total Assets (1 + 2 + 3):</u>                                                     | <u>\$836,963</u>                      | <u>\$789,845</u> |
| Accounts payable:                                                                    | <u>\$4,815</u>                        | <u>\$(254)</u>   |
| <u>Total Assets Available for Benefits</u>                                           | <u>\$841,778</u>                      | <u>\$789,591</u> |

<sup>1</sup> Fair market value of securities has been measured by quoted prices (bid price) in the active U.S. Government securities market. Bid price used represents the over-the-counter quotations as of 4 p.m. eastern time as reported by the U.S. Department of Treasury – Bureau of Public Debt on September 30, 2018, and September 30, 2017, respectively. Additional adjustment made as a result of FY 2011 National Defense Authorization Act (P.L. 111-383), as amended, regarding retired pay date as follows:

|                                              | <u>2018</u> | <u>2017</u>    |
|----------------------------------------------|-------------|----------------|
| Investments, at fair market value (actual)   | \$831,173   | \$779,882      |
| October Expenditures paid in September       | <u>\$0</u>  | <u>\$4,360</u> |
| Investments, at fair market value (adjusted) | \$831,173   | \$784,242      |

<sup>2</sup> Includes accrued interest receivable and interest purchased.

TABLE L-2

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF CHANGES IN NET ASSETS  
AVAILABLE FOR BENEFITS  
(\$ in millions)

|                                                                        | For the Plan Year Ended September 30: |                  |
|------------------------------------------------------------------------|---------------------------------------|------------------|
|                                                                        | <u>2018</u>                           | <u>2017</u>      |
| Net assets available for benefits at beginning of plan year:           | \$789,591                             | \$763,808        |
| 1) Investment/Inflation income (coupons received)                      | \$35,554                              | \$26,335         |
| 2) Net appreciation (depreciation) in fair market value of investments | \$(32,616)                            | \$(49,067)       |
| 3) Contributions from services                                         | \$18,400                              | \$18,300         |
| 4) Appropriation to amortize the initial unfunded liability            | \$82,877                              | \$81,192         |
| 5) Appropriation for Treasury Normal Cost Contribution                 | \$6,837                               | \$6,822          |
| Total additions (1 + 2 + 3 + 4 + 5)                                    | <u>\$111,052</u>                      | <u>\$83,582</u>  |
| Less: Benefits paid to participants <sup>1</sup>                       | <u>\$58,865</u>                       | <u>\$57,799</u>  |
| Net assets available for benefits at end of plan year                  | <u>\$841,778</u>                      | <u>\$789,591</u> |

<sup>1</sup> The statement has been revised to show benefits paid to participants on an accrual basis:

|                                                     | <u>2018</u> | <u>2017</u> |
|-----------------------------------------------------|-------------|-------------|
| Benefits paid on cash basis                         | \$58,865    | \$57,799    |
| Change in liability for benefits due at end of year | <u>\$0</u>  | <u>\$0</u>  |
| Benefits paid on accrual basis                      | \$58,865    | \$57,799    |

## COMPARISON OF DOD BOARD AND SFFAS 33 ACTUARIAL LIABILITIES

The DoD Office of the Actuary (OACT) performs two annual valuations of the Military Retirement Fund liabilities. The primary one is for funding purposes—this valuation is governed by Chapter 74 of Title 10 U.S.C. and must use methods and assumptions approved by the DoD Board of Actuaries (Board). The other is for financial statement purposes and is governed by Federal Accounting Standards Advisory Board (FASAB) standards.

Historically, OACT has used Board valuation methods and assumptions to calculate liabilities for financial statement purposes. However, even using the same assumptions, liabilities from the Board valuation differ from financial statement numbers because of financial statement deadlines. For example, the September 30, 2018, actuarial liability for the financial statements (which was due in early October 2018) was projected based on the September 30, 2017, Board valuation. The September 30, 2018, Board valuation (documented in this report) was performed at a later time, based on actual September 30, 2018 data, and therefore resulted in a different September 30, 2018 actuarial liability. A comparison of these respective actuarial liabilities is shown in Table L-3. Note that the *Actuarial Certification* (page 2) only applies to Board valuation results for purposes of meeting the requirements of Chapter 74, Title 10, United States Code.

Currently, a separate financial statement valuation (i.e., with different assumptions) is necessary to satisfy a financial statement regulation called the Statement of Federal Financial Accounting Standards 33 (SFFAS 33). A separate financial statement valuation is needed because SFFAS 33 requires the use of a yield curve to discount cash flows, whereas the Board valuation uses an interest rate assumption based on methodologies described in Appendix D.

SFFAS 33 requires the use of a yield curve based on marketable U.S. Treasury securities, with a minimum of five years of historical rates for the yield curve input and consistency in the number of historical rates used from period to period. OACT used the U.S. Department of the Treasury-Office of Economic Policy's 10-year Average Yield Curve for Treasury Nominal Coupon Issues ('TNC yield curve' – Source: <https://www.treasury.gov/resource-center/economic-policy/corp-bond-yield/Pages/TNC-YC.aspx>) representing average rates from April 1, 2008, through March 31, 2018, resulting in a single-equivalent interest rate of 3.5%. This is comparable to the Board valuation interest rate of 5%.

SFFAS 33 also directs the interest rate, underlying inflation rates, and other economic assumptions to be consistent with one another. A change in the interest rate may cause other assumptions to change as well. For the September 30, 2018, financial statement valuation, SFFAS 33 required the long-term inflation and salary increase assumptions to be consistent with the underlying TNC yield curve used in the valuation. The September 30, 2018, SFFAS 33 economic assumptions are shown in the concluding note of Table L-3.

SFFAS 33 permits the use of a single average interest rate if the resulting present value is not materially different from what would be obtained using the yield curve. Table L-3 compares the SFFAS 33 liability to the corresponding Board liability. Measuring the Fund's actuarial

liability using SFFAS 33 long-term economic assumptions (as compared to Board assumptions) results in a liability that is higher by approximately 5.4%<sup>1</sup>.

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<sup>1</sup> Note that this amount, which is the difference between the two actuarial liabilities shown in Table L-3, also includes the impact of the different populations on which the two liabilities are based.

TABLE L-3  
MILITARY RETIREMENT SYSTEM  
COMPARISON OF DOD BOARD AND SFFAS 33 ACTUARIAL LIABILITIES  
(\$ in billions)

Valuation For the Plan Year Ended September 30, 2018:

|                                                      | <u>DoD Board</u> <sup>1</sup> | <u>SFFAS 33</u> <sup>2</sup> |
|------------------------------------------------------|-------------------------------|------------------------------|
| 1. Present value of future benefits                  | \$1,798.0                     | \$1,886.4                    |
| 2. Present value of future normal cost contributions | <u>\$264.6</u>                | <u>\$270.0</u>               |
| 3. Actuarial accrued liability (1. – 2.)             | \$1,533.4                     | \$1,616.4                    |

<sup>1</sup> Reproduced from Table 6A in main text.

<sup>2</sup> Reproduced from the 'Fiscal Year 2018 Military Retirement Fund Audited Financial Statements.' The financial statements are available through the website of the Office of the Under Secretary of Defense(Comptroller) at: <https://comptroller.defense.gov/odcfo/afr2018.aspx>. The 'Actuarial Certification' (page 2) does not apply to these figures.

**NOTE:** The following long-term economic assumptions are used in computing the respective actuarial liabilities:

|            | <u>DoD Board</u> | <u>SFFAS 33</u> |
|------------|------------------|-----------------|
| Full COLA: | 2.75%            | 1.5%            |
| Basic Pay: | 3.25%            | 2.0%            |
| Interest:  | 5.00%            | 3.5%            |



APPENDIX M

TREASURY PAYMENTS

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## **METHOD OF AMORTIZING CHANGES IN THE UNFUNDED LIABILITY OF THE MILITARY RETIREMENT SYSTEM**

### **Introduction**

Section 1465 of Title 10 states that the Secretary of Defense shall determine amortization methods and schedules for the annual amortization of changes in the unfunded liability (UFL) of the Military Retirement System. The section also states that these methods and assumptions must be approved by the DoD Board of Actuaries. The resulting payments are made by the Department of the Treasury to the Military Retirement Fund and do not affect the DoD budget.

There are three causes of change in the Military Retirement System's unfunded liability: (1) changes in benefits, (2) annual experience gains or losses resulting from actual experience deviating from expected experience, and (3) changes in actuarial assumptions used in the projected liability calculations. When a change in the unfunded liability does not fit perfectly into one of the three categories, OACT and the Board of Actuaries will determine the most appropriate one. The following describes the technical procedure of amortizing these types of changes, as approved by the Board.

### **Amortization Procedure**

All three types of changes in the UFL are amortized by means of payment schedules so that: (1) the annual amortization payments increase each year by the long-term basic pay scale assumption; (2) the payment stream completely liquidates the additional liability, with a new overall weighted period determined using (i) 30 years weighted by the absolute value of the new liability, and (ii) the remaining period on the unamortized balance prior to the new liability weighted by the absolute value of that balance; and (3) the payments are expressed to the nearest million dollars. The amortization payments increase at the same rate as the increase in the total basic payroll for a particular year—an outcome that is consistent with the way the normal cost payments and payments to amortize the system's initial UFL are determined. This method is no longer common for many private sector pension plans and has given way to an amortization schedule with level payments in order to cover interest costs. It is also often required for these pension plans to amortize changes in unfunded liabilities over shorter than a 30-year schedule. However, the methods applied to the Military Retirement Fund are similar to those that are or have been used by other federal and public sector pension plans. Additionally, the Board has annual discussions regarding the appropriateness of the amortization procedure.

Annual payments on the initial UFL are also calculated to increase each year by the long-term basic pay scale assumption, and as stated earlier in this report, the initial UFL is currently scheduled to be liquidated with the October 1, 2025 payment.

Experience gains and losses, which create changes in the UFL, occur every year. The payment streams to amortize these changes are combined. This produces one single payment stream for the category of experience gains and losses and eliminates the tedious tracking of up

to 30 different small amortization schedules. The DoD Office of the Actuary can identify the separate segments if the need arises.

A similar method of combining amortization schedules is used for changes in the UFL caused by changes in actuarial assumptions. Beginning with the September 30, 1995, valuation, changes to the UFL due to all benefit changes are being combined and amortized in a single stream of payments.

Actuarial gains and losses are changes in the UFL that result from actual experience in a pension plan deviating from what was expected, benefit changes, or assumption changes. An actuarial gain is a *decrease* in the UFL and is usually expressed as a negative number. Conversely, a loss represents an *increase* in the UFL and is usually expressed as a positive number. The amortization payment for a negative change (gain) is also expressed as a negative number. These negative amortization payments reduce any positive amortization payments otherwise payable, including the (positive) payments amortizing the system's initial UFL.

Amortization payments for changes in the UFL are structured to increase each year with the basic pay scale increase assumption. When the payments are negative, their absolute values are made to increase. Although this means that the payments are actually decreasing mathematically, for simplicity of expression both positive and negative amortization payments are said to "increase" by the basic pay scale increase assumption.

## **CALCULATION OF THE OCTOBER 1, 2019, TREASURY PAYMENT**

The following pages (Tables M-1 through M-5) display the calculation of the October 1, 2019, Treasury payment based on the September 30, 2018, valuation results and on amortization methods and assumptions approved by the DoD Board of Actuaries. In order to avoid a projected shortfall in the Military Retirement Fund, the Board determined that, beginning with the FY 1998 payment, the total amortization period of the initial unfunded liability would be decreased from 60 to 50 years. The Board again shortened the initial unfunded liability amortization period in 2007 to 42 years in order for the payments to cover interest on the unfunded liability each year.

Public Law (P.L.) 108-136 required the Department of Treasury to pay for the increase in the normal cost due to Concurrent Receipt. Beginning with FY 2005, Treasury includes the annual normal cost payment due to Concurrent Receipt along with the unfunded liability payment in the October 1st contribution. For the October 1, 2019, Treasury payment, the actuarially determined amount due to Concurrent Receipt totals \$9.305 billion. This is computed using the full- and part-time normal cost percentages (NCPs) in Table 6A of the main text (item 8). The NCPs are multiplied by the DoD Comptroller-budgeted FY 2020 full- and part-time basic pay, \$63.1 billion and \$9.3 billion, respectively, i.e., \$9.305 billion equates to the sum of \$63.1 billion x 14.2% and \$9.3 billion x 3.8%.

Treasury concurrent receipt normal costs displayed on the next page reflect actuarially calculated amounts. However, due to the Budget Control Act of 2011, in both FY 2019 and 2020 actual Treasury contributions for these amounts were reduced (or sequestered); the reductions were 8.7% (or \$0.754 billion) in FY 2019 and 8.6% (or \$0.800 billion) in FY 2020. Consistent with past practice, at their July 2019 meeting the Board decided to treat the FY 2019 sequestered amount of \$0.754 billion as an experience loss in the FY 2018 valuation, and amortized it (brought forward with one year's assumed interest) over one year. It is included in the FY 2020 payment on the next page. (See "Unpaid contribution" of \$0.791 billion = \$0.754 billion x 1.05.) The Board will likely treat the FY 2020 sequestered amount in the same manner (i.e., as a loss in the 2019 valuation and added, with interest, to the FY 2021 Treasury payment).

TABLE M-1  
TOTAL TREASURY PAYMENT  
OCTOBER 1, 2019 AND OCTOBER 1, 2018

(\$ in billions)

|                                     | <u>October 1, 2019</u> | <u>October 1, 2018</u> |
|-------------------------------------|------------------------|------------------------|
| Amortization payment for:           |                        |                        |
| 1. Initial unfunded liability       | \$98.057               | \$94.971               |
| 2. Changes in benefits              | \$8.858                | \$8.214                |
| 3. Gains and Losses Amortization    |                        |                        |
| a. Changes in actuarial assumptions | \$6.361                | \$6.383                |
| b. Actuarial experience             | \$(22.194)             | \$(22.273)             |
| c. Unpaid contribution              | \$0.791                | \$0.701                |
| Total amortization payment          | <u>\$91.873</u>        | <u>\$87.996</u>        |
| Normal cost payment                 | <u>\$9.305</u>         | <u>\$7.909</u>         |
| Total Treasury payment              | <u>\$101.178</u>       | <u>\$95.905</u>        |

TABLE M-2  
CALCULATION OF OCTOBER 1, 2019,  
PAYMENT ON INITIAL UNFUNDED LIABILITY (UFL)  
(\$ in billions)

|    |                                                                                                                 |         |                  |
|----|-----------------------------------------------------------------------------------------------------------------|---------|------------------|
| 1. | Unamortized balance of initial UFL<br>(10/1/17 balance $\times$ 1.05)                                           | 9/30/18 | \$ 716.895       |
| 2. | Payment on UFL                                                                                                  | 10/1/18 | \$ 94.971        |
| 3. | Unamortized balance of initial UFL<br>(1. - 2.)                                                                 | 10/1/18 | \$ 621.924       |
| 4. | Balance on 9/30/19<br>(3. $\times$ 1.05)                                                                        | 9/30/19 | \$ 653.020       |
| 5. | Number of Annual Payments Remaining                                                                             | 9/30/18 | 7                |
| 6. | Value of an annuity due for remaining amortization period<br>at interest rate equal to $(1.05 \div 1.0325) - 1$ |         | 6.6596           |
| 7. | Payment on initial UFL due 10/1/19<br>(4. $\div$ 6.)                                                            |         | <u>\$ 98.057</u> |

TABLE M-3

CALCULATION OF OCTOBER 1, 2019,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM BENEFIT CHANGES

(\$ in billions)

|                                                                                                                                        |         |                 |
|----------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------|
| 1. Unamortized UFL balance due to benefit changes<br>(10/1/17 balance x 1.05)                                                          | 9/30/18 | \$ 129.327      |
| 2. Payment on UFL                                                                                                                      | 10/1/18 | \$ 8.214        |
| 3. Unamortized UFL balance after payment<br>(1. - 2.)                                                                                  | 10/1/18 | \$ 121.113      |
| 4. Additional (new) UFL due to benefit changes                                                                                         | 9/30/18 | \$ 0.000        |
| 5. Unamortized UFL balance due to benefit changes<br>(3. + 4.)                                                                         | 10/1/18 | \$ 121.113      |
| 6. Balance on 9/30/18<br>(5. × 1.05)                                                                                                   | 9/30/19 | \$ 127.168      |
| 7. Total number of years of prior<br>amortization schedule                                                                             |         | 17.27           |
| 8. Remaining number of years of prior<br>amortization schedule<br>(7. - 1)                                                             |         | 16.27           |
| 9. Total number of years of new amortization schedule<br>(absolute values used for all numbers)<br>[(3. × 8.) + (4. × 30)] ÷ (3. + 4.) |         | 16.27           |
| 10. Value of an annuity due for remaining amortization period<br>at interest rate equal to $(1.05 \div 1.0325) - 1$                    |         | 14.3565         |
| 11. Payment on UFL due to benefit changes<br>(6. ÷ 10.)                                                                                | 10/1/19 | <u>\$ 8.858</u> |

TABLE M-4

CALCULATION OF OCTOBER 1, 2019,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM ASSUMPTION CHANGES

(\$ in billions)

|                                                                                                                                                  |         |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------|
| 1. Unamortized balance of UFL due to assumption changes (10/1/17 balance $\times$ 1.05)                                                          | 9/30/18 | \$ 143.540      |
| 2. Payment on UFL                                                                                                                                | 10/1/18 | \$ 6.383        |
| 3. Unamortized UFL balance after payment (1. - 2.)                                                                                               | 10/1/18 | \$ 137.157      |
| 4. Additional (new) UFL                                                                                                                          | 9/30/18 | (\$ 4.393)      |
| 5. Unamortized UFL balance due to assumption changes (3. + 4.)                                                                                   | 10/1/18 | \$ 132.764      |
| 6. Balance on 9/30/19 (5. $\times$ 1.05)                                                                                                         | 9/30/19 | \$139.402       |
| 7. Number of years in prior amortization schedule                                                                                                |         | 27.95           |
| 8. Remaining number of years in prior amortization schedule (7. - 1)                                                                             |         | 26.95           |
| 9. Number of years in new amortization schedule (absolute values used for all numbers)<br>[(3. $\times$ 8.) + (4. $\times$ 30)] $\div$ (3. + 4.) |         | 27.04           |
| 10. Value of an annuity due for remaining amortization period at interest rate equal to (1.05 $\div$ 1.0325) - 1                                 |         | 21.9141         |
| 11. Payment on UFL due to assumption changes (6. $\div$ 10.)                                                                                     | 10/1/19 | <u>\$ 6.361</u> |



TABLE M-5

CALCULATION OF OCTOBER 1, 2019,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM EXPERIENCE GAINS AND LOSSES

(\$ in billions)

|                                                                                                                                                     |         |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------|
| 1. Unamortized UFL balance due to experience gains and losses<br>(10/1/17 balance $\times$ 1.05)                                                    | 9/30/18 | \$ (270.518)       |
| 2. Payment on UFL                                                                                                                                   | 10/1/18 | \$ (21.572)        |
| 3. Unamortized UFL balance after payment<br>(1. - 2.)                                                                                               | 10/1/18 | \$ (248.946)       |
| 4. Additional (new) UFL                                                                                                                             | 9/30/18 | \$ 3.963           |
| 5. Unamortized UFL balance due to experience gains and losses<br>(3. + 4.)                                                                          | 10/1/18 | \$ (244.983)       |
| 6. Balance on 9/30/19<br>(5. $\times$ 1.05)                                                                                                         | 9/30/19 | \$ (257.232)       |
| 7. Number of years in prior amortization schedule                                                                                                   |         | 13.50              |
| 8. Remaining number of years in prior amortization schedule<br>(7. - 1)                                                                             |         | 12.50              |
| 9. Number of years in new amortization schedule<br>(absolute values used for all numbers)<br>[(3. $\times$ 8.) + (4. $\times$ 30)] $\div$ (3. + 4.) |         | 12.77              |
| 10. Value of an annuity due for remaining amortization period<br>at interest rate equal to $(1.05 \div 1.0325) - 1$                                 |         | 11.5900            |
| 11. Payment* on UFL due to experience gains and losses<br>(6. $\div$ 10.)                                                                           | 10/1/19 | <u>\$ (22.194)</u> |

\* Excludes payment on loss due to 10/1/18 unpaid (sequestered) contribution.

## **OACT ENDNOTES**

### **VISION STATEMENT** **DoD OFFICE OF THE ACTUARY**

To be leaders in the evaluation of future contingent events and risk related to the financial aspects of military benefits and to provide high-quality actuarial support to key stakeholders.

### **MISSION STATEMENT** **DoD OFFICE OF THE ACTUARY**

The Office of the Actuary (OACT) performs actuarial valuations and provides actuarial support and expertise for the following major benefit programs and funds: the Military Retirement System/Military Retirement Fund; Military Health System, including the portion funded through the Medicare-Eligible Retiree Health Care Fund; education benefits funded through the Education Benefits Fund; and separation benefits funded through the Voluntary Separation Incentive Fund. We fulfill the Secretary of Defense's statutory requirements for actuarial funding determinations for these programs, and we provide requisite actuarial support to the independent Boards of Actuaries that oversee the determinations. OACT is responsible for: providing actuarial liabilities and associated input for the Department's and government-wide financial statements; providing quarterly Incurred-But-Not-Reported reserve estimates for DoD health care programs; informing policy analysis of military benefit provisions and proposals by providing actuarial and cost analysis; providing actuarial support and products for the execution of benefit programs including the Survivor Benefit Plan; providing actuarial support and expertise on matters related to investing the assets of funds that finance military benefit programs; and providing actuarial and statistical information about the Military Retirement System for key stakeholders.

### **CONTACT INFORMATION** **DoD OFFICE OF THE ACTUARY**

Located in the *Actuarial Certification* section of this report (page 2).

### **VALUATION OF THE MILITARY RETIREMENT SYSTEM** **SEPTEMBER 30, 2019**

Expected Report Release Date: February 2021