

VALUATION OF THE MILITARY RETIREMENT SYSTEM

SEPTEMBER 30, 2015



DoD Office of the Actuary April 2017

ACTUARIAL CERTIFICATION

This report on the valuation of the Military Retirement System as of September 30, 2015, has been prepared in accordance with generally accepted actuarial principles, standards, and practices. In preparing the report, we have relied upon information maintained by the Department of Defense 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 economic assumptions include a 2.75% rate of inflation, a 3.25% across-the-board salary increase, and a 5.25% 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. The Blended Retirement System (BRS) enacted in the National Defense Authorization Act for FY 2016 is reflected in this report. Future report results may differ significantly from those presented and documented in this report, for reasons that include uncertainty regarding how behavior will change under BRS.

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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

- <u>Intended Audience</u>: 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 (page 2).
- *** Regard the actuarial projections and valuation results contained herein with caution. Few economic, demographic, and political forces can be precisely predicted over very long periods of time. ***
- For a high-level summary and bottom line results, refer to the *General Information* and *Key Results* section (page 4).
- 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.
- DoD Office of the Actuary contact information can be found in the *Actuarial Certification* section of this report (page 2).

ABBREVIATIONS AND COMMON TERMS

AEAN Aggregate Entry-Age Normal cost method

Board DoD Board of Actuaries
BRS Blended Retirement System
COLA Cost-of-Living Adjustment
CPI Consumer Price Index

CSB/Redux Career Status Bonus Retirement System combined with the Redux System

DIC Dependency and Indemnity Compensation

DoD U.S. Department of Defense

FY Fiscal Year

GORGO Actuarial Projection Model used by DoD OACT MRF / MRS Military Retirement Fund / Military Retirement System

NCP Normal Cost Percentage

P.L. Public Law

RSFPP Retired Serviceman's Family Protection Plan

OACT DoD Office of the Actuary

OMB U.S. Office of Management and Budget

PEBD Pay Entry Base Date SBP Survivor Benefit Plan

Services Army, Navy, Air Force, Marines SSIA Special Survivor Indemnity Allowance

UFL Unfunded Liability U.S.C. United States Code

VA U.S. Department of Veterans Affairs

GENERAL INFORMATION AND KEY RESULTS

Military Retirement System – For Fiscal Year ending September 30, 2015

1. Name of Plan:

Military Retirement System

2. Name and Address of Plan Sponsor:

Department of Defense 1400 Defense Pentagon Washington, DC 20301-1400

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 are:

James Verlautz, Chairman Marcia Dush John Moore

9. Plan Participant Information at End of Plan Year:

	<u>Members</u>	Annualized Pay
	(in 000s)	(\$ in billions)
Active Duty and Full-time Reservists:	1,377	\$56.16
Selected Drilling Reservists:	742	\$7.57
Non-Selected Reservists – w/ 20 years:	216	-N/A-
Nondisability Retirees:	1,870	\$51.31
Disability Retirees:	112	\$1.55
Surviving Families:	288	\$3.79

^{***} 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, 2015

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. <u>Economic</u>:

(Annual Rates)

- 1) Inflation 2.75%
- 2) Salary 3.25% (excludes promotion and longevity increases)
- 3) Interest 5.25%

B. Demographic:

- 1) Mortality and other assumptions: Based on Plan experience.
- 2) Mortality Improvement: Based on adjusted U.S. general population and projected by the Society of Actuaries (SOA).
- 3) Percent of a Typical New Entrant Cohort Serving 20 Or More Years (including the effect of re-entrants):

Full-time (FT) personnel: 19% ||| Part-time (PT) personnel: 14%

13. Accounting Results During Fiscal Year 2015:

(\$ in billions)

A. Benefits paid to participants: \$ 56.7

B. Contributions from Services: \$ 19.7

C. Contributions from Treasury: \$ 81.8

D. Investment Income: \$ 10.8

14. Actuarial Results at End of Fiscal Year 2015:

(\$ in billions)

E. Funded Ratio (C./B.):

A. Present Value of Future Benefits: \$1,643.2
B. Actuarial Accrued Liability: \$1,417.0
C. Actuarial Value of Assets: \$600.6
D. Unfunded Accrued Liability: \$816.4

15. Normal Cost Percentages Applied to Fiscal Year 2017 Basic Pay:

	DoD	Treasury	Total
Full-time:	28.9%	12.8%	41.7%
Part-time:	22.8%	3.3%	26.0%

42%

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SUMMARY OF CHANGES FOR THE SEPTEMBER 30, 2015, VALUATION

Changes in Actuarial Assumptions

At its July 2015 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2015, valuation. Notes and transcript from the July 2015 meeting can be found at: http://www.facadatabase.gov/committee/historymeetingdocuments.aspx?flr=132150&cid=2191&fy=2015.

Disabled Retirement Decrement Rates

The Board approved updates to the disabled retirement decrement rates. The net effect of the new rates is an increase to the full-time DoD NCP of 0.4 percent, and an increase to the part-time DoD NCP of 0.6 percent. The change led to an actuarial loss of \$9.5 billion (or 0.7%) to the Fund. For the September 30, 2015, valuation, these assumptions are described in Appendices G and H.

New Long-term Economic Assumptions (Interest: 5.25%; COLA: 2.75%; Salary: 3.25%)

The Board approved 0.25% decreases to long-term interest, COLA, and across-the-board salary assumptions. The net effect of the new assumptions is an increase to the full-time DoD NCP of 0.1 percent, and an increase to the part-time DoD NCP of 0.1 percent. The change led to an actuarial loss of \$2.5 billion (or 0.2%) to the Fund. For the September 30, 2015, valuation, these assumptions are described in Appendix D.

Changes in Benefits

National Defense Authorization Act for FY 2016 (NDAA 2016) Blended Retirement System (BRS)

The law established the "Blended Retirement System," 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 newly established compensation system is supplemented with a Thrift Savings Plan (TSP) account government match and a mandatory midcareer continuation bonus at 12 completed years of service. 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, NDAA 2016 sunsets CSB/Redux and repeals all aspects of Bipartisan Budget Act (BBA) 2013, as amended. The change has no effect on the full- and part-time DoD NCPs for FY 2015 and FY 2016. However, the FY 2017 full-time DoD NCP is estimated to decrease by 2.9 percentage points, and the part-time DoD NCP is estimated to decrease by 0.8 percentage points. This new compensation system led to an actuarial gain of \$14.0 billion (or 1.0%) to the Fund. These impacts assume no members choose the lump sum distribution option available under BRS, because at the time of this valuation the lump sum parameters were not sufficiently defined to allow lump sums to be valued. In future valuation reports BRS provisions will be further detailed in Appendix A. For more information consult: DoD Office of Military Compensation (http://militarypay.defense.gov/).

SUMMARY OF CHANGES ANTICIPATED FOR THE SEPTEMBER 30, 2016, VALUATION

Changes in Actuarial Assumptions

At its July 2016 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2016, valuation. Notes and transcript from the July 2016 meeting can be found at: http://facadatabase.gov/committee/meetingdocuments.aspx?flr=141815&cid=2191&fy=2016.

Active Duty and Reserve Death Rates

The Board approved updates to the active duty and reserve death rates. The net effect of the new rates is no change (to the third decimal place) to the full- and part-time DoD NCPs. The change led to an actuarial loss of \$47 million (or 0.003%) to the Fund. For the September 30, 2015, valuation, these assumptions are described in Appendices G and H.

Mortality Improvement Factors

The Board approved the use of mortality improvement factors developed from "Mortality Projection-2015," or MP-2015, which was issued by the Society of Actuaries in October 2015. The MP-2015 factors are an update to the MP-2014 mortality improvement scales currently in use, which incorporate two additional years (2010 and 2011) of mortality data from the Social Security Administration. They result in a decrease to the full-time DoD NCP of 0.1%, and decrease the part-time NCP by 0.2%. The change led to an actuarial gain of \$16.4 billion (or 1.2%) to the Fund. For the September 30, 2015, valuation, mortality improvement factors are described in Appendix J.

Changes in Benefits

National Defense Authorization Act for FY 2016 (NDAA 2016) Blended Retirement System (BRS)

DoD policy on the Government Discount Rate to be used for lump sums has been signed and we can therefore calculate the impact on the valuation of members choosing the lump sum distribution option available under BRS. Assumptions regarding the policy implementation will be discussed further in the September 30, 2016 valuation report.

National Defense Authorization Act for FY 2017 (NDAA 2017)

The following small changes enacted in NDAA 2017 will be included in the September 30, 2016 valuation:

The maximum period a member can remain on the Temporary Disability Retired List (TDRL) was lowered from 5 years to 3 years (with grandfathering of current TDRL retirees).

Reservists who die on inactive duty training receive full SBP benefits.

Survivors receiving Special Survivor Indemnity Allowance (SSIA), which was scheduled to end on 9/30/2017, will now receive payments through 5/31/2018, at the same level of \$310 per month.

SBP Premiums can be paid from Combat-Related Special Compensation (CRSC), whereas in the past CRSC recipients had to remit their premium payments.

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 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 2016, public meeting) Board members are Mr. James Verlautz (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						
nviinii needenviinvo 11.	2015 2014					
Total Active Duty Personnel +						
Full-Time Reservists Total Annualized Basic Pay	1,377,260 \$56.16 billion	1,402,812 \$56.59 billion				
BRS Non-Opt-In (estimated, see Note below) Total Annualized Basic Pay	636,855 \$34.41 billion					
BRS Opt-In (estimated, see Note below) Total Annualized Basic Pay	740,405 \$21.75 billion					
Total Selected Drilling Reservists	741,687	746,252				
Total Annualized Basic Pay	\$7.57 billion	\$7.50 billion				
BRS Non-Opt-In (estimated, see Note below) Total Annualized Basic Pay	565,338 \$6.28 billion					
BRS Opt-In (estimated, see Note below) Total Annualized Basic Pay	176,349 \$1.29 billion					
Total Non-Selected Reservists (with 20 years) Total Annualized Basic Pay	216,272 -N/A-	216,387 -N/A-				
Total Number of Nondisability Retirees Total Annualized Retired Pay	1,869,924 \$51.31 billion	1,863,065 \$50.12 billion				
Total Number of Disability Retirees Total Annualized Retired Pay	112,363 \$1.55 billion	107,845 \$1.49 billion				
Total Number of Surviving Families Total Annualized Survivor Annuities	288,276 \$3.79 billion	290,814 \$3.77 billion				
Total Number of SSIA Survivors Total Annualized	64,411 \$151 million	62,891 \$110 million				

<u>Note</u>: 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. Actual opt-in allocations may prove different than these assumptions and won't be known until after the Open Season for opt-in election, which is scheduled for calendar year 2018.

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 (GORGO¹). 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 0.03 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.

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

TABLE 2

GORGO POPULATION CATEGORIES

- 1. Active duty populations and basic pay, and benefit tier (BRS/Non-BRS)
 - a. Officers
 - b. Enlistees
- 2. Selected reserve populations, basic pay, career points, and benefit tier (BRS/Non-BRS)
 - a. Officers
 - b. Enlistees
- 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. Officers
 - b. Enlistees
- 4. Retiree populations, benefit tier (BRS/Non-BRS), retired pay, and survivor benefit coverage
 - a. Nondisabled officers (non-CSB electors)
 - b. Nondisabled enlistees (non-CSB electors)
 - c. Nondisabled officers (CSB electors)
 - d. Nondisabled enlistees (CSB electors)
 - e. Reserve officers
 - f. Reserve enlistees
 - g. Disabled officers (Permanent and Temporary)
 - h. Disabled enlistees (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. Officers
 - b. Enlistees

FIGURE 1

GORGO PROCESS OVERVIEW

ECONOMIC ASSUMPTIONS

- Inflation
- Interest
- Basic Pay Scale Increases

POPULATION FILES

- Active Duty
- Selected
 Reserve
- Non-Selected Reserve
- Retirees
- Survivors

NON-ECONOMIC ASSUMPTIONS

- Retirement
- Mortality
- Withdrawal
- Etc.



GORGO



CLOSED GROUP PROJECTION

- Actuarial Liability

OPEN GROUP PROJECTION

- Long-Term Projections

NEW ENTRANT PROJECTION

- Normal Cost Percentage 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 and coupon rate. 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 Fund Accounting 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 and coupon rate. 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 semiannual interest coupon payment that has accrued since the date of the last coupon payment. 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 as of September 30, 2015; 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 2021 (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, stationary².

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 mortality improvement, cause the fund disbursements to grow at an ultimate rate slightly different than 3.25 percent per year.

A portion of the investment income must be used to generate the 3.25 percent Fund increases and cannot be used to pay benefits. For example, in the year 2040 (on Table 8), the projected normal cost payment ("From DoD" plus "From Treasury") is \$58.9 billion, the investment income is \$153.7 billion, and Fund disbursements are \$114.7 billion. The beginning-of-year fund balance is \$2,936.2 billion. The two sources of Fund income will ultimately cover benefit payments plus 3.25 percent of the beginning-of-the-year fund balance. That is, \$58.9 billion plus \$153.7 billion approximately equals \$114.7 billion plus \$95.4 billion—where \$95.4 billion represents the amount that would be required for the Fund to grow by 3.25 percent during the year (\$2,936.2) billion x .0325). The lack of equality in various years of the projection is due to (1) mortality improvement, which keeps the retired population from being stationary, and (2) the difference between the short-term economic assumptions and the ultimate economic assumptions (see Table 8 Footnote) used in closed-group determinations. The projection uses unfunded liability amortization payments determined in the September 30, 2015, closed group valuation and does not project future changes based on the difference between short-term and long-term assumptions.

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>Assets</u>	<u>2015</u>	<u>2014</u>
1) Investments, at book value:		
U.S. Government securities ¹	\$595,759	\$540,783
2) Accounts receivable:		
a) Accrued interest ²	\$4,703	\$4,147
b) Due from military retirees		
or their survivors	\$92	\$65
c) Intragovernmental	\$0	\$0
3) Cash:	<u>\$31</u>	<u>\$24</u>
Actuarial value of assets	<u>\$600,585</u>	<u>\$545,019</u>

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>2015</u>	<u>2014</u>
Investments, at book value (actual)	\$595,759	\$540,783
October Expenditures paid in September	<u>\$0</u>	<u>\$0</u>
Investments, at book value (adjusted)	\$595,759	\$540,783

² 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 Ende 2015	d September 30: <u>2014</u>
1) Actuarial value of assets at beginning of plan year:	\$545,019	\$483,493
2) Investment income:		
a) Interest/Inflation	\$15,988	\$21,865
b) Net appreciation (depreciation) in book value of investments ¹	\$(5,170)	\$(4,741)
3) Contributions:		
a) From Services	\$19,691	\$20,532
b) Appropriation to amortize the unfunded liability	\$75,562	\$72,885
c) Appropriation for Treasury Normal Cost Contribu	stion \$6,197	\$6,337
4) Total additions (2 + 3):	\$112,268	\$116,878
5) Change in Accounts Receivable	\$27	\$2
6) Benefits paid to participants:	\$56,729	\$55,354
Actuarial value of assets $(1 + 4 + 5 - 6)$:	<u>\$600,585</u>	<u>\$545,019</u>

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

<u>2015</u>	<u>2014</u>
\$162	\$162
(5,332)	\$(4,903)
\$0	\$0
\$(5,170)	\$(4,741)
	\$162 (5,332) <u>\$0</u>

^{*} 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) benefits³. 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 takes 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), will 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 2016 NCPs are summarized below (with DoD NCPs in parentheses):

Benefit Formula	<u>Full-Time</u>	Part-Time
Final Pay	50.2% (35.5%)	28.4% (24.9%)
High-3	45.7% (32.4%)	26.9% (23.6%)
CSB/Redux ⁴	45.1% (31.8%)	-N/A-
BRS^5	35.9% (23.9%)	21.4% (18.4%)

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

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.

⁴ 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).

Unless otherwise stated, throughout this report BRS is valued assuming no members choose the lump sum distribution option available under BRS, because at the time of this valuation the lump sum parameters were not sufficiently defined to allow lump sums to be valued.

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.

The FY 2016 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 42.0 percent, and the weighted aggregate part-time NCP is 26.1 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 2016 normal cost percentages. Note that unlike the NCPs shown in Table 5, the implemented NCPs in FY 2016 did not reflect the BRS benefit tier.

TABLE 5

NORMAL COST AS A PERCENT OF BASIC PAY (NCPs)

(DoD Normal Cost Percentage in Parentheses)

			8	·	FY 2016
FULL-TIME	FINAL PAY	HIGH-3	CSB/REDUX	<u>BRS</u>	<u>Weighted</u>
Nondisability benefits	46.6 (33.2)	42.5 (30.3)	41.8 (29.7)	33.0 (22.1)	38.9 (27.2)
Disability benefits	1.5 (0.9)	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)
Survivor benefits	2.1 (1.5)	1.9 (1.3)	<u>1.9 (1.3)</u>	1.5 (1.0)	1.8 (1.2)
Total	50.2 (35.5)	45.7 (32.4)	45.1 (31.8)	35.9 (23.9)	42.0 (29.2)
PART-TIME					
Nondisability benefits	24.2 (21.7)	23.0 (20.6)	-N/A-	18.0 (15.9)	22.3 (19.9)
Disability benefits	1.7 (1.0)	1.6 (1.0)	-N/A-	1.6 (1.0)	1.6 (1.0)
Survivor benefits	<u>2.5 (2.2)</u>	2.3 (2.0)	-N/A-	1.9 (1.6)	2.3 (2.0)
Total	28.4 (24.9)	26.9 (23.6)	-N/A-	21.4 (18.4)	26.1 (22.9)

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

As can be determined from this table, 93 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. It should be noted that some

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

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).

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 active or non-drilling reserve time) become eligible for a reserve nondisability retirement (46% for officers, and 13% for enlisted). *** See footnote 6 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 detailed description of the methods and computations used to calculate the payment streams for changes in unfunded liability can be found in Appendix M.

DoD Office of the Actuary

Unfunded Accrued Liability as of September 30, 2015

Table 6A summarizes the calculation of the unfunded accrued liability as of September 30, 2015. 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, 2015, 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, 2015, 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, 2015. 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 2016 are 42.0 percent full-time and 26.1 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 \$816.4 billion as of September 30, 2015. This was less than the expected unfunded liability of \$835.8 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 less than expected means that there was a total FY 2015 gain of \$19.3 billion (\$816.4 billion minus \$835.8 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 (1.8%) earned by the Fund in FY15 and the assumed interest rate

(5.50%); (2) the gain due to the actual January 1, 2016, COLA (0.0%) being different from that assumed (3.0%); (3) the gain due to the actual January 1, 2016, across-the-board salary (1.3%) increase being different from that assumed (3.50%); (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, 2015, Treasury Concurrent Receipt normal cost contribution. See the Summary of Changes for the September 30, 2015, 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, 2016, unfunded liability payment. The total payment was determined to be \$81.192 billion. This total payment includes (1) a payment of \$90.024 billion to amortize the original unfunded liability, plus (2) an amount of \$4.459 billion to amortize changes in actuarial assumptions, plus (3) an amount of \$7.724 billion to amortize benefit changes, less (4) an amount of \$21.756 billion to amortize total combined experience gains and losses through FY 2015, plus (5) \$0.741 billion to amortize over one year the loss due to sequestration of the October 1, 2015, 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, 2016, is \$88.639 billion, equal to \$81.192 billion for the unfunded liability amortization + \$7.447 billion for Concurrent Receipt benefits. Note that the actual contribution reflected a sequestration-mandated reduction to the \$7.447 billion, to \$6.769 billion. Detailed calculations of the total Treasury payment are also located in Appendix M.

Other measures of a retirement system's liabilities (required for private sector pension plans under Generally Accepted Accounting Principles (GAAP)) are the "Accumulated Plan Benefits" and the "Market Value of Assets." In prior years, both these items and explanatory notes were included in Appendix L. Currently, only the "Market Value of Assets" is shown for informational purposes as well as other financial statement disclosures and comparisons.

TABLE 6A

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

For the Plan Year Ended September 30:

		<u>2015</u>	<u>2014</u>
1.	Present value of future benefits		
	a. Annuitants now on rollb. Nonretired reservists	\$919.2 \$184.8	\$911.3 \$180.4
	c. Active duty personnel ¹	\$539.3	\$564.2
	TOTAL	\$1,643.2	\$1,655.8
2.	Present value of future normal cost contributions ²	\$226.2	\$243.0
3.	Actuarial accrued liability $(1 2.)$	\$1,417.0	\$1,412.8
4.	Actuarial value of assets ³	\$600.6	\$545.0
5.	Unfunded accrued liability (3. – 4.)	\$816.4	\$867.8
6.	Funded Ratio (4. / 3.)	42%	39%
7.	DoD normal cost percentage (NCP) ⁴ to be		
	applied to basic pay in fiscal year	FY 2017	FY 2016
	a. Full-time (FT)	28.9%	31.4%
	b. Part-time (PT)	22.8%	23.0%
8.	Treasury normal cost percentage (NCP) ⁵ to be		
	applied to basic pay in fiscal year	FY 2017	FY 2016
	a. Full-time (FT)	12.8%	13.1%
	b. Part-time (PT)	3.3%	2.9%

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

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

The 9/30/2015 Present Value of Future Normal Cost Contributions reflects a reduction of \$704.382 million due to sequestration of the 10/1/2015 Treasury Concurrent Receipt normal cost contribution. The 9/30/2014 PVFNC reflects a reduction of \$650.560 million due to sequestration of the 10/1/2014 Treasury Concurrent Receipt normal cost contribution.

The actuarial value of assets is determined using the amortized cost method from Table 4.

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.

⁵ 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 = 5.25%]

		<u>Baseline</u>	1% LOWER	<u>1% HIGHER</u>
1.	Present value of future benefits	\$ 1,643.2	\$ 2,013.4	\$ 1,372.8
2.	Actuarial accrued liability	\$ 1,417.0	\$ 1,685.2	\$ 1,211.2
3.	Actuarial value of assets	\$ 600.6	\$ 600.6	\$ 600.6
4.	Unfunded accrued liability	\$ 816.4	\$ 1,084.6	\$ 610.6
5.	Funded Ratio	42%	36%	50%
6.a.	FY 2017 FT NCP [DoD + Treasury]	41.7%	57.7%	30.6%
6.b.	FY 2017 PT NCP [DoD + Treasury]	26.0%	37.8%	18.2%

Retention Assumptions

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

		Baseline	25% LOWER	25% HIGHER
1.	Present value of future benefits	\$ 1,643.2	\$ 1,711.5	\$ 1,579.0
2.	Actuarial accrued liability	\$ 1,417.0	\$ 1,423.8	\$ 1,411.2
3.	Actuarial value of assets	\$ 600.6	\$ 600.6	\$ 600.6
4.	Unfunded accrued liability	\$ 816.4	\$ 823.2	\$ 810.7
5.	Funded Ratio	42%	42%	43%
6.a.	FY 2017 FT NCP [DoD + Treasury]	41.7%	47.6%	34.3%
6.b.	FY 2017 PT NCP [DoD + Treasury]	26.0%	32.7%	18.5%
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.

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TABLE 7

MILITARY RETIREMENT SYSTEM FY 2015 CHANGE IN UNFUNDED LIABILITY (\$ in billions)

For the Plan Year Ended September 30, 2015

1.	Acı	tual unfunded accrued liability (9/30/15)	\$816.4			
2.	Exp	pected unfunded accrued liability (9/30/15)	\$835.8			
3. To		tal (gain)/loss	(\$19.3)	1.4%		
	a.	Total experience (gain)/loss	(\$17.7)	1.3%		
		Interest assumption	\$22.5	1.6%		
		COLA assumption	(\$27.0)	1.9%		
		Salary assumption	(\$9.7)	0.7%		
		Non-economic experience	(\$4.2)	0.3%		
		10/1/15 unpaid contribution	\$0.7	0.0%		
	b.	Total benefit change (gain)/loss				
		FY16 NDAA "Blended Retirement System"	(\$14.0)	1.0%		
	c.	Total assumption change (gain)/loss	\$12.4	0.9%		
		Updated Disability Retiree Rates	\$9.8	0.7%		
		New Mortality Improvement Rates	\$2.6	0.2%		

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 given for the experience (gain)/loss due to the interest assumption: it is the ratio of the gain or loss to the actuarial value of assets (Table 6A, line 4).

The 10/1/15 unpaid contribution loss of \$0.7 billion is due to sequestration of the Treasury Concurrent Receipt normal cost contribution.

Valuation of the MRS

TABLE 8 MILITARY RETIREMENT SYSTEM PAST AND PROJECTED FLOW OF PLAN ASSETS $^{\rm 1}$ (In Billions of Dollars and as a Proportion of Payroll)

		Contributions Received											
Fiscal Year	Basic Payroll ²		, for Normal		easury, for	Amorti	reasury, for ization of	Investme	ent Income	Fund Dist	oursements 5		ance, End of
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)
1989	38.6	18.5	(47.9)			9.8	(25.4)	6.1	(15.8)	20.2	(52.3)	67.6	(175.1)
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)
	37.1	10.4										149.9	
1998			(28.0)			15.1	(40.7)	12.2	(32.9)	31.1	(83.8)		(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	66.8	21.9	(32.8)	5.4	(8.1)	64.8	(97.0)	12.5	(18.7)	52.6		428.0	(640.7)
											(78.7)		
2013 2014	66.3 65.4	20.5 20.5	(30.9) (31.3)	6.8 6.3	(10.3) (9.6)	67.7 72.9	(102.1) (111.5)	15.0 17.1	(22.6) (26.1)	54.5 55.4	(82.2) (84.7)	483.5 545.0	(729.3) (833.3)
2015		40.5						10.0					
2015	64.3	19.7	(30.6)	6.2	(9.6)	75.6 ↑ A C T	(117.6) U A L ↑	10.8	(16.8)	56.7	(88.2)	600.6	(934.1)
					1			ı					
2016	\$63.3	\$19.3	(30.5%)	\$6.9	(10.8%)	PROJE \$79.3	(125.2%)	\$35.1	(55.3%)	\$57.4	(90.6%)	\$683.7	(1,079.3%)
2017	63.3	17.9	(28.2)	6.8	(10.3%)	81.2	(128.2)	39.4		58.6	(92.4)	770.4	(1,216.4)
									(62.3)				
2018	69.7	19.4	(27.9)	8.1	(11.6)	83.8	(120.3)	44.2	(63.5)	59.9	(86.0)	866.1	(1,243.2)
2019	73.1	20.2	(27.6)	8.5	(11.6)	85.8	(117.3)	49.3	(67.5)	61.6	(84.2)	968.3	(1,324.4)
2020	76.7	20.9	(27.3)	8.9	(11.6)	88.6	(115.5)	54.8	(71.5)	63.3	(82.6)	1,078.1	(1,405.7)
2021	80.2	21.7	(27.0)	9.3	(11.5)	91.4	(114.0)	60.7	(75.8)	65.2	(81.4)	1,196.0	(1,491.5)
2022	83.8	22.4	(26.8)	9.6	(11.5)	94.4	(112.7)	67.1	(80.1)	67.2	(80.2)	1,322.4	(1,578.5)
2023	87.4	23.2	(26.5)	10.0	(11.5)	97.5	(111.5)	73.9	(84.5)	69.3	(79.2)	1,457.7	(1,667.5)
2024	91.1	24.0	(26.3)	10.4	(11.5)	100.6	(110.4)	81.1	(89.0)	71.7	(78.7)	1,602.2	(1,758.3)
2025	95.0	24.7	(26.1)	10.9	(11.4)	103.9	(109.4)	88.8	(93.6)	74.3	(78.2)	1,756.2	(1,849.6)
2026	98.8	25.5	(25.8)	11.3	(11.4)	107.3	(108.6)	97.1	(98.3)	76.8	(77.8)	1,920.5	(1,943.8)
2027	102.8	26.3	(25.6)	11.7	(11.4)	-13.2	(-12.8)	99.4	(96.7)	79.4	(77.2)	1,965.3	(1,912.2)
2028	106.9	27.1	(25.3)	12.1	(11.3)	-13.6	(-12.7)	101.7	(95.1)	81.9	(76.6)	2,010.6	(1,880.8)
2029	111.2	27.9	(25.1)	12.6	(11.3)	-14.1	(-12.6)	104.0	(93.5)	84.5	(76.0)	2,056.6	(1,849.5)
2030	115.7	28.8	(24.9)	13.1	(11.3)	-14.5	(-12.5)	106.4	(92.0)	87.1	(75.3)	2,103.2	(1,818.6)
2030	113.7	20.0	(24.9)	13.1	(11.5)	-14.5	(-12.5)	100.4	(92.0)	67.1	(73.3)	2,103.2	(1,010.0)
2031	120.3	29.7	(24.7)	13.6	(11.3)	9.6	(8.0)	110.1	(91.5)	89.7	(74.6)	2,176.4	(1,809.7)
2032	125.1	30.6	(24.5)	14.1	(11.3)	19.7	(15.7)	114.4	(91.5)	92.3	(73.8)	2,262.9	(1,809.5)
2033	130.1	31.6	(24.3)	14.6	(11.2)	20.3	(15.6)	119.0	(91.5)	95.1	(73.1)	2,353.4	(1,809.6)
2034	135.3	32.7	(24.2)	15.2	(11.2)	21.0	(15.5)	123.7	(91.5)	97.8	(72.3)	2,448.3	(1,809.5)
2035	140.8	33.9	(24.0)	15.8	(11.2)	21.7	(15.4)	128.8	(91.4)	100.3	(71.2)	2,548.0	(1,809.0)
2036	146.5	35.0	(23.9)	16.4	(11.2)	11.1	(7.6)	133.4	(91.1)	103.0	(70.3)	2,641.0	(1,803.3)
2037	152.0	36.2	(23.8)	17.0	(11.2)	8.5	(5.6)	138.2	(90.9)	105.7	(69.6)	2,735.2	(1,799.9)
2038	157.6	37.4	(23.8)	17.7	(11.2)	8.7	(5.5)	143.1	(90.8)	108.6	(68.9)	2,833.5	(1,798.4)
2039	163.2	38.7	(23.7)	18.3	(11.2)	9.0	(5.5)	148.3	(90.8)	111.6	(68.4)	2,936.2	(1,798.8)
2040	169.0	39.9	(23.6)	18.9	(11.2)	9.3	(5.5)	153.7	(90.9)	114.7	(67.9)	3,043.3	(1,801.1)
2040	107.0	37.7	(25.0)	10.7	(11.4)	7.3	(5.5)	133.1	(20.2)	117./	(07.9)	2,042.3	(1,001.1)

Note: Treasury Normal Cost Contributions reflect 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%

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. **Few economic, demographic, and political forces can 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, some 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.

- 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.
- DoD-projected endstrengths are used through the end of FY 2021 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, and 2017 Treasury Normal Cost Payments reflect sequestered amounts of 9.8% in FY 2014, 9.5% in FY 2015, 9.3% in FY 2016, and 9.1% in FY 2017 (discussed further in Appendix M).
- 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)

- ⁴ Reflects amortization payments for FY 2017 and thereafter determined in the September 30, 2015, valuation. The FY 2027 FY 2030 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. This situation will be monitored.
- 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.
- This fund balance (on a book value basis) reflects cash disbursements during the year. On September 30, 2015, assets in the Fund totaled \$600.6 billion.

OTHER NOTES: Mortality rates that are applied in the valuation to active/reserve duty members, retirees, and survivors, are subject to improvement over time. See Appendix J for details. People and pay underlying the projection can be found in Appendix K. The table does not reflect future gains or losses due to experience being different than assumed. Consequently, only payments on the total unfunded liability as of September 30, 2015, are reflected.

ANNUAL ECONOMIC ASSUMPTIONS USED IN PROJECTIONS OF PLAN ASSETS									
Fiscal Year	Full COLA	Basic Pay	<u>Interest</u>						
2016	0.0%	1.3%	5.25%						
2017	1.5	3.4	5.25						
2018	2.0	3.4	5.25						
2019	2.1	3.4	5.25						
2020	2.2	3.4	5.25						
2021	2.3	3.4	5.25						
2022	2.2	3.4	5.25						
2023	2.3	3.4	5.25						
2024	2.3	3.4	5.25						
2025+	2.75	3.25	5.25						

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 1st. Interest assumptions pertain to annual, aggregate Fund yield on all cash flows. The above COLA assumptions are from the OMB; the Basic Pay assumptions are extrapolations made from short-term DoD assumptions; 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 5.25% 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		Payroll			DoD Normal	Cost Paymen	its	Treasury Normal Cost		l Cost Payme	Cost Payments		Normal Cost Payments	
Year	Full-Time	Part-Time	Total	Full	-Time	Par	t-Time	Full	-Time	Part	-Time	Т	otal	
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)	
1989	35.0	3.6	38.6	17.6	(50.2)	0.9	(25.7)	0.0		0.0		18.5	(47.9)	
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 1999	33.4 33.7	3.7 3.9	37.1 37.6	10.2 10.2	(30.5)	0.3 0.3	(8.8)	0.0		0.0 0.0		10.5 10.5	(28.3)	
1999	33.1	3.9	37.0	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 2015	57.0 56.0	8.4 8.3	65.4 64.3	18.5 18.0	(32.4)	2.1 1.9	(24.5)	6.0 6.0	(11.7) (11.8)	0.2	(2.9)	26.8 26.1	(40.9) (40.6)	
2013	30.0	0.5	04.5	10.0	(32.2)		TUAL ↑	0.0	(11.0)	0.2	(2.1)	20.1	(40.0)	
						PROJ	ECTED	1						
2016	\$56.4	\$6.9	\$63.3	\$17.7	(31.4%)	\$1.6	(23.0%)	\$6.7	(13.1%)	\$0.2	(2.9%)	\$26.2	(41.3%)	
2017	56.4	6.9	63.3	16.3	(28.9)	1.6	(22.8)	6.6	(12.8)	0.2	(3.3)	24.6	(38.9)	
2018	61.6	8.1	69.7	17.6	(28.5)	1.8	(22.7)	7.8	(12.7)	0.3	(3.3)	27.5	(39.5)	
2019	64.7	8.4	73.1	18.3	(28.2)	1.9	(22.6)	8.2	(12.7)	0.3	(3.3)	28.7	(39.2)	
2020	68.0	8.7	76.7	19.0	(27.9)	1.9	(22.4)	8.6	(12.6)	0.3	(3.2)	29.8	(38.9)	
2021	71.2	9.0	80.2	19.7	(27.6)	2.0	(22.2)	9.0	(12.6)	0.3	(3.2)	30.9	(38.6)	
2022	74.5	9.3	83.8	20.4	(27.4)	2.0	(22.0)	9.3	(12.6)	0.3	(3.2)	32.1	(38.3)	
2023	77.8	9.6	87.4	21.1	(27.1)	2.1	(21.8)	9.7	(12.5)	0.3	(3.2)	33.2	(38.0)	
2024	81.2	9.9	91.1	21.8	(26.9)	2.1	(21.7)	10.1	(12.5)	0.3	(3.2)	34.4	(37.8)	
2025	84.7	10.2	95.0	22.5	(26.6)	2.2	(21.5)	10.5	(12.4)	0.3	(3.2)	35.6	(37.5)	
2026	88.3	10.5	98.8	23.3	(26.4)	2.2	(21.3)	10.9	(12.4)	0.3	(3.2)	36.8	(37.2)	
2027	91.9	10.9	102.8	24.0	(26.1)	2.3	(21.1)	11.3	(12.3)	0.3	(3.2)	38.0	(37.0)	
2028	95.7	11.2	106.9	24.7	(25.9)	2.4	(21.0)	11.8	(12.3)	0.4	(3.1)	39.2	(36.7)	
2029	99.7	11.5	111.2	25.5	(25.6)	2.4	(20.8)	12.2	(12.3)	0.4	(3.1)	40.5	(36.4)	
2030	103.8	11.9	115.7	26.3	(25.4)	2.5	(20.7)	12.7	(12.2)	0.4	(3.1)	41.8	(36.2)	
2031	108.1	12.2	120.3	27.2	(25.2)	2.5	(20.5)	13.2	(12.2)	0.4	(3.1)	43.2	(36.0)	
2032	112.5	12.5	125.1	28.1	(25.0)	2.6	(20.4)	13.7	(12.2)	0.4	(3.1)	44.7	(35.7)	
2033	117.2	12.8	130.1	29.0	(24.8)	2.6	(20.3)	14.2	(12.1)	0.4	(3.1)	46.2	(35.6)	
2034 2035	122.1 127.4	13.2 13.5	135.3 140.8	30.1 31.2	(24.6) (24.5)	2.6 2.7	(20.1) (20.0)	14.8 15.4	(12.1) (12.1)	0.4 0.4	(3.1)	47.9 49.7	(35.4) (35.3)	
2036 2037	132.6 137.8	13.8 14.2	146.5 152.0	32.3 33.4	(24.4)	2.7	(19.9) (19.8)	16.0 16.6	(12.1)	0.4 0.4	(3.1)	51.5 53.3	(35.1)	
2037	137.8	14.2	152.0 157.6	33.4 34.6	(24.3) (24.2)	2.8 2.8	(19.8)	17.2	(12.0) (12.0)	0.4	(3.1)	53.3 55.1	(35.0) (35.0)	
2038	143.0	14.5	163.2	35.8	(24.2)	2.8	(19.6)	17.2	(12.0)	0.4	(3.1)	55.1 57.0	(34.9)	
2040	153.7	15.2	169.0	37.0	(24.1)	3.0	(19.3)	18.5	(12.0)	0.5	(3.0)	58.9	(34.8)	
2040	100.1		102.0	37.0	(~ 1.1)	5.0	(12.7)	10.5	(12.0)	5.5	(3.0)	30.7	(5 7.0)	

 $\underline{Note} : \ \, \text{Treasury Normal Cost Contributions reflect actual and expected sequestered amounts as discussed in Appendix M}.$

TABLE 10

MILITARY RETIREMENT SYSTEM

PAST AND PROJECTED UNFUNDED LIABILITY PAYMENTS ON OCTOBER 1

(\$ in billions)

Calendar	Original	Assumption	Benefit	Actuarial	
Year	UFL	Changes	Changes	Experience	Total
1984	\$9.500	\$.000	\$.000	\$.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
1988	11.679	0.000	-0.113	-1.281	10.285
1988	12.003	0.135	-0.112	-2.244	9.782
1000	16 200	2.116	0.122	2.456	10.506
1989 1990	16.300	-2.116	-0.132	-3.456 -4.078	10.596
	17.237	-2.237	-0.140		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	5.140	0.100	0.270	11.470
	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	0.201	0.052	14.722	15 202
		-9.201		-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	46.055	10.050	4.605	10.147	21.250
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
2000	70.270		7.100	15.010	50.510
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	2.504	9.409	10.751	75.562
2014 2015	84.221 87.169	2.594 3.770	8.498 8.796	-19.751 -20.446	75.562 79.289
2013	87.109			-20.440	19.289
		↑ A C T	UALŢ		
		↓ PROJE	C T E D \		
		· · · · · · · · · · · · · · · · · · ·	·		
2016	\$90.024	\$4.459	\$7.724	-21.015	\$81.192
2017	92.950	4.604	7.975	-21.750	83.779
2018	95.971	4.753	8.235	-23.194	85.765
2019	99.090	4.908	8.502	-23.947	88.553
2020	102.311	5.067	8.779	-24.726	91.431
2021	105.626	5.222	0.064	25 520	04.402
2021	105.636 109.069	5.232 5.402	9.064 9.358	-25.529 -26.359	94.403 97.470
2022			9.663		
2023	112.614	5.578		-27.215	100.640
2024	116.273	5.759	9.977	-28.100	103.909
2025	120.053	5.946	10.301	-29.013	107.287
2026	0.000	6.139	10.635	-29.956	-13.182
2026					
2027	0.000	6.339	10.981	-30.930	-13.610
2028 2029	0.000 0.000	6.545	11.338 11.707	-31.935 -32.973	-14.052 -14.508
2029	0.000	6.758 6.977	12.087	-9.502	9.562
2030	0.000	0.577	12.007	-9.502	9.302
2031	0.000	7.204	12.480	0.000	19.684
2032	0.000	7.438	12.885	0.000	20.323
2032	0.000	7.680	13.304	0.000	20.984
2034	0.000	7.929	13.737	0.000	21.666
2035	0.000	8.187	2.887	0.000	11.074
2033	0.000	5.107	2.307	3.300	11.077
2036	0.000	8.453	0.000	0.000	8.453
2037	0.000	8.728	0.000	0.000	8.728
2038	0.000	9.012	0.000	0.000	9.012
2039	0.000	9.304	0.000	0.000	9.304
2040	0.000	9.607	0.000	0.000	9.607
2010		2.30,			2.307
2041	0.000	9.919	0.000	0.000	9.919
2042	0.000	10.241	0.000	0.000	10.241
2043	0.000	9.074	0.000	0.000	9.074
2044	0.000	0.000	0.000	0.000	0.000
		2.300			2.300

 $\underline{Note} {:} \quad Actuarial \ Experience \ item \ reflects \ actual \ and \ expected \ sequestered \ Treasury \ Normal \ Cost \ payments \ as \ discussed \ in \ Appendix \ M.$

TABLE 11

MILITARY RETIREMENT SYSTEM

PAST AND PROJECTED UNFUNDED LIABILITY BALANCE ON SEPTEMBER 30 (Before Payment)

(\$ in billions)

Calendar	Original	Assumption	Benefit	Actuarial	
Year	UFL_	Changes	Changes	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
1988	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	-262.375	885.078
2014	011.665	01.004	142.044	269.721	9.67.792
2014 2015	911.665 872.953	81.894 96.068	142.944 127.811	-268.721 -280.383	867.782 816.450
2013	872.933			-280.383	010.430
		↑ A C T	UAL		
		↓ PROJE	CTED L		
2016	\$827.038	\$97.144	\$125.263	-\$272.906	\$776.539
2017	775.707	97.551	123.710	-265.115	731.853
2017	718.602	97.827	121.811	-256.142	682.098
2019	655.319	97.960	119.539	-245.178	627.640
2020	585.431	97.937	116.866	-232.845	567.389
2021	508.484	97.746	113.762	-219.046	500.946
2022	423.997	97.371	110.195	-203.676	427.887
2023	331.462	96.798	106.131	-186.626	347.763
2024	230.337	96.009	101.532	-167.780	260.097
2025	120.053	94.988	96.362	-147.014	164.388
2026	0.000	93.716	90.579	-124.196	60.100
2027	0.000	92.175	84.141	-99.187	77.129
2028	0.000	90.343	77.001	-71.841	95.503
2029	0.000	88.197	69.110	-42.001	115.306
2030	0.000	85.714	60.417	-9.502	136.630
2021	0.000	82.871	50.867	0.000	122 729
2031	0.000	79.640	40.403	0.000	133.738 120.042
2032 2033	0.000	75.992	28.962	0.000	104.955
2033	0.000	71.899	16.480	0.000	88.379
2035	0.000	67.328	2.887	0.000	70.215
2033	0.000	0.1320	2.307	5.500	70.213
2036	0.000	62.246	0.000	0.000	62.246
2037	0.000	56.617	0.000	0.000	56.617
2038	0.000	50.403	0.000	0.000	50.403
2039	0.000	43.564	0.000	0.000	43.564
2040	0.000	36.059	0.000	0.000	36.059
2041	0.000	27.841	0.000	0.000	27.841
2042	0.000	18.863	0.000	0.000	18.863
2043	0.000	9.074	0.000	0.000	9.074
2044	0.000	0.000	0.000	0.000	0.000

 $\underline{Note} {:} \quad \text{Actuarial Experience item reflects actual and expected sequestered Treasury Normal Cost payments as discussed in Appendix M.}$

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.

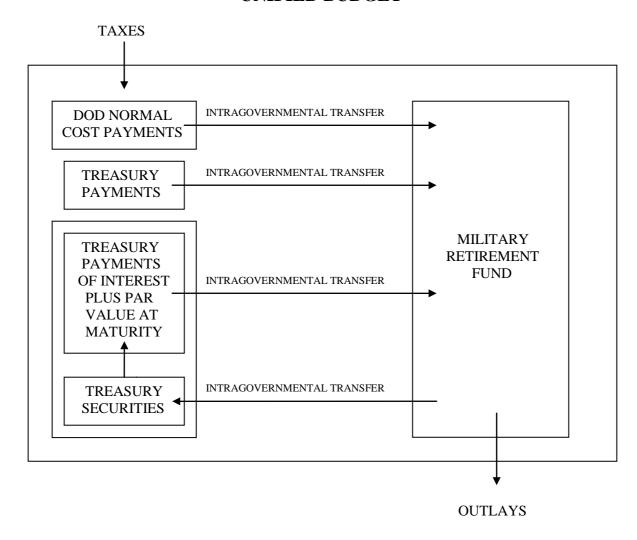
The Fund has two types of payouts: (1) payments to retirees and survivors of retirees and (2) purchases of U.S. Treasury securities. The purchase of a Treasury security is also an intragovernmental transfer, while a payment to a retiree or a survivor is not.

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 \$60 billion in securities (debit) and the Treasury sells \$60 billion in securities (credit), the net direct federal budget deficit effect is zero.
- If the Treasury pays \$20 billion interest (debit) and the Fund earns \$20 billion interest (credit), the net direct federal budget deficit effect is zero.
- Disregarding all other government programs, if the government collects \$45 billion in tax revenues (credit) and pays \$50 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 2015 the amount needed to pay retirees was \$55 billion and the Military Retirement Fund had grown to \$600 billion. The following transactions would take place:

- Fund redeems \$55 billion in Treasury securities (credit).
- Treasury pays \$55 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 \$55 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 quasifederal 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 shortterm (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 quantification of the government's obligation to pay retirement benefits to military members and eligible survivors/annuitants. This type of required quantification and allocation represents strong fiscal responsibility.

Additionally, the costs of the current retirement system are actuarially based and reasonable given the plan provisions; thus, the system is considered sustainable. However, all elements of compensation should be considered and compared when examining sustainability of the respective defense and federal budgets.

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.

APPENDIX A

THE MILITARY RETIREMENT SYSTEM: BENEFITS

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THE MILITARY RETIREMENT SYSTEM: BENEFITS

As of September 30, 2015

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.

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 blocks) 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 <u>before September 8, 1980</u>, 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 <u>on or after</u> 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, will be under the new Blended Retirement System (BRS) which was enacted in NDAA 2016 and takes 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, will 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, 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 system¹. 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 at 12 years of service. 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. 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. Note that

¹ 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.

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 2015, 1.47 million nondisability retirees from active duty and full-time reserves were receiving an annualized retired pay entitlement totaling \$45.1 billion. Included in this number are a reported 57,137 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) is 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 years². 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.

Recent Congressional action has been directed to the care of disabled retirees and veterans. P.L. 110-181 established the Physical Disability Board of Review (PDBR). The PDBR has the authority to reexamine the files of veterans medically separated with ratings under 30 percent between September 11, 2001, and December 31, 2009, and potentially offer disability retirements. The PDBR is expected to review files for approximately 77,000 veterans.

As of September 2015, 112,000 disability retirees were receiving an annualized retired pay entitlement totaling \$1.55 billion. Included in this number are a reported 2,537 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

² 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.

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. 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 2015, 396,000 reserve retirees were receiving an annualized retired pay entitlement totaling \$6.2 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 penalty³. 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 based on the reservist's years of service⁴.

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. The authority for the allowance ends in May 2018.

The relationship between SBP and DIC has been the subject of litigation in the U.S. Court of Appeals. 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.

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Appendix A

³ Although the policy is not final as of the time of this report, it is also expected that lump-sum electors under BRS will have the option to choose up to full retired pay as their base amount.

⁴ The National Defense Authorization Act for 2017 amended this such that 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.

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.

As of the time of this report's publication, the manner in which SBP interacts with lump sum disbursements under BRS has not been finalized.

As of September 2015, 288,000 survivors of military members were receiving an annualized annuity entitlement totaling \$3.8 billion.

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 2015, 66,000 TERA retirees were receiving an annualized retired pay entitlement totaling \$1.2 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."

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; the authority for the allowance ends in May 2018. 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 2015, there were 504,000 CRDP members and 90,000 CRSC members. These members were paid an additional monthly amount of \$764 million and \$89 million, respectively. As of September 2015, there were 64,000 survivors receiving annualized SSIA benefits of \$151 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 non-disability 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 69 percent of RMC for all retirement eligible members. For the 20-year retiree, basic pay is approximately 67 percent of RMC. Consequently, a member retired with 20-years of service and entitled to 50 percent of basic pay, only receives 33 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 72 percent of RMC and such members if entitled to 75 percent of basic pay, would only receive 54 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 employeremployee 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 2015, 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 depicts 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" can not 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	\$0.0	\$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
1,00	551.0	22	527	170.1	···	10.2	10.0
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 0	545.0	011.2	9.67.9	20.6	50.0	2.2
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

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)}

 $^{(5) = (2) / (1) \}times 100$

 $^{(6) = (2) / (3) \}times 100$

⁽⁷⁾ Discussed in Appendix D.

APPENDIX B

THE MILITARY RETIREMENT SYSTEM: HISTORY

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THE MILITARY RETIREMENT SYSTEM: HISTORY¹

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 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 plant of federal civil servants. Of significance, MRS retired members are subject to active duty recall.

<u>History of Retired Pay – Active Duty and Disability</u>

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 <u>nondisability</u> 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."

Appendix B - 50 - DoD Office of the Actuary

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 <u>disability</u> 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 2½ 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. 113-67 (commonly refered to as the *Bipartisan Budget Act of 2013*, or *BBA 2013*), enacted December 26, 2013, reduces the annual cost-of-living adjustment (COLA) by one percent (e.g., 2% instead of 3%) for "working-age" (i.e., members younger than age 62), non-disabled military retirees, with restoral at age 62 and full COLA thereafter. The changes apply only to those entering military service on or after January 1, 2014 (although those entering on or after that date who elect CSB/Redux are covered by the COLA provisions for CSB/Redux electors). Subsequent legislation exempts medically disabled retirees and their survivors, as well as survivors of members who die on active duty, from the COLA reduction enacted in P.L. 113-67. P.L. 113-291 amended the effective date of the legislative provision, applying only to those entering military service on or after January 1, 2016.

P.L. 114-92 established the "Blended Retirement System," 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 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 at 12 completed years of service. 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 CSB/Redux and repeals all aspects of BBA 2013, as amended.

<u>History of Retired Pay – Reserve Duty</u>

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) in any fiscal year 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 points.

<u>Adjustments – Cost-of-Living</u>

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 <u>retiree's</u> 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. 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.

P.L. 113-67 (*Bipartisan Budget Act of 2013*, *or BBA 2013*) reduces the annual COLA by one percent (e.g., 2% instead of 3%) for "working-age" (i.e., members younger than age 62), non-disabled military retirees, with restoral at age 62 and full COLA thereafter. The changes apply only to those entering military service on or after January 1, 2014 (although those entering on or after that date who elect CSB/Redux are covered by the COLA provisions for CSB/Redux electors described in the previous paragraph). Subsequent legislation exempts medically disabled retirees and their survivors, as well as survivors of members who die on active duty, from the COLA reduction enacted in P.L. 113-67. P.L. 113-291 amended the effective date of the legislative provision, applying only to those entering military service on or after January 1, 2016. As stated earlier, P.L. 114-92 repeals the COLA changes enacted by BBA 2013, as amended.

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 1st 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:	before September 8, 1980	• on or after September 8, 1980 and before August 1, 1986	on or after August 1, 1986 and before January 1, 2003 who elect to accept the Career Status Bonus (CSB) with additional 5-year service obligation	• on or after January 1, 2018	
		• on or after August 1, 1986 and before January 1, 2003 who elect not to accept the Career Status Bonus (CSB) at the 15- year anniversary		on or after January 1, 2006 and before January 1, 2018 who voluntarily elect to participate in BRS	
		on or after January 1, 2003 and before January 1, 2006			
		• on or after January 1, 2006 and before January 1, 2018 who do not voluntarily elect to participate in BRS			
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)	-		\$30,000 Career Status Bonus (CSB) payable at 15-year anniversary upon assumption of 5-year obligation to remain on continuous active duty	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	
				Automatic and matching Government contributions to Thrift Savings Plan (TSP) account	
				Mandatory mid-career continuation bonus at 12 years of service	

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	Final Pay/HI-3	CSB/Redux	Multiplier	BRS
Service	Multiplier	Before Age 62	After Age 62	Multiplier
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 50	122.5 125.0	122.5 125.0	122.5 125.0	98.0 100.0
51	125.0	125.0	125.0	100.0
:	127.3	127.3	127.5	102.0

TABLE B-3

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

Date of Increase		Percentage Increase	Cumulative % From <u>Date of Increase</u>			
6/1/58		6.00 %	788.61 %			
10/1/63		5.00	738.32			
9/1/65		4.40	698.40			
12/1/66		3.70	664.75			
4/1/68		3.90	637.46			
2/1/69		4.00	609.78			
11/1/69		5.30	582.48			
8/1/70		5.60	548.13			
6/1/71		4.50	513.76			
7/1/72	one percent over	4.80	487.33			
7/1/73	inflation was	6.10	460.43			
1/1/74	added during	5.50	428.21			
7/1/74	these years	6.30	400.67			
1/1/75		7.30	371.00			
8/1/75		5.10	338.95			
3/1/76 3/1/77		5.40 4.80	317.65 296.26			
9/1/77		4.30	278.11			
3/1/78		2.40	262.52			
9/1/78	twice-a-year	4.90	254.02			
3/1/79	increases	3.90	237.49			
9/1/79	mercuses	6.90	224.82			
3/1/80		6.00	203.85			
9/1/80		7.70	186.65			
3/1/81	once-a-year	4.40	166.16			
3/1/82	increases	8.70	154.94			
4/1/83	(Dec to Dec)	3.90 (1)	134.54			
12/1/84		3.50 (2)	125.73			
12/1/85		- (3)	118.10			
12/1/86	once-a-year	1.30	118.10			
12/1/87	increases (3rd	4.20	115.30			
12/1/88	qtr to 3rd qtr)	4.00	106.62			
12/1/89		4.70	98.68			
12/1/90		5.40	89.76			
12/1/91		3.70	80.03			
12/1/92		3.00	73.61			
3/1/94		2.60 (4)	68.55			
3/1/95		2.80 (5)	64.28			
3/1/96		2.60 (6)	59.81			
12/1/96		2.90	55.76			
12/1/97		2.10	51.37			
12/1/98		1.30	48.26			
12/1/99 12/1/00		2.40 3.50	46.35 42.92			
12/1/00		2.60	38.09			
12/1/01		1.40	34.59			
12/1/03		2.10	32.73			
12/1/04		2.70	30.00			
12/1/05		4.10	26.58			
12/1/06		3.30	21.60			
12/1/07		2.30	17.71			
12/1/08		5.80	15.07			
12/1/09		0.00	8.76			
12/1/10		0.00	8.76			
12/1/11		3.60	8.76			
12/1/12		1.70	4.98			
12/1/13		1.50	3.23			
12/1/14		1.70	1.70			
12/1/15		0.00	0.00			

⁽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)

6/1/58 8.3 % 132 10/1/63 14.2 121 9/1/64 2.3 105 9/1/65 10.4 102 7/1/66 3.2 92 10/1/67 5.6 88 7/1/68 6.9 83 7/1/69 12.6 77 1/1/70 8.1 67 1/1/71 7.9 62 11/14/71 11.6 56 1/1/72 7.2 49 10/1/72 6.7 45' 10/1/73 6.2 42 10/1/74 5.5 39 10/1/75 5.0 36 10/1/76 3.6 34	Cumulative % From <u>Date of Increase</u>		
10/1/63 14.2 121e 9/1/64 2.3 105: 9/1/65 10.4 102' 7/1/66 3.2 92 10/1/67 5.6 88: 7/1/68 6.9 83: 7/1/69 12.6 77: 1/1/70 8.1 67: 1/1/71 7.9 62: 11/14/71 11.6 56' 1/1/72 7.2 49' 10/1/72 6.7 45' 10/1/73 6.2 42' 10/1/74 5.5 39: 10/1/75 5.0 36'	6.1 %		
9/1/64 2.3 105 9/1/65 10.4 102 7/1/66 3.2 92 10/1/67 5.6 88 7/1/68 6.9 83 7/1/69 12.6 77 1/1/70 8.1 67 1/1/71 7.9 620 11/14/71 11.6 56' 1/1/72 7.2 49' 10/1/72 6.7 45' 10/1/73 6.2 42' 10/1/74 5.5 39' 10/1/75 5.0 36'			
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10/1/74 5.5 10/1/75 5.0 39/1 36/1			
10/1/75 5.0 366			
10/1/76 3.6 344	6.6		
	4.3		
10/1/77 6.2 323			
10/1/78 5.5 30	3.9		
10/1/79 7.0 283	2.8		
10/1/80 11.7 25	7.8		
10/1/81 14.3 (1) 220	0.3		
10/1/82 4.0 (2) 180	0.2		
	9.4		
1/1/85 4.0 159	9.1		
10/1/85 3.0 149	9.1		
1/1/87 3.0 14	1.9		
1/1/88 2.0 134	4.8		
1/1/89 4.1 130	0.2		
1/1/90 3.6 12	1.1		
1/1/91 4.1 113	3.5		
1/1/92 4.2 103	5.1		
1/1/93 3.7 90	6.8		
1/1/94 2.2	9.8		
1/1/95 2.6 8:	5.7		
1/1/96 2.4 8.	1.0		
	6.7		
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1/1/16 1.3 (4)	2.3 1.3		

⁽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%.

- (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.

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

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 (RCCPDS) 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 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.

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 \mathbf{for} Duty Personnel by Years of Service and 8 8 786 66236 66236 67236 77 722 68236 78 68236

		Total	0 40 12,995 45,551 68,092	82,259 88,053 85,235 80,074 76,528	71,089 64,280 59,426 55,630 53,473	49,802 46,539 44,350 40,741 38,526	36,702 34,178 31,863 28,504 25,282	23,118 20,560 18,458 16,876 15,549	12,804 10,456 8,709 7,064 5,853	4,891 3,654 2,816 2,036 1,529	1,146 841 580 461 647	1,377,260
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ation		22	00000	0000	0 0 0 0 0	00000	0 1 0 914	2,078 1,926 1,283 1,474 1,614	1,031 613 465 295 253	188 126 121 69 70	42 41 20 18 30	12,672
Valuation		21	00000	00000	00000	00000	0 0 3 1,003 2,375	2,041 1,374 1,572 1,721 1,218	758 497 372 298 219	179 129 113 82 65	56 20 10 14 22	14,141
2015		20	00000	00000	00000	0000	0 2 1,349 2,945 2,481	1,751 1,912 1,997 1,408 971	700 520 368 312 262	219 153 107 93 87	41 31 32 21 15	777,71
for FY		19	00000	00000	00000	0000	8 2,265 5,182 4,616 3,125	3,104 3,009 2,136 1,615 1,348		317 244 191 197 106	70 60 36 30 37	30,726
Age		18	00000	0000	00000	0 0 0 22	2,546 5,582 4,698 3,215 3,086	3,070 2,113 1,550 1,198 1,015		292 252 196 98 98		31,727
e and	(S)	17	00000	0000	0000	0 0 0 16 2,808	6,052 4,600 3,030 3,034 2,985	2,102 1,440 1,109 935 767	579 502 402 345 314			31,996
Service and	Years of Active Service (YAS)	16	00000	00000	00000	0 0 23 2,888 6,102	4,591 2,921 2,896 2,896 2,005	1,412 1,100 932 744 650		227 156 130 87 70	23 23 20 13	31,719
ot		15	00000	00000	00000	0 3,234 6,282 4,600	3,175 3,098 3,103 2,139 1,413		446 366 332 244 246		39 22 19 21	33,316
y Years	ars of A	4	00000	00000	00000	21 3,121 6,512 4,771 3,291	3,246 3,271 2,182 1,547 1,240	1,061 748 667 538 476	406 339 338 253 184	151 106 87 82 60	47 22 22 9	34,814
mel b	Ϋ́	13	00000	00000	0 0 0 0 15	3,043 6,728 5,087 3,593 3,566	3,635 2,534 1,794 1,365 1,143	860 728 581 495 489		136 105 88 87 57 37		37,653
Active Duty Personnel by		12	00000	00000	0 0 2 10 2,889	6,913 5,668 4,179 3,931 3,950	2,825 1,932 1,586 1,204 915		359 327 186 169 118			40,401
Duty		Ξ	00000	00000	0 0 17 2,764 7,127	6,317 4,499 4,454 4,418 3,048	2,197 1,667 1,362 982 760	612 510 435 380 353	351 194 168 123 104	86 69 47 35 27	22 13 13 7	43,176
ctive		10	00000	00000	2,513 6,503 5,913	3,854 4,183 4,700 3,065 1,979			195 164 112 107 89			40,606
DoD A		6	00000	00000	26 2,968 7,512 6,694 5,118	5,152 5,358 3,463 2,221 1,821	1,421 1,042 788 622 431				12 8 12 3 5	46,958
All J		∞	00000	0 0 0 38 1	3,118 7,602 6,541 4,984 5,320	5,708 3,612 2,379 1,908 1,526	1,117 831 558 482 374	349 276 269 200 217	151 135 128 105 77	52 22 118	14 10 8 8 8	48,178
		7	00000	0 0 35 3,809	9,188 7,757 5,693 5,842 6,302	4,057 2,617 2,044 1,720 1,250	948 691 529 390 349	293 229 179 172	137 103 87 95	32 23 20 12 13	8 8 9 = 6	54,872
		9	00000	0 0 8 3,308 9,295	8,988 6,717 6,821 7,236 4,888	3,402 2,402 2,058 1,491 1,095	742 597 450 369 310	250 210 188 180 135	129 100 97 52 30	28 24 16 9	9 9 0 0	61,657
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		Age	16 17 18 20	75 57 57 57 57 57 57 57 57 57 57 57 57 5	30 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	31 33 34 35	36 37 39 40	4 4 4 4 4	46 48 49 50	51 52 53 54 55	56 57 58 59 60+	Total

DoD Officers Average Monthly Active Duty Basic Pay by Active Years of Service and Age for FY 2015 Valuation

Years of Active Service (YAS)

Avg	\$0 \$3,964 \$0 \$0 \$2,939	\$3,026 \$2,993 \$3,010 \$3,288 \$3,866	\$4,390 \$4,739 \$4,933 \$5,094 \$5,227	\$5,376 \$5,539 \$5,781 \$6,010 \$6,189	\$6,351 \$6,557 \$6,746 \$6,936 \$7,146	\$7,334 \$7,510 \$7,669 \$7,871 \$8,107	\$8,318 \$8,530 \$8,742 \$9,039 \$9,200	\$9,258 \$9,306 \$9,366 \$9,423 \$9,719	\$9,815 \$9,734 \$9,986 \$9,797 \$15,282	\$6,246
30+	8 8 8 8 8	80 80 80 80 80 80	80 80 80 80 80 80 80 80 80 80 80 80 80 8	80 80 80 80 80 80	00 00 00 00 00 00 00 00 00 00 00 00 00	08 08 08 08	\$8,202 \$8,481 \$8,756 \$8,893	\$9,259 \$10,105 \$10,802 \$11,083	11,729 11,929 12,330 11,809 18,911	\$11,002
29	\$0 8 80 80 80 80 80	\$0 8 80 80 80 80 80	80 80 80 80 80 80 80 80 80 80 80 80 80 8	80 80 80 80 80 80 80 80 80 80 80 80 80 8	\$0 8 80 \$0 80 \$0 80	80 80 80 80 80 80 80 80 80 80 80 80 80 8		\$10,451 \$10,798 \$10,583 \$10,041 \$10,206		\$ 808,68
28		80 80 80 80 80 80 80 80 80 80 80 80 80 8		\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$7,527	\$7,907 \$7,942 \$8,106 \$8,430 \$10,413			\$9,603
27	00 00 00 00 00 00 00 00 00	80 80 80 80 80 80	80 80 80 80	80 80 80 80 80 80	00 00 00 00 00 00 00 00 00 00 00 00 00	\$0 \$0 \$0 \$8,876 \$7,779		\$10,322 \$ \$9,994 \$ \$10,018 \$10,252 \$ \$10,061 \$		\$9,551
26		80 80 80			80 80 80 80	\$0 \$0 \$7,527 \$7,640 \$7,645		\$9,889 \$ \$9,732 \$9,910 \$ \$9,768 \$ \$9,843 \$		\$9,450
25	8 8 8 8 8	80 80 80 80 80 80	8 8 8 8 8	80 80 80 80 80 80	00 00 00 00 00 00 00 00 00 00 00 00 00				\$9,566 \$9,700 \$9,435 \$9,733 \$18,229	960'68
24			\$0 \$0 \$0 \$0 \$0						\$9,799 \$9,311 \$9,496 \$8,989 \$16,171	88,958
23		\$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0 \$0 \$0					28,697
22	8 8 8 8 8	20 20 20 20 20 20 20 20 20 20 20 20 20 2	80 80 80 80						\$8,747 \$9,382 \$10,059 \$9,691	\$8,510
21	8 8 8 8 8	8 8 8 8 8		8 8 8 8 8	\$0 \$0 \$6,692 \$6,740		\$8,456 \$8,544 \$8,664 \$8,960 \$9,083		\$9,391 \$9,831 \$8,641 \$8,941	\$8,193
20	8 8 8 8 8	8 8 8 8 8	80 80 80 80 80	8 8 8 8 8	\$0 \$6,352 \$6,559 \$6,617 \$6,643				\$8,825 \$8,956 \$8,853 \$9,062 \$19,515	\$8,018
19			\$0 \$0 \$0 \$0 \$0		\$5,157 \$6,405 \$6,358 \$6,381 \$6,683	\$7,839 \$8,049 \$8,007 \$7,830 \$7,980	\$8,116 \$8,048 \$8,365 \$8,504 \$8,401	\$8,605 \$8,734 \$8,682 \$8,457 \$8,724	\$9,056 \$8,721 \$8,574 \$8,785	\$7,703
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17	8 8 8 8 8	8 8 8 8 8	80 80 80 80	\$0 \$0 \$5,670 \$5,908	\$5,917 \$6,015 \$6,276 \$7,520 \$7,752	\$7,691 \$7,565 \$7,688 \$7,679 \$7,641	\$7,756 \$7,953 \$8,096 \$8,352 \$8,339	\$8,133 \$8,030 \$8,138 \$8,908 \$8,398	\$8,252 \$8,162 \$8,528 \$8,410 \$11,992	\$7,345
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Notes: Basic pay figures reflect the January, 2016, increase of 1.3%.

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

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otes: Basic pay figures reflect the January, 2016, increase of Age is age nearest birthday as of the end of the fiscal y

2015 Valuation FY \mathbf{for} Service \mathbf{o} DoD Average Monthly Active Duty Basic Pay by Active Years

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		16	00000	00000	00000	0 1,646 2,183	1,595 1,040 774 590 431	387 332 324 300	290 244 200 193 188	168 175 72 75 55	33	0 0	11,890
		15	00000	00000	00000	2,164 2,800 2,800 1,933	1,243 872 723 576 452	365 366 322 305 271	267 204 189 172 205	8. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	13 2 2 0	0 0 0	14,257
		*	00000	00000	00000	243 2,288 3,322 2,161 1,428	1,025 778 664 527 431	383 305 314 277	259 232 199 213 161	136 104 117 12 130 130	2 0 0 0	000	15,936
		13	00000	00000	272 0 0 0	2,387 3,124 2,270 1,497 1,184	912 705 556 460 413	364 329 311 282	255 205 224 192 149	8 8 8 E	0000	0 0 0	16,702
		12	00000	00000	0 0 281 2,335	3,189 2,375 1,687 1,180 915	713 610 479 384 353	268 270 269 225 225	8 2 2 8	8 8 2 2 9	-4000	0 0 0	16,773
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		90	00000	0 0 0 0 0 0 0 0 0	3,691 4,701 3,626 2,620 1,961	1,527 1,142 885 724 582	360 307 272 236	201 182 171 143	EI 108 72 92 85	29 0 0 0 0	0-000	0 0 0	25,013
		7	00000	0 0 0 545 4,675	6,146 4,765 3,378 2,434 1,874	1,461 1,078 879 670 568	269 218 218	202 201 155 153 131	125 93 61 73	0 - 0 3 5	00000	0 0 0	31,313
		9	00000	0 298 4,305 6,449	5,333 3,874 2,905 2,262 1,845	1,344 1,080 880 698 578	455 363 315 296 211	24 180 181 187 187	134 74 74 4	0-0-0	0-000	000	34,715
		S	00000	0 421 5,422 9,038 7,930	5,691 3,921 2,962 2,350 1,809	1,398 1,085 925 694 563	477 355 341 275 289	207 154 172 141 132	7 7 7 8 8	0 0 0 7	00000	000	46,982
		4	00000	595 6,482 9,683 8,394 5,925	4,172 3,069 2,321 1,745 1,422	1,082 828 742 522 462	373 281 285 176	154 123 106 95 87	63 27 2 2	0 0	00000	000	49,519
		60	8 0 0 0 0	7,421 10,436 8,090 5,495 3,852	2,792 2,073 1,568 1,232 965	799 702 488 391 340	293 242 268 138 65	8 8 4 8 2	0 0 - 0 0	0 0 0 - 5	00000	000	48,663
		5	0 0 1,080 9,459	11,967 8,844 5,763 3,965 2,917	2,233 1,731 1,280 1,032 836	669 514 449 410 309	286 309 132 74 69	2 2 13 2 2 2	4 0 0 0 6	00000	00000	000	54,481
		-									00000		56,656
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DoD Enlisted Selected Reserve Personnel by PEBD Years of Service and Age for FY 2015 Valuation

	Total	0 1,130 12,009 25,212 32,330	34,766 36,567 37,426 38,947 38,706	36,248 32,947 29,883 27,714 26,159	25,050 23,829 23,288 21,377 19,853	18,109 16,132 14,859 13,403 12,195	11,661 10,919 10,731 11,099	10,929 10,004 9,209 8,722 8,093	7,571 6,775 5,885 5,060 4,177	3,281 2,615 2,102 1,691 829	197 143 223	741,687
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	33	00000	00000	00000	00000	00000	00000	00000	0 0 0 0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	261 147 88 38 38	5 - 6	847
	8	00000	00000	00000	00000	00000	00000	00000	0 30 345	210 102 23 23 23	6 4 0	1,218
	35	00000	00000	00000	00000	00000	00000	00000	51 505 346	218 149 122 86 31	4 - 6	1,919
	苯	00000	00000	00000	00000	00000	00000	00000	42 450 536 348 263	211 106 88 85 27	440	2,147
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	8	00000	00000	00000	00000	00000	00000	0 588 683 554	432 344 246 182	125 108 86 86 88 88	4 10 4	3,900
	29	00000	00000	00000	00000	00000	00000	74 695 971 765 580	624 489 239 179	138 108 138 138 138	4 6 9	5,429
	28	00000	00000	00000	00000	00000	00004	1,023 1,023 811 609 626	386 256 256 156	81 101 81 33	e e e	5,867
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YOS)	75	00000	00000	00000	00000	00000	526 865 833 726	718 641 440 312 276	245 226 201 152 125	8 % 8 9 8	∞ ∞ ∾	6,712
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ears Of	22	00000	00000	00000	00000	0 0 0 731	1,134 918 716 748 817	594 417 399 297 258	242 208 179 141 103	104 104 104 104 104 104 104 104 104 104	8 1- 9	8,336
PEBD) Y	21	00000	00000	00000	00000	0 69 798 1,213	1,038 807 792 735 623	503 415 354 280	246 230 172 158 135	S 8 8 8 4	6 61 61	9,258
Completed Pay Entry Base Date (PEBD) Years Of Service (YOS)	8	00000	00000	00000	00000	0 98 1,414 1,063	825 835 789 646 560	344 344 361 361	245 210 185 187 155	104 96 70 45	× 4 0	10,314
Entry Bas	19	00000	00000	00000	00000	11.297 1.826 1.396 1.037	967 976 977 573 541	462 386 310 272 242	256 244 231 229 158	106 81 75 25 25	3 3 9	12,564
ted Pay 1	81	00000	00000	00000	0 0 0 0 138	1,491 2,131 1,654 1,128 1,082	586 547 587	408 365 254 257	237 215 189 133	2 2 4 8 2	3 6	13,931
Comple	17	00000	00000	00000	0 0 162 1,796	2,414 1,692 1,226 1,048 1,002	742 585 583 498	369 204 204 253	243 197 156 128	53 33 8 8	2 2 10	14,742
	16	00000	00000	00000	0 245 2,062 2,646	1,900 1,287 1,185 1,091 716	601 514 494 429 405	373 308 256 250 246	216 212 152 91 81	23 7 8 7 8	0 4 8	15,882
	15	00000	00000	00000	328 2,618 3,340 2,319	1,524 1,318 1,304 924 676	531 452 433 377	355 278 232 250 261	206 169 128 83 83	2 2 2 3 8	6 6 7	18,839
	4	00000	00000	00000	302 2,757 3,885 2,591 1,746	1,561 1,412 1,051 786 631	556 460 417 415 384	326 302 265 269 216	172 134 101 66	25 13 11 10	040	20,939
	13	00000	00000	329 0 0	2,789 3,620 2,679 1,843 1,806	1,656 1,120 866 700 609	530 454 399 388	349 287 249 180	146 112 87 26	16 12 15 15 4	7 86 17	22,029
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	0	0 1,130 10,895 13,525 9,080	5,951 4,235 3,237 2,466 1,955	1,570 1,261 996 862 676	264 469 413 375 384	8 8 8	14 17 81 12 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	0 3 8 5 0	8 6 6 6 -	4 0 - 0 0	0 - 0	60,787
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All DoD Selected Reserve Personnel by PEBD Years of Service and Age for FY 2015 Valuation

Total School Sch $x = \frac{1}{2}$ $\frac{3}{2}$ $\frac{1}{2}$ $\frac{1}$

Basic pay figures reflect the January, 2016, increase of 1.3%.
 Age is age nearest birthday as of the end of the fixed year.
 Constructed using the 'Average Points Per Year' rates displayed in Appe.

Appendix C

DoD Officers Average Monthly Selected Reserve Personnel Basic Pay by PEBD Years of Service and Age for FY 2015 Valuation

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2015 Valuation

Reserve Personnel Basic Pay by PEBD Years of Service and Age for FY

DoD Enlisted Average Monthly Selected

Trotal 28,987 28

for FY 2015 Valuation

of Service and Age

by PEBD Years

DoD Average Monthly Selected Reserve Personnel Basic Pay

DoD Officers Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2015 Valuation

110		Total	0	4	20	38	105	177	280	451	731	1,083	1,368	1,694	2,026	2,350	2,680	3,212	3,902	3,949	4,174	4,151	4,186	4,218	4,481	4,454	2,341	86	74	252	52,499	
valuation		41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Ξ	177	178	6	13	174	562	
		40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	215	319	141	9	7	22	719	
CI07 I		39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	219	327	301	135	11	19	7	1,028	
1 1 10		38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	250	347	270	283	380	32	6	∞	1,597	
Age 101		37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	213	281	246	238	1,006	589	14	7	7	2,613	31.3
alla		36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	246	308	271	249	1,042	888	272	3	S	Ξ	3,328	
ani iac		35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	296	341	304	306	851	893	423	139	9	7	8	3,597	ars of Serv
iac io		8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	387	356	381	325	873	878	445	260	141	4	_	4	4,096	Average PEBD Years of Service:
i cais	YOS)	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	333	395	325	367	898	849	447	271	207	85	1	7	-	4,181 4	Average
	Completed Pay Entry Base Date (PEBD) Years Of Service (YOS)	32	0	0	0	0	0	0	0	0	0	0	0	0	0	28	311	369	347	272	875	934	509	311	237	161	99	-	2	ю	4,426 4,	
LEDD	ars Of S	31	0	0	0	0	0	0	0	0	0	0				268		285				402		506		118		2	0	ю	4,020 4,	
Š	D) Ye																															
ı caıs	ite (PEB	30	0	0	0	0	0	0	0	0	0	0	0	27	252	272	248	250	816	927	473	271	211	150	115	69	52	3	3	_	4,140	53.5
100	Base Da	29	0	0	0	0	0	0	0	0	0	0	27	247	318	289	255	684	778	397	257	209	146	96	76	69	27	1	3	0	3,879	Average Age:
zo Good Lears	y Entry	28	0	0	0	0	0	0	0	0	0	12	236	312	238	236	579	653	375	186	149	117	83	54	53	52	30	-	0	-	3,367	Averag
, IIII v	pleted Pa	27	0	0	0	0	0	0	0	0	28	189	213	161	165	460	456	264	181	123	94	54	43	51	45	34	18	1	0	т	2,583	
	Com	26	0	0	0	0	0	0	0	13	171	206	161	140	434	458	260	156	118	66	70	44	4	38	42	59	14	2	-	-	2,501	
rersonner with		25	0	0	0	0	0	0	12	76	143	44	114	348	347	175	84	89	20	20	37	35	24	27	23	22	13	-	4	0	1,838	tuary.
ט		24	0	0	0	0	0	∞	09	91	78	95	288	295	132	9/	71	46	42	18	21	21	22	16	16	19	∞	0	0	0	1,423	of the Actuary.
Lesel		23	0	0	0	0	5	19	91	78	29	184	216	66	49	49	41	30	24	16	21	16	11	12	13	c	3	0	-	0	1,090	OoD Office
naio		22	0	0	0	2	20	57	40	46	140	161	77	28	23	23	24	19	12	10	10	2	∞	∞	9	9	3	0	0	0	758	ed by the I
Don Officers (von-Selected Neserv		21	0	0	2	28	40	33	19	64	77	74	21	24	6	10	7	∞	∞	4	7	7	2	3	33	4	-	0	0	8	458	n file creat
		20	0	4	14	7	10	16	54	57	25	16	14	13	9	2	4	9	4	3	-	0	1	0	3	33	0	0	0	0	266	l valuatio
cers		61	0	0	4	_	0	2	4	5	2	2	1	0	_	-	-	0	0	-	_	0	1	0	0	_	-	0	0	0	29	e actuaria
5			_	_	_	0	_	_	0	_	0	_	_	_	_	_	_	_	_	_	0	_	_	0	_	_	_	_	_	_	0	n from th
		<19	J	0	J	_	_	0	_	_	_	_	0)	_	0	_	0	J	_	_	_	0	J	_	_	_)	0	_	J	Data taken from the actuarial valuation file created by the DoD Office of
		Age	<37	37	38	39	40	41	42	43	4	45	46	47	48	49	20	51	52	53	54	55	99	22	28	29	09	61	62	63	Total	Notes:
																															T	

52.7

Average Age:

DoD Enlisted Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2015 Valuation

40 41 Total	0 0 50 0 0 56 0 0 150 0 0 483 0 0 861	0 0 1,376 0 0 1,810 0 0 2,519 0 0 3,694 0 0 4,756	0 0 5.425 0 0 6.359 0 0 7.096 0 0 8.019 0 0 8,808	0 0 10,288 0 0 11,477 0 0 12,225 0 0 12,308 0 0 12,367	0 0 11,807 52 0 11,476 11,163 70 11,766 2,013 970 11,556 871 1,141 5,751	37 67 272 20 64 180 47 562 888 4,203 2,874 163,773
39	00000	00000	00000	00000	93 1,359 2,100 1,756 693	29 14 63 6,107
38	0000	0 0 0 0	0 0 0 0	0 0 0 0 141	1,608 2,245 1,860 1,342 615	22 15 43 7,891
37	0000	0000	0000	0 0 0 128 1,470	2,079 1,588 1,247 951 437	20 12 42 7,974
36	0000	0000	0000	0 0 157 1,806 2,370	1,785 1,218 1,022 806 349	10 32 32 9,558
35	00000	00000	0000	224 5 224 0 2,040 5 2,796 2,120	1,462 1,052 896 804 330	11 11 19 19 19 11 17 10 11 17 10
33 34	00000	00000	0000	247 5 2,075 5 2,850 6 1,855 1,442	990 858 6 699 1 593 3 259	13 7 0 14 0 11,902
. 33	00000	00000	0 0 0 491	1,923 2,506 1,905 1,450 1,108	837 679 515 0 490 5 203	7 12 20 20 11,819
32	0 0 0 0	0000	0 0 0 0 3 0 1 173 0 1,655	2,361 1,891 1,332 1,057 1 881	5 627 8 518 5 470 2 380 8 185	12 8 9 9 9 7 11,559
) 31	00000	00000	24 1,70 2,15	5 1,779 1 1,242 8 980 1 799 2 671	536 378 5 375 9 292 5 148	12 3 2 4 9 4 9
9 30	00000	00000	1,34 1,36 1,36	0 1,016 0 881 0 718 5 531 3 472	5 419 2 339 8 296 5 249 0 116	6 7 3 3 3 13 4 09 9,467
8 29	00000		8 106 4 1,317 7 1,880 1 1,560 7 1,116	8 730 1 590 8 475 0 393	3 325 2 272 0 228 9 215 8 100	10,2
27 28	0000	· ·	1 1,168 9 1,784 1 1,367 8 1,031 9 737	5 627 5 538 3 451 4 378 3 330	8 273 0 242 6 200 9 169 9 68	4 3 1 1 1 0 6 4 9,438
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	0000	0 60 677 1,092 93 1,43	 593 1,118 442 774 334 532 296 466 291 394 	245 33 213 33 197 24 172 22 171 191	138 14 127 13 101 12 87 9 46	2 3 1 2 1 3 6,219 7,658
24	00000	35 393 717 6 720 1,0 526 9	370 5 303 4 230 3 203 2 182 2	172 2 170 2 156 1 137 1 156 1	105 1 92 1 94 1 102	1 1 0 4,906 6,2
23	0 0 0 33				85 57 80 57 20	
22	0 0 0 37 332	514 426 312 235 212	161 117 110 101 84	89 74 83 59	63 53 44 36	
21	0 0 19 225 340	298 195 129 112	77 55 59 48 51	51 51 44 37 37	47 29 17 20 4	
20	0 13 106 184 133	76 60 43 50 42	25 24 29 21 26	13 16 19 23 21	16 9 8 1	
19	0 43 25 37 23	16 6 11 6	£ 1 5 £ 8	£1 € ∞ ° ° °	2 3 0 1 5	0 0 0 248
<19	00000	00000	00000	00000	00000	000 0
Age	37 37 38 39 40	14 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	46 47 48 49 50	51 52 53 54 55	56 57 59 60	61 62 63 Total

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Average Age:

All DoD Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2015 Valuation

	Total	0	9	170	521	996	1,553	2,090	2,970	4,425	5,839	6,793	8,053	9,122	10,369	11,488	13,500	15,379	16,174	16,482	16,518	15,993	15,694	16,247	16,010	8,092	370	254	1,140	216,272
	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	1,147	1,319	9/	77	736	3,436
	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	1,378	2,332	1,012	43	27	69	4,922
	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	1,578	2,427	2,057	828	40	33	70	7,135
	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	159	1,858	2,592	2,130	1,625	366	54	24	51	9,488
	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145	1,683	2,360	1,834	1,485	1,957	1,026	34	14	49	10,587
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	2,052	2,678	2,056	1,467	2,064	1,694	621	13	∞	43	12,886 1
	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257	2,336		2,424	1,768			1,227	469	22	13	22	15,367
	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								1,144	853	400	17	∞	18	15,998 1:
(YOS)	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194			_		926,1					288	∞	14	21	16,000 1:
Service (YOS)	32	0	0	0	0	0	0	0	0	0	0	0	0	0	201	996'1		2,238		1,932	1,815			707		251	13	10	12	15,985
ears Of	31	0	0	0	0	0	0	0	0	0	0	0	0	295	1,969			1,554		1,605	1,073			512		193	14	2	12	15,337 1.
PEBD) 1	30	0	0	0	0	0	0	0	0	0	0	0	153			,550		1,697	1,645	1,004	743	630	489	411	318	168	10	9	S	13,607 13
Completed Pay Entry Base Date (PEBD) Years Of	29	0	0	0	0	0	0	0	0	0	0	133	1,564	2,198	1,849	1,371	1,564	1,508	284	732	602	471	368	304	284	127	7	9	13	14,088
Entry Ba	28	0	0	0	0	0	0	0	0	0	77	1,404	2,096	: 509,1	1,267	1,316			637			356	296	253	221	86	4	_	7	12,805 1
ted Pay	27	0	0	0	0	0	0	0	0	129	,277	1,764	1,360	916		575	669	286	456	378	297	211	221	201	153	77	5	-	ю	10,867
Comple	26	0	0	0	0	0	0	0	105	1,128	1,663	1,279	914	996	924	654	474	452	339	292	238	190	174	166	123	99	5	33	4	10,159 10
	25	0	0	0	0	0	0	72	774			707	790	681	471	375	313	283	247	509	206	162	154	124	109	59	3	2	-	8,057 10
	24	0	0	0	0	0			808			658	298	362	279	253	218	212	174	158	177	127	108	110	121	49	-	-	0	6,329
	23	0	0	0	0	38	498	761	919	488	509	469	306	204	180	170	153	148	138	115	107	96	69	93	09	23	-	-	0	5,243
	22	0	0	0	39	382	571	466	358	375	373	238	145	133	124	108	108	98	93	69	26	71	19	50	42	14	0	0	0	3,962
	21	0	0	21	253	380	331	214	193	189	176	86	79	89	28	28	55	26	48	44	44	49	32	20	24	S	0	0	4	2,502
	20	0	17	120	191	143	26	114	100	75	58	39	37	35	56	30	19	20	22	24	21	17	=	12	Ξ	1	0	0	0	1,235
	61	0	43	59	38	23	18	10	16	∞	∞	4	Ξ	9	4	6	13	3	6	9	5	9	-	0	4	ю	0	0	0	1 772
	<19	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
	Age	<37	37	38	39	40	41	42	43	4	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	09	61	62	63	Total

All Officers

	CSB Dis	\$0 \$0 \$0	0 S	80	0 S	800	0 0s	80	80	80	08.08	808	808	\$22,200	\$14,746	\$25,685	\$30,556	\$29,708	\$33,147 \$34,450	\$34,134	\$33,207	\$29,238 \$28,090	\$47,760	\$25,539	\$40,668 \$28,676	\$34,536	\$38,844 \$10,446 \$0	80	\$61,199 \$0	\$21,174 \$0	80 80	08.9	80
	CSB Non-Dis	800	0 S	\$0	0\$ S	0\$	80 80 80	8 S	0\$	80	08.8	808	8 S	\$12,052	\$23,108	\$24,994 \$28,468	\$28,794	\$32,485	\$33,521 \$34,719	\$36,789	\$37,323	\$37,796 \$37,878	\$39,032	\$38,752	\$35,721	\$41,202	\$40,046 \$43,459 \$38,447	\$37,941	\$36,488 \$39,353	\$52,302 \$40,944	\$45,802	S 5	80
	TERA Res Ret	80	S S	\$0	0S S	S S	8 8 80	800	800	80	80	80	80	800	80	8 8 8	809	800	8 8 8	809	0S	8 S	809	80 8	8 8 8	800	\$0 \$49,523 \$19.752	\$20,856	\$20,584	\$19,688	\$20,613	\$16,848	\$15,902
tired Pav	TERA Non-Dis	\$0 80 80	S S	80	S S	800	80 80 80	80	0\$	80	08.08	\$19,704	\$26,686	\$23,625	\$27,520	\$28,735	\$32,698	\$34,997	\$33,369	\$33,358	\$34,786	\$34,903 \$30,714	\$31,440	\$24,282	\$25,746 \$24,563	\$26,702 \$27,263	\$28,041 \$28,990 \$29,670	\$31,045	\$31,760	\$33,142	\$33,188	\$35,075	\$38,165
Average Annual Net Retired Pav	Total	\$0 80 80	0 S	80	0\$ S	\$3,970	\$6,580 \$8,880	\$7,238	\$8,990	\$11,095	\$11,663	\$11,736	\$12,570 \$14,144	\$14,852	\$19,937	\$25,584 \$28,412	\$31,242	\$37,725	\$39,579 \$41,240	\$42,434	\$45,621	\$46,714 \$47,633	\$48,735	\$51,137	\$52,230	\$52,196 \$52,066	\$51,708 \$51,059 \$46,913	\$43,334	\$43,478 \$42,593	\$42,061 \$41,386	\$40,165	\$39,149	\$39,653
Average Ar	Reserve Retired	80	S S	80	0 8 8	800	80 80	80 80 80	80	80	08	80	800	0S 80	80	80 80 80	08.08	80	08 80 80	800	08	80 80 80	0 S	\$57,609	\$51,999	\$43,530	\$46,080 \$41,352 \$30,262	\$28,008	\$27,939 \$27,091	\$26,561 \$25,820	\$24,439	\$24,169	\$24,470
	Temp Disabled	\$0	0S S	\$0	0S S	S S	\$8,638 \$12,286	\$10,033	\$10,105	\$13,959	\$14,606	\$13,023	\$17,185	\$17,731	\$19,551	\$23,860	\$28,220	\$29,203	\$26,840 \$34,826	\$29,638	\$36,494	\$36,006 \$34,745	\$46,704	\$43,219	\$38,459	\$36,596 \$40,169	\$35,212 \$29,737 \$45 851	\$31,906	\$43,002 \$0	\$34,094 \$0	80	809	80
	Perm Disabled	80	80	\$0	80	\$3,970	\$4,522 \$4,624	\$5,968	\$8,497	\$9,942	\$10,982	\$11,252	\$11,536	\$12,545	\$13,642	\$16,720	\$18,242	\$21,119	\$23,443 \$25,185	\$24,789	\$27,839	\$27,742 \$27,858	\$27,876	\$25,058	\$28,436 \$29,961	\$27,801	\$24,877 \$29,118 \$30,149	\$27,247	\$30,961	\$31,254	\$30,269	\$29,807	\$28,044
	Non Disabled	\$0 \$0 \$0	88	\$0	800	\$0	20 80 80	0\$ 80	\$0	80	08	\$19,704	\$26,686	\$23,625	\$28,411	\$30,544	\$35,004	\$40,306	\$41,626 \$42,859	\$44,021	\$46,751	\$47,726 \$48,652	\$49,679	\$52,168	\$53,161 \$53,407	\$53,053	\$52,647 \$52,015 \$51,122	\$51,415	\$51,480	\$50,689	\$50,291	\$49,871	\$51,060
i	ΔÖ																																
-	CSB 1 Dis Di	0 0	00	0	00	0	00	00	00	00	00	. 0 0	00	- 4	«	7 %	12	. 83	30 30	31	15	111	εν 4	. 2		- 6		0	0 1	0 1	00	00	00
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	TERA TERA CSB CSB Non-Dis Res Ret Non-Dis Dis	000	000	0 0 0 0	0 0 0			0 0 0	0 0 0 0		0 0 0		11 0 0 0 0				200 0 87	167	152 0 263 95 0 362	76 0 437	27 0	32 18 0	25 0	000	10/ 0 219 0	435 0	1,089 1,294 1,424	1,411	1,259 1,035	763 474	373	256	125
Number	TERA TERA CSB CSB Total Non-Dis Res Ret Non-Dis Dis							0 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 133 0 0 0 0			277	404	249 776	997 209 0 87	2,183 167 0 174	2,973 132 0 263 3,871 95 0 362	4,489 76 0 437 4 907 53 0 350	5,448	0 0	7,751 25 0 8,432 35 0	8,498	8,690 10/ 0 8,852 219 0	9,027 435 0	10,095 1,089 10,360 1,294 12,74 5 1,424	15,653 1,411	16,091 1,259 16,555 1,035	16,189 763 16,913 474	18,437 373 20,275 297	22,026 256	16,407 125
Number	Reserve TERA TERA CSB CSB Retired Total Non-Dis Res Ret Non-Dis Dis						00		00	00	00	000	00	0 277 0	0 404	0 549 0 776	0 997 209 0 87	0 2,183 167 0 174	0 2,973 152 0 263 0 3,871 95 0 362	0 4,489 76 0 437	0 5,448 27 0	0 6,178 32 0 0 6,950 18 0	0 7,751 25 0 8 433 35 0	1 8,498 70 0	8 8,852 219 0	435 0	145 10,095 1,089 266 10,360 1,294 2,284 1,245 1,424	5,089 15,653 1,411	5,194 16,091 1,259 5,663 16,555 1,035	5,550 16,189 763 6,038 16,913 474	18,437 373 20,275 297	8,805 22,026 256 9,371 23,434 205	6,663 16,407 125
	Temp Reserve TERA TERA CSB CSB Disabled Retired Total Non-Dis Res Ret Non-Dis Dis						00	00	19 0	33 0	25 0	24.6	3/ 51 0	42 0 277 44 0 259	53 0 404	33 0 549 34 0 776	34 0 997 209 0 87 54 0 1412 200 0 123	53 0 2,183 167 0 174	50 0 2,9/3 152 0 263 41 0 3,871 95 0 362	50 0 4,489 76 0 437 34 0 4 907 52 0 350	21 0 5,448 27 0	27 0 6,178 32 0 16 0 6,950 18 0	20 0 7,751 25 0 30 0 8,433 35 0	20 1 8,498 70 0	1/ 5 8,690 10/ 0 14 8 8,852 219 0	28 9,027 435 0 74 9,483 717 0	8 145 10,095 1,089 7 266 10,360 1,294 5 2,384 1,745 1,424	3 5,089 15,653 1,411	5 5,194 16,091 1,259 0 5,663 16,555 1,035	1 5,550 16,189 763 0 6,038 16,913 474	6,938 18,437 373 8,021 20,275 297	0 8,805 22,026 256 0 9,371 23,434 205	0 6,663 16,407 125
Number	Reserve TERA TERA CSB CSB Retired Total Non-Dis Res Ret Non-Dis Dis						00	10 0 14 0	19 0	33 0	25 0	24.6	3/ 51 0	197 42 0 277 159 44 0 259	200 53 0 404	33 0 549 34 0 776	34 0 997 209 0 87 54 0 1412 200 0 123	263 53 0 2,183 167 0 174	50 0 2,9/3 152 0 263 41 0 3,871 95 0 362	50 0 4,489 76 0 437 34 0 4 907 52 0 350	314 21 0 5,448 27 0	297 27 0 6,178 32 0 330 16 0 6,950 18 0	20 0 7,751 25 0 30 0 8,433 35 0	317 20 1 8,498 70 0	31/ 1/ 5 8,690 10/ 0 300 14 8 8,852 219 0	290 9 28 9,027 435 0 289 10 74 9,483 717 0	8 145 10,095 1,089 7 266 10,360 1,294 5 2,384 1,745 1,424	303 3 5,089 15,653 1,411	314 5 5,194 16,091 1,259 312 0 5,663 16,555 1,035	1 5,550 16,189 763 0 6,038 16,913 474	366 0 6,938 18,437 373 371 0 8,021 20,275 297	0 8,805 22,026 256 0 9,371 23,434 205	434 0 6,663 16,407 125

Appendix C

All Officers

CSB		08 08 S	80	08 S	808	0\$	80	80 8	80	S S	80	80	80	08 80	80 S0 80 S0	\$0	Q Q	80	00	80	05 3	08 80 80	\$0	S S	80	80	\$31,539	\$41,187	\$0
CSB Non-Dis	\$0 80	888	0\$ 8	S S	889	80	80	0 8 8 8 8 8	80	08	80	80	\$0	08 80 80	\$0 \$0	\$0	0,00	80,9	9 9	\$0	80	08 8	\$0	S S	80	80	\$35,621	\$43,829	\$49,036
TERA Res Ret	\$19,079	\$14,432 \$12,006	\$14,962	\$16,286	\$14,574	\$12,284	\$13,631	\$18,975 \$18,975 \$0	\$17,483	\$19,096	\$19,740	80	0\$	08 80 80	08 80 80	80	08.08	0\$	00	80	80	08 80 80	80	S S	80	80	\$18,672	\$18,656	\$17,062
ired Pay - TERA Non-Dis	\$36,614	\$39,091 \$40,592 \$36,774	\$48,192	\$49,630	\$39,801	\$42,458	\$52,838	\$43,463 \$48,994 \$28,764	\$44,595	\$37,068	\$20,966	80	80	08 80 80	80 80 80	80	98	0\$	0\$	80	80	08 8	80	S S	80	80	\$31,004	\$32,420	\$35,224
Average Annual Net Retired Pay Reserve TERA Retired Total Non-Dis	\$39,930 \$40,235	\$39,828	\$41,702	\$41,046	\$41,863	\$43,364	\$44,234	\$44,564 \$44,046 \$43,742	\$43,522	\$44,591	\$43,732 \$44,954	\$45,241	\$43,086	\$42,172	\$41,624	\$41,994	\$38,079	\$40,097	\$40,419	\$43,017	\$36,880	\$43,112	\$21,066	850 508	80	80	\$43,062	\$41,609	\$41,166
Average Am Reserve Retired	\$24,603 \$23,928	\$23,526 \$22,781	\$22,611	\$21,760	\$20,994	\$20,353	\$20,948	\$20,390 \$19,759 \$19,201	\$18,891	\$18,530	\$18,872	\$18,466	\$18,618	\$17,961	\$17,613	\$19,666	\$20,682	\$21,948	\$21,323	\$26,757	\$24,019	\$24,552	\$21,066	S S	80	80	\$23,379	\$23,309	\$22,486
Temp	\$0 \$0	888	0\$	S S	889	0\$ 80	80	08 8 80 8	80	08	80 80	80	\$0	08 80	80 S	80	9 9	0,5	000	80	08	08 80 80	80	9 9 9	80	80	\$24,865	\$41,006	80
Perm Disabled	\$28,831 \$30,227	\$30,947	\$38,696	\$38,033	\$38,958	\$42,241	\$44,931	\$43,204 \$43,219 \$46,271	\$43,569	\$47,103	\$49,421	\$47,609	\$39,534	\$36,730	\$37,059	\$42,401	\$40,326	\$30,986	\$26,233	\$63,655	\$84,768	08 8	80	S S	80	80	\$29,401	\$34,609	\$35,456
Non Disabled	\$51,227 \$51,259	\$50,933 \$50,841 \$50,770	\$51,384	\$51,327	\$52,921	\$55,113	\$55,733	\$57,458 \$57,458 \$58,416	\$59,113	\$61,134	\$64,250	\$66,675	\$65,624	\$64,289	\$62,786 \$60,537	\$60,975	\$58,601	\$60,561	\$50,049	\$52,729	\$52,240	\$63,675	80	\$50.508	80	80	\$51,781	\$52,687	\$53,072
CSB	00	000	0	00	. 0 0	0 0	00	000	0	00	00	0	00	00	00	0	00	00	0 0	0	00	00	0	00	0	0	239	01 C	10
CSB Non-Dis	0 0	000	0	00	00	0	0	000	0	00	0	0	00	00	00	0	00	00		0	00	0	0	00	0	0	2,784	31	-
TERA Res Ret	41 35	29 29	35	38 29	4 5	16	6	040	2	4 -	0	0	0 0	00	00	0	00	00		0	0	0	0	00	0	0	1,911	1,910	956
TERA Non-Dis	82 72	35	: :	o &) oc o		ς, ι	. 60	_		0	0	0	0	00			00		0	0	0	0	00	0	0	13,633	7,953	2,061
Number Total	16,399	15,815	12,731	11,817	10,484	10,113	9,241	8,575 8,298	7,340	5,864	3,098	3,205	3,408	2,232	2,612 2,134					721		7	4	0 -	0	0		383 494	
Reserve	6,578 6,151	6,096 4,883	4,022	3,998	3,538	3,349	3,004	2,976 3,053	2,766	2,223	1,463	1,387	1,563	1,469	1,112	657	322	178	56	78	17	04	4	00	0	0	149,716	149,189	125,409
Temp		000						000													0			00			1,0	_	0
Perm Disabled		303			213			198										34.		7	~		0				_	7 9,942	
Non		9,291																173				+ ·c						252,747	
Age	717	73	76	7.2	2/ 8	81	86	°, % %	86	<u>ک</u> ک	ŏ \$	6	16	93	9.8	96	- 86	8, 5,	M 12	102	100	105	106	.01	105	Ξ	Total	+ 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60	65+

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.

All Enlisted

	CSB Dis	08 80 80 80	80	0 8 8 8	0\$	08 80	80 S	80	9 S	\$ 80 80 80 80	80	08 3	\$18,407	\$10,514	\$9,408	\$14,079 \$14,079	\$17,887	\$18,985	\$21,042 \$21,228	\$21,825	\$22,364	\$22,519 \$21,721	\$21,995	\$19,171	\$20,209 \$20,568	\$26,092 \$23,658	\$21,825	\$20,180	\$0	\$40,104 \$0 \$0	0\$ \$	3 S S	8008
	CSB Non-Dis	\$0 80	80	20 S	08	08 08	\$ 80 80	80	S S	8 8	80	05 S	80	\$5,951	\$10,763	\$16,282	\$18,000	\$19,317	\$19,703 \$20,164	\$20,256	\$19,842	\$20,066 \$19,620	\$19,536	\$19,521	\$19,817 \$18,859	\$19,170	\$18,797	\$18,002	\$17,617	\$21,723	9 S	888	8008
	TERA Res Ret N	800	80	0 8 8	80	08 8	0 S	80	S S	0S S	80	0\$	08.0	0.5	808	0 S 80 S	\$000	08 8	80 80	80	08	8 8 8	0 S	0S	0 8 8	\$0 80	\$0 \$17,443	57,610	\$7,520	\$7,289	\$7.025	\$7,039	\$7,029 \$7,147
A Pay		80	80	0 8 8	0\$	80.00	80 80	80	S S	800	80	\$0	\$14,813	\$14,211	\$15,164	\$15,793 \$16,427 \$16,787	\$16,595	\$16,593	\$17,318	\$18,102	\$14,193	\$12,132 \$12,069	\$11,919	\$12,543	\$12,799 \$13,149	\$13,742 \$14,468	\$14,889	\$15,160	\$15,034	\$15,431	\$16,357	\$16,694	\$17,924 \$18,206
al Net Retire	Total	80	80	\$7,476 \$6,955	\$5,073	\$3,651	\$3,725	\$3,932	\$4,260 \$4,123	\$4,407	\$5,067	\$5,381	\$6,882	\$9,734	\$9,544	\$15,749	\$19,342	\$20,302	\$21,622 \$21,908	\$22,169	\$23,300	\$23,803 \$24,055	\$24,076	\$23,570	\$23,365 \$22,826	\$22,655 \$22,417	\$22,145 \$22,031	\$20,889	\$19,321	\$18,871	\$18,427	\$18,411	\$18,594 \$18,716
Average Annual Net Retired Pay	Reserve Retired	80	80	0 8 8	80	08	0 S S	80	S S	0S S	80	08	808	000	08	0 S S	\$00	08 80 80	80 80	80	0\$	8 8 8	\$17,323	\$33,840	\$25,502 \$21,560	\$25,896 \$23,161	\$22,523 \$20,140	\$12,794	\$11,882	\$11,417	\$10.888	\$11,004	\$10,718 \$10,705
Α,	Temp R Disabled F	\$0 80	80	\$7,578 \$7,859	\$5,515	\$4,826 \$3,930	\$4,430	\$4,409	\$4,869 \$4,634	\$5,046 \$5,754	\$6,591	\$6,916	\$7,767	\$8,094	\$8,239	\$11,025	\$14,218	\$15,450	\$16,663 \$16,762	\$17,659	\$16,874	\$17,205 \$21,154	\$20,378	\$19,458	\$22,881 \$22,031	\$18,753 \$18,146	\$23,151 \$21,354	\$76,440	\$23,954	\$10,076 \$0 \$0	0\$ \$	8 8 8	808
	Perm Disabled D	\$0 80	80	\$7,425 \$5,146	\$4,609	\$4,033 \$3,421	\$3,339	\$3,732	\$4,009 \$3,948	\$4,213	\$4,691	\$5,020	\$6,060	\$6,044	\$6,615	\$7,820 \$8,906	\$9,970	\$11,271	\$12,786	\$13,050	\$13,303	\$12,847 \$12,614	\$12,896	\$13,197	\$12,981 \$12,009	\$12,457 \$12,406	\$12,682	\$12,079	\$13,340	\$13,040	\$10.349	\$9,385 \$9,431	\$10,075
	Non Disabled	\$0 80	80	0 8 8	0\$	80	8 80	80	S S	\$08.136	\$24,525	\$44,004	\$15,021	\$14,284	\$15,177	\$19,995	\$21,128	\$22,234	\$22,583 \$22,867	\$22,978	\$23,964	\$24,460 \$24,676	\$24,622	\$24,043	\$23,789 \$23,245	\$23,044 \$22,779	\$22,519 \$22,407	\$22,407	\$22,381	\$22,738	\$23,422	\$23,722 \$23,756 \$24.144	\$24,425 \$24,476
	_																																
	CSB Dis	00	0	00	00	0	00	0	00	00	0	0 0	100	, 41	16	91 140	164	203 231	270 246	225	147	88	49 84	52	10	12 5	2 - 4	n "	0 -	-00	0 0) O C	00
	CSB CSB Non-Dis Dis	0 0 0	0 0	00	00		00	0 0	00	00	0 0	00	900	107		748 91 1515 140		5,387 203 4,425 231				2,826 88 2,035 61	1,508 64			309 12 201 5	171 122 122 1	28 88 3	33	0 0 0	0 0	,00	000
	CSB Non-Dis	0 0 0	0 0	000000000000000000000000000000000000000	0 0 0		0 0 0	0 0 0		000	0 0 0	0	000000000000000000000000000000000000000	0 38 /												$\begin{array}{ccc} 0 & 309 & 12 \\ 0 & 201 & 5 \end{array}$	0 171 2 3 122 1			356 7 0	350 0 0	406 0 0 413 0 0	371 0 0 243 0 0
		000000000000000000000000000000000000000	0 0 0	0 0 0 0	0 0 0		000	0 0 0			0 0 0 0	0 0 0	157 0 0 2		0 127		2,489	7 0 5,387	7 0 5,658 7 0 7,015	0 7,619	0 4,319		0 1,508	0 820	0 611 5 0 403	00		3 387	381			436 406 0 0 0 373 413 0 0	
Nimber	TERA TERA CSB Non-Dis Res Ret Non-Dis	0 0 0 0 0 0 0 0		30 0 0 0 0 0 0 0	84 0 0 0 0	275 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	452 0 0 0 0 0 703 0 0 0 0	0 0 0 0 896	1,586 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2,008 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2,563 0 0 0 0	2,588 0 0 0 0 0		783 0	871 0 127	0 290	362 0 2,489	238 0 3,387 167 0 4,425	7 0 5,658 7 0 7,015	54 0 7,619	37 0 4,319	3 0 2,826 7 0 2,035	0 1,508	1,613 0 820	2,864 0 611 3,916 0 403	4,519 0 4,824 0	0 6 5	2,992 140	1,527 381	356	533	436 373	
Number	TERA TERA CSB Total Non-Dis Res Ret Non-Dis				0 84 0 0 0 0	0 143 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 452 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	,		0 2,008 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				2,797 783 0	2,692 871 0 127	719 0 748	9,281 362 0 2,489	13,882 167 0 4,425	127 0 5,658 97 0 7,015	20,465 54 0 7,619	24,030 37 0 4,319	26,954 48 0 2,826 29,637 167 0 2,035	379 0 1,508 843 0 1,095	36,952 1,613 0 820	2,864 0 611 3,916 0 403	38,540 4,519 0 37,319 4,824 0	4,687 0 3,983 3	38,300 2,992 140 44.442 2.03 387	43,655 1,527 381	893 356 873 356 884 316	44.462 533	45,490 436 46,536 373	307 181
Nimber	TERA TERA CSB Non-Dis Res Ret Non-Dis		0	00	00	0	160 0 452 0 0 0 0 0 0 239 0 703 0 0 0	0	00		0	00	2,522	0 2,047 453 0	0 2,692 871 0 127	5,027 081 0 290 4,569 719 0 748 6,074 523 0 1515	0 9,281 362 0 2,489	0 11,404 258 0 5,387 0 13,882 167 0 4,425	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 20,465 54 0 7,619	0 24,030 37 0 4,319	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 32,759 379 0 1,508 0 35,016 843 0 1,005	36,952 1,613 0 820	3 38,358 2,864 0 611 3 39,105 3,916 0 403	19 38,540 4,519 0 39 37,319 4,824 0	36,583 4,687 0 35,054 3,983 3	4,756 38,506 2,992 140 10 997 44 442 2.503 387	11,473 43,655 1,527 381	42,137 1,104 340 42,645 893 356 77,571 684 316	15.447 44.462 533	45,490 436 46,536 373	17,035 45,597 307 11,825 31,429 181
Nimber	Temp Reserve TERA TERA CSB Disabled Retired Total Non-Dis Res Ret Non-Dis	00	0	00	00	124 0	00	286 0	00	468 0 445 0	497 0	472 0	0 2,522	321 0 2.797 783 0	252 0 2,692 871 0 127	0 5,027 001 0 250 0 4,569 719 0 748 0 6,074 5,3 0 1,515	203 0 9,281 362 0 2,489	197 0 11,404 238 0 5,387 185 0 13,882 167 0 4,425	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	127 0 20,465 54 0 7,619	110 0 24,030 37 0 4,319	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	70 1 32,759 379 0 1,508 70 0 35,016 843 0 1,95	60 1 36,952 1,613 0 820	3 38,358 2,864 0 611 3 39,105 3,916 0 403	34 19 38,540 4,519 0 14 39 37,319 4,824 0	109 36,583 4,687 0 272 35,054 3,983 3	3 4,70 56,300 2,992 140 14 10,997 44,442 2,203 387	5 11,473 43,655 1,527 381	13,177 + 23,179 1,104 340 13,292 + 22,645 893 356 14,173 47,571 684 316	0 15.47 44.462 533	0 16,263 45,490 436 0 17,239 46,536 373	17,035 45,597 307 11,825 31,429 181
Nimber	Temp Reserve Total Non-Dis Res Ret Non-Dis	00	0	00	00	124 0	160 0 239 0	286 0	372 404 0	468 0 445 0	497 0	472 0	2,117 400 0 2,522 1,979 385 0 2,522	321 0 2.797 783 0	1,567 252 0 2,692 871 0 127	2/1 0 3,027 001 0 290 2/2 0 4,569 719 0 748 2/3 0 6,974 523 0 1515	1,360 203 0 9,281 362 0 2,489	1,594 197 0 11,404 238 0 3,387 1,509 185 0 13,882 167 0 4,425	178 0 16,982 127 0 5,658 167 0 19,652 97 0 7,015	1,600 127 0 20,465 54 0 7,619	1,425 110 0 24,030 37 0 4,319	82 0 26,954 48 0 2,826 76 0 29,637 167 0 2,035	1,497 70 1 32,759 379 0 1,508	1,587 60 1 36,952 1,613 0 820	38 3 38,358 2,864 0 611 29 3 39,105 3,916 0 403	1,406 34 19 38,540 4,519 0 1,300 14 39 37,319 4,824 0	1,393 5 109 36,583 4,687 0 1,335 16 272 35,054 3,983 3 1,305	1,356 3 4,736 38,366 2,992 140	1,451 5 11,473 43,655 1,527 381	2 15,177 45,159 1,104 540 0 13,292 42,645 893 356 0 14,123 42,645 893 356	2.177 0 15.447 44.462 533	2.487 0 16,263 45,400 436 2.589 0 17,239 46,536 373	0 17,035 45,597 307 0 11,825 31,429 181

Appendix C - 82 - DoD Office of the Actuary

All Enlisted

	CSB Dis	80 80	05 3	80	80	200	08	80	80	\$0	0 0	0\$ 80	80	\$0	099	0\$ 8	80	80	80	0\$ 80	80	80	0\$ S	0\$ 80	80	80	99	80	80	80	08	80	010 700	\$29,729	\$46,164	\$0	
	CSB Non-Dis	80 80	0 S S	80	\$0	08	08	80	80	80	08	0 8 8	80	80	08	0\$ \$	80	80	80	08 8	80	80	08	0\$ 80	80	\$0	9	80\$	80	\$0	9 9 9	808	610 527	\$17.847	\$19,390	80	
	TERA Res Ret	\$6,912 \$7,416	\$7,397	\$6,529	\$6,009	\$6,172	\$5,429	\$6,261	\$6,005	\$6,223	\$5,309	\$5,028	80	\$3,516	\$6,204	80	80	80	80	Q Q	80	80	08	0s 8 S	80	80	Q 9	80	80	\$0	0 2 3	808	67 107	\$7.101	\$7,038	\$6,881	
ired Pay	TERA Non-Dis	\$18,950	\$19,146	\$20,734	\$22,006	\$21,245	\$20,996	\$23,816	80	\$0	08.9	0\$ 80	80	\$0	08	80	80	80	80	0\$ 80	80	80	0\$ S	0\$ 80	80	\$0	99	80	80	80	08	80	\$14.605	\$15,667	\$16,088	\$17,174	
Average Annual Net Retired Pay	Total	\$19,161	\$19,825	\$20,033	\$20,175	\$20,356	\$21,131	\$21,242	\$21,484	\$22,001	\$22,169	\$22,040	\$22,193	\$22,279	\$22,269	\$21,590	\$21,749	\$21,341	\$20,894	\$20,977	\$22,345	\$21,399	\$21,242	\$19,308	\$19,137	\$20,002	\$21,453	\$000	\$17,214	80	98	80	002 003	\$19,814	\$19,779	\$19,916	
Average An	Reserve Retired	\$10,742	\$10,537	\$9,899	\$9,830	\$9,608	\$9,666	869,68	\$9,941	\$10,301	\$10,254	\$9,038	\$10,163	\$10,304	\$10,508	\$10,789	\$10,786	\$10,745	\$10,681	\$10,824	\$11,868	\$11,946	\$12,387	\$12,749	\$11,762	\$10,926	514,732	\$0	\$8,820	\$0	08	80	610 673	\$10,804	\$10,703	\$10,531	
	Temp Disabled	80 80	80	80	80	08	08 08	80	80	\$0	08.9	0\$ 80	80	\$0	08	80	80	80	80	0\$ 8	80	80	08	0\$ 80	80	80	99	80	80	\$0	08	808	60 174	\$23,867	\$22,275	\$0	
	Perm Disabled	\$13,121	\$15,397	\$17,441	\$17,334	\$17,529	\$17.769	\$17,892	\$17,920	\$16,884	\$16,589	\$15,227	\$16,592	\$17,830	\$18,775	\$18,813	\$20,646	\$19,527	\$21,141	\$23,518	\$26,122	\$34,284	\$31,587	\$11,032	\$9,903	80	Q 9	80	80	\$0	0 2 3	808	\$10.865	\$13,419	\$13,453	\$13,491	
	Non Disabled	\$24,537 \$24,461	\$24,319	\$23,993	\$23,874	\$23,987	\$24,637	\$24,718	\$24,798	\$25,093	\$25,355	\$25,289	\$25,223	\$25,197	\$24,751	\$24,408	\$24,675	\$23,955	\$23,477	\$23,493	\$24,605	\$23,335	\$23,204	\$22,619	\$22,989	\$22,595	\$25,474	\$00	\$25,608	\$0	0 8 8	80	\$33 505	\$23,851	\$24,026	\$24,314	
	CSB Dis	00	00	00	0	00	0	0	0	0 0	00	0	0	0 0	00	0	0	0	0	0	0	0	00	0	0	0 0	00	00	0	0	0 0	00	3000	6		0	
	CSB Non-Dis	0 0	00	00	0	00	00	0	0	0	00	0	0	0	00	0	0	0	0	0	0	0	00	0	0	0		0	0	0	0	00	54 252	238	89	0	
	TERA Res Ret	205	162	97	94	112	100	106	56	56	17	o	0		- 0	00	0	0	0	00	0	0	00	00	0	0		0	0	0	0	0	5 167	5.164	4,637	3,554	
	TERA Non-Dis	127	73	32	17	26	7 ∞	2	0	0	00	0	0	0	0	0	0	0	0	0	0	0	00	0									15 063		6,496		
Number	Total	30,317	31,665	25,754	24,918	25,386	24.724	23,464	21,034	18,471	17,363	15,336	12,894	9,538	6,976	3,784				1,397				81		18	y o	0	2	0	0	00	1 446 104	•	796,389		
	Reserve Retired	10,807	9,692	6,495	6,281	6,131	5.537	5,191	4,433	3,555	3,293	2,867	2,217	1,627	1,085	717	611	449	353	184	128	87	46	212	14	4 (0 -	0	-	0 0	0	00	246,002	245.645	229,892	191,950	
	Temp Disabled	0	0	0	0	00	0	0	0	0	00	0	0	0	00	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	00	7016	26	7	0	
	Perm Disabled	1,218	978	747	209	621	551	526	559	550	638	929 929	629	489	312	161	138	101	69	36	35	18	10		3	0		0	0	0	0	0	95 916	33.041	30,217	25,776	
	Non Disabled	18,292 19,594	20,995	18,512	18,030	18,634	18,636	17,747	16,042	14,366	13,432	11,793	10,018	7,422	5,579	2,906	2,341	1,890	1,389	771	535	305	176	92 59	34	14	n v	0	_	0	0	00	1 106 370	600,570	536,273	447,164	
	Age	71 72	73	75	92	77	79	80	81	82	8 2	8 8	98	87	× ×	6 6	91	92	93	2 2	96	64	86	100	101	102	501	105	106	107	801	109	Lotof	+09	62+	+59	

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.

II DoD

	CSB	0\$	S S	\$0 \$0 \$0	\$0	80	\$ 8 8	\$0	80	\$ 8 8	80	\$18.407	\$10,514	\$12,260	\$11,376	\$18,751	\$19,263	\$20,144 \$22,179 \$22,665	\$23,316	\$22,769	\$23,266 \$22,291	\$23,149	\$19,701	\$21,305	\$26,742 \$23,197	\$27,498	\$30,165	\$61,199	\$21,174 \$0	80	\$0 \$0 \$0	\$0
	CSB Non-Dis	80	05	0,000	0\$	08	808	\$0	08	0 8 8 8	9,9	0,5	\$9,931	\$10,759	\$15,041 \$16,564	\$17,931	\$18,981	\$19,816 \$20,317 \$20,878	\$21,153	\$20,748	\$21,078 \$20,756	\$20,725	\$20,458	\$20,041	\$20,447	\$19,633	\$17,390	\$19,190 \$23,203	\$37,012	\$45,802	S S	\$0
	TERA Res Ret	\$0	<u> </u>	S S	· 98	Q Q (<u> </u>	0,5	9,98	2 S	S S	S S	\$0	8 8	888	2 2	S S	288	9,8	2 S	S S	89	3 S S	88	S S	\$25,463	\$12,956	\$12,397	\$10,964	\$10,664	\$9,011 \$9,079	\$8,786
	TERA Non-Dis	0\$	3, 5	S S	S 8	28	3 3	0\$	88	<u></u>	S S	\$14,971	\$14,505	\$15,165 \$15,855	\$17,250	\$21,188	\$24,602	\$25,795 \$27,152 \$25,495	\$27,021	\$22,881	\$21,240 \$13,883	\$13,127	\$13,031	\$13,754	\$14,880	\$17,369	\$21,335	\$22,592	\$23,592 \$22,916	\$23,286	\$24,459 \$25,194	\$26,359
Average Annual Net Retired Pay	Total	0\$	3 S	\$7,476	\$5,073	\$3,652	\$3,762	\$4,038	\$4,30 6,430 6,306	\$5,000	\$5,393	\$6,143	\$8,281	\$9,703 \$10,233	\$12,776	\$19,255	\$21,898	\$23,292 \$24,297 \$25,089	\$25,814	\$27,425	\$28,075 \$28,533	\$28,794	\$28,724	\$28,323	\$28,261 \$28,424	\$28,539 \$28,653	\$25,722	\$25,827	\$25,252	\$24,799	\$25,121 \$25,671	\$25,897
Average A	Reserve Retired	\$0	0,0					\$0	80	80 80 80	08	808	\$0	0\$ 80 80	\$0 \$0 \$0	Q 9	\$0\$	988	0\$	808	0 8 80 80	\$17,323	\$45,725	\$41,837	\$36,402	\$35,971	\$17,094	\$16,886	\$15,878	\$15,088	\$15,497	\$15,666
	Temp Disabled		05	\$7,5		\$3,930	\$4,507 \$4,294	\$4,599	\$4,880	\$5,516 \$6,321	\$6,975	\$7,691			\$11,142			\$18,532 \$18,895 \$20,323		\$22,231	\$21,862 \$23,518	\$26,228	\$25,398		\$22,488			\$33,478	\$34,094 \$0		S S	
	Perm Disabled			\$7,425		\$3,425						\$5,717			\$7,573 \$8,829	•		\$13,284 \$14,478 \$14,447		\$15,038			\$15,172		\$15,081 \$15,287	\$14,854					\$12,679	
	Non Disabled	0\$	3,5	S S	S S S	8 8 8	3 3	0\$	88	\$0 \$48,136	\$24,525	\$14,971	\$14,575	\$15,202 \$15,874	\$18,785	\$21,8/4	\$23,360	\$24,634 \$25,384 \$26,149	\$26,760	\$27,465	\$28,818 \$29,244	\$29,425	\$29,323	\$28,820	\$28,747 \$28,871	\$29,014 \$29,111	\$29,204	\$29,833 \$30,002	\$30,304	\$31,300	\$32,448 \$33,316	\$33,481
-	CSB Dis	0	00	00	00	00	00	00	000	00	00	0 0 0	7	20 2	4 8 5	148	220	238 238 276	256	162	86	67	345	2 =	13	m C1 u	. m		- 0	00	00	0
	CSB Non-Dis			00	0	000	00	0	00	00	00		36	66				۷ – ۲	. vo d	2 2	170	90	0 14	- 1	~ _					m m	00	0
	ž	0	00											10	301	2,576 2,576	3,510	5,921 7,377	8,056	4,555	2,21	1,6	862	42		178		36 32				
	TERA (Res Ret No	0 0	00	00	00	000	00	00	000	00	00	000	0	0 0 0	0 301	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 3,510	0 4,59 0 5,92 0 737	0 8,05	0 6,62	0 0	0 0,1,0	0 86	0 42		0 178				478	505 474	299
		0 0 0		0 0	0	000	00	00		00	0 0	00	0	0 0	1,006 0 301		0 0	334 0 4,59 279 0 5,92 192 0 7,37	0	00	00	404 0 1,6 878 0 1.1		0	00		650	608 554			629 505 512 474	
	TERA Res Ret	0 0	00	30 0				1,000 0 0	1,520	2,113 0 0 0 2,448 0 0 0		2.791 20 0 2.724 157 0	2,894 466 0	3,074 821 0 2,951 926 0	3,431 1,006 0 5,118 919 0	7. 10 278 571	12,876 438 0	16,065 334 0 19,955 279 0 23,523 192 0	24,954 130 0	29,478 64 0	33,132 80 0 36,587 185 0	404 0		4,135 0	47,567 4,954 0 46,802 5,541 0	46,678 5,776 0 45,414 5,277 4	60,095 3,614 650	59,746 2,786 608 61,754 2,139 554	58,834 1,656 506 59,434 1,158 437	62,899 906	68,562 629 69,031 512	47,836 306
Number	TERA TERA Non-Dis Res Ret	0 0	00	3 0 9 0 0	00	000	00	00	000	0 0	00	0 2.791 20 0 2.724 157 0	0 2,894 466 0	$\begin{array}{cccc} 0 & 3,074 & 821 & 0 \\ 0 & 2,951 & 926 & 0 \end{array}$	0 3,431 1,006 0 0 5,118 919 0	0 45/ 05/,/ 0 175 8/201 0	0 12,876 438 0	0 16,065 334 0 0 19,955 279 0 0 23,573 192 0	0 24,954 130 0	0 28,829 91 0 0 29,478 64 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 40,510 404 0 0 43,448 878 0	2 45,450 1,683 0	11 47,957 4,135 0	47 47,567 4,954 0 113 46,802 5,541 0	254 46,678 5,776 0 538 45,414 5,277 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	16,086 60,095 3,614 650	16,667 59,746 2,786 608 18,840 61,754 2,139 554	18,842 58,834 1,656 506 20,161 59,434 1,158 437	22,385 62,899 906 24,284 65,765 733	629 512	18,488 47,836 306
Number	Temp Reserve TERA TERA Disabled Retired Total Non-Dis Res Ret	0 0	00	3 0	43	124 0	163 0 249 0	296 0 1	423 0 1	501 0 2 478 0 2	522 0 514 0	508 0 2,791 20 0 422 0 2,724 157 0	396 0 2,894 466 0	363 0 3,074 821 0 0 $296 0 2,951 926 0 0$	324 0 3,431 1,006 0 275 0 5,118 919 0	0 66/ 06/, 0 002	251 0 12,876 438 0	238 0 16,105 534 0 228 0 19,955 279 0 208 0 23,573 192 0	177 0 24,954 130 0	134 0 26,829 91 0 131 0 29,478 64 0	109 0 33,132 80 0 0 92 0 36,587 185 0	90 1 40,510 404 0	80 2 45,450 1,683 0 5 47,048 2 2771	43 11 47,957 4,135 0	43 47 47,567 4,954 0 24 113 46,802 5,541 0	13 254 46,678 5,776 0 23 538 45,414 5,277 4	17 16,086 60,095 3,614 650	10 16,667 59,746 2,786 608 2 18,840 61,754 2,139 554	1 18,842 58,834 1,656 506 0 20,161 59,434 1,158 437	0 22,385 62,899 906 0 24,284 65,765 733	0 26,044 68,562 629 0 26,406 69,031 512	0 18,488 47,836 306
Number	Reserve TERA TERA Retired Total Non-Dis Res Ret	0 0	00	3 0	41 43 0	000	295 163 0 472 249 0	704 296 0 1	423 0 1	1,612 501 0 2 1,968 478 0 2	522 0 514 0	0 2.791 20 0 2.724 157 0	2,030 396 0 2,894 466 0	1,888 363 0 3,074 821 0 1 1,726 296 0 2,951 926 0	0 3,431 1,006 0 0 5,118 919 0	0 757 057, 0 0 055, 0 051, 0 0 051	1,610 251 0 12,876 438 0	0 16,065 334 0 0 19,955 279 0 0 23,573 192 0	1,933 177 0 24,954 130 0	1,739 131 0 29,478 64 0	109 0 33,132 80 0 0 92 0 36,587 185 0	1,830 90 1 40,510 404 0 1 832 100 0 43.448 878 0	80 2 45,450 1,683 0 5 47,048 2 2771	1,754 43 11 47,957 4,135 0	1,696 43 47 47,567 4,954 0 1,589 24 113 46,802 5,541 0	254 46,678 5,776 0 538 45,414 5,277 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1,741 17 16,086 60,095 3,614 650	1,765 10 16,667 59,746 2,786 608 1,815 2 18,840 61,754 2,139 554	18,842 58,834 1,656 506 20,161 59,434 1,158 437	2,543 0 22,385 62,899 906 2,858 0 24,384 65,765 733	26,044 68,562 629 26,406 69,031 512	1,865 0 18,488 47,836 306

All DoD

Number Reserve
Total Non-Dis
46,716 209 46,909 182
35,208 16 33,377 10
6,494 7
24,717 3
0.234
5,402
0,894 1
0 1,997 0 6,989 0 0
6,498 0
5,672 0 4 706 0
4,009
3,128 0
2,258 0 1 489 0
904 0
507 0 307 0
0 53
7 0
0 9
0 0
000
00
1,291,289 19,644

Notes:

	Total	\$25,411	\$8,513 \$7,183 \$7,742	\$8,785	\$7,658 \$8,095	\$7,849	\$8,155	\$8,283 \$8,472	\$8,167	\$8,581	\$9,262	\$12,216	\$11,887		\$9,877			\$8,564			\$11,382	\$9,647	\$11,081	\$11,212	\$11,804	\$12,001	\$11,392	\$11,658	\$11,795	\$11,978	\$11,527 \$11,593 \$11,082 \$11,713
ay	RSFPP	\$ 8	S S S	808	0 S	O\$ 5	Q Q (\$1,812	S S	0,5	\$0 \$0 \$3,534	S S	\$ 200,5	80	S S 8	S S	8 80 8	S & 8	0\$	\$0	\$11,556	\$956	\$3,701 \$3,211	\$0\$	\$2,920	\$2,556 \$2,856	\$2,863	\$2,934	\$3,686	\$3,835	\$2,194 \$2,194 \$2,709 \$4,077
et Survivor F	Death on Active Duty	\$8,496	\$8,513 \$7,183 \$7,816	\$8,785	\$7,637 \$8,142	\$7,822	\$8,129	\$8,292 \$8,280	\$8,084	\$8,446	\$9,074 \$11,619	\$12,415	\$8,715	\$8,345	\$9,980	\$7,147 \$5,896	\$8,602	\$4,717	\$5,330	\$5,927	\$9,601 \$8,126	\$7,900	\$9,423 \$10,904	\$9,979	\$11,843	\$10,531 \$13,482	\$11,621	\$11,609	\$14,533	\$15,588	\$14,833 \$16,527 \$14,008 \$15,382
Average Annual Net Survivor Pay	Minimum Income	0\$ 8	S S S	\$08	0 8 8 8	g 9	0\$	0 0 9	9 S	S 5	8 8 8 8	08.08	288	0\$ S	S S S	S S	\$0 \$0 \$	S & 8	0\$	S S	\$ 8 8 8	S 5	\$0 8	0\$ 9	0 0 9 9 9	S S S	\$0	2 S	0\$ 0\$	0\$	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Averag	RCSBP	\$15,198	8 8 8 80 8	\$0 \$4,056	\$4,617 \$5,988	\$4,938	\$3,993	\$9,168 \$5,517	\$6,005	\$6,168	\$5,138 \$5,323	\$7,071	\$10,733	\$5,836	\$1,296	\$9,072 \$11,339	\$3,744	\$6,411	\$7,794	\$7,869	\$6,858	\$7,361	\$10,025	\$5,191	\$7,685	\$8,399	\$7,530	\$7,831	\$8,387	\$7,395	\$7,739 \$8,030 \$7,531 \$8,146
	SBP	\$34,454	\$0 \$0 \$6,189	\$8,781	\$8,721 \$7,546	\$8,626	\$8,697	\$8,138 \$9,737	\$9,014	\$9,392	\$10,074	\$13,607	\$12,702	\$8,407	\$10,343	\$11,063	\$12,197	\$11,902	\$12,829	\$12,326	\$13,983	\$11,597	\$12,248	\$13,236	\$13,709	\$14,298	\$13,008	\$13,049	\$13,688	\$13,379	\$12,843 \$12,843 \$12,656 \$13,364
	Total	10 20	5 8 5 7 8 9 5 9 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	27	334	520	576	638	96 88	578	893	45	23 82	78 1	43	35	42	60 64 69 69	. s 18 06	103	101	128	180	95	18%	9 1-	10.0	× 61	934 960	1,087	,352 ,352 ,621 ,840
	_		_	64.60					,, 0	4,4	, 6, -													_ (1 65 6	8 4	54	\$ %			
	RSFPP	00	000	0 0	00	0 0	00	o - c	0 0	00	0 -	00		- 0	00	00	00	000	0	0 -	0	2 2	27.		010	98.4	10 54:	21 24	45 12	71	22 8 0 ° 2
oer	RSFPP	00	59 0 93 0 168 0 1	0 0	320 0 403 0	0 0	000	534 0 543 1	0 0	0 0	255 88 1	65 0 54 0	· • • •	- 0	000	00	00	000	0 0	30 0	35 52 0	2 0	42	0	00 %	n o n ∞	10	21 12	45 12	80 17	54 0 64 10 61 18 72 22
E E	iy RSFPP	00	000	0 0	00	0 0	000	0 - 0	0 0	0 0	0 -	00	· • • •	- 0	000	00	00	000	0 0	0 30 0	0 35 1 0 52 0	2 0	42	0	00 %	n o n ∞	10	21 12	45 12	0 80 17	0 64 10 0 61 18 0 72 22
E E	Death on Active Duty RSFPP	00	000	0 0	00	0 0	000	0 - 0	0 0	0 0	0 -	00	· • • •	- 0	000	00	00	000	0 0	15 0 30 0 14 0 29 1	15 0 35 1 21 0 52 0	0 40 2	0 51 2	0 52 0	0 77 10	0 73 9 0 76 8	0 84 10	0 89 11 0 66 21	0 78 45 0 86 12	0 0	340 0 54 0 54 10 14 17 18 18 11 18 1
E E	Minimum Death on Income Active Duty RSFPP	00	000	0 0 214 0 1 0 344 0	00	2 0 493 0 4 0 473 0	3 0 525 0	0 - 0	13 0 495 0 19 0 492 0	18 0 434 0 26 0 395 0	13 0 255 0 22 0 88 1	19 0 65 0 14 0 54 0	· • • •	3 0 0	5 0 20 0	3 0 10 0 6 0 13 0	4 0 14 0 4 0 25 0	9 0 21 0 6 0 27 0	13 0 35 0	15 0	15 0 21 0	19 0 40 2 21 0 51 10	22 0 51 2 35 0 56 7	28 0 52 0 55 0 73 6	61 0 72 10	78 0 73 9 100 100 0 76 8	121 0 84 10	129 0 89 11 187 0 66 21	261 0 78 45 244 0 86 12	257 0	000

			Ξ	ber				Averag	ge Annual N	Average Annual Net Survivor Pay		
Age	SBP	RCSBP	Minimum Income A	Death on Active Duty	RSFPP	Total	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Total
60	1,319	599 776	0 0	53	v	1,980	\$13,101	\$7,793	\$0 \$0 \$0	\$17,627	\$6,674	\$11,603
62	1,691	828	0	59	18	2,596	\$12,951	\$7,612	80	\$15,637	\$3,486	\$11,244
64	1,970	1,032	00	49	= ×	3,213	\$12,944	\$7,772	2 S	\$16,885	\$3,713 \$2,536	\$11,146
65	2,225	1,309	0	52	9 9	3,592	\$13,623	\$7,693	0\$	\$13,942	\$4,193	\$11,451
00 79	2,491	1,470	- 0	9 8	18	4,017	\$13,527	\$7,614	\$7,801	\$15,844	\$3,738	\$11,348
89	3,203 3,603	1,979 2,199	0 -	47	11 5	5,240 5,851	\$13,566 \$13,846	\$7,749 \$7,838	\$8,628	\$13,690	\$2,540 \$1,542	\$11,347
70	3,148	1,724	0	33	Ξ	4,916	\$13,999	\$7,805	80	\$13,310	\$4,423	\$11,800
71	3,680	1,976	00	37	13	5,706	\$13,780	87,759	0\$	\$11,866	\$2,132	\$11,656
73	4,957	2,406	0	25	52	7,437	\$13,937	\$7,827	\$0\$	\$13,415	\$2,159	\$11,922
74	5,094	2,365	0	45	17	7,518	\$13,834	\$7,758	0\$	\$11,197	\$2,157	\$11,881
75	5,445	2,373	- 0	50	98 45	7,896 8,581	\$14,014	\$7,729	\$8,628 \$0	\$9,007	\$2,132	\$12,044
77	6,491	2,751	2.5	9	43	9,327	\$14,498	\$7,899	\$8,628	\$10,291	\$1,962	\$12,474
8/	6,911 7,198	2,683	n m	\$ %	122	9,703 10,208	\$14,474	\$7,940	\$8,152	\$14,128	\$2,325	\$12,588
80	7,755	3,055	9	46	137	10,999	\$14,959	\$7,925	\$7,477	\$11,818	\$2,067	\$12,828
 	7,830	3,032	61 6	S 8	500	11,135	\$15,141	\$8,050	\$7,884	\$13,098	\$2,403	\$12,958
83 8	7,843	3,034		20	322	11,250	\$15,905	\$8,225	\$7,038	\$12,419	\$2,001	\$13,419
84	7,609	3,094	-	53	314	11,071	\$16,637	\$8,299	\$5,602	\$12,890	\$2,652	\$13,891
82	7,480	2,902	- "	8 8 8	380	10,811	\$16,779	\$8,677	\$8,628	\$14,179	\$2,458	\$14,089
87	6,345	2,877	9	34.	373	9,649	\$17,329	\$8,759	\$7,786	\$18,081	\$2,548	\$14,186
8 8 8 8	5,883	2,777	9 7	21	402	9,089	\$17,600	\$8,964	\$8,289	\$11,450	\$2,632	\$14,279
6 6	5.650	2.641	+ (*	3 [6	428	8,753	\$19.351	\$9.237	88.628	\$16.398	\$3.053	\$15,488
91	5,194	2,588	. 61	21.	412	8,217	\$19,799	\$9,459	\$5,020	\$9,689	\$3,103	\$15,675
92	3.844	2,368	4 6	26 12	415 376	7,538	\$20,510	\$9,561	\$7,451	\$16,104	\$3,360	\$16,104
94	3,271	1,897	ı vo	19	318	5,510	\$20,810	\$10,068	\$8,613	\$17,966	\$3,383	\$16,085
95	2,351	1,387	2 0	9	256	4,005	\$21,648	\$10,561	\$8,628	\$14,184	\$3,323	\$16,613
97	1,029	645	1 61	4	122	1,802	\$21,357	\$10,786	\$5,841	\$16,105	\$3,457	\$16,333
86	654 370	463 255	4 1	0 2	74 46	1,197 672	\$21,113 \$21,908	\$10,755	\$8,903	\$19,630	\$2,715	\$15,926
100	252	146	0	0	40	438	\$22,559	\$11,201	0\$	80	\$2,569	\$16,947
101	136	93	0 0	00	71	246	\$20,642	\$10,936	S S	0\$	\$1,985	\$15,683
103	; 4 ;	45	00	0	10.0	8:	\$19,715	\$12,179	S S	\$ 2	\$5,254	\$14,829
104	JC 31	01	0 0	0 0	n (‡ 7	955,578	\$9,650	000	0 9	\$7,448 89,69	\$12,900
106	9	<u> 4</u>	1	0	4 N	19	\$14,571	\$11,457	\$8,364	0\$ 8	\$3,827	\$10,761
107	4 (9	0 ·	0	0	10	\$26,702	\$6,216	\$0	\$0	\$0	\$14,410
801 108	0 7	m 0	- 0	00	0 0	۰ ٥	\$02,528	\$11,240	\$8,628 \$0	G 98	9 S	\$14,794
110	0	0	0	0	0	0	0\$	80	0\$	80	80	80
ΞΞ	0	- 0	0	0	0	- 0	0\$	\$10,020	0\$	80	\$0	\$10,020
113	0 0	00	00	00	00	o c	9 S	0 S	9.9	Q 9	2 2	0.5
114	-	0	0	0	0	1	\$4,596	\$0	\$0	\$0	\$0	\$4,596
Total	186,145	85,756	73	9,705	6,597	288,276	\$15,865	\$8,398	\$7,914	\$9,729	\$2,801	\$13,136
+09	175,909	81,975	73	1,494	6,361	265,812	\$16,039	\$8,432	\$7,914	\$13,529	\$2,782	\$13,359
62+	173,082	80,600	73	1,385	6,347	261,487	\$16,088	\$8,443	\$7,914	\$13,326	\$2,776	\$13,391
+ 29	167,596	77,554	73	1,228	6,310	252,761	\$16,189	\$8,473	\$7,914	\$13,039	\$2,773	\$13,469
Notes: Ag	ge is survivor	s current age	nearest birthda	ay at end of fis	cal year.							
₹ <i>G</i>	3+ is total for a 2+ is total for a	ages 60 and o	60+ is total for ages 60 and over. 62+ is total for ages 62 and over									

Appendix C

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or h so tand to ages to and over.

62+ is total for ages 62 and over.

62+ is total for ages 65 and over.

62+ is total for ages 65 and over.

Includes only survivors receiving payment from DoD.

Survivors receiving payment under SBP and RSFPP are counted twice.

Survivors are given by the age of the adult survivor.

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

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

Amounts do not include, increased survivor whenefits as part of Special Survivor Indemnity Allowance (NDAA 2008 and P.L. 111-31).

The liability calculated in this valuation, however, reflects the increased benefits.

APPENDIX D

ECONOMIC ASSUMPTIONS

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ECONOMIC ASSUMPTIONS

In July 2015, the DoD Board of Actuaries adopted the following economic assumptions for use in the valuation as of September 30, 2015: the rate of inflation (CPI) is assumed to be 2.75 percent per year; the investment return (interest rate) is 5.25 percent per year; and the basic pay scale increases are 3.25 percent per year. 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 determining 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' 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 32 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 87 percent of the U.S. population). The CPI-W is the common index used to make cost-of-living adjustments for labor contracts.

Table D-2 shows the average annual CPI-W changes over various periods of time since 1940. Different periods experienced different rates of change. The average annual CPI change during successive 30-year periods since World War II has risen from 3.79 percent for the period ending in 1975 to 5.20 percent for the period ending in 1995. This reflects the high inflation during the 1970s. The average annual CPI change during the 35-year period ending in 2015 is 2.80 percent.

The notes and transcript from the July 2015 meeting can be found at: http://www.facadatabase.gov/committee/historymeetingdocuments.aspx?flr=132150&cid=2191&fy=2015

The DoD assumption for CPI is reasonably consistent with what is used in other parts of the government. In its 2015 report, the Civil Service Retirement System (CSRS) assumes a 3.00 percent CPI increase. The Trustees of the Social Security Administration (SSA) in their 2015 Annual Report made projections under three alternative sets of assumptions. Their intermediate assumption for CPI was 2.7 percent (other assumptions: low cost - 3.4 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 analyzes Tables D-3 and D-4, as well as other material presented at the DoD Board of Actuaries annual meeting, when setting the interest assumption. 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.

Table D-3 depicts the average real yield rates on new purchases of the Fund. Because the Fund was established in 1984, the DoD Office of the Actuary constructed a Composite Series to simulate what new purchases would have yielded in the past.

Table D-4 shows the average real Military Retirement Fund effective yield. The effective yield calculation uses a "dollar-weighted yield," which is computed by dividing the investment income by the average amount of principal invested throughout the year. Since the Fund's inception, the average annual real yield is 4.50 percent.

After analyzing past trends and forecasts of government trust fund earnings, 2.50 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 5.25 percent (where 5.25 = 2.50 + 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 2.9 percent in their 2015 report (other assumptions: low cost - 3.4 percent; high cost - 2.4

percent). The Board of Actuaries of the CSRS used a 2.25 percent real interest rate assumption in its 2015 valuation.

Wage Growth

For the salary increase assumption, recent historical data is used as well as forecasts for the population at large. 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.

Table D-5 displays real military basic pay increases over various periods of time during the post-World War II era. From the early 1950s to the early 1970s, the average annual real military pay increase was approximately 1.79 percent. From the early 1950s to the present, the increase has averaged approximately 0.90 percent a year. Since the Vietnam War (~1970), annual real pay increases have averaged only 0.51 percent. (There was negative real pay growth in the late 1970s and late 1980s as well as numerous years since 2005.)

In making its recommendation for the real rate of the annual basic pay scale increase, the Board considered information presented and adopted a real basic pay growth assumption of 0.50 percent, leading to a nominal growth of 3.25 percent (where 3.25 = 0.50 + 2.75 - CPI assumption). The Board of Actuaries of the CSRS assumed 0.25 percent real wage growth for its 2015 valuation. The Social Security Trustees' 2015 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," whereas for Social Security, wage increase generally relates to "total wage 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

- NOTES:
 (1) Board Assumption
 (2) Board Assumption
 (3) Board Assumption
 (4) = (2) (1)
 (5) = (3) (1)

AVERAGE CONSUMER PRICE INDEX (CPI-W) INCREASES

	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	
TO END OF:	,:.																						
1945	5.25																						
1945	5.91	6.57																					
1955	4.39	3.96	1.43																				
1960	3.82	3.35	1.77	2.12																			
1965	3.32	2.84	1.63	1.73	1.33																		
1970	3.52	3.18	2.35	2.65	2.92	4.54																	
1975	4.00	3.79	3.24	3.70	4.23	5.71	06.9																
1980	4.64	4.55	4.22	4.79	5.46	88.9	8.07	9.24															
1985	4.55	4.46	4.16	4.62	5.13	6.10	6.63	6.50	3.82														
1990	4.48	4.40	4.13	4.52	4.93	5.66	5.95	5.63	3.87	3.91													
1995	4.34	4.25	4.00	4.32	4.64	5.20	5.34	4.95	3.56	3.42	2.94												
2000	4.18	4.08	3.84	4.11	4.36	4.80	4.85	4.44	3.28	3.09	2.69	2.44											
2005	4.06	3.96	3.72	3.96	4.16	4.52	4.52	4.13	3.14	2.96	2.65	2.51	2.58										
2006	4.05	3.95	3.72	3.94	4.14	4.49	4.49	4.10	3.14	2.98	2.69	2.58	2.70	3.30									
2007	4.02	3.92	3.69	3.91	4.10	4. 4	4.43	4.04	3.11	2.95	2.67	2.56	2.64	2.80	2.30								
2008	4.05	3.95	3.73	3.95	4.14	4.47	4.46	4.10	3.20	3.07	2.84	2.80	3.03	3.79	4.04	5.80							
2009	3.99	3.89	3.66	3.87	4.05	4.37	4.35	3.97	3.09	2.94	2.69	2.60	2.69	2.83	2.67	2.86	0.00						
2010	3.93	3.83	3.60	3.80	3.97	4.27	4.23	3.86	2.99	2.82	2.55	2.42	2.42	2.26	2.00	1.90	0.00	0.00					
2011	3.92	3.82	3.60	3.80	3.96	4.25	4.22	3.85	3.01	2.85	2.60	2.50	2.52	2.48	2.32	2.32	1.19	1.78	3.60				
2012	3.89	3.79	3.57	3.76	3.92	4.20	4.16	3.79	2.97	2.81	2.56	2.45	2.45	2.37	2.21	2.20	1.31	1.76	2.65	1.70			
2013	3.86	3.76	3.54	3.72	3.87	4.14	4.10	3.73	2.92	2.76	2.51	2.40	2.38	2.26	2.11	2.08	1.35	1.69	2.26	1.60	1.50		
2014	3.83	3.73	3.51	3.69	3.83	4.09	4.04	3.68	2.89	2.73	2.48	2.36	2.33	2.20	2.06	2.03	1.41	1.69	2.12	1.63	1.60	1.70	
2015	3.78	3.67	3.45	3.62	3.76	4.01	3.95	3.59	2.80	2.63	2.38	2.24	2.17	1.97	1.83	1.77	1.21	1.41	1.69	1.22	1.06	0.85	

- All figures are average annual percentage increases.

Source: Bureau of Labor Statistics

ACTUAL COST-OF-LIVING ADJUSTMENTS GIVEN TO MILITARY RETIREES BEGINNING FISCAL YEAR 1985. - MRF COLAS ARE CALCULATED AS THE INCREASE FROM 3RD QUARTER TO 3RD QUARTER. *** CPI-W SERIES: DECEMBER TO DECEMBER INCREASES FROM 1930 TO 1984;

TABLE D-3

	2014																								2.38	
	2013																							1.23	1.80	
	2012																						1.41	1.32	1.67	
	2011																					0.19	08.0	0.94	1.30	
	2010																				-0.64	-0.22	0.32	0.54	0.91	
	2009																			1.26	0.31	0.27	0.55	0.69	0.97	
	2008																		2.01	1.64	0.87	0.70	0.84	0.91	1.12	
	2007																	1.94	1.98	1.74	1.14	0.95	1.02	1.05	1.22	
	2006																2.20	2.07	2.05	1.85	1.35	1.16	1.19	1.20	1.33	
HASES	2005															2.27	2.24	2.14	2.11	1.94	1.50	1.32	1.33	1.32	1.42	
V PURCI	2000														1.32	1.48	1.58	1.63	1.67	1.63	1.42	1.32	1.32	1.32	1.39	
ON NEV	1995													3.31	2.31	2.31	2.30	2.27	2.25	2.19	2.01	1.90	1.87	1.84	1.87	
RATES	1990												2.93	3.12	2.52	2.50	2.48	2.45	2.43	2.37	2.23	2.13	2.10	2.06	2.08	
, YIELD	1985											5.06	3.99	3.76	3.15	3.10	3.06	3.01	2.97	2.90	2.76	2.67	2.62	2.57	2.57	
AAGE REAL YIELD RATES ON NEW PURCHASES	1980										8.31	29.9	5.41	4.88	4.16	4.09	4.02	3.94	3.87	3.79	3.64	3.53	3.47	3.40	3.37	
AVERAG	1975									-0.51	3.81	4.22	3.90	3.78	3.37	3.33	3.30	3.25	3.22	3.16	3.05	2.98	2.93	2.89	2.88	
4	1970								-0.10	-0.30	2.49	3.13	3.09	3.12	2.86	2.85	2.83	2.81	2.79	2.75	2.66	2.60	2.58	2.55	2.54	
	1965							1.34	0.62	0.24	2.20	2.77	2.79	2.87	2.67	2.66	2.65	2.63	2.62	2.59	2.52	2.47	2.45	2.42	2.42	
	1960						2.64	1.99	1.29	0.83	2.29	2.74	2.77	2.84	2.67	5.66	2.65	2.64	2.62	2.60	2.53	2.49	2.46	2.44	2.44	
	1955					1.48	2.06	1.82	1.34	96.0	2.15	2.56	2.61	2.69	2.55	2.54	2.54	2.53	2.52	2.49	2.44	2.40	2.38	2.36	2.36	
	1950				1.02	1.25	1.71	1.62	1.27	0.97	1.99	2.37	2.43	2.52	2.41	2.41	2.40	2.40	2.39	2.37	2.32	2.29	2.27	2.26	2.26	
	OF: 1945	,2.1		4.41	-1.73	-0.67	0.15	0.38	0.30	0.19	1.17	1.59	1.73	1.87	1.82	1.83	1.84	1.84	1.84	1.83	1.79	1.77	1.76	1.76	1.77	
	EMBER 31 1940	BER 31 OF	-3.28	-3.85	-2.25	-1.33	-0.55	-0.24	-0.22	-0.25	99.0	1.09	1.26	1.43	1.42	1.43	1.45	1.45	1.46	1.46	1.43	1.41	1.41	1.41	1.42	
	FROM DECEMBER 31 OF: 1940 15	TO DECEMBER 31 OF:	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	

- "Real" rates defined as the difference between the associated nominal rate and the CPI-W (Table D-2).

- All figures are average annual percentages.

Real yields for non-TIPS securities are computed as the nominal yield at purchase offset by inflation in the year of purchase.

For TIPS securities, the real yield is known and constant throughout the life of the security.

Source: Office of the Actuary, Office of Personnel Management; Office of the Actuary, Department of Defense

*** COMPOSITE SERIES: TREASURY LONG TERM SECURITIES WITH REMAINING MATURITIES OF 10 OR MORE YEARS FROM 1931 TO 1941;

AVERAGE OF TREASURY LONG TERM AND TREASURY 3-5 YEARS REMAINING MATURITY FROM 1941 TO 1961;

SPECIAL TREASURY CERTIFICATES (CSRS) FROM 1962 TO 1984;

MILITARY RETIREMENT SYSTEM TRUST FUND NEW INVESTMENTS BEGINNING WITH 1985

Appendix D

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TABLE D-4

AVERAGE REAL MILITARY RETIREMENT FUND EFFECTIVE YIELD

FRO	M PERIO	DCORRESP	ONDING TO	FNDOF	FROM PERIOD CORRESPONDING TO END OF FISCAL YEAR:	VR.																								
		1984	1985 198	1986	1987 198	1988 1989		1990 1991	91 1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 20	2006 20	2007 20	2008 200	2009 2010	10 2011	11 2012	2 2013	3 2014
TOE	END OF F	TO END OF FISCAL YEAR	ä																											
15	1985	14.27																												
15	1986	12.32 10	10.41																											
15	1 2861	10.35 8	8.45 6.5	6.52																										
15	8861	9.31	7.71 6.3	6.38	6.24																									
15	6861	8.47 7	7.06 5.9	5.97	5.70 5.15	15																								
15	. 0661	7.76 6	6.50 5.5	5.55	5.22 4.72	72 4.29	66																							
15	1661	7.49 6	6.40 5.6	5.62	5.39 5.11	11 5.09		5.90																						
15	1992	7.34 6	6.38 5.7	5.73	5.57 5.4	5.40 5.48		6.08 6.27	7																					
15	1993	7.22 6	6.37 5.8	5.81	5.69 5.5	5.58 5.69		6.16 6.29	9 6.32																					
15	1994	7.07	6.30 5.8	5.80	5.70 5.61	61 5.70		6.05 6.10	0 6.02	5.72																				
15	1995	96.9	6.26 5.8	5.81	5.72 5.6	5.64 5.73		6.02 6.05	5.97	5.80	5.87																			
15	9661	6.84 6	6.19 5.7	5.78	5.70 5.6	5.63 5.70		5.94 5.94	4 5.86	5.71	5.71																			
15	1997	9 08'9	6.20 5.8	5.83	5.76 5.7	5.70 5.77		5.99 6.00	0 5.95	5.85	5.90	5.91	6.29																	
15	8661	6.81 6	6.26 5.9	5.92	5.87 5.8	5.83 5.90		6.11 6.14	4 6.12	80'9	6.17		6.63	6.97																
15	6661	6.73 6	6.21 5.8	5.89	5.84 5.8	5.80 5.87		6.05 6.07	77 6.04	5.99	6.04		6.27	6.26	5.56															
30	2000	9 85.9	6.09 5.7	5.78	5.73 5.6	5.68 5.73		5.88 5.88	8 5.83	5.76	5.76		5.79	5.63	4.96	4.37														
20		6.50 6	6.03 5.7		5.69 5.6								5.68	5.53	5.05	4.80	5.23													
7	2002	6.45 6	6.01 5.7	5.74	5.69 5.6	5.65 5.69		5.81 5.80	5.75	5.69			5.68	5.56	5.21	5.09	5.45	5.68												
20			5.86 5.6	5.60				5.62 5.59					5.34	5.19	4.83	4.65	4.74	4.50	3.34											
30	2004	6.10 5	5.69 5.4	5.43	5.37 5.31			5.40 5.36	6 5.29	5.19			5.00	4.82	4.46	4.25	4.21	3.88	2.99	2.64										
30	2005		5.47 5.2	5.22	5.14 5.0	5.08 5.07		5.13 5.07	77 4.98	4.87	4.79		4.59	4.38	4.02	3.76	3.64	3.25	2.45	2.01	1.39									
30	2006	5.72 5	5.33 5.0	5.08	5.01 4.9	4.94 4.92		4.96 4.90	0 4.81	4.69	4.60		4.39	4.18	3.83	3.59	3.46	3.11	2.48	2.19										
30	2007	5.57 5	5.19 4.9	4.95	4.87 4.8	4.80 4.78		4.81 4.74	4 4.64	4.52	4.43		4.20	3.99	3.67	3.43	3.30	2.98	2.45	2.23			.34							
30	2008	5.35 4	4.98 4.7	4.74	4.65 4.57	57 4.54		4.56 4.48	4.37	4.24	4.14		3.88	3.66	3.34	3.09	2.93	2.61	2.11	1.86				40						
30	5000	5.17 4	4.81 4.5	4.57	4.48 4.4	4.40 4.36		4.37 4.28	4.17	4.03	3.92		3.65	3.44	3.12	2.88	2.71	2.40	1.95	1.71										
×	2010	5.10 4	4.74 4.5	4.52	4.43 4.35	35 4.31		4.31 4.23	3 4.11	3.99	3.88		3.62	3.42	3.13	2.91	2.76	2.49	2.10	1.93						22				
7	2011	4.95	4.61 4.3	4.38	4.29 4.21	21 4.17		4.16 4.08	3.96	3.83	3.72		3.46	3.26	2.98	2.77	2.63	2.37	2.01	1.84							5			
70	2012	4.82 4	4.48 4.2	4.26	4.17 4.0	4.08 4.04		4.03 3.94	3.82	3.69	3.58		3.32	3.12	2.86	2.65	2.51	2.26	1.93	1.77								2		
70	2013	4.70 4	4.38 4.1	4.16	4.07 3.9	3.98 3.93		3.92 3.83	3 3.71	3.59	3.48		3.22	3.03	2.77	2.57	2.44	2.21	1.90	1.75	1.66	1.69 1.	1.57 1.	1.44	1.65 1.8	1.81 1.35	5 1.40		∞	
20	2014	4.59 4	4.27 4.0	4.06	3.97 3.8	3.88 3.83		3.81 3.72	2 3.61	3.48	3.37		3.12	2.93	5.69	2.50	2.36	2.15	1.86	1.72								1.51	1 1.43	
70	2015	4.50 4	4.19 3.9	3.98	3.89 3.81	81 3.75		3.73 3.64	3.53	3.41	3.30		3.05	2.87	2.63	2.45	2.33	2.12	1.85	1.73										1.79
ď.	al" rates det	fined as the di	Torrance hermos	on the acc	. "Real" rates defined as the difference between the associated nominal rate and the CPLW (Table Γ_2).	rate and the	CPLW (Tab	(F.D.2)																						
-	off three co	of libraries are as	TIGOTO CONTRACTOR	Coll and the	Althou mount	Take and																								

*** THE EFFECTIVE VIELD CALCULATION USES A "DOLLAR-WEIGHTED VIELD"; "DOLLAR-WEIGHTED VIELDS" ARE COMPUTED BY TAKING THE INVESTMENT INCOME OVER THE AVERAGE AMOUNT OF PRINCIPAL INVESTED THROUGHOUT THE YEAR.

Source: Office of the Actuary, Department of Defense

Appendix D

TABLE D-5

	2014	Ì																						1.30	
																							_		
	2013																						-0.69	0.30	
	2012																					-0.49	-0.59	0.04	
	2011																				0.00	-0.25	-0.39	0.03	
	2010																			-1.93	-0.97	-0.81	-0.78	-0.37	
	2009																		1.40	-0.28	-0.19	-0.26	-0.35	-0.08	
	2008																	3.40	2.40	0.93	0.70	0.46	0.27	0.41	
S	2007																-1.80	0.77	0.98	0.24	0.19	80.0	-0.03	0.14	
REASE	2006															1.17	-0.32	06.0	1.03	0.43	0.36	0.24	0.12	0.25	
PAY INC	2005														-1.07	0.05	-0.57	0.41	0.61	0.18	0.15	0.07	-0.01	0.12	
BASICI	2000													1.19	0.81	0.86	0.53	0.84	06.0	0.64	0.58	0.50	0.42	0.47	
ONNEL	1995												1.11	1.15	0.95	0.97	0.75	0.94	0.97	0.79	0.74	0.67	09.0	0.63	
Y PERS	1990											80.0	0.59	0.79	0.68	0.70	0.56	0.71	0.75	0.62	0.59	0.54	0.49	0.52	
EAL MILITARY PERSONNEL BASIC PAY INCREASES	1985										-0.53	-0.23	0.22	0.46	0.39	0.42	0.32	0.45	0.49	0.39	0.38	0.35	0.31	0.35	
REAL M	1980									1.89	0.67	0.47	0.63	0.74	0.67	69.0	09.0	0.70	0.72	0.63	0.61	0.58	0.54	0.56	
AVERAGE RI	1975								-2.26	-0.21	-0.32	-0.22	0.05	0.24	0.19	0.22	0.16	0.26	0.29	0.23	0.22	0.20	0.18	0.21	6
AVE	1970							3.02	0.34	0.85	0.51	0.42	0.54	0.63	0.58	09.0	0.53	0.61	0.63	0.56	0.55	0.52	0.50	0.51	
	1965						2.58	2.80	1.08	1.28	0.92	0.78	0.82	0.87	0.82	0.83	0.77	0.83	0.84	0.78	0.76	0.74	0.71	0.72	
	1960					3.84	3.21	3.14	1.76	1.79	1.40	1.21	1.20	1.20	1.15	1.15	1.08	1.13	1.14	1.08	1.05	1.03	0.99	1.00	
	1955				0.50	1.65 3		2.22		1.40	1.12	0.99			0.98	0.99	0.93			0.93	0.92	0.89		0.87	•
	.31 OF: 1950	OF:		1.28	0.39	1.52	1.79	2.03	1.30	1.39	1.14	1.03	1.03	1.05	1.01	1.01	0.96	1.00	1.01	0.96	0.95	0.92	06.0	0.90	
	CEMBER 1945	MBER 31	-2.21	-0.48	-0.49	0.58	0.97	1.31	0.79	0.93	0.77	0.70	0.73	0.77	0.74	0.75	0.71	0.75	92.0	0.72	0.71	69.0	0.67	0.68	
	FROM DECEMBER 31 OF: 1945 19	TO DECEMBER 31 OF:	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
)																96	-								_

^{- &}quot;Real" rates defined as the difference between the associated nominal rate and the CPI-W (Table D-2).

Source: House Armed Services Committee publication, Title 37,

United States Code (Pay and Allowances of the Uniformed Services.)

⁻ All figures are average annual percentage increases.
- Excludes annual, year-specific targeted adjustments.

APPENDIX E

NORMAL COST WEIGHTING FACTORS

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Normal Cost Weighting Factors	98
Table E-1: Basic Payroll Percentage Distribution by Completed Years of Service	99

NORMAL COST WEIGHTING FACTORS

There are four different retirement benefit formulas that apply to different populations within the Military Retirement System¹. (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.

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.

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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 1 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.

TABLE E-1

BASIC PAYROLL PERCENTAGE DISTRIBUTION
BY COMPLETED YEARS OF SERVICE

Completed	Percentage of Pay	rroll on 9/30/2010:
Years of	E 11 d'	Dest d'ann
Service	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

	<u>Page</u>
Valuation Program Parameters Description	101
Table F-1: Economic Factors	102
Table F-1: Active Duty	102
Table F-1: Reserve Duty	106
Table F-1: Retiree.	107
Table F-1: Survivor	107

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, as needed (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 5.25 percent.

Active Duty

<u>Item</u> <u>Description/Value</u>

1) Member Election of Spouse or This gives the percentage of members by age, Spouse/Child SBP Coverage officer/enlisted status, and Career Status Bonus (CSB)

election status who have elected spouse or

spouse/child coverage under the Survivor Benefit Plan

(SBP).

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Item

Description/Value

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, CSB election status, 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, CSB election status, 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.

Item

Description/Value

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 CSB election status.
- 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.

Item

Description/Value

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 \$35,445.

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) 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 minor 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).

	<u>NCP</u>	<u>Ce</u>	<u>nsus</u>
YOS	Off / Enl	Officer	Enlisted
0	100.0%	100.0%	100.0%
1	98.4%	85.5%	95.0%
2	93.5%	85.6%	95.0%
3	93.3%	85.2%	95.0%
4	92.5%	83.5%	93.3%
5	90.5%	80.2%	92.9%
6	88.9%	79.9%	90.2%
7	84.8%	79.1%	76.8%
8	74.1%	77.4%	57.5%
9	61.1%	70.9%	45.0%
10	46.3%	45.8%	17.4%
11	24.1%	28.5%	10.2%
12	12.4%	0.0%	0.0%
13+	0.0%	0.0%	0.0%

Reserve Duty

Description/Value Item

This is the ratio of reserve net retired pay to gross retired pay. This is given by officer/enlisted For Reserves status, age, and years of active service.

This amount is used to allocate the part of the Service reserve normal cost that should be paid for as a part of the active duty normal cost. The value for the

valuation is 51%.

This array is used to set initial pay for a new Selected Reserve member Selected Reserve member in a normal cost run. The values for the valuation are updated with an

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'

across-the-board salary increase each year.

in Appendix K.

For the purposes of the allocation referred to in item 5) Ratio of Reserve to Active Payroll

2) above, this value represents the assumed ratio of reserve duty to active duty basic payroll. The value

for the valuation is 10%.

6) Opt-In Rates Rates used to determine the portion of members with

> fewer than 4,320 points as of December 31, 2017, opting in to 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).

1) Ratio of Net to Gross Retired Pay

2) Proportion of Points Based on Active

- 3) Initial Annual Pay of new
- 4) Reserve Retirement Age FYs

Retiree

Item

Description/Value

1) Retired Pay Adjustment Factors

Retired pay of current retirees is adjusted for VA compensation, SBP offset changes, and other effects during the year. They are given by officer/enlisted status, CSB election status, disability/nondisability, and whether or not the member has elected SBP spouse or spouse/child coverage.

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

Item

Description/Value

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. This is expressed as a percentage of net retired pay and is given by age, officer/enlisted status, CSB election status, and type of retirement (disability/nondisability/reserve). Additional adjustments are made to the factors as part of Concurrent Receipt.

<u>Item</u> <u>Description/Value</u>

3) Ratio of RSFPP Survivor Benefit For RSFPP (Retired Servicemen's Family

To Net Retired Pay 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.

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 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 \$1,255.

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 are highly 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 this 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 a new 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 (for closed and open group projections only) to recognize the higher number of disability retirements expected in the near term (phased out over the next five years) compared to what the new disability rates produce.

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)

Deaths during year

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

NONDISABILITY RETIREMENT (by completed years of service)

New retirees during year Number at beginning of year

TEMPORARY DISABILITY RETIREMENT (by completed years of service)

New temporary disabilities during year

[Number at beginning of year - ½ (withdrawals + nondisability retirements during year)]

PERMANENT DISABILITY RETIREMENT (by completed years of service)

New permanent disabilities during year

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

WITHDRAWAL (by completed years of service)

Withdrawals during year Number at beginning of year

REENTRANT RATIOS (by completed years of service)

Number reentering during year
Number at beginning of year

PERCENTAGE DISTRIBUTION OF NEW ENTRANTS (by age nearest birthday)

New entrants during year
Total new entrants

PAYGRADE TRANSFER (by completed years of service)

Transfers to category during year

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

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

Average basic pay at next year of service using current year pay table

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>	1997-1999	2000-2008	<u>2009</u>	2010-2014*
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 rates, we removed one half of the combat-related disability retirements occurring during the FY 2010-2014 experience period. Only affects rates less than 19 years of service. We subtracted additional disability retirements from withdrawals, thereby affecting withdrawal rates and reducing the impact on the percentage making 20 year retirement.

DEATH RATES FOR NONRETIRED MILITARY

(AGE NEAREST BIRTHDAY)

Age	Officer	Enlisted
16	0.00038	0.00063
17	0.00044	0.00072
18	0.00051	0.00083
19	0.00054	0.00089
20	0.00055	0.00090
21	0.00055	0.00090
22	0.00055	0.00087
23	0.00055	0.00083
24	0.00054	0.00079
25	0.00054	0.00074
26	0.00054	0.00071
27	0.00052	0.00068
28	0.00051	0.00065
29	0.00050	0.00063
30	0.00049	0.00060
31	0.00048	0.00058
32	0.00046 0.00044	0.00055 0.00053
33 34	0.00044	0.00053
35	0.00042	0.00030
36	0.00040	0.00047
37	0.00037	0.00044
38	0.00035	0.00043
39	0.00034	0.00041
40	0.00033	0.00041
41	0.00033	0.00041
42	0.00032	0.00042
43	0.00033	0.00043
44	0.00033	0.00045
45	0.00035	0.00048
46	0.00037	0.00052
47	0.00039	0.00057
48	0.00041	0.00063
49	0.00044	0.00070
50	0.00048	0.00079
51	0.00052	0.00088
52 53	0.00056	0.00098
53 54	0.00061	0.00111
54 55	0.00067 0.00073	0.00124 0.00139
55 56	0.00073	0.00139
57	0.00078	0.00154
58	0.00090	0.00183
59	0.00095	0.00194
60	0.00100	0.00206
~ ~		2.00200

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)

Years of Service	Non- disability	Temporary Disability ***	Permanent Disability ***
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	0.0000	0.00077	0.00159
16	0.0000	0.00069	0.00202
17	0.0000	0.00059	0.00224
18	0.0000	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 shown 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 by 35% 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.

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NONDISABILITY, TEMPORARY DISABILITY & PERMANENT DISABILITY RETIREMENT RATES

ENLISTED (BY COMPLETED YEARS OF SERVICE)

Years of Service	Non- disability	Temporary Disability ***	Permanent Disability ***
0	0.00000	0.00187	0.00054
1	0.00000	0.00307	0.00179
2	0.00000	0.00383	0.00179
3	0.00000	0.00363	0.00231
4	0.00000	0.00430	0.00382
5	0.00000	0.00422	0.00336
6	0.00000	0.00422	0.00423
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 shown 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 by 35% 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.

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

OFFICERS (BY COMPLETED YEARS OF SERVICE)

Years of	XX//41 1 1	D 4 4444	NI 4 T
Service	Withdrawal	Reentrant ***	Net Loss
0	0.01815	0.11937	-0.10122
1	0.02192	0.03298	-0.01106
2	0.07042	0.02574	0.04468
3	0.12192	0.02898	0.09294
4	0.10839	0.01964	0.08875
5	0.09306	0.01703	0.07603
6	0.09686	0.01444	0.08242
7	0.08447	0.01400	0.07047
8	0.07687	0.01200	0.06487
9	0.06825	0.01155	0.05670
10	0.06616	0.00872	0.05744
11	0.05337	0.00798	0.04539
12	0.03556	0.00656	0.02900
13	0.02481	0.00557	0.01924
14	0.01650	0.00467	0.01183
15	0.01042	0.00368	0.00674
16	0.00761	0.00291	0.00470
17	0.00479	0.00252	0.00227
18	0.00236	0.00246	-0.00010
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. To the extent the valuation data files exclude these members from the zero-completed-years-of-service cell, use of this reentrant rate is appropriate for the valuation projection. However, this "valuation focus" of the rates should be considered if using them for other purposes, e.g., to estimate the probability a given individual will remain on active duty from zero to one or more completed years of service.

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.

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

ENLISTED (BY COMPLETED YEARS OF SERVICE)

Years of Service	Withdrawal	Reentrant ***	Net Loss
0	0.10458	0.03043	0.07415
1	0.10267	0.00769	0.09498
2	0.18351	0.01394	0.16957
3	0.35545	0.02745	0.32800
4	0.15999	0.01394	0.14605
5	0.15789	0.01128	0.14661
6	0.11543	0.00966	0.10577
7	0.12660	0.00918	0.11742
8	0.09560	0.00761	0.08799
9	0.09098	0.00682	0.08416
10	0.05673	0.00540	0.05133
11	0.04738	0.00453	0.04285
12	0.03728	0.00347	0.03381
13	0.02534	0.00282	0.02252
14	0.02207	0.00223	0.01984
15	0.01296	0.00188	0.01108
16	0.00827	0.00154	0.00673
17	0.00514	0.00145	0.00369
18	0.00227	0.00139	0.00088
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. To the extent the valuation data files exclude these members from the zero-completed-years-of-service cell, use of this reentrant rate is appropriate for the valuation projection. However, this "valuation focus" of the rates should be considered if using them for other purposes, e.g., to estimate the probability a given individual will remain on active duty from zero to one or more completed years of service.

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)

Age	Officers	Enlisted	Total
	0.0000	0.0000	0.0000
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

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PAYGRADE TRANSFER RATES

STATUS (BY COMPLETED YEARS OF SERVICE)

Years of	Officer to	Enlisted to
Service	Enlisted	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.

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PROMOTION AND MERIT BASIC PAY INCREASE SCALES

OFFICERS (BY ENTRY AGE)

Years of						Entry Age					
Service	16	17	18	19	20	21	22	23	74	25	26
-	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
9	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
6	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						Entry Age					
Service	16	17	18	19	20	21	22	23	74	25	26
_	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	1.111191	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	1.03727	1.03777	1.03740	1.03826	1.03842	1.03976	1.04040	1.03887
9	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
~	1.08945	1.08945	1.08981	1.08241	1.07796	1.07646	1.07554	1.07405	1.07357	1.07271	1.06366
6	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.

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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 ¹ 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-up² 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 ratios³. Below is a description of the rates used in the reserve valuation process.

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This includes the category commonly referred to as the "grey area" as well as other non-Selected Reservists with 20 qualifying retirement years.

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.

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>	2009	2010-2014*
New Entrant Distribution (Officer/Enlisted)	X	X	X	X	X	
Separation* (Officer/Enlisted; Selected/Non-Selected)	X	X	X	X	X	
Reentrant (Officer/Enlisted; Selected)	X	X	X	X	X	
Paygrade Transfer (Officer/Enlisted; Selected)	X	X	X	X	X	
Status Transfer (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	X	
Retirement (Officer/Enlisted; Selected/Non-Selected)	X	X	X	X	X	
Disability Retirement (Permanent/Temporary; Officer/Enlisted; Selected)						X
Average Points Per Year (Officer/Enlisted; Selected/Non- Selected)	X	X	X	X	X	
Career Points Adjustment (Officer/Enlisted; Selected)	X	X	X	X	X	
Reentering Average Points (Officer/Enlisted; Selected)	X	X	X	X	X	
Retirement Ratios (Officer/Enlisted; Non- Selected)	X	X	X	X	X	
Transfer Ratios (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	X	
Transfer Ratio Adjustment (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	X	
Selected Reserve PAMS (Officer/Enlisted)	X	X	X	x	X	
Non-Selected Reserve PAMS (Officer/Enlisted)	X	X	X	X	X	

^{*} In the construction of the 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
47	0.00000	0.00050	0.00050
17 18	0.00000	0.02350 0.19427	0.02350 0.19427
	0.00000		
19 20	0.00001 0.00018	0.20176 0.14591	0.20177 0.14609
20 21	0.00018	0.14591	0.14609
21	0.00026	0.10206	0.10230
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.

Officer Selected Reserve Separation Rates (Non-Retirement Causes)

1.000 0.333

	0.3								
8	0.100 0.100 1.000								
e e	0.182 0.182 0.182 1.000								
8	0.048 0.048 0.048 0.048	1.000							
2	0.053 0.053 0.053 0.053	0.053							
20		0.095							
22		0.106 0.106 0.106 1.000							
54	0.099 0	0.099 0 0.099 0 0.099 1							
2	0.094 0.094 0.094 0.094 0.094	0.094 0.094 0.094 0.094 1.	000						
25	0.058 0. 0.058 0. 0.058 0. 0.058 0.	0.058 0.0058 0.0058 0.0058 0.0058 0.0058 0.0058 0.0058 0.0058 0.0058 0.0058	1.000						
2	0.087 0.0 0.087 0.0 0.087 0.0 0.087 0.0		0.087 0.0 0.087 1.1						
20			0.051 0.0 0.051 0.0 0.051 1.0						
4			0.080 0.080 0.080 0.080 0.080 1.000						
40		0.118 0.118 0.118 0.018 0.118 0.00	0.118 0.0 0.118 0.0 0.118 0.0 0.118 1.0	0					
/4/				1.00					
ı		0.00 0.104 0.00 0.104 0.104		00.104 00 1.000					
5 40			9 0.110 9 0.110 9 0.110 9 0.110	9 0.110 19 0.110 10 1.000					
4 42		9 0.089 9 0.089 9 0.089 9 0.089	9 0.089 9 0.089 9 0.089 9 0.089	9 0.089 9 0.089 9 1.000					
4		8 0.099 8 0.099 8 0.099 8 0.099		8 0.099 8 0.099 8 0.099					
43		0.098	0.098	0.098	10				
74	0.040	0.065	0.065	0.065	90.00				
4			0.063 0.063 0.063 0.063 0.063		0.063				
40		0.062 0.086 0.081 0.134 0.059	0.060 0.117 0.067 0.042 0.042	0.042 0.042 0.042 0.042	0.042 0.042 0.042				
39			0.091 0.072 0.044 0.044	0.044 0.044 0.044 0.044	0.044 0.044 0.044				
ဂိ	0.079 0.068 0.068 0.070 0.070	0.130 0.053 0.157 0.152 0.175	0.110 0.049 0.049 0.049 0.049	0.049 0.049 0.049 0.049	0.049 0.049 0.049 0.049 0.049				
37	0.068 0.067 0.075 0.094 0.088	0.089 0.090 0.144 0.133 0.130	0.117 0.106 0.066 0.042 0.042	0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042	0.042			
30	0.048 0.066 0.065 0.065 0.065	0.095 0.057 0.113 0.132 0.093	0.128 0.114 0.037 0.037 0.037	0.037 0.037 0.037 0.037 0.037	0.037 0.037 0.037 0.037 0.037	0.037			
S	0.063 0.075 0.075 0.078 0.102	0.086 0.064 0.144 0.082 0.099	0.101 0.070 0.069 0.061 0.057	0.052 0.051 0.044 0.065 0.031	0.024 0.024 0.024 0.024 0.024	0.024 0.024 0.024			
54	0.050 0.050 0.089 0.065 0.065	0.090 0.077 0.134 0.114 0.083	0.101 0.094 0.078 0.036 0.064		0.039 0.037 0.018 0.018 0.018	0.018 0.018 0.018 0.018			
જ		0.052 0.061 0.115 0.156 0.097	0.088 0.123 0.086 0.096		0.020 0.029 0.029 0.029 0.029	0.029 0.029 0.029 0.029			
32		0.101 0.076 0.170 0.158 0.049	0.118 0.075 0.073 0.073 0.039	0.057 0.058 0.049 0.030 0.054	0.047 0.030 0.029 0.029 0.029	0.029 0.029 0.029 0.029	0.029		
3			0.102 0.091 0.090 0.070 0.050		0.029 0.025 0.041 0.042 0.025	0.019 0.019 0.019 0.019	0.019		
30	0.037 0.064 0.057 0.084 0.065	0.099 0.093 0.142 0.125 0.114	0.084 0.097 0.110 0.056 0.063	0.060 0.072 0.044 0.045	0.027 0.037 0.016 0.028 0.023	0.026 0.027 0.038 0.037 0.024	0.024 0.024 0.024		
67	0.073 0.065 0.042 0.079 0.073	0.082 0.095 0.148 0.142 0.116	0.087 0.088 0.098 0.090	0.085 0.058 0.065 0.059 0.050	0.061 0.029 0.054 0.059 0.031	0.021 0.030 0.046 0.019 0.019	0.019 0.019 0.019 0.019		
97	0.053 0.059 0.069 0.071 0.084	0.119 0.079 0.134 0.137 0.113	0.094 0.080 0.091 0.076 0.080	0.065 0.061 0.061 0.051 0.043	0.058 0.033 0.035 0.054 0.044	0.033 0.037 0.026 0.042			
17	0.039 0.039 0.071 0.052 0.078	0.076 0.099 0.113 0.134 0.109	0.100 0.092 0.099 0.079 0.087	0.059 0.056 0.065 0.062 0.049	0.045 0.038 0.038 0.041 0.037	0.020 0.041 0.056 0.032 0.052	0.040 0.016 0.016 0.016 0.016	0.016	
8	0.033 0.042 0.069 0.060	0.120 0.086 0.129 0.154 0.103	0.096 0.102 0.094 0.083 0.083	0.072 0.068 0.058 0.047 0.056	0.050 0.049 0.035 0.022 0.029	0.029 0.039 0.047 0.023 0.025	0.052 0.032 0.028 0.028	0.028	
22	0.023 0.023 0.055 0.051 0.067	0.083 0.101 0.156 0.124 0.146	0.127 0.097 0.103 0.089 0.069	0.0677 0.060 0.064 0.053 0.058	0.047 0.051 0.050 0.040 0.024	0.035 0.031 0.036 0.034 0.032	0.022 0.025 0.047 0.026 0.021	0.021 0.021 0.021	
47	0.028 0.039 0.056 0.070 0.061	0.127 0.124 0.138 0.169 0.163	0.135 0.113 0.094 0.086	0.085 0.076 0.065 0.068 0.068	0.045 0.042 0.039 0.040 0.040	0.032 0.034 0.038 0.025 0.032	0.035 0.035 0.051 0.032 0.031	0.021 0.021 0.021 0.021	
23	0.035 0.067 0.059 0.073 0.092	0.116 0.168 0.175 0.168 0.167	0.134 0.131 0.097 0.089	0.078 0.065 0.068 0.062 0.058	0.056 0.045 0.042 0.036 0.031	0.031 0.040 0.030 0.023	0.030 0.041 0.022 0.050 0.057	0.033 0.011 0.011 0.011	
77	0.038 0.038 0.069 0.052 0.085	0.094 0.146 0.172 0.168 0.149	0.136 0.124 0.112 0.100 0.094	0.082 0.074 0.068 0.063 0.063	0.055 0.045 0.042 0.041 0.031	0.026 0.026 0.035 0.025 0.030	0.036 0.033 0.036 0.034 0.027	0.030 0.016 0.013 0.024 0.024	0.024
7	0.044 0.068 0.068 0.060	0.073 0.074 0.116 0.110 0.112	0.116 0.117 0.106 0.102 0.084	0.075 0.083 0.068 0.088 0.075	0.069 0.069 0.055 0.054 0.037	0.047 0.033 0.038 0.032 0.034	0.024 0.013 0.021 0.032	0.047 0.033 0.028 0.014 0.014	0.014
70	0.029 0.029 0.118 0.076 0.065	0.059 0.056 0.087 0.096 0.098	0.113 0.104 0.112 0.108 0.081	0.080 0.082 0.073 0.061 0.073	0.074 0.064 0.063 0.052 0.048	0.040 0.028 0.046 0.041 0.030	0.039 0.029 0.026 0.027 0.046	0.055 0.033 0.034 0.045 0.010	0.010
n	0.054 0.054 0.054 0.051 0.085	0.069 0.062 0.090 0.095	0.097 0.086 0.102 0.083 0.083	0.088 0.076 0.070 0.062 0.077	0.092 0.083 0.083 0.053 0.061	0.060 0.053 0.051 0.041 0.035	0.027 0.038 0.032 0.031 0.017	0.030 0.052 0.049 0.066 0.013	0.013
0		0.063 0.046 0.051 0.065 0.074					0.034 0.020 0.047 0.019 0.041		0.037
-		0.054 0.054 0.056 0.056 0.096	0.090 0.092 0.081 0.059 0.105		0.110 0.062 0.078 0.081 0.077			0.030 0.030 0.030 0.030	0.030
٥	0000000	0000000	0000000		0000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0000000	0.000
Service									
ň	Under 1 2 3 4	9 8 4 9 2	01254	5 t t 8 t 6	22222	28 27 28 29 29	33 33 33 33	38 33 39 39	4 4

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').

Enlisted Selected Reserve Separation Rates (Non-Retirement Causes)

						ruiuu	nion o	j ine iv	1111
>62	1.000								
62	1.000								
61	0.140								
09	0.140 0.140 1.000								
69	0.140 0.140 0.140 1.000								
28	0.14 0.14 0.14 0.14 0.14 0.14	0001							
22	0.140 0.140 0.140 0.140 0.140	1.000							
26	0.140 0.140 0.140 0.140 0.140	0.140 0.140 1.000							
22	0.140 0.140 0.140 0.140 0.040	0.140 0.140 0.140 1.000							
24	0.140 0.140 0.140 0.140 0.140 0.00	0.140 0. 0.140 0. 0.140 1.							
23	0.140 0. 0.140 0. 0.140 0. 0.140 0.	0.140 0.140 0.140 0.140 0.140	1.000						
52	0.140 0.140 0.140 0.140 0.140	0.140 0.140 0.140 0.140 0.140	1.000						
21			0.140 0.140 1.000 1.000						
20	0.140 0.140 0.140 0.140 0.140 0.140 0.140 0.140 0.140 0.140	0.140 0.140 0.140 0.140 0.140 0.140 0.140 0.140	0.140 0.1 0.140 0.1 0.140 1.0						
46									
48	40 0.140 40 0.140 40 0.140 40 0.140	40 0.140 40 0.140 40 0.140 40 0.140 40 0.140	40 0.140 40 0.140 40 0.140 40 1.000	8					
47	00.140 00.140 00.140 00.140	00.140 00.140 00.140 00.140 00.140	00.140 00.140 00.140 00.140 00.140	00 1.000					
46	0 0.140 0 0.140 0 0.140 0 0.140	00 0.140 00 0.140 00 0.140 00 0.140	00 0.140 00 0.140 00 0.140 00 0.140	0 0.140 0 1.000					
45 4	9 0.140 9 0.140 9 0.140 9 0.140	9 0.140 9 0.140 9 0.140 9 0.140	9 0.140 9 0.140 9 0.140 9 0.140	9 0.140 9 0.140 0 1.000					
44 4	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 1.000					
	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 0.159 9 0.159	9 0.159 9 0.159 9 0.159					
2 43	0.159 0.159 0.159	0.159 0.159 0.159	0.159 0.159 0.159	0.159 0.159 0.159					
42	0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137	0.137				
41	0.137 0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137 0.137	0.137 0.137 0.137 0.137 0.137	0.137				
40	0.174 0.147 0.144 0.103 0.139	0.148 0.165 0.155 0.156	0.107 0.138 0.115 0.063 0.087	0.075 0.079 0.062 0.045 0.045	0.045 0.045 0.045				
39	0.200 0.158 0.128 0.131 0.141	0.140 0.134 0.160 0.153 0.153	0.124 0.124 0.085 0.103 0.096	0.049 0.056 0.039 0.048 0.074	0.041 0.069 0.010 0.010				
38	0.191 0.162 0.144 0.152 0.117	0.160 0.144 0.162 0.146 0.137	0.124 0.089 0.065 0.088	0.075 0.059 0.067 0.047 0.090	0.056 0.021 0.026 0.026 0.026				
37	0.189 0.177 0.133 0.136	0.159 0.135 0.169 0.150 0.142	0.110 0.099 0.115 0.077 0.087	0.080 0.070 0.065 0.046 0.088	0.073 0.053 0.032 0.028 0.075	0.075			
36	0.190 0.149 0.130 0.117 0.118	0.194 0.135 0.168 0.148 0.120	0.103 0.118 0.112 0.103 0.075	0.075 0.085 0.061 0.046 0.082	0.062 0.074 0.053 0.018 0.041	0.040			
32	0.192 0.157 0.121 0.111 0.114	0.177 0.148 0.192 0.148 0.131	0.104 0.098 0.099 0.096	0.091 0.062 0.050 0.059 0.073	0.082 0.060 0.065 0.090 0.023	0.037 0.063 0.063			
34	0.197 0.157 0.129 0.122 0.122	0.205 0.150 0.187 0.164 0.133	0.120 0.126 0.097 0.081 0.090	0.089 0.057 0.065 0.039 0.066	0.090 0.103 0.091 0.091	0.025 0.020 0.020 0.020			
33	0.171 0.145 0.130 0.129	0.205 0.152 0.195 0.152 0.152	0.134 0.138 0.110 0.108 0.096	0.096 0.057 0.062 0.055 0.065	0.084 0.099 0.097 0.096	0.060 0.012 0.016 0.016 0.016			
32	0.203 0.162 0.138 0.126 0.122	0.212 0.153 0.198 0.153 0.162	0.135 0.127 0.129 0.116 0.099	0.075 0.061 0.064 0.066 0.073	0.095 0.104 0.091 0.085 0.111	0.092 0.059 0.025 0.030 0.083	0.083		
31	0.182 0.159 0.132 0.132 0.125	0.226 0.187 0.204 0.163 0.163	0.138 0.148 0.107 0.112 0.085	0.097 0.058 0.066 0.063 0.072	0.097 0.086 0.089 0.089 0.093	0.085 0.091 0.056 0.010 0.025	0.025		
30	0.189 0.155 0.137 0.128 0.140	0.217 0.171 0.250 0.173 0.158	0.152 0.133 0.115 0.088	0.082 0.078 0.071 0.069	0.095 0.093 0.087 0.075 0.085	0.077 0.094 0.062 0.062 0.020	0.011		
53	0.190 0.155 0.152 0.138 0.138	0.258 0.182 0.227 0.170 0.149	0.149 0.122 0.113 0.101	0.085 0.076 0.064 0.067 0.076	0.096 0.109 0.089 0.084 0.089	0.052 0.055 0.073 0.050 0.050	0.021 0.021 0.021 0.021		
28	0.170 0.165 0.142 0.139	0.262 0.203 0.249 0.187 0.167	0.147 0.133 0.123 0.132 0.105	0.092 0.087 0.066 0.054 0.086	0.096 0.087 0.082 0.086	0.084 0.069 0.059 0.073 0.041	0.020 0.013 0.010 0.010		
27	0.177 0.152 0.141 0.134 0.137	0.258 0.198 0.259 0.193 0.162	0.171 0.156 0.133 0.137 0.117	0.111 0.088 0.072 0.067 0.075	0.092 0.108 0.093 0.091 0.078	0.067 0.065 0.074 0.051 0.064	0.047 0.022 0.024 0.021 0.021	0.021	
20	0.175 0.159 0.145 0.134	0.285 0.206 0.254 0.203 0.170	0.165 0.157 0.128 0.119 0.117	0.096 0.086 0.073 0.058	0.096 0.102 0.091 0.081	0.058 0.065 0.041 0.059	0.053 0.027 0.023 0.019	0.019	
25	0.164 0.151 0.148 0.134 0.142	0.294 0.217 0.281 0.205 0.175	0.166 0.156 0.140 0.140 0.115	0.093 0.078 0.072 0.055 0.078	0.099 0.103 0.089 0.080 0.061	0.064 0.054 0.055 0.051 0.051	0.055 0.041 0.027 0.027 0.018	0.010	
24	0.171 0.148 0.137 0.129 0.139	0.295 0.219 0.289 0.218 0.176	0.159 0.159 0.133 0.103	0.096 0.078 0.069 0.072 0.081	0.096 0.086 0.077 0.088 0.065	0.075 0.053 0.053 0.047 0.039	0.044 0.047 0.037 0.027	0.026 0.018 0.018 0.018	
23	0.163 0.135 0.135 0.130	0.310 0.226 0.292 0.224 0.180	0.176 0.162 0.148 0.143 0.116	0.100 0.083 0.076 0.062 0.084	0.101 0.087 0.091 0.084 0.078	0.070 0.061 0.048 0.044 0.044	0.031 0.040 0.039 0.041 0.049	0.029	
22	0.160 0.148 0.141 0.133 0.143	0.319 0.229 0.308 0.224 0.181	0.171 0.162 0.140 0.144 0.116	0.095 0.086 0.076 0.063 0.086	0.099 0.097 0.074 0.081 0.071	0.063 0.063 0.053 0.044 0.047	0.049 0.035 0.049 0.043 0.050	0.043 0.0031 0.008 0.008	0.008
21	0.156 0.134 0.138	0.336 0.239 0.306 0.231 0.187	0.160	0.097 0.086 0.069 0.068 0.068	0.100 0.090 0.096 0.091 0.076		0.038 0.032 0.038 0.036 0.049	0.034	0.011
20	0.153 0.141 0.127 0.129 0.135	0.342 0.238 0.305 0.233 0.184	0.171 0.161 0.135 0.142 0.112	0.097 0.089 0.075 0.059 0.086	0.100 0.094 0.084 0.089 0.074	0.065 0.062 0.050 0.043 0.041	0.038 0.035 0.033 0.032 0.040	0.042 0.031 0.037 0.013 0.013	0.013 0
19	0.164 0.149 0.116 0.111 0.119	0.325 0.235 0.299 0.233 0.179	0.161 0.155 0.127 0.132 0.113	0.094 0.086 0.072 0.061 0.084	0.103 0.095 0.096 0.080 0.079	0.066 0.060 0.050 0.047 0.047	0.036 0.034 0.022 0.033	0.027 0.032 0.030 0.027 0.027	0.027 0
18	0.169 0 0.214 0 0.133 0 0.109 0	0.294 0 0.211 0 0.279 0 0.232 0 0.173 0	0.144 0 0.168 0 0.133 0 0.111 0	0.098 0 0.082 0 0.075 0 0.062 0	0.121 0 0.111 0 0.001 0 0.089 0	0.081 0.063 0.058 0.044 0.041	0.040 0 0.033 0 0.032 0 0.027 0	0.031 0 0.025 0 0.037 0 0.026 0	0.026 0
17	0.128 0. 0.233 0. 0.155 0. 0.093 0.	0.227 0. 0.233 0. 0.229 0. 0.239 0.	0.145 0. 0.178 0. 0.161 0. 0.148 0.	0.095 0.005 0.0085 0.0085 0.0083 0.0081 0.00	0.154 0. 0.139 0. 0.117 0. 0.115 0.	0.079 0.099 0.095 0.070 0.070	0.052 0) 0.052 0) 0.052 0) 0.052 0)	0.052 0 0.052 0 0.052 0 0.052 0	0.052 0,
16	0.0000	000000	0.0000	0.00000	0.0000	0.0000000000000000000000000000000000000	0.000	0.0000000000000000000000000000000000000	0.000
ice.		00000	00000	00000	00000	00000	00000	00000	00
Service	Under 1 2 3 4	9 8 4 9 2	5 = 5 5 4	5 5 7 5 6 6	23 2 2 2 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	26 27 28 29	33 33 33 33 34 3	38 33 38 38	4 40

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').

Officer Selected Reserve Reentrant Rates

intry Age

0.267

0.267 0.267 0.028 0.028 0.028 0.028 0.028 0.028 0.028 0.028

0.267 0.028 0.028 0.028

0.028 0.028 0.028

۱	00000								
20	0.267 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028						
5	0.267 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028	0.028						
3	0.238 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028						
40	0.213 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028						
40	0.211 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028						
ì	0.355 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028					
40	0.297 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028					
2	0.243 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028					
ŧ	0.211 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028					
2	0.259 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028					
747	0.239 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028				
ŧ	0.298 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	0.028				
4	0.239 0.029 0.029 0.029	0.029 0.029 0.029 0.029 0.029	0.029 0.029 0.029 0.029 0.029	0.029 0.029 0.029 0.029 0.029	0.029 0.029 0.029				
00	0.234 0.032 0.032 0.032	0.032 0.032 0.032 0.032 0.032	0.032 0.032 0.032 0.032 0.032	0.032 0.032 0.032 0.032 0.032	0.032 0.032 0.032 0.032				
S	0.214 0.038 0.038 0.038 0.038	0.038 0.038 0.038 0.038	0.038 0.038 0.038 0.038	0.038 0.038 0.038 0.038	0.038 0.038 0.038 0.038				
ò	0.174 0.040 0.040 0.040	0.040 0.040 0.040 0.040	0.040 0.040 0.040 0.040	0.040 0.040 0.040 0.040	0.040 0.040 0.040 0.040	0.040			
3	0.339 0.027 0.027 0.027 0.036	0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042	0.037 0.037 0.037 0.037 0.037	0.037 0.037 0.037 0.037 0.037	0.037			
3	0.259 0.027 0.027 0.027 0.056	0.040 0.044 0.093 0.082 0.099	0.070 0.063 0.063 0.042 0.031	0.043 0.026 0.028 0.025 0.027	0.027 0.027 0.027 0.027	0.021 0.021 0.021			
5	0.150 0.059 0.048 0.054 0.051	0.067 0.074 0.130 0.072 0.054	0.039 0.078 0.067 0.071 0.024	0.024 0.024 0.024 0.024 0.024	0.024 0.024 0.018 0.018 0.018	0.018 0.018 0.018 0.018			
3	0.222 0.052 0.033 0.035 0.036	0.061 0.049 0.111 0.082 0.055	0.074 0.046 0.078 0.038 0.040	0.03Z 0.027 0.023 0.031 0.020	0.016 0.016 0.016 0.016	0.016 0.016 0.016 0.016			
20	0.192 0.046 0.069 0.069	0.063 0.070 0.127 0.064 0.068	0.042 0.080 0.065 0.045 0.035	0.028 0.020 0.020 0.020	0.020 0.020 0.020 0.020		0.020		
5	0.283 0.069 0.051 0.089 0.088	0.059 0.083 0.151 0.065 0.108	0.047 0.063 0.090 0.037 0.023	0.038 0.032 0.035 0.022 0.017	0.027 0.025 0.022 0.022 0.022	0.019 0.019 0.019 0.019	0.019		
3	0.264 0.066 0.066 0.066	0.063 0.078 0.110 0.106 0.089	0.090 0.062 0.052 0.056 0.074	0.057 0.030 0.039 0.031 0.028	0.027 0.016 0.016 0.025 0.023	0.025 0.025 0.025 0.025 0.024	0.024 0.024 0.024		
0.7	0.227 0.032 0.057 0.089 0.126	0.090 0.101 0.121 0.106 0.087	0.074 0.079 0.058 0.051 0.047	0.039 0.033 0.034 0.030	0.035 0.025 0.031 0.033 0.033	0.021 0.022 0.034 0.019 0.002	0.002 0.002 0.002 0.002		
0.7	0.275 0.105 0.098 0.135 0.128	0.091 0.150 0.097 0.097	0.096 0.072 0.059 0.043 0.037	0.046 0.028 0.026 0.021 0.022	0.026 0.016 0.035 0.037 0.037	0.030 0.021 0.021 0.021 0.021	0.015 0.015 0.015 0.015		
-7	0.265 0.057 0.096 0.178 0.184	0.133 0.139 0.154 0.126 0.148	0.085 0.095 0.082 0.050	0.043 0.029 0.037 0.022 0.036	0.031 0.024 0.029 0.030 0.028	0.020 0.034 0.029 0.032 0.024	0.024 0.016 0.016 0.016 0.016	0.016	
23	0.368 0.055 0.105 0.202	0.137 0.197 0.161 0.161	0.097 0.093 0.065 0.060 0.071	0.039 0.040 0.034 0.037 0.037	0.039 0.035 0.022 0.029	0.029 0.039 0.026 0.021 0.025	0.031 0.015 0.015 0.015 0.015	0.015	
62	0.346 0.087 0.128 0.256 0.202	0.148 0.194 0.202 0.176 0.135	0.115 0.085 0.067 0.045	0.036 0.047 0.029 0.029 0.030	0.037 0.032 0.032 0.031 0.024	0.029 0.031 0.036 0.034 0.032	0.022 0.022 0.014 0.014	0.014 0.014 0.014	
1.7	0.351 0.123 0.391 0.394	0.216 0.223 0.215 0.187 0.173	0.147 0.099 0.079 0.073 0.058	0.051 0.035 0.035 0.040 0.032	0.036 0.024 0.028 0.026 0.037	0.032 0.029 0.024 0.025 0.029	0.023 0.027 0.017 0.017 0.017	0.017 0.017 0.017 0.017	
62	0.329 0.183 0.220 0.569 0.605	0.342 0.288 0.222 0.189 0.224	0.162 0.113 0.084 0.068 0.062	0.037 0.033 0.034 0.035 0.036	0.032 0.026 0.033 0.031	0.031 0.030 0.026 0.021 0.019	0.024 0.021 0.014 0.014	0.021 0.008 0.008 0.008	
777	0.580 0.278 0.146 0.330 0.422	0.269 0.270 0.219 0.205 0.171	0.151 0.119 0.069 0.069	0.041 0.033 0.038 0.031	0.033 0.036 0.037 0.037 0.031	0.026 0.026 0.032 0.020 0.023	0.030 0.027 0.026 0.015 0.017	0.018 0.009 0.009 0.009	0.009
7	0.313 0.294 0.119 0.063 0.048	0.069 0.089 0.130 0.103	0.075 0.097 0.074 0.063	0.049 0.049 0.048 0.040	0.045 0.035 0.035 0.029 0.037	0.027 0.033 0.037 0.032 0.029	0.018 0.013 0.022 0.021 0.023	0.028 0.008 0.008 0.008	0.008
24	0.157 0.336 0.300 0.126 0.050	0.044 0.071 0.065 0.065	0.066 0.085 0.078 0.065 0.066	0.070 0.051 0.043 0.038 0.032	0.038 0.040 0.034 0.045 0.029	0.040 0.028 0.040 0.035 0.030	0.033 0.029 0.026 0.027 0.037	0.020 0.025 0.031 0.013 0.008	0.008
0	0.659 0.659 0.561 0.231 0.105	0.049 0.063 0.063 0.064	0.066 0.072 0.069 0.059 0.056	0.047 0.046 0.038 0.037	0.032 0.039 0.039 0.038	0.035 0.035 0.035 0.035 0.035	0.027 0.037 0.025 0.027 0.017	0.030 0.021 0.029 0.033 0.013	0.013
2	0.353 0.353 0.353 0.281 0.128	0.050 0.038 0.043 0.041 0.055	0.059 0.054 0.050 0.052 0.046	0.045 0.033 0.036 0.034	0.035 0.035 0.039 0.030	0.048 0.039 0.043 0.043	0.031 0.020 0.032 0.019 0.033	0.013 0.013 0.013 0.013	0.013
	0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042 0.042	0.042 0.042 0.042 0.042 0.042	0.042 0.030 0.030 0.030 0.030	0.030 0.030 0.030 0.030	0.030 0.030 0.030 0.030	0.030
2	0.000	000000000000000000000000000000000000000	0.0000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0.000
COLVEC	Under 1 1 2 3 4	98765	01214	51 57 19 19	27 27 28 27 3	25 27 28 29	33 33 34 34	35 37 39 39	40

SCRIPTION: Selected Reserve Reentrant Rates -- Members have a prior entry date.

Arrayed by entry age, completed PEBD YOS, and paygrade (office/renlisted).

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-strengthed" 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').

Enlisted Selected Reserve Reentrant Rates

0.168

0.168 0.168 0.168

0.168 0.168 0.168 0.168

0.168 0.168 0.168 0.168

0.168

0.168 0.168 0.168 0.168

00000	00000	00000	0					
0.168 0.168 0.168 0.168	0.168 0.168 0.168 0.168	0.168 0.168 0.168 0.168	0.168					
0.168 0.168 0.168 0.168	0.168 0.168 0.168 0.168	0.168 0.168 0.168 0.168	0.168 0.168 0.168					
0.169 0.143 0.267 0.286	0.960 0.412 0.171 0.240 0.107	0.107 0.107 0.107 0.107	0.107 0.107 0.107 0.107					
0.088 0.136 0.344 0.563 0.240	0.896 0.171 0.234 0.234 0.073	0.073 0.073 0.073 0.073 0.073	0.073 0.073 0.073 0.073 0.073					
0.084 0.075 0.397 0.603 0.317	1.155 0.175 0.258 0.153 0.203	0.075 0.075 0.075 0.075 0.075	0.075 0.075 0.075 0.075 0.075	0.075				
0.092 0.105 0.236 0.452 0.231	1.140 0.238 0.251 0.105 0.110	0.165 0.096 0.138 0.099 0.028	0.028 0.028 0.028 0.028 0.028	0.028				
0.081 0.057 0.117 0.207 0.124	0.880 0.219 0.194 0.153 0.166	0.141 0.082 0.099 0.046 0.043	0.015 0.015 0.015 0.015	0.015 0.015 0.015				
0.086 0.051 0.099 0.133 0.125	0.657 0.188 0.233 0.131 0.117	0.076 0.072 0.053 0.061 0.048	0.044 0.011 0.011 0.011	0.011				
0.082 0.059 0.081 0.127 0.104	0.544 0.181 0.220 0.140 0.096	0.090 0.054 0.074 0.060 0.062	0.023 0.021 0.020 0.009 0.009	0.009				
0.101 0.047 0.102 0.079	0.336 0.165 0.237 0.084 0.078	0.079 0.087 0.062 0.035 0.042	0.038 0.032 0.032 0.017 0.021	0.006 0.006 0.006 0.006	9000			
0.083 0.060 0.068 0.102 0.073	0.216 0.146 0.229 0.086 0.092	0.061 0.058 0.058 0.044 0.045	0.037 0.021 0.037 0.020 0.013	0.012 0.004 0.004 0.004	0.004			
0.081 0.051 0.110 0.081	0.155 0.161 0.284 0.090 0.073	0.063 0.069 0.066 0.059 0.053	0.038 0.025 0.024 0.010 0.016	0.012 0.016 0.006 0.006	0.006			
0.085 0.058 0.082 0.128 0.091	0.154 0.178 0.347 0.106 0.093	0.067 0.080 0.071 0.044 0.040	0.030 0.025 0.026 0.018 0.022	0.011 0.012 0.005 0.005 0.005	0.005 0.005 0.005 0.005			
0.057 0.067 0.060 0.142 0.088	0.109 0.208 0.430 0.108 0.092	0.074 0.091 0.065 0.065	0.033 0.033 0.028 0.028	0.017 0.020 0.009 0.010 0.012	0.003 0.003 0.003 0.003			
0.073 0.063 0.074 0.137 0.093	0.093 0.206 0.566 0.116 0.097	0.073 0.085 0.081 0.066 0.054	0.038 0.027 0.020 0.015 0.014	0.017 0.010 0.015 0.011	0.005 0.005 0.005 0.005	0.005		
0.064 0.057 0.078 0.138 0.083	0.089 0.205 0.605 0.119 0.084	0.074 0.095 0.080 0.060 0.073	0.037 0.035 0.032 0.028 0.021	0.014 0.015 0.010 0.010 0.009	0.007 0.007 0.007 0.007 0.007	0.007		
0.070 0.048 0.066 0.121 0.097	0.097 0.189 0.593 0.128 0.099	0.068 0.092 0.078 0.064 0.063	0.036 0.029 0.031 0.031	0.023 0.018 0.019 0.019	0.005 0.005 0.005 0.005	0.005		
0.060 0.046 0.077 0.128 0.105	0.097 0.230 0.536 0.114 0.098	0.086 0.070 0.069 0.060 0.057	0.047 0.038 0.026 0.025 0.023	0.013 0.019 0.018 0.013 0.012	0.009 0.008 0.010 0.010	0.004 0.004 0.004		
0.065 0.058 0.153 0.120	0.108 0.234 0.492 0.114 0.083	0.090 0.072 0.078 0.067 0.067	0.045 0.034 0.036 0.032 0.026	0.021 0.018 0.020 0.014 0.014	0.011 0.014 0.008 0.005 0.005	0.003 0.003 0.003		
0.067 0.052 0.073 0.151 0.098	0.112 0.220 0.433 0.107 0.091	0.083 0.084 0.073 0.061 0.056	0.046 0.044 0.034 0.025 0.025	0.016 0.019 0.013 0.013	0.010 0.015 0.018 0.009 0.011	0.013 0.004 0.004 0.004	0.004	
0.059 0.052 0.163 0.138	0.129 0.198 0.118 0.118	0.079 0.073 0.057 0.057	0.045 0.039 0.023 0.025	0.025 0.016 0.019 0.017 0.016	0.013 0.008 0.019 0.019	0.010 0.008 0.007 0.007	0.007	
0.060 0.054 0.086 0.195 0.151	0.133 0.185 0.368 0.108 0.094	0.086 0.079 0.067 0.063 0.046	0.039 0.038 0.026 0.027 0.027	0.020 0.023 0.020 0.020 0.015	0.013 0.014 0.017 0.015 0.015	0.007 0.012 0.010 0.010	0.010 0.010 0.010	
0.053 0.052 0.083 0.186 0.145	0.131 0.185 0.318 0.115 0.089	0.087 0.077 0.062 0.056 0.056	0.035 0.034 0.030 0.025 0.025	0.021 0.017 0.023 0.020 0.018	0.017 0.019 0.015 0.012 0.012	0.008 0.013 0.011 0.004	0.004 0.004 0.004	
0.050 0.051 0.087 0.194 0.141	0.134 0.181 0.290 0.103 0.085	0.078 0.063 0.063 0.063 0.063	0.039 0.037 0.027 0.027 0.028	0.015 0.020 0.018 0.020 0.021	0.019 0.018 0.013 0.009	0.011 0.016 0.007 0.009 0.012	0.013 0.002 0.002 0.002	
0.048 0.051 0.083 0.190 0.142	0.137 0.187 0.257 0.100 0.091	0.075 0.075 0.061 0.049 0.053	0.042 0.032 0.028 0.026 0.026	0.019 0.017 0.022 0.017 0.016	0.017 0.016 0.020 0.015 0.015	0.009 0.015 0.021 0.016 0.013	0.013 0.009 0.007 0.007 0.007	0.007
0.043 0.046 0.080 0.187 0.139	0.135 0.173 0.217 0.098 0.090	0.064 0.066 0.059 0.051 0.050	0.037 0.033 0.029 0.022 0.022	0.018 0.019 0.022 0.022 0.021	0.015 0.014 0.013 0.017 0.016	0.018 0.008 0.009 0.008	0.008 0.008 0.008 0.008	0.008
0.038 0.041 0.070 0.176 0.144	0.133 0.166 0.167 0.088 0.082	0.071 0.065 0.053 0.049 0.047	0.035 0.033 0.028 0.024 0.021	0.019 0.019 0.022 0.018 0.015	0.025 0.018 0.014 0.012 0.016	0.011 0.017 0.010 0.010	0.011 0.011 0.008 0.003	0.003
0.029 0.030 0.139 0.134	0.124 0.144 0.069 0.069 0.070	0.060 0.053 0.051 0.042 0.042	0.036 0.026 0.025 0.025 0.025	0.021 0.021 0.020 0.021 0.019	0.018 0.021 0.027 0.017 0.015	0.013 0.014 0.020 0.009	0.005 0.008 0.010 0.010	0.010
0.030 0.012 0.021 0.066 0.077	0.074 0.099 0.074 0.041 0.051	0.046 0.040 0.037 0.038 0.038	0.027 0.030 0.027 0.024 0.024	0.022 0.022 0.024 0.022 0.023	0.023 0.023 0.019 0.023 0.017	0.016 0.012 0.017 0.010 0.011	0.011 0.011 0.011 0.011	0.011
0.121 0.006 0.004 0.012 0.022	0.026 0.050 0.052 0.027 0.028	0.032 0.027 0.032 0.030 0.046	0.035 0.034 0.029 0.046 0.034	0.021 0.025 0.020 0.030 0.025	0.020 0.024 0.030 0.022 0.026	0.026 0.026 0.026 0.026 0.026	0.026 0.026 0.026 0.026 0.026	0.026
0.00000	0.000	0.0000	0.000	0.000	0.000	0.00000	0.0000000000000000000000000000000000000	0.000
Under 1 2 3 4	£ 6 € 0 € 0	61554	5 9 7 2 6 5	533 533 533 543 543 543 543 543 543 543	25 27 28 29	33 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	35 37 38 39	40

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 the population from becoming "over-strengthed" 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

Officer Selected Reserve Net Separation Rates (Non-Transfer/Retirement)

						ruiuu	nion o	ine iv	1111
>62	1.000								
62	1.000								
61	0.066								
90	0.072 0.072 0.072 1.000								
29	0.085 0.154 0.154 1.000								
89	0.020 0.020 0.020 0.020 0.020	1.000							
22	0.025 0.025 0.025 0.025 0.025	1.000							
26		0.067 0.067 1.000							
22	0.078 0.078 0.078 0.078	0.078 0.078 0.078 1.000							
24		0.071 0.071 0.071 1.000							
23		990.0 990.0 990.0 990.0	1.000						
25	0.209 0.030 0.030 0.030	0.030	1.000						
21	0.059 0.059 0.059 0.059 0.059	0.059 0.059 0.059 0.059 0.059	0.059						
20	0.187 - 0.023 0.023 0.023 0.023	0.023 0.023 0.023 0.023 0.023	0.023 0.023 0.023 1.000						
49		0.052 0.052 0.052 0.052 0.052	0.052 0.052 0.052 0.052 1.000						
48		060.0 060.0 060.0 0.090.0	060.0	1.000					
47	0.076 0.076 0.076 0.076 0.076	0.076 0.076 0.076 0.076 0.076	0.076 0.076 0.076 0.076	1.000					
46	0.082 0.082 0.082 0.082 0.082	0.082 0.082 0.082 0.082 0.082	0.082 0.082 0.082 0.082 0.082	0.082					
42		0.061	0.061	0.061					
4	0.071 0.071 0.071 0.071	0.071 0.077 0.077 0.077 0.077	0.077 0.077 0.077 0.077	0.071 0.077 0.077 0.077					
43		0.070 0.070 0.070 0.070		0.070 0.070 0.070 0.070					
45		0.037 0.037 0.037 0.037 0.037		0.037 0.037 0.037 0.037 0.037	0.037				
4	0.262 -0 0.008 0 0.041 0 0.107 0	0.035 0.035 0.035 0.035 0.035		0.035 0.035 0.035 0.035 0.035	0.035 (
40	0.035 0.036 0.036 0.065 0.061	0.033 0.057 0.052 0.105 0.030		0.013 0.013 0.013 0.013	0.013 (0.013 (0.013 (
33	0.007 0.003 0.081 0.062	0.087 0.057 0.059 0.092 0.055	0.059 0.040 0.012 0.012	0.012	0.012				
38	0.035 0.030 0.032 0.043	0.092 (0.015 (0.119 (0.114 (0.137 (0.		0.011	0.011				
37	0.027 0.035 0.054 0.048	0.049 0.050 0.104 0.093 0.090		0.002	0.002 0.002 0.002 0.002 0.002	0.002			
36		0.053 0.015 0.071 0.090 0.051	0.005	00000	00000	0			
88	0.048 0.048 0.051 0.051	0.046	0.031	0.009 0.025 0.040 0.040	003	0.003			
34		0.023 0.003 0.004 0.042 0.029		0.016 0.013 0.023 0.023 0.021	0.015 0	000			
æ		0.009 0.012 0.074 0.042	0.014 0.040 0.045 0.048 0.056	0.033	0.005 0.004 0.013 0.013	0.013 0.013 0.013 0.013			
32	0.028 0.028 0.045 0.019 0.019	0.048	0.076 0.005 0.014 0.028 0.004	0.029 0.038 0.029 0.010 0.034		900.0	0.009		
31	0.010 0.030 0.003 0.012	0.006 0.018 0.035 0.124 0.021	0.055 0.028 0.033 0.027	0.045	0.002	00000	0		
30	0.002 0.002 0.009 0.018 0.007	0.036 0.045 0.049 0.025	0.035	0.003	0.003	0.001 0.002 0.013 0.012			
59	0.033 0.033 0.015 0.010 0.053	-0.008 -0.006 0.027 0.036 0.029	0.013 0.030 0.033 0.033	0.046 0.025 0.030 0.025 0.025	0.026 0.004 0.023 0.026	0.008 0.012 0	0.017 0.017 0.017 0.017		
88	0.022 0.038 0.064 0.064	0.028 0.040 0.022	0.008	0.019 0.033 0.035 0.030 0.021	0.032	0.003 0.012 0.016 0.005 0.021	0000		
27	-0.226 -0.018 -0.025 -0.126 -0.106	0.057 0.040 0.041 0.008 0.039		0.016 0.027 0.028 0.040 0.013	0.004	0.007	0.016		
92	0.335 0.022 0.063 0.057 0.142	0.045 0.045 0.045	0.009 0.029 0.023 0.012	0.033 0.028 0.024 0.010 0.025	0.019	0.021	0.021 0.017 0.013 0.013	0.013	
52	0.323 0.064 0.073 0.205 0.135	0.065 0.093 0.046 0.052 0.011	0.012 0.015 0.018 0.022 0.024	0.041 0.013 0.035 0.024 0.028	0.010	900'0	0,003 0,033 0,012 0,007	0.007	
24	0.323 0.084 0.134 0.321 0.333	0.089 0.099 0.077 0.018 0.020	0.012 0.035 0.021 0.028	0.034 0.030 0.028 0.014	0.009 0.018 0.014 0.003	0.005	0.012 0.008 0.034 0.015 0.014	0.004	
23	0.294 0 0.126 0 0.161 0 0.496 0 0.513 0	0.226 0 0.120 0 0.047 0 0.021 0	0.028 0.018 0.016 0.029 0.037	0.041 0.032 0.034 0.027 0.022	0.024 0.012 0.016 0.003	0.014 0	0.006 0	0.003 00.003 00.003	
22	0.542 -0.240 -0.077 -0.278 -0.337 -0.337	0.175 -0.0124 -0.0047 -0.0037 -0.0022 -0.0022	0.005	0.041 0.034 0.035 0.025 0.032	0.022 0.009 0.010 0.004	0.003	0.006	0.012 0.003 0.004 0.015 0.015	0.015
24	0.269 0.250 0.051 0.003 0.008	0.004 0.015 0.007 0.026		0.026 0.029 0.049 0.040 0.035	0.028	0.020	900.0	0.019 0.025 0.020 0.006 0.006	0.006
50	0.128 0 -0.307 0 -0.050 0 0.015 0	0.015 0.015 0.031 0.023	0.047 0.019 0.034 0.043 0.015	0.010 0.031 0.030 0.023 0.041	0.036 0.024 0.029 0.007 0.019	0.006	0.006 0	0.035 0.008 0.003 0.032 0.002	0.002 0
19	0.605 0 0.605 0 0.507 0 0.020 0	0.028 0.013 0.031 0.021 0.021	0.031 0.014 0.033 0.024 0.027	0.041 0.030 0.030 0.024 0.040	0.060 0.044 0.047 0.014 0.023	0.021 0.018 0.008 0.006	0.007	0.031	00
18	0.306 0 0.306 0 0.234 0 0.061 0	0.013 0.008 0.008 0.024 0.019	0.032 0.042 0.039 0.035 0.044	0.040 0.036 0.047 0.021 0.047	0.065 0 0.041 0 0.045 0 0.051 0	0.024 0.013 0.004 0.001 0.002	0.003	0.024 0.024 0.024 0.024 0.024	0.024
17	0.012	0.012 0.012 0.012 0.014 0.054	0.048 0.050 0.039 0.0017 0.0063 0.0063	0.048 0.043 0.018 0.033	0.068 0.020 0.036 0.039 0.035	0.021	0 0 0	00000	00
16	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000	0.0000	000000000000000000000000000000000000000	0.000
Service		50000		55000	50000	50000	55000	55000	00
Ser	Under 1 2 3 4	98799	01264	5 2 2 2 5 5 5 6 5 6 5 6 5 6 5 6 5 6 5 6	22222	28 28 29 29	33 33 33 34 3	33 33 33 33 33 33 33 33 33 33 33 33 33	0 4

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').

Enlisted Selected Reserve Net Separation Rates (Non-Transfer/Retirement)

By Entry Age

							raina	nion o	j ine iv	11111
	>62	1.000								
	62	1.000								
	61	-0.028 -0.028 1.000								
	09	0.028 -0.028 -0.028 1.000								
	69	0.028 -0.028 -0.028 -0.028 1.000								
	28	0.028 0.028 0.028 0.028 0.028	1.000							
	22	0.028 0 0.028 0 0.028 0 0.028 0	1.000							
	26	0.028 0 0.028 0 0.028 0 0.028 0	0.028 -0 0.028 1 1.000							
	22	0.028 0.028 0.028 0.028 0.028	0.028 -0.028 -0.028 -0.028 -1.000							
	54	0.028 0.028 0.028 0.028 0.028 0.028	0.028 -0. 0.028 -0. 0.028 -0. 1.000 1.							
	23	0.028 0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028	1.000						
	52	0.028 0.0	0.028 0.0	1.000						
	51	0.028 0.028 0.028 0.028 0.028 0.028	0.028 0.028 0.028 0.028 0.028 0.028	-0.028 -0.028 1.000 1.000						
	20		-0.028 -0.0 -0.028 -0.0 -0.028 -0.0 -0.028 -0.0	0.028 -0.0 0.028 -0.0 1.000 1.000						
	46	128 -0.028 128 -0.028 128 -0.028 128 -0.028 128 -0.028								
	48	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	00					
	47	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028		28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	0.028 1.000					
	46	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028	28 -0.028 28 -0.028 28 -0.028 28 -0.028 28 -0.028						
	45	09 -0.028 09 -0.028 09 -0.028 09 -0.028	09 -0.028 09 -0.028 09 -0.028 09 -0.028	09 -0.028 09 -0.028 09 -0.028 09 -0.028	09 -0.028 09 -0.028 09 1.000 00					
	4	10 -0.009 16 -0.009 05 -0.009 08 -0.009 27 -0.009	01 -0.009 53 -0.009 12 -0.009 52 -0.009	52 -0.009 52 -0.009 52 -0.009 52 -0.009	52 -0.009 52 -0.009 52 -0.009 52 1.000					
	43	71 -0.010 23 0.016 85 -0.205 04 -0.108 81 -0.127	37 -0.801 12 -0.253 75 -0.012 75 -0.081 86 0.052	86 0.052 86 0.052 86 0.052 86 0.052 86 0.052	86 0.052 86 0.052 86 0.052 86 0.052 86					
	42		18 -0.737 38 -0.012 21 -0.075 16 -0.075 86 0.086	62 0.086 62 0.086 62 0.086 62 0.086	62 0.086 62 0.086 62 0.086 62 0.086	8				
	41		03 -1.018 01 -0.038 14 -0.121 32 -0.016 27 -0.066	28 0.062 24 0.062 38 0.062 39 0.062	09 0.062 09 0.062 09 0.062 09 0.062	09 0.062				
	40	33 0.045 30 0.032 27 -0.099 34 -0.315 15 -0.094	32 -1.003 54 -0.101 39 -0.114 03 0.032 12 0.027	34 -0.028 56 0.041 16 -0.001 17 0.038 44 0.109	50 0.109 54 0.109 57 0.109 50 0.109	30 0.109 30 0.109 30				
	39	4 0.093 17 0.090 19 0.027 12 -0.104 6 0.015	7 0.732 3 0.039 2 0.003	18 -0.034 12 0.056 12 0.016 12 0.017 18 0.044	15 0.060 15 0.064 18 0.047 17 0.030 13 0.030	00.030 14 0.030 14 0.030				
		9 0.114 3 0.107 3 0.029 5 -0.002 3 0.016	4 -0.517 7 -0.054 8 -0.073 6 0.022 1 0.032	4 0.048 0 0.052 5 0.032 6 0.048	2 0.005 8 0.045 7 0.028 8 0.037 1 0.063	7 0.030 2 0.058 7 -0.001 7				
	7 38	8 0.109 0 0.103 2 0.063 4 0.025	7 -0.384 0 -0.037 8 -0.058 6 0.006 4 0.041	1 0.034 2 0.050 3 0.015 2 0.005 5 0.036	2 0.052 8 0.038 3 0.047 9 0.038 7 0.081	7 0.047 7 0.012 6 0.017 2 0.017 9 0.017	o,			
	36 37	7 0.088 9 0.130 2 0.032 5 0.034 5 0.031	2 0.177 1 0.030 2 0.068 8 0.064	2 0.031 9 0.012 9 0.042 9 0.042 0 0.045	8 0.042 4 0.038 6 0.029 9 0.067	0 0.067 9 0.047 9 0.026 4 0.022 7 0.069	6 0.069			
		1 0.107 6 0.089 5 0.062 1 0.015 3 0.045	2 -0.022 3 -0.011 2 -0.061 8 0.062 8 0.028	1 0.042 3 0.039 2 0.054 0 0.059 3 0.030	3 0.038 7 0.064 6 0.024 9 0.026 7 0.069	0 0.050 9 0.059 9 0.049 7 0.037	7 0.036			
	4 35	2 0.111 9 0.106 7 0.055 6 0.001 0 0.033	0.022 0 0.092 0 0.058 0 0.058	3 0.041 6 0.053 6 0.032 7 0.040 0 0.033	9 0.053 2 0.037 9 0.026 1 0.049 4 0.057	9 0.070 1 0.049 8 0.049 6 0.084 9 0.017	0 0.031 5 0.057 5 0.057 5			
	33 34	8 0.012 8 0.099 6 0.047 2 -0.006 1 0.030	6 -0.051 6 -0.028 5 -0.160 7 0.040	7 0.053 7 0.046 4 0.026 3 0.037 2 0.050	6 0.059 4 0.032 9 0.039 7 0.021 7 0.044	7 0.079 9 0.091 2 0.098 7 0.086 4 0.049	7 0.020 9 0.015 3 0.015 3 0.015			
	32 3	0 0.098 9 0.088 4 0.086 1 0.012 9 0.041	9 0.096 3 0.056 8 0.235 7 0.044 5 0.037	2 0.057 2 0.047 8 0.034 0 0.043 5 0.032	7 0.065 4 0.024 4 0.029 1 0.027 9 0.047	8 0.067 4 0.069 6 0.082 4 0.087 0 0.084	7 0.057 4 0.009 0 0.013 5 0.013	80		
					0 0.037 3 0.034 4 0.044 5 0.051 1 0.059			8 0.078		
	0 31				6 0.060 9 0.023 2 0.034 9 0.035 3 0.051					
	30						3 0.072 7 0.089 4 0.077 0 0.057 2 0.015			
	8 29				7 0.038 3 0.038 0 0.038 2 0.042 0 0.053					
	7 28				5 0.047 4 0.053 8 0.030 2 0.022 0 0.060				4	
	6 27						4 0.057 5 0.050 7 0.056 2 0.042 8 0.053			
	28				4 0.051 0 0.047 6 0.040 8 0.035 6 0.047				0.012	
	4 25				1 0.054 4 0.040 9 0.046 7 0.028 6 0.056		8 0.051 8 0.040 8 0.038 5 0.036 7 0.040		0444	
	3 24				0.061 0.044 0.039 0.047 0.056					
	2 23				3 0.061 4 0.046 3 0.049 7 0.035 0 0.056		5 0.051 3 0.030 9 0.031 1 0.035			_
	22				0.053 0.054 0.0048 0.0037 0.060			0.040 0.020 0.028 0.027		3 0.001
	21						0.053 0.044 0.035			0.003
	20				0.062 0.056 0.047 0.035			0.027 0.018 0.019 0.022 0.030		0.010
	19				0.058 0.046 0.036 0.036	0.082		0.023 0.020 0.016 0.002		0.017
	18				0.071 0.052 0.048 0.038			0.024 0.021 0.015 0.017 0.010		0.015
	3 17		0.201 0.183 0.177 0.212 0.151		0.060 0.071 0.056 0.017			0.026 0.026 0.026 0.026		0.026
	16		000000	000000	000000	000000	0.00000	000000	0.000000	0.000
Years of	Service	Under 1 2 3 4		0 - 2 8 4	5 4 7 4 6 19 8 7 4 6	0 - 2 6 4	98765	0-084	98765	0 +
_		⊃ = 0 € 4	0 0 7 0 0	5 + 5 5 5	*****	สผฝัพ่ลั	22 52 23 54 23 54 24 55	ଜନନ୍ନ୍ତି	88888	4 4

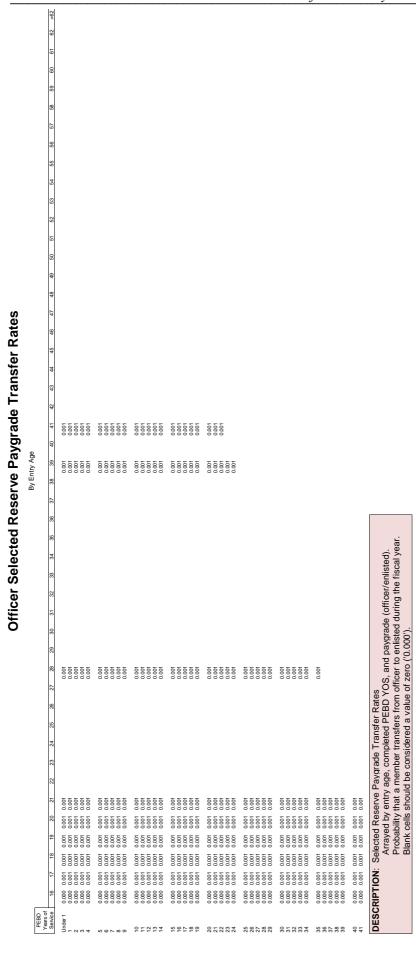
DESCRIPTION: Selected Reserve Net Separation Rates

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 reneters during the fiscal year.

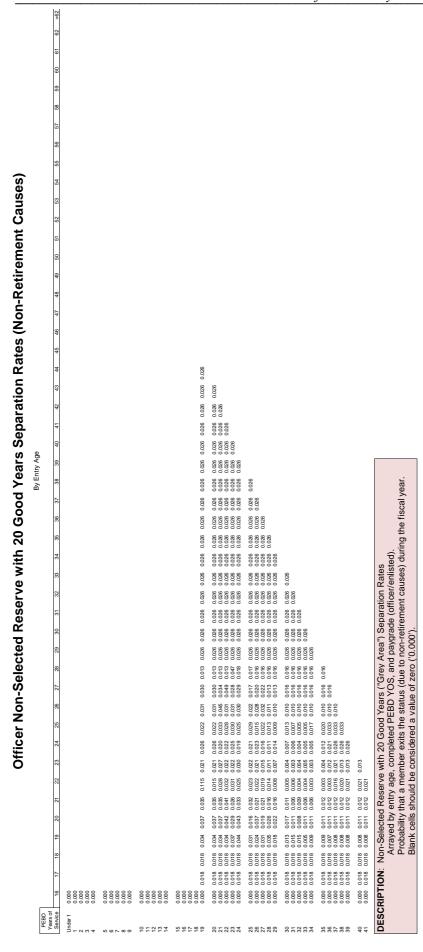
For PEBD YOS greater than 15, if reentrant rate > loss rate, then reentrant is set equal to the loss rate (i.e., to not allow any negative net loss).

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



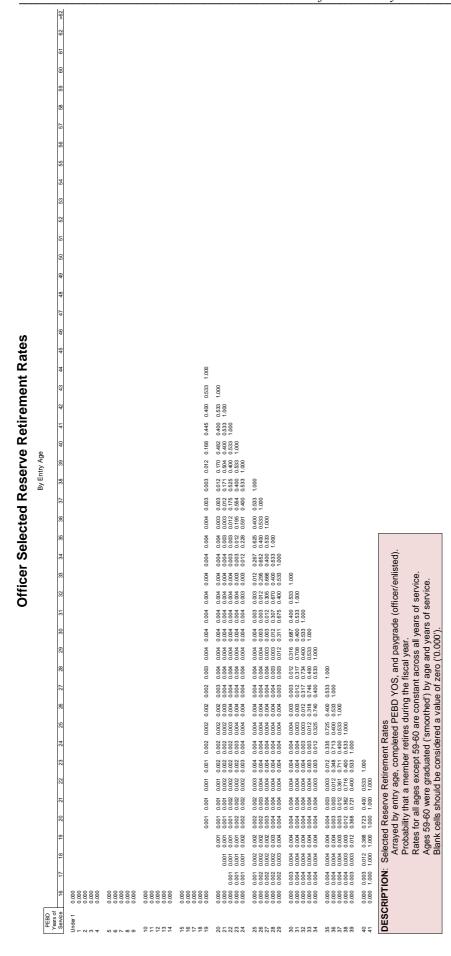
Enlisted Selected Reserve Paygrade Transfer Rates

50 50 10 50 50 10 50 50 10 50 51 51 51										
CT THE CT 25 IT OF 50 00 10 00 00 TO 00 20 10 00 52 02 12 02 12 02 21 11 01 11 01 00000	0.000 0.001 0.002 0.004 0.005 0.004 0.009 0.009 0.009 0.009 0.010 0.015 0.015 0.015 0.017 0.012 0.013 0.010 0.012 0.009 0.011 0.011 0.019 0.011 0.019 0.011 0.019 0.011 0.011 0.019 0.011 0.011 0.019 0.011	0.000 0.007 0.006 0.006 0.006 0.006 0.006 0.006 0.007 0.010 0.010 0.008 0.010 0.006 0.009	10 0,000 0.016 0.013 0.011 0.009 0.012 0.010 0.011 0.010 0.011 0.009 0.010 0.010 0.010 0.010 0.006 0.006 0.006 0.006 0.004 0.006 0.004 0.006 0.004 0.006 0.004 0.006 0.004 0.006 0.004 0.006 0.006 0.004 0.006 0.006 0.004 0.006 0.006 0.004 0.006 0.0	15 0.000 0.012 0.010 0.009 0.000 0.0	22 0.000 0.005 0.004 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.004 0.003 0.004 0.003 0.004 0.004 0.004 0.004 0.003 0.004 0.003 0.004 0.003 0.004 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.003 0.005 0.003 0.005 0.003 0.005 0.003 0.005	25 0.000 0.003 0.002 0.003 0.002 0.003 0.002 0.003 0.002 0.003 0.002 0.003 0.000 0.003 0.000 0.0	30 0000 31 00000 32 00000 33 00000	35 0.000 36 0.000 38 0.000	40 0.000 41 0.000	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').
	<u>⊃</u> ← α ω 4	89786							•	



Enlisted Non-Selected Reserve with 20 Good Years Separation Rates (Non-Retirement Causes) Pytimy App
PEBD V Yours of D Carlot of Carlot o

	Officer Selected Reserve to Non-Selected Reserve with 20 Good Years Transfer Rates
PEBD Years of	By Entry Age By Sori
Service	16 17 18 19 20 21 22 23 24 25 26 25 27 24 25 25 27 24 25 25 27 24 25 25 27 24 25 25 27 24 25 25 25 24 25 25 25 25 25 25 25 25 25 25 25 25 25
Under 2 3 4	71 0,000 0,000 0,000 0,000
98765	0000 0000 0000
01224	0000 0000 0000
15 17 18 19	0.000 0.000
55 57 57 57 57 57 57 57 57 57 57 57 57 5	0.000 0.068 0.049 0.054 0.059 0.065 0.068 0.077 0.073 0.059 0.077 0.070 0.086 0.075 0.070 0.089 0.075 0.070 0.089 0.070 0.070 0.089 0.070 0.070 0.089 0.070 0.070 0.089 0.070
25 27 28 29 29	0.000 0.045 0.049 0.053 0.062 0.077 0.106 0.105 0.088 0.094 0.110 0.116 0.105 0.087 0.127 0.110 0.104 0.079 0.037 0.007 0.048 0.024 0.000 0.045 0.080 0.081 0.082 0.077 0.107
33 33 33 33 34 34 34 34 34 34 34 34 34 3	0.000 0.045 0.078 0.089 0.085 0.140 0.221 0.192 0.176 0.189 0.197 0.170 0.187 0.084 0.007 0.008 0.043 0.000 0.045 0.077 0.180 0.180 0.180 0.197 0.197 0.197 0.197 0.197 0.197 0.197 0.197 0.198 0.197 0.197 0.198 0.198
35 37 38 39 39	0.000 0.045 0.086 0.137 0.144 0.133 0.180 0.199 0.061 0.044 0.089 0.042 0.000 0.044 0.089 0.042 0.000 0.044 0.089 0.047 0.144 0.133 0.180
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0.000 0.044 0.096 0.026 0.026 0.036
DE	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. Rank griscal year. Rank cells should be considered a value of zero ("0 000")



Enlisted Selected Reserve Retirement Rates 0.764 0.586 0.764 1.000 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

Service Officer Enlisted Officer Enlisted Under 1 0.00000 0.00008 0.00000 0.00021 1 0.00000 0.00017 0.00000 0.00021 2 0.00000 0.00074 0.00000 0.00038 3 0.00005 0.00079 0.00014 0.00055 4 0.00065 0.00110 0.00026 0.00065 6 0.00063 0.00129 0.00039 0.00077 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 0.00073 10 0.00096 0.00201 0.00555 0.00093 11 0.00096 0.00211 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 0.00247 0.0	PEBD Years of	Permanent		Temporary	
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 0.00055 4 0.00065 0.00079 0.00014 0.00055 5 0.00065 0.00110 0.00026 0.0065 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 0.00242 0.00047 0.00115 14 0.00092 0.00247 0.00037 0.00106 15 0.000999 0.00224 0.00035		Officer	Enlisted	Officer	Enlisted
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 0.00055 4 0.00065 0.00079 0.00014 0.00055 5 0.00065 0.00110 0.00026 0.0065 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 0.00242 0.00047 0.00115 14 0.00092 0.00247 0.00037 0.00106 15 0.000999 0.00224 0.00035	Under 1	0.00000	0.00008	0.00000	0.00028
2 0.00000 0.00058 0.00000 0.00038 3 0.00000 0.00074 0.00000 0.00050 4 0.00065 0.000110 0.00026 0.00065 6 0.00063 0.00129 0.00039 0.00073 7 0.00070 0.00111 0.00058 0.00071 8 0.0069 0.00122 0.00058 0.00071 9 0.00074 0.00165 0.00057 0.00078 10 0.00096 0.00201 0.0055 0.00093 11 0.00098 0.00227 0.00047 0.00115 12 0.00076 0.00242 0.00047 0.00115 14 0.00098 0.00227 0.00047 0.00115 14 0.00099 0.00242 0.00042 0.00115 14 0.00099 0.00224 0.00039 0.00106 15 0.00099 0.00224 0.00039 0.00102 17 0.00077 0.00210 0.00039					
3 0.00000 0.00074 0.00000 0.00055 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 0.00071 8 0.00069 0.00122 0.00058 0.00071 9 0.00074 0.00165 0.00057 0.00078 10 0.00096 0.00221 0.0055 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 0.00099 0.00224 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 0.00039					
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 0.00221 0.00057 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 0.00222 0.00048					
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38 0.00000 0.00643 0.00120 0.00158					
39 0.00000 0.00504 0.00127 0.00152					
	39	0.00000	0.00504	0.00127	0.00152
40 0.00000 0.00000 0.00000 0.00000	40	0.00000	0.00000	0.00000	0.00000
41 0.00000 0.00000 0.00000 0.00000	41	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

Age	Officer	Enlisted
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	0.177	0.133

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.

Appendix H - 145 - DoD Office of the Actuary

Officer Selected Reserve Average Points Per Year

4 4 4 4 4

RIPTION: Selected Reserve Average Points Earned Per Year

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

Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.

The Average Points Earned Per Year above appear after a 21,1% reduction due to a "half-mobilization" assumption.

Blank rolls should be considered a value of Form 100.

Enlisted Selected Reserve Average Points Per Year

8 8

06666

CRIPTION: Selected Reserve Average Points Earned Per Year
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.
The Average Points Earned Per Year above appear after a 21.1% reduction due to a "half-mobilization" assumption.
Rank cells should be considered a value of zero (10)

Officer Selected Reserve Career Points Adjustment

1.606 1.606 9091 0.951 0.951 0.951 0.396 0.396 0.396 0.396 88888 000000 1.000

0000000

00.1 41.0 1.0 1.0 1.0 1.0 1.0 1.0

0.318 0.954 1.026 1.037 0.998

0.758 0.943 0.988 1.004

1.420 1.420 1.420 1.420 1.216 0.620 1.000 1.000

.055 .055 .055 .055 .055

100001

0.978 1.049 1.052 0.987 1.025 1.025 1.025 1.025 1.025 1.000 0.999 1.049 1.026 1.026 1.026 1.026 1.026 1.026 1.026

1.042 1.042 1.042 0.998 0.997 1.044 1.060 1.060

0.955 0.955 1.033 1.028 0.995 0.991 1.000 1.006 0.960

1.015 1.017 1.001 1.001 1.001 1.001 1.001 1.001 1.001

1.011 1.065 1.005 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 0.977 1.072 0.942 1.083 1.083 1.009 1.009 1.009 1.023 1.023 1.023 0.993 0.973

090

	0.4.0.4.4.	0-1-0		0				
1.000 0.924 0.979 1.042 0.953	1.004 0.994 1.042 0.995 1.014	1.020 1.024 1.010 1.010	1.000 1.009 1.058 0.977	0.977				
1.000 0.983 1.043 0.985 1.031	1.003 1.048 0.992 0.975 0.978	1.057 0.987 0.998 0.992 1.014	0.975 1.018 0.978 1.024 1.055	1.030 1.030				
1.000 1.008 0.986 1.024 0.999	1.026 0.967 0.981 1.017 1.027	1.008 0.994 1.027 0.999 1.009	1.002 1.003 0.997 1.011	0.921 0.901 0.901				
1.000 0.986 0.993 1.027 1.005	0.987 1.009 1.029 1.018 0.989	0.991 1.017 1.008 1.000	1.002 1.006 0.976 1.000 1.028	0.984 1.018 1.097 1.097				
0.809 1.028 0.996 1.020 1.031	0.999 1.011 1.053 1.058 0.998	1.003 1.003 0.996 1.010 1.008	1.008 0.999 0.994 1.024	0.991 0.948 1.035 0.981 0.981	0.981			
1.066 1.026 1.005 1.013	1.021 1.021 1.070 1.050	1.027 1.016 1.003 1.002	1.008 1.004 1.021 0.997 1.020	0.987 0.980 1.021 0.956 0.965	0.965			
1.000 1.012 1.016 1.018	1.003 1.003 1.039 1.017	1.035 0.960 1.003 1.011 0.997	1.006 0.998 0.984 1.002 1.024	0.992 1.009 1.004 0.995 0.977	1.040 1.040 1.040			
1.029 1.010 0.994 1.019	0.995 0.997 1.005 1.026	0.982 1.011 1.019 0.996 1.004	0.992 1.015 0.996 1.008 1.006	1.002 0.996 0.997 1.009	0.955 0.980 0.980 0.980			
1.118 1.028 1.020 1.010	1,000 0,997 0,980 1,032 1,015	1.019 0.993 0.975 1.000 0.991	1.000 0.995 0.997 1.001 0.989	1.012 0.985 1.005 0.983 0.989	1.005 0.960 1.046 1.046			
1.076 0.979 1.011 1.017 0.999	0.981 0.986 1.004 1.019	1.005 0.999 0.999 1.023	0.978 0.996 0.995 1.006 0.982	1.018 0.983 0.990 1.005 0.993	1.008 0.990 0.942 0.962 0.962	0.962		
1.060 1.018 0.992 1.001	1.000 0.992 1.028 1.010 0.988	0.968 1.013 1.022 0.993	0.993 1.003 1.003	1.007 0.987 1.006 0.969 0.998	0.994 0.991 0.951 0.945 0.856	0.856		
1.024 1.043 1.008 0.980	0.995 1.013 1.026 1.010 0.997	1.007 0.986 0.973 0.983 1.001	1.026 1.000 0.998 0.996 0.999	1.013 0.981 0.992 0.993 0.997	1,001 0,986 1,000 0,998 0,998	1.003 1.003		
1.039 1.004 1.032 1.010	0.984 1.000 1.026 1.033	0.993 0.988 0.993 1.003 0.988	1.012 1.016 1.011 0.993 0.985	0.997 0.988 1.009 0.996	1.002 0.981 0.970 0.996 0.963	0.909 1.016 1.016		
1.000 1.026 1.013 1.006	0.990 0.998 1.010 0.989 0.996	1.020 1.006 0.996 1.006 1.016	1.003 0.998 0.989 1.006	0.988 0.990 0.990 0.998 0.975	0.987 0.983 0.979 0.970 0.959	0.939 0.917 0.924 0.924 0.924		
1.048 0.979 1.028 0.996	0.988 0.990 1.008 1.007 0.991	1.007 0.996 0.998 1.017 0.984	1.002 1.002 0.989 1.004	1.016 0.994 0.988 0.985 0.981	0.994 1.003 0.997 0.975 1.009	0.999 0.962 0.990 0.884 0.884	0.884	
1.000 0.999 0.987 1.016 1.001	0.988 1.006 0.994 1.013 1.004	1.003 0.995 0.988 1.008 0.999	1.009 0.992 0.999 0.990 0.995	0.997 1.003 0.995 0.990	0.989 1.004 0.993 0.980 0.993	0.985 0.958 0.995 0.993 0.876	0.876	
1.000 1.006 1.015 0.982	0.980 0.989 0.997 1.012 1.001	0.997 0.991 1.006 0.994 1.005	1.002 1.002 0.997 0.994 0.998	0.995 0.993 0.999 0.996	0.976 0.998 1.003 0.978 0.962	0.937 0.995 1.005 0.922	0.841 0.841 0.841	
0.995 1.003 0.995 1.013	0.994 0.995 1.012 1.015 0.999	0.989 1.011 0.998 0.996 1.003	1.008 0.996 0.992 0.994 0.992	0.987 0.988 0.993 0.997 0.981	0.996 0.985 0.984 0.985 0.989	0.968 0.998 0.997 1.003 0.985	0.898 1.009 1.009	
1.000 1.004 1.016 1.001	0.987 0.991 1.000 1.013	1.001 1.002 1.007 0.996 1.002	0.997 1.000 1.000 0.994 0.991	0.998 0.997 0.996 0.996	0.994 0.996 0.980 0.983 0.977	0.994 0.980 0.997 1.001 0.993	0.990 0.940 0.980 0.797 0.797	
1.000 1.008 1.008 1.003	0.992 0.976 1.005 1.013	0.998 1.006 1.004 1.001	1.005 0.998 0.998 1.001 0.996	0.994 0.993 0.997 0.995	0.994 0.995 0.995 0.995	0.992 0.999 0.973 0.991 0.992	0.997 1.002 1.053 0.928 0.928	0.928
0.989 0.984 0.990 0.984	0.997 0.991 0.995 0.999	1.008 1.003 1.002 1.002	0.999 0.998 0.998 0.998	0.997 0.995 0.991 0.993	0.995 0.992 0.990 0.992 0.981	0.996 1.005 1.012 0.976 0.999	0.976 0.998 0.955 0.918 0.984	0.893
1.000 1.006 0.978 0.996 1.007	0.997 1.000 1.008 1.008	1.009 1.000 0.993 0.995	0.994 0.995 0.988 0.988	0.990 0.983 0.980 0.989 0.992	0.988 0.987 0.989 0.981 0.979	0.976 0.988 0.999 0.980 0.995	0.985 0.995 0.995 1.015 0.962	1.043
1.000 1.009 1.009	1.001 0.994 0.997 0.999 1.011	0.989 0.989 0.996 0.990	0.997 0.986 0.984 0.989	0.991 0.987 0.986 0.987 0.984	0.984 0.996 0.985 0.996 0.982	0.965 0.992 0.979 0.992 1.001	0.996 0.998 0.990 1.005	1.013
1.000 1.000 0.996 0.997 1.030	1.008 1.011 1.005 1.005	1.000 1.003 0.995 0.993	0.997 0.993 0.993 0.993	0.989 0.989 0.984 0.984	0.983 0.985 0.990 0.985 0.978	0.983 0.984 0.977 0.982 0.979	0.989 0.980 0.975 1.000 0.992	1.047
1.000 1.000 1.009 1.012	1,008 1,009 1,002 0,994	0.992 0.998 1.006 0.995 0.992	0.990 0.990 0.990 0.986	0.988 0.987 0.984 0.980 0.990	0.981 0.984 0.981 0.992 0.989	0.979 0.974 0.981 0.983 0.984	0.992 0.988 0.964 0.986 1.010	1.010
1.002	1.025 0.997 1.006 0.993 1.012	0.986 1.007 1.012 1.000 0.961	0.995 0.997 0.959 0.959	0.975 0.985 0.979 0.983 0.971	0.981 0.970 0.990 0.977 1.015	0.983 0.886 1.000 0.994 0.986	0.986 0.986 0.986 0.986 0.986	0.986
0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Under 1 2 3 4	0000	01224	₹ 6 7 8 6	252 232 243 253 243	25 26 27 28 29	33 33 34 34	35 37 38 39	40

Selected Reserve Career Points Adjustment
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Adjustment to Average Career Points for Selected Reserve members to capture the effect of losses (e.g., separation, retirement, transfer) during the fiscal year.
Blank cells should be considered a value of zero (10.000). DESCRIPTION:

Enlisted Selected Reserve Career Points Adjustment

By Entry Age

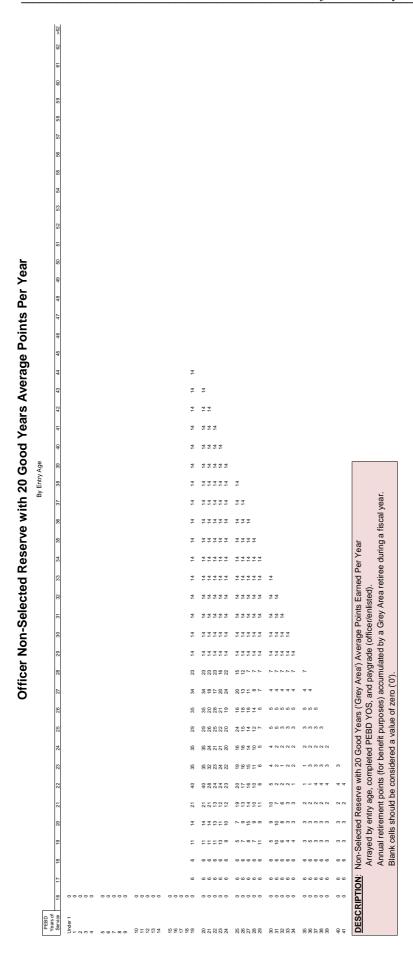
1.093 1.093 1.093 1.093 1.093 1.093

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	0.0000000000000000000000000000000000000		000000				000000	0000000	0.000
	1.058 1.048 1.026 1.009	1.003 1.008 1.015 0.995	0.989 0.992 1.009 0.998 0.990	0.980 0.993 0.987 0.987	1.004 0.991 0.966 0.966 0.990	0.994 0.991 0.974 0.980 0.993	0.994 0.984 0.960 0.947 0.988	0.988 0.988 0.988 0.988	0.988
	1.050 1.050 1.018 1.008 0.996	1.003 0.997 1.005 1.010 0.995	0.988 0.993 0.998 0.996	0.993 0.992 0.988 0.983	0.995 0.992 0.982 0.986 0.991	0.983 0.987 0.983 0.986	0.986 0.992 0.993 0.993	0.989 0.985 0.999 0.973	0.973
			0.985 0.998 0.992 0.995 0.996	0.997 0.995 0.991 0.995 0.992		0.984 0.988 0.987 0.987 0.988	0.989 0.983 0.977 0.989 0.985	0.987 0.990 0.992 0.982	0.982
				0.995 0.998 0.996 0.992 0.991		0.990 0.986 0.989 0.983	0.987 0.996 0.990 0.990 0.990	0.984 0.987 0.985 0.989	0.989
						786.0 0.997 786.0 786.0			117
	1.015 1.032 1.002 0.988	1.020 0.999 1.005 1.006 0.989	0.991 0.996 0.996 1.006 0.997	1.000 0.997 1.000 0.998 0.990				0.987 0.987 0.986 1.058 1.058	
	_		0.997 0.998 1.002 1.003			0.984 0.982 0.995 0.995 0.989		0.982 0.978 0.972 0.972	0.972
	_		1.002 0.996 0.999 1.003			0.991 0.982 0.982 0.982 0.985			
	_		1.009 1.006 0.991 0.996			0.985 0.990 0.992 0.986 0.991		0.985 0.985 0.985 0.985	
	1.027 1.032 1.019 0.995	1.008 0.999 0.996 1.007 0.996	1.002 1.006 0.997 1.002	0.987 0.995 0.995 0.999		0.979 0.994 0.995 1.001			
	_		0.996 0.995 0.999 1.003			0.993 1.008 0.996 0.999 0.994			
	1.059 1.042 1.013 0.998		1.011 0.990 0.995 1.004 0.999			0.995 1.004 0.998 0.991		1.019	
			0.997 1.002 0.999 0.995 0.997			0.996 0.992 0.999 0.990			
			1.003			1.000 0.992 1.002 0.995 0.987			
			1.010 0.988 1.005 0.996 1.008			0.998 1.009 0.986 0.904			
			1.0098			0.982 1.012 0.996 1.014			
	-		1.003 0.998 0.999 1.009			1.106	1.106		
			0.996 0.997 1.000 0.994		1.003 0.983 0.994 1.006 0.985				
	1.031 1.027 1.012 1.008 0.995	1.002 1.027 0.993 0.991	1.001 1.000 0.998 0.985	0.986 0.995 1.000 0.984 0.998	0.997 0.985 0.995 1.016 0.996	0.968 0.968 0.968 0.968			
	1.049 1.022 1.011 0.998 0.997	0.998 0.998 1.015 0.981	1.009 1.015 1.002 1.000	1.004 0.999 1.010 0.989	0.991 1.005 0.998 0.981 0.979	0.979			
	0.980 1.027 1.009 1.010 0.991	0.994 1.013 1.011 0.991	1.006 1.000 0.984 1.016 0.984	0.989 0.995 0.989 0.988	1.009 0.994 0.965 0.960	0.96.0			
	1.031 1.036 1.016 0.989	0.991 0.992 1.008 0.999 0.991	0.985 0.995 1.015 0.993 0.999	0.992 0.994 1.000 0.997 1.013	1.014 0.975 0.917 0.917 0.917	0.917			
	1.051 1.035 1.022 0.986 1.007	1.008 0.983 1.004 1.019	0.965 1.012 0.999 0.987 0.992	1.000 1.010 0.995 1.002 1.018	0.965 0.914 0.914 0.914 0.914				
	1.004 1.012 1.008 0.996 0.984	1.001 1.000 1.036 1.018	1.011 1.051 0.999 1.004 1.007	1.029 0.974 1.017 0.978 1.006	1.031 1.031 1.031				
	1.013 0.993 0.971 0.986 0.986	1.000 0.994 1.002 1.024	0.976 0.998 0.997 1.012 0.978	0.999 1.010 1.013 1.013	1.127 1.127 1.127				
	1.020 1.011 1.020 1.102 0.968	0.979 1.022 1.065 0.981 1.018	1.076 1.000 1.040 1.002	1.019 0.986 1.013 1.013	1.013				
	0.859 1.083 1.045 0.904 1.045	1.015 0.977 0.960 1.036 0.951	1.035 1.041 0.994 1.016 0.977	0.987 1.074 1.074 1.074 1.074	1.074				
	1.001 1.072 1.034 1.078	1.101 1.015 1.061 0.977 1.073	1.309 1.023 0.953 0.953	0.953 0.953 0.953 0.953					
	0.845 1.109 1.003 1.000	1.102 0.726 1.169 0.905 0.996	1.053 1.054 1.054 1.054	1.054 1.054 1.054					
	1.000 0.907 1.085 0.966 1.000	0.858 0.550 1.266 1.000	1.068 1.068 1.068 1.068	1.068 1.068 1.068					
	0.982 1.057 1.000 0.844 1.000	1.026 1.228 1.000 1.100 1.100	000000	1.100					
	1.134 1.000 1.000 0.868 0.868	0.868 0.868 0.868 0.868	0.868 0.868 0.868 0.868	0.868					
	1.000 0.705 1.190 0.440 1.739	1.000 1.006 1.006 1.006	1.006						
	1,000 1,000 1,000 1,000	0.770 0.770 0.770 0.770 0.770	0.770 0.770 0.770 0.770						
	1.000 1.126 0.926 1.000 1.114	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1. 1. 1. 4. 4. 4.						
	1.000 1.000 0.618 1.769 1.769	1.769 1.769 1.769 1.769	1.769						
	1.093 1.093 1.093	1.093 1.093 1.093	1.093						
	55555	55555							

DESCRIPTION: Selected Reserve Career Points Adjustment
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Adjustment to Average Career Points for Selected Reserve members to capture the effect of losses (e.g., separation, retirement, transfer) during the fiscal year.
Blank cells should be considered a value of zero (0.000).



Enlisted Non-Selected Reserve with 20 Good Years Average Points Per Year	31 32 33 34 35 36 37				4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	e e e e e e e e e e e e e e e e e e e			Non-Selected Reserve with 20 Good Years ('Grey Area') Average Points Earned Per Year Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Annual retirement points (for benefit purposes) accumulated by a Grey Area retiree during a fiscal year. Blank cells should be considered a value of zero ('0').
Non-Selec	30 31				4	44444	40040	16 2 2 2 2			erage Points Eal e (officer/enlistec d by a Grey Area
Enlisted	5 27 28 29				4	44444	44444 44000	2 2 2 2 2 2 2 3 3 2 4 4 9 9 1 1 3 6 6 5 2 2 2 2 2 2 2 2 2 2 2 2 3 3 2 4 4 5 9 4 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5	N		Von-Selected Reserve with 20 Good Years ('Grey Area') Average Point Arrayed by entry age, completed PEBD YOS, and paygrade (officer/en Annual retirement points (for benefit purposes) accumulated by a Grey Blank cells should be considered a value of zero ('0').
	25 26					00440		00000	-		od Years PEBD YO fit purpos
	23 24				0 4	01 0 4 2 E	00000	10000	- 2 -		20 Gor pleted F or bene idered
	22				4	<u>‡</u> 4 4 6 4		- 5 5 3 3	- 0.6		ve with e, com oints (f e cons
	21				00		00000	000	2 6		Resentry age
	8				7	≻ ► 4 € €	00000	0 0 - 0	0 0 0	e e	ected I by en retiren
	19				13	ည မ မ ၈ ၈	00000	-3553	00-00	e e	n-Sele rayed nnual r ank ce
	18					00464	00000	00040	00000	7 7	
	16 17	00000	00000	00000	00000	44444	00000	44444	44444	0.0	IPTION
	PEBD Years of Service	Under 1 2 2 4 4	u, φ ≻ ∞ σ	0 = 2 5 7	5 5 7 5 8 6	82884	88688	88838	88888	4 4	<u>DESCRIPTION:</u>

Officer Reentering Selected Reserve Average Points

By Entry Age	19 Z0 21 Z2 Z3 Z4 Z5 Z6 Z1 Z6 Z9 30 31 Z2 Z3 34 26 26 27 Z6 Z9 30 31 Z2 Z3 34 26 26 31 28 29 40 61 62 9	34 34 124 152 164 208 156 182 182 183 177 17 51 51 54 67 182 18 17 17 18 18 25 34 67 18 24 24 24 24 24 24 24 24 24 24 24 24 24	66 66 66 1127 1674 1680 1580 1580 1580 1580 1580 1280 1487 1780 1100 814 382 777 425 1014 1014 1014 1014 1014 1014 1014 101	28 1770 1889 2344 2889 3086 3151 3055 2875 3046 2480 1316 1346 2480 1316 1346 2480 1316 1346 2480 1316 1316 1346 2481 1316 1316 2480 2481 1316 1317 2173 2173 2173 2173 2173 2173 2173	13 2845 2847 3559 3559 3455 280 275 28	00 3808 3721 3388 3910 3387 342 3553 3469 3554 282 3754 3319 2724 3727 2427 2427 2427 2427 2427 2427	66 484 439 450 480 471 476 451 635 428 427 450 50 50 573 324 572 552 552 552 573 138 475 270 578 138 475 270 578 578 578 578 578 578 578 578 578 578	22 5.376 1487 501 4802 5.287 3564 4.28 4.340 4.402 3823 3.877 3.204 2.722 3825 5.504 4.205 3.805	81 5.086 5.17 5.02 428 4316 3988 4834 6.080 3.853 4404 8.080 3.853 4404 8.080 3.853 4.094 8.080 3.853 4.094 8.080 3.853 4.094 8.095 8.005	28 5390 5744 3305 5.833 6.217 28 5390 5.744 3.205 5.833	Average Career Points Transferred to the Selected Reserve via Reentering Members Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Career retirement points (for benefit purposes) accumulated by reentrants transferring to the Selected Reserve during a fiscal year. Blank cells should be considered a value of zero ('0').
V V V V V V V V V V V V V V V V V V V	18 19 20 21 22	34 124 152 79 142 360 116 174 638 176 512 1,192 343 813 1,381	695 1,127 1,674 920 1,179 1,927 1,365 1,444 2,148 1,775 1,652 2,474 2,039 1,984 2,854	1,869 2,384 2,989 2,144 2,384 3,083 2,602 2,515 3,346 2,874 2,657 3,152 2,441 2,915 3,175	2,947 3,196 3,457 3,396 3,230 3,303 3,413 3,396 3,638 3,271 3,449 3,749 3,630 3,866 3,845	3,721 3,388 3,910 3,813 3,863 4,175 3,564 3,900 4,257 3,672 3,722 4,277 4,140 4,370 4,733	4,399 4,560 4,988 5,178 4,446 4,536 4,898 4,988 5,219 4,542 5,038 5,372 5,005 5,229 4,789	4,967 5,011 4,802 6,126 5,887 5,952 5,223 5,403 5,446 6,222 4,701 5,483 5,414 5,348 5,473	5,170 5,032 4,828 4,602 5,168 4,872 4,973 5,376 5,553 4,974 3,505 5,553 5,760 3,505 5,553	5,744 3,505 5,553 5,744 3,505 5,553	DESCRIPTION: Average Career Points Trar Arrayed by entry age, com Career retirement points (fi the Selected Reserve duri Blank cells should be cons
PEBD Years of	Service	Under 1 1 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	40000	0 11 2 2 4	10 10 10 10 10 10 10 10 10 10 10 10 10 1	82822	88288	88888	88888	9 4 4	DESC

Enlisted Reentering Selected Reserve Average Points

By Entry Age 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 >	20 21 248 58 549 24 574 28 429 74 77 50 57 57 57 51 71 71 72 72 72 72 72 72 72 72 72 72 72 72 72	1/10 1/12 1/10	2.257 159 5.01 1973 2.185 5.04 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1	15 0 2-240 3146 2596 2540 2510 2755 2759 2259 2257 2557 2557 2557 2557	20 0 2607 4304 4088 3667 4314 3564 3649 3658 342 3403 3056 5375 3650 4306 3759 2214 3757 3277 4115 2759 4149 2974 2373 1759 1822 2 2759 4149 2974 2373 1759 1822 2 2759 4149 2974 2373 1759 1822 2 2759 4149 2974 2373 1759 1822 2 2759 4149 2974 2373 1759 1759 2 2750 4757 4750 2 2759 4149 2974 2373 1759 1759 2 2750 4757 4750 2 2759 4149 2974 2373 1759 2 2750 4757 4750 4750	25 0 5609 5.12 4462 4.999 4.141 5.000 4.100 4.10 5.61 4.220 4.80 4.00 3.61 4.227 3.392 4.62 4.70 4.11 5.70 9 4.10 5.00 4.10 4.10 5.00 4.10 4.10 5.00 6.10 6.10 6.10 6.10 6.10 6.10 6.10 6	30 0 8532 4986 8587 1480 423 4414 5577 450 441 4517 5480 7842 472 472 472 472 472 472 472 472 472 4	35 0 5271 4246 7850 5510 6.205 6.204 6.209 6.444 6.205 6.222 5.223 5.225 6.222 5.223 6.225 6.222 5.223 6.225 6.222 5.223 6.225 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.222 6.223 6.223 6.222 6.223	40 0 5,271 8,551 2,20 7,146 6,001 6,473 4,800 41 0 5,271 5,572 6,382 7,146 6,001 6,473	DESCRIPTION: Average Career Points Transferred to the Selected Reserve via Reentering Members Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Career retirement points (for benefit purposes) accumulated by reentrants transferring to the Selected Reserve during a fiscal year. Blank cells should be considered a value of zero ('0').
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Non-Selected Reserve with 20 Good Years Blow-up Factors

By Modeling Type and Paygrade

	Pers	on	P	ay
Age	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
60	1.105	1.190	0.986	0.977
61	2.331	2.589	0.910	0.917
62	4.536	4.919	0.823	1.045
>62	4.026	4.888	0.969	0.976

DESCRIPTION: Non-Selected Reserve with 20 Good Years ('Grey Area') Nondisabled Retirement Ratios ("Blow-up" factors or "Loads")

Arrayed by modeling type (person/pay), age, and paygrade (officer/enlisted).

These factors are applied to each year's new-retirement-from-the-Grey-Area projections to account for new retirees who were not present in the prior year's reserve data files.

Appendix H - 154 - DoD Office of the Actuary

							raina	mon o	ine w	11111	ury R
Officer Selected Reserve to Non-Selected Reserve with 20 Good Years Transfer Blow-up Factors	PEBD Years 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 89 59 60 61 62 562 58 58mter Years Ye	Under 1 0.000 1 0.000 2 0.000 4 0.000	0.000 0.000 0.000	10 0.000 12 0.000 13 0.000 14 0.000	15 0.000 17 0.000 18 0.000 0.247 0.390 0.411 0.296 0.387 0.925 0.826 0.830 0.700 0.867 0.700 0.867 0.701 0.41 0.127 0.458 0.43 0.473	20 0.000 0.247 0.126 0.148 0.148 0.148 0.148 0.148 0.149 0.441 0.513 0.309 0.246 0.278 0.400 0.141 0.151 0.158 0.159 0.170 0.173 0.1	25 0.000 0.247 0.217 0.159 0.222 0.192 0.114 0.112 0.127 0.136 0.115 0.136 0.115 0.137 0.148 0.149 0.1	30 0.000 0.247 0.217 0.108 0.222 0.204 0.101 0.152 0.224 0.127 0.108 0.115 0.025 0.107 0.115 0.115 0.105 0.117 0.118 0.115 0.1	35 0.000 0.247 0.247 0.240 0.252 0.204 0.256 0.139 0.224 0.127 0.156 0.115 0.024 36 0.000 0.247 0.247 0.247 0.248 0.252 0.124 0.127 0.136 0.115 37 0.000 0.247 0.247 0.247 0.352 0.104 0.354 0.124 0.1	40 0.000 0.247 0.217 0.340 0.252 0.204 0.384 0.788 41 0.000 0.247 0.217 0.340 0.252 0.204 0.384	DESCRIPTION: Selected Reserve to Non-Selected Reserve with 20 Good Years ('Grey Area') Transfer Rate Ratios ("Blow-up" factors or "Loads") Count-Based. Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Increment rates to account for "unanticipated" (i.e., not in the Selected Reserve the prior year) transfers to Grey Area.

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		>62										
		62										
		61										
		9										
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		22										
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ac		53 6										
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ā		20										
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ΛĖ		40				0.133 0.104 0.104 0.104 0.104 0.104 0.104						w-up
é	Age	39				0.1	401.0 401.0 401.0 401.0 401.0					"Blov
er	By Entry Age	38				3 0.1	00.000 00.104 00.104 00.104	9				ios (
Ses	B						2 0.130 2 0.100 2 0.100 2 0.100	2 0.100				Rat (ear)
D F		8 37				3 0.182	3 0.182 3 0.182 3 0.182 3 0.182	3 0.182 3 0.182 3				Rate
Non-Selected Reserve with 20 Good Years Transfer Blow-up Factors		35 36				1 0.083	0.083	0.083				ısfer the p
<u>e</u>						0.083 0.067 0.081	7 0.081 7 0.081 7 0.081 7 0.081	7 0.081 7 0.081 7 0.081				Trar).
S-i		34				90:00	0.067 0.067 0.067 0.067	0.067 0.067 0.067 0.067	_			rea') istec Rese
Š		33					0.083 0.083 0.083 0.083	0.083 0.083 0.083 0.083	0.083			ey A
		32				0.102	0.102 0.102 0.102 0.102	0.102 0.102 0.102 0.102	0.102			ffice Sele
/e		31				0.094	0.094 0.094 0.094 0.094	0.094 0.094 0.094 0.094 0.094	0.094 0.094 0.094			ears de (c the
ē		30				0.096	0.096 0.096 0.096 0.096	0.096 0.096 0.096 0.096	0.096 0.096 0.096 0.096			ygra of in
\es		29				0.075	0.075 0.075 0.075 0.075 0.075	0.075 0.075 0.075 0.075 0.075	0.075 0.075 0.075 0.075 0.075			O Go d pa e n
Р		28				0.084	0.084 0.084 0.084 0.084	0.084 0.084 0.084 0.084	0.084 0.084 0.084 0.084	0.084		ith 2 3, an d" (i.
Enlisted Selected Reserve to		27				0.090	0.090 0.090 0.090 0.090	0.090 0.090 0.090 0.090 0.090	0.090 0.090 0.090 0.090 0.090	0.090		ve w
<u>e</u>		98				0.100	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 0.0.0.0 0.0.0.0.0 0.	00.100	00.100	0.100		eser EBD intici
Š		22				0.092	0.092 0.092 0.092 0.092 0.092	0.092 0.092 0.092 0.092 0.092	0.092 0.092 0.092 0.092 0.128	0.128 0.128 0.128 0.128		ed P
tec		24				0.095	0.052 0.038 0.034 0.059	0.047 0.088 0.093 0.151 0.126	0.098 0.239 0.059 0.181 0.284	0.256 0.256 0.256 0.256 0.256		electe plete t for
lis		23				0.066	0.039 0.058 0.075 0.075 0.079	0.085 0.106 0.148 0.125 0.130	0.121 0.134 0.089 0.195 0.253	0.138 0.270 0.270 0.270 0.270	0.270	corr
ш		22				0.070	0.043 0 0.051 0 0.099 0 0.059 0	0.072 0 0.103 0 0.104 0 0.180 0	0.173 0 0.160 0 0.088 0 0.206 0 0.149 0	0.218 0 0.161 0 0.310 0 0.310 0	0.310 0	o No age, o ac
		21				0.042 0.	0.023 0.0040 0.0052 0.0044 0.0065 0.0065	0.083 0. 0.070 0. 0.065 0. 0.203 0.	0.295 0. 0.212 0. 0.157 0. 0.156 0.	0.137 0. 0.255 0. 0.258 0. 0.258 0.	0.258 0.	rve t ntry tes t
		20				0.048 0.0	0.069 0.0 0.033 0.0 0.048 0.0 0.052 0.0	0.072 0.0 0.101 0.0 0.134 0.0 0.153 0.2 0.109 0.0	0.187 0.2 0.200 0.2 0.140 0.1 0.225 0.1	0.085 0.1 0.223 0.2 0.149 0.2 0.315 0.2	0.315 0.2	elected Reserve to Non-Selected Reserve with 20 Good Years ('Grey Area') Transfer Rate Ratios ("Blow-up" factors o Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Increment rates to account for "unanticipated" (i.e., not in the Selected Reserve the prior year) transfers to Grey Area
		19										ted Fayed
		. 81				98 0.066	29 0.053 59 0.046 77 0.060 62 0.035 70 0.069	75 0.060 92 0.128 63 0.144 41 0.193 92 0.168	58 0.140 11 0.303 11 0.123 30 0.156 94 0.253	22 0.115 18 0.113 33 0.113 82 0.113 82 0.113	82 0.113 82 0.113	Arra Incre
		17				05 0.088	05 0.029 05 0.059 05 0.077 05 0.062 05 0.070	05 0.075 05 0.092 05 0.163 05 0.141 05 0.192	05 0.158 05 0.211 05 0.211 05 0.130 05 0.194	05 0.122 05 0.118 05 0.233 05 0.182 05 0.182	05 0.182 05 0.182	Ξ
		16 1	00000	22222	22222	00 00 00 00 00 00	00 0.105 00 0.105 00 0.105 00 0.105	00 0.105 00 0.105 00 0.105 00 0.105	00 0.105 00 0.105 00 0.105 00 0.105	00 0.105 00 0.105 00 0.105 00 0.105	00 0.105	OT C
	_ +	Ц	00000	00000	00000	0.00000	0.00000	0.0000	0.0000	0.0000	0.000	DESCRIPTION: Selected Reserve to Non-Selected Reserve with 20 Good Years ('Grey Area') Transfer Rate Ratios ("Blow-up" factors or "Loads") Count-Based. Arrayed by entry age, completed PEBD YOS, and paygrade (office/fenlisted). Increment rates to account for "unanticipated" (i.e., not in the Selected Reserve the prior year) transfers to Grey Area.
	PEBD Years of	Service	Under 1 1 2 3 4	98405	01224	15 17 19 19	232218	25 26 27 28 29	33 33 34 34	35 37 39 39	40	DES

Officer Non-Selected Reserve with 20 Good Years Career Points Adjustment Due To Transfer Blow-ups Adjustment to Average Career Points for Grey Area retirees -- effect on Average Career Points of "unanticipated" (i.e., not in the Selected Reserve the prior year) transfers to Grey Area due to transfer blow-up factors. 1.033 1.033 0.982 1.023 .002 .006 .006 .008 DESCRIPTION 0.968 0.968 0.968 0.968 0.817

Enlisted Non-Selected Reserve with 20 Good Years Career Points Adjustment Due To Transfer Blow-ups Adjustment to Average Career Points for Grey Area retirees -- effect on Average Career Points of "unanticipated" (i.e., not in the Selected Reserve the prior year) transfers to Grey Area due to transfer blow-up factors. 0.937 0.937 0.937 1.413 0.987 0.997 1.004 1.005 1.004 1.004 0.966 .007 .007 .015 .009 1.005 1.008 0.987 1.012 0.991 DESCRIPTION

Officer Selected Reserve Promotion and Merit Increase Scales (PAMS)

1.000 1.000

61	1.095 1.095								
9	1.048 1.048 1.048								
29	1.067 1.067 1.067 1.067								
28	1.038 1.038 1.038	1.038							
22		960.1							
26		1.024							
22									
54		1.057 1.037 1.037 1.037							
53		1.088 1. 1.054 1. 1.000 1.	000						
52		1064 1025 11025 11025 11025 11025							
51	55555	000 000 000 000 000 000 000 000 000 00							
50		1.082 1.0 1.032 1.0 1.041 1.0 1.016 1.0							
49									
48	54555	22 1.065 16 1.035 17 1.046 38 1.044 35 1.041		8					
	25522	9 1.062 6 1.016 9 1.071 8 1.008							
6 47			0 1.021 8 1.051 8 1.035 0 1.035						
5 46	55555		3 1.030 3 0.998 3 1.046 5 1.040						
45		1.058 1.012 1.047 1.034							
44		1.075 1.015 1.061 1.037							
43	55555	1.067 1.006 1.050 1.053	1.023 1.047 1.002 1.047 1.003	1.049 1.048 1.023 1.023	1.023				
42	1.060 1.199 1.142 1.086	1.066 1.012 1.062 1.016 1.076	1.019 1.008 1.041 1.012	1.050 1.010 1.030 1.035	1.035				
41	1.063 1.191 1.144 1.083	1.058 1.010 1.065 1.007 1.068	1.028 1.054 1.010 1.042 1.012	1.044 1.039 1.005 1.044	1.033 1.033				
40	1.065 1.176 1.153 1.088 1.014	1.070 1.012 1.051 1.022 1.057	1.013 1.064 1.045 1.022	1.048 1.008 1.033 1.042	1.017 1.053 1.053				
39	1.049 1.152 1.089 1.010	1.065 1.024 1.062 1.068	1.024 1.039 1.039 1.009	1.049 1.035 1.040	1.024 1.069 1.069 1.069				
38	1.055 1.187 1.088 1.018	1.071 1.008 1.057 1.010 1.046	1.032 1.055 1.069 1.052 1.012	1.056 1.018 1.035 1.012 1.037	1.021 1.043 1.035 1.035	1.035			
37	1.043 1.193 1.073 1.073	1.071 1.014 1.056 1.009	1.071 1.071 1.062 1.010	1.045 1.022 1.038 1.045	1.048 1.048 1.068 1.040	1.040			
36	1.032 1.194 1.168 1.088	1.071 1.021 1.060 1.023	1.014 1.065 1.007 1.040 1.013	1.045 1.005 1.040 1.015 1.038	1.024 1.043 1.040 1.040	41.0.1 41.0.1 41.0.1			
32		1.068 1.016 1.013 1.064	.027 .058 .016 .053	1.048 1.012 1.010 1.036	.020 .036 .013 .018	1.068 1.003 1.003			
34		1.069 1.018 1.015 1.074							
33		1.062					946		
32		1.068 1.022 1.044 1.070							
31		1.067 1.030 1.053 1.017 1.064				-			
30		076 019 1063 1063 1063				1.037			
29		1.069 1.027 1.028 1.062					-		
28		1.024						280	
27		1.076 1.034 1.057 1.025 1.067							
92		0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0							
25		1,071 1,032 1,061 1,061 1,073 1,073							
24		1.070 1.0 1.027 1.0 1.064 1.0 1.026 1.0							
23									86
22		30 1.072 32 1.018 34 1.060 38 1.023 39 1.084							
21		74 1.080 73 1.032 76 1.064 70 1.084							
		7 1.074 5 1.061 2 1.078 5 1.056 5 1.070							9 1.053
3 20		5 1.087 1.065 3 1.082 9 1.055 1.075							2 0.999
3 19		1.086 1.073 1.069 1.080							1.032
7 18		2 1.077 3 1.073 9 1.076 1 1.066 5 1.079							5 0.992
3 17		1.072 1.073 1.099 1.051							1.025
16	0.00000	000000	0.00	0.00	0.00	0.00	0.0000	0.00	0.000
Service	nder 1	0 8 4 6 5	0-6	10.00 = 5	0-6:5:	10.00 = 5	0-0-0	10.00 = 5	_
1	⊃ ← 0 € 4	9 7 8 9			ลักหลัก	ลสผสส	નિનને લેંલે	88888	4.4

DESCRIPTION: Selected Reserve Promotion and Merit Increase scales (PAMS)

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

Additional basic pay increases (beyond across-the-board) earned by a Selected Reserve during a fiscal year.

Paygrade transfers are excluded in the development; Reentrants are included.

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

Enlisted Selected Reserve Promotion and Merit Increase Scales (PAMS)

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2,62	1.231								
69									
61									
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50									
8		.231							
22		1231 1.							
92		1234 1.							
55		2222 2222 2222 2222							
54		23 23 23 23 23 23 23 23 23 23 23 23 23 2							
53	55555		1.231						
62		0.999 0.999 0.999 0.999 0.999	7,999 1.2 7,999						
51		21218 1218 1218 1218 008 1218 008	1.218 0.9 1.218 0.9 1.218						
20			1.018 1.018 1.018 1.018 1.21						
40			1.056 1.0 1.056 1.0 1.056 1.0 1.056 1.0						
48	55555			68					
47	22222			24 1.089					
46		12 1.025 26 1.049 17 1.053 30 1.067		94 1.024 94 1.024 94					
45 4			77 0.994 16 0.994 16 0.994 16 0.994	6 0.994 6 0.994 6 0.994					
44	23323	24 1.068 24 1.088 24 1.034 24 1.053	5 1.006 2 1.006 2 1.006 2 1.006	2 1.006					
	22222		5 1.061 6 1.015 8 0.992 8 0.992 5 0.992	6 0.992 0 0.992 0 0.992 0 0.992 0 0.992	0				
42 43	+++++		7 1.025 8 1.076 1 1.018 7 0.998 1 1.035	7 1.066 7 1.000 7 1.000	7 1.000				
	22222	6 1.038 9 1.041 6 1.070 0 1.040		2 1.067 8 1.002 3 0.997 3 0.997 3 0.997	3 0.997 3 0.997 3				
0 41					8 1.033 8 1.033 8 1.033				
40	24222		1.024 1.023 1.030 1.011	1.030 1.035 1.009 1.009	1.028 1.028 1.028 1.028				
30	24222	1.034	1.026 1.022 1.022 1.025 1.031	1.021 1.021 1.020 1.023	420:1				
38	24222		1.043 1.024 1.024 1.022	1.027 1.024 1.008 1.008	1.027 1.016 0.917 0.917	0.917			
37			1.020	1.024	1.027 1.037 1.011 0.980	0.980			
36	32535		1.020 1.023 1.023 1.031			1.042			
35	25255		1.028 1.024 1.033 1.016	1.027 1.035 1.035 1.019	1.020	1.028			
34	54555	1.066 1.015 1.028 1.063	1.028 1.023 1.023 1.034	1.033 1.024 1.028 1.027	1.021 1.049 1.030 1.026	1.067 0.906 0.906 0.906 0.906			
33	22222	1.034	1.027	1.041 1.015 1.016	1.026	1.067 1.007 0.881 0.881	0.881		
32			1.027 1.023 1.024 1.024						
31		1.079 1.022 1.029 1.064		1.035 1.039 1.021 1.020		1.069 1.025 1.018 1.016			
30	25222		1.028 1.023 1.023 1.024	1.032 1.025 1.035 1.048	1.045	1.067 1.023 1.018 1.017			
20	24222		1.050 1.050 1.026 1.035		1,021 1,043 1,039 1,031	1,064 1,019 1,027 1,028			
28	25222	1.076		1.025			1.012 0.996 1.043 1.043		
22	32535			1.036 1.023 1.024 1.024					
96	24222		1.038				-	0.936	
25	25222	1.078 1.045 1.031 1.063		1,040 1,022 1,020 1,027			1.013 1.009 1.017 1.017		
24	25555	1.077 1.016 1.050 1.063	1.029 1.053 1.027 1.040	1.035 1.023 1.026 1.025			1.012 1.008 1.008 1.006	•	
23	44444						1.013 1.005 1.005 1.006		0.973
22	55555	1.079 1.063 1.063 1.063		1,025 1,020 1,020 1,025			1.018 1.006 1.026 1.026		1.040
2			1.026 1.027 1.028 1.024						1.087
20	1.090 1.111 1.080 1.070 1.024	1.079 1.017 1.029 1.029	1.025 1.052 1.027 1.040 1.027	1.035 1.023 1.040 1.021	1.022 1.049 1.026 1.039	1.067 1.021 1.023 1.017 1.031	1.010 1.018 1.012 1.024	1.008 1.011 1.025 0.999 1.009	1.009
40	55555	1.079 1.076 1.030 1.063	1.023 1.054 1.024 1.025	1.036 1.023 1.021 1.021	1.024 1.049 1.027 1.039	1.066 1.022 1.019 1.019	1.015 1.016 1.027 1.027	1.008	1.008
18	5555	1.077 1.020 1.075 1.030 1.062	1.023 1.027 1.027 1.027	1.039 1.023 1.021 1.021	1.024 1.050 1.031 1.041		1.014 1.013 1.008 1.007		1.006
17			1.026 1.050 1.030 1.037 1.028		1.048 1.034 1.034 1.028		1.028 1.015 1.030 0.998 1.000		1.000
16	0.00000	0.00000	0.00000	0.0000000000000000000000000000000000000	0.00000	0.00000	0.00000	0.0000000000000000000000000000000000000	0.000
Years of Service	Under 1 2 3 4		0-0	2 2 4 0 0	0-0	2 2 4 03 01	0=0:*:	2 2 4 0) 01	0-
0,	<u>⊃</u> − α α 4	9840	0 1 2 2 2 4	5 2 7 2 6	22222	25 27 28 28 28	33 33 33	38 33	4 4

DESCRIPTION: Selected Reserve Promotion and Merit Increase scales (PAMS)

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

Additional basic pay increases (beyond across-the-board) earned by a Selected Reserve during a fiscal year.

Paygrade transfers are excluded in the development; Reentrants are included.

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

Officer Non-Selected Reserve with 20 Good Years Promotion and Merit Increase Scales (PAMS)	By Entry Age 6 17 18 19 20 21 22 23 24 25 26 27 28 29 39 31 32 39 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 52				00 00 1000 1006 1006 1.005 1.005 1.005 1.007 1.008 1.007 1.009 1.002 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 0.992 0.992 0.992 0.992	0 0883 1006 1006 1005 1005 1005 1005 1005 1002 1007 1006 1007 1006 1007 1006 1007 1009 1007 1009 1007 1009 1007 1009 1007 1009 1009	10 1003 1002 1004 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1005 1006 1006	0.896 0.899 0.899 1.000 0.899 1.000 1.000 1.000 1.000 0.899 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999 0.999	1,000 1000 0.898 1000 1.	0.994 1001 0.990 1038 1.007 1020 0.990 1,000 0.994 1.089 0.952 1.002 0.997	DESCRIPTION: Non-Selected Reserve with 20 Good Years ('Grey Area') Promotion and Merit Increase scales (PAMS) Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted). Additional basic pay increases (beyond across-the-board) earned in Grey Area status during a fiscal year. Paygrade transfers and Grey Area transfer blow-ups are excluded in the development.
										1.001 0.9t 0.984 1.06	Non-S Arra Addi Payg
	17										Ö.
	16	00000	00000	000000000000000000000000000000000000000	0.000	000000	00.0000	0.00000	00.00	0.000 0	RIPTI
	BD 's of	-	50000	55566	55566	55566	50000	55566	55566	0.0	SCR
	PEBD Years of Service	Under 1 2 3 4	98492	5 1 2 2 4	19 14 15 19 14 15	25222	25 27 28 29	34 33 33 33	35 33 33 33 33	40	DE

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 five years, those who are still in the temporary disability status are transferred to a permanent disability status.¹

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 2006 through 2012. 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:

Death rates ('central rates') greater than 1.00000 shown in this appendix reflect a change related to our new nondisabled rates (see 'Summary of Changes for the September 30, 2014, Valuation'). In prior valuation reports, death rates for the oldest ages were capped at 0.66667, which is 0.50000 in probability terms, and the table ended at 1.00000, i.e., nobody was projected to live beyond the maximum age (previously 110, now 120). The new death rates assume no limit to the oldest age death rates, and hence central death rates can exceed 1.00000 and extend all the way up to 2.00000. 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.

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Because of NDAA 2017, enacted after the completion of this valuation, future valuations will cap the temporary disability period at three years instead of five.

RETIREE AND SURVIVOR DECREMENT RATE FORMULAS

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

Nondisability deaths during the year [Number at beginning of year - ½ (Nondisability deaths + other losses)]

DEATH OF PERMANENT DISABILITY RETIREES (by age nearest birthday)

<u>Permanent disability deaths during the year</u> [Number at beginning of year - ½ (Permanent disability deaths + other losses)]

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

Temporary disability deaths in category during the year²
[Number at beginning of year - ½ (Deaths + transfers + other losses)]

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

Losses other than death during the year Number at beginning of year

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

Losses other than death or transfers to permanent disability during the year

Number at beginning of year

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

<u>Transfers to permanent disability during the year</u> Number at beginning of year

OTHER LOSSES FROM PERMANENT DISABILITY (by age nearest birthday)

Losses other than death during the year Number at beginning of year

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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 (1-5).

RETIREE AND SURVIVOR DECREMENT RATE FORMULAS (cont.)

<u>DIVORCE OF RETIREE</u> (weighted by coverage amount, by age nearest birthday)

Net retiree divorces during the year Number at beginning of year

REMARRIAGE OF SURVIVING SPOUSE (by age nearest birthday)

Surviving spouse remarriages during the year Number at beginning of year

TERMINATION OF SURVIVING CHILD (by age nearest birthday)

<u>Child terminations during the year</u> Number at beginning of year

DEATH OF SURVIVING SPOUSE (by age nearest birthday)³

Surviving spouse deaths during the year Number at beginning of year

OTHER LOSS OF SURVIVING SPOUSE (by age nearest birthday)

Survivor losses other than deaths during the year Number at beginning of year

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Death rates of spouses of living retirees who elected SBP spouse, or spouse & child, coverage are based on a standard actuarial mortality table based on female group annuitant, federal Civil Service Retirement System, and U.S. general population experience with margin. This table is published by the Society of Actuaries (SOA) as 1994 GAM Static - Female, ANB.

SUMMARY OF YEARS ON WHICH RETIREE AND SURVIVOR RATES ARE BASED

By Fiscal Year

DEATH RATES ND Officer/Enlisted PD Officer/Enlisted TD Officer/Enlisted	2006 X	2007 X X	2008 X X	<u>2009</u> X	2010 X X	2011 X	2012 X
OTHER LOSS RATES ND Officer/Enlisted PD Officer/Enlisted TD Officer/Enlisted	X	X X	X X	X	X X	X	X
TRANSFER RATES FROM TD TO PD Officer/Enlisted		X	X	X	X		
RETIREE DIVORCE			X	X			
SURVIVOR RATES Remarriage Child Coverage Termination Surviving Spouse Death Surviving Spouse Other Loss				X X X X	X X X X		

Key: ND = Nondisabled

PD = Permanently Disabled TD = Temporarily Disabled

OFFICER RETIRED DEATH RATES

	Non-Di	isability	Permanent			nporary Disabi ear of Retireme		
Age	Active	Reserve	Disability	One	Two	Three	Four	Five
16	0.00037	0.00037	0.00423	0.00939	0.00890	0.00841	0.00792	0.00742
17	0.00037	0.00037	0.00423	0.00939	0.00890	0.00841	0.00792	0.00742
18	0.00037	0.00037	0.00423	0.00939	0.00890	0.00841	0.00792	0.00742
19	0.00037	0.00037	0.00423	0.00939	0.00890	0.00841	0.00792	0.00742
20	0.00037	0.00037	0.00423	0.00939	0.00890	0.00841	0.00792	0.00742
21	0.00037	0.00037	0.00431	0.00939	0.00890	0.00841	0.00792	0.00742
22	0.00037	0.00037	0.00439	0.00939	0.00890	0.00841	0.00792	0.00742
23	0.00037	0.00037	0.00448	0.00939	0.00890	0.00841	0.00792	0.00742
24	0.00037	0.00037	0.00457	0.00939	0.00890	0.00841	0.00792	0.00742
25	0.00037	0.00037	0.00466	0.00939	0.00890	0.00841	0.00792	0.00742
26	0.00037	0.00037	0.00476	0.00939	0.00890	0.00841	0.00792	0.00742
27	0.00037	0.00037	0.00486	0.00939	0.00890	0.00841	0.00792	0.00742
28	0.00037	0.00037	0.00494	0.00939	0.00890	0.00841	0.00792	0.00742
29	0.00037	0.00037	0.00502	0.00939	0.00890	0.00841	0.00792	0.00742
30	0.00037	0.00037	0.00507	0.00939	0.00890	0.00841	0.00792	0.00742
31	0.00039	0.00040	0.00509	0.00939	0.00890	0.00841	0.00792	0.00742
32	0.00041	0.00043	0.00509	0.00939	0.00890	0.00841	0.00792	0.00742
33	0.00043	0.00047	0.00506	0.00939	0.00890	0.00841	0.00792	0.00742
34	0.00045	0.00050	0.00504	0.00939	0.00890	0.00841	0.00792	0.00742
35	0.00047	0.00054	0.00499	0.00939	0.00890	0.00841	0.00792	0.00742
36	0.00049	0.00058	0.00491	0.00939	0.00890	0.00841	0.00792	0.00742
37	0.00050	0.00062	0.00481	0.00939	0.00890	0.00841	0.00792	0.00742
38	0.00052	0.00065	0.00470	0.00939	0.00890	0.00841	0.00792	0.00742
39	0.00054	0.00069	0.00458	0.00939	0.00890	0.00841	0.00792	0.00742
40	0.00055	0.00074	0.00448	0.00939	0.00890	0.00841	0.00792	0.00742
41	0.00058	0.00079	0.00441	0.00939	0.00890	0.00841	0.00792	0.00742
42	0.00060	0.00084	0.00436	0.00939	0.00890	0.00841	0.00792	0.00742
43	0.00063	0.00090	0.00433	0.00939	0.00890	0.00841	0.00792	0.00742
44	0.00065	0.00096	0.00431	0.00939	0.00890	0.00841	0.00792	0.00742
45	0.00068	0.00103	0.00432	0.00939	0.00890	0.00841	0.00792	0.00742
46	0.00070	0.00111	0.00433	0.00939	0.00890	0.00841	0.00792	0.00742
47	0.00074	0.00119	0.00436	0.00939	0.00890	0.00841	0.00792	0.00742
48	0.00082	0.00128	0.00441	0.00939	0.00890	0.00841	0.00792	0.00742
49	0.00093	0.00138	0.00447	0.00939	0.00890	0.00841	0.00792	0.00742
50	0.00105	0.00149	0.00488	0.00939	0.00890	0.00841	0.00792	0.00742
51	0.00118	0.00161	0.00515	0.00939	0.00890	0.00841	0.00792	0.00742
52	0.00135	0.00174	0.00544	0.00939	0.00890	0.00841	0.00792	0.00742
53	0.00155	0.00188	0.00580	0.00939	0.00890	0.00841	0.00792	0.00742
54	0.00176	0.00205	0.00620	0.00939	0.00890	0.00841	0.00792	0.00742
55	0.00201	0.00222	0.00662	0.00939	0.00890	0.00841	0.00792	0.00742
56	0.00229	0.00241	0.00706	0.00939	0.00890	0.00841	0.00792	0.00742
57	0.00259	0.00260	0.00754	0.00939	0.00890	0.00841	0.00792	0.00742
58	0.00292	0.00281	0.00804	0.00939	0.00890	0.00841	0.00792	0.00742
59	0.00329	0.00302	0.00860	0.00939	0.00890	0.00841	0.00792	0.00742
60	0.00369	0.00324	0.00924	0.00939	0.00890	0.00841	0.00792	0.00742
61	0.00415	0.00356	0.00998	0.00939	0.00890	0.00841	0.00792	0.00742
62	0.00465	0.00398	0.01083	0.00939	0.00890	0.00841	0.00792	0.00742
63	0.00523	0.00448	0.01182	0.00939	0.00890	0.00841	0.00792	0.00742
64	0.00589	0.00507	0.01296	0.00939	0.00890	0.00841	0.00792	0.00742
65	0.00662	0.00574	0.01427	0.00939	0.00890	0.00841	0.00792	0.00742

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

OFFICER RETIRED DEATH RATES (continued)

	Non-Di	isability	Permanent			nporary Disabil ear of Retireme		
Age	Active	Reserve	Disability	One	Two	Three	Four	Five
	renve	Reserve	Disability	<u> </u>	1 110		1001	
66	0.00744	0.00648	0.01576					
67	0.00836	0.00733	0.01743					
68	0.00940	0.00827	0.01925	_				
69	0.01059	0.00933	0.02122	—	7			
70	0.01193	0.01052	0.02334		\longrightarrow			
71	0.01349	0.01188	0.02560		,			
72	0.01528	0.01344	0.02802	,				
73	0.01735	0.01522	0.03059		()			
74	0.01972	0.01726	0.03333					
75	0.02246	0.01963	0.03629					
76	0.02560	0.02238	0.03951					
77	0.02919	0.02559	0.04302					
78	0.03330	0.02931	0.04690		•			
79	0.03798	0.03365	0.05124					
80	0.04330	0.03868	0.05616					
81	0.04936	0.04450	0.06178					
82	0.05620	0.05121	0.06816					
83	0.06396	0.05891	0.07540					
84	0.07272	0.06770	0.08347		—			
85	0.08258	0.07768	0.09238			▶		
86	0.09364	0.08894	0.10210					
87	0.10599	0.10153	0.11268			1		
88	0.11973	0.11549	0.12422					
89	0.13494	0.13084	0.13690			_7		
90	0.15165	0.14752	0.15091			-		
91	0.16996	0.16553	0.16666		,			
92	0.18992	0.18485	0.18446					
93	0.21156	0.20543	0.20473					
94	0.23492	0.22729	0.22775			π		
95	0.26001	0.25037	0.25390			/ - 7		
96	0.28675	0.27455	0.28216					
97	0.31813	0.30349	0.31341					
98	0.35602	0.33940	0.34764					
99	0.40152	0.38350	0.38505			*		
100	0.45476	0.43590	0.41463					
101	0.51554	0.49621	0.44462					
102	0.58311	0.56351	0.47500					
103	0.65672	0.63683	0.50566			F		
104	0.73587	0.71549	0.53681					
105	0.81987	0.79874	0.56840			۲		
106	0.90891	0.88694	0.60010					
107	1.00418	0.98163	0.63249			(.)	
108	1.10439	1.08159	0.63665			_	4 7	
109	1.20850	1.18585	0.64084					
110	1.31449	1.29248	2.00000			1	$\overline{}$	
111	1.42006	1.39922	2.00000				口	
112	1.52320	1.50402	2.00000				-	
113	1.62045	1.60340	2.00000					
114	1.70959	1.69500	2.00000					
115	1.78853	1.77657	2.00000				_	
116	1.84922	1.83991	2.00000					
117	1.89743	1.89055	2.00000				65	
118	1.93375	1.92896	2.00000				(N	
119	1.95961	1.95647	2.00000				<u> </u>	
120	2.00000	2.00000	2.00000					

^{***} 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

	Non-Di	isability	Permanent			nporary Disabi	<u> </u>	
Age	Active	Reserve	Disability	One	Two	Three	Four	Five
16	0.00047	0.00047	0.00230	0.00616	0.00565	0.00514	0.00463	0.00413
17	0.00047	0.00047	0.00230	0.00616	0.00565	0.00514	0.00463	0.00413
18	0.00047	0.00047	0.00230	0.00616	0.00565	0.00514	0.00463	0.00413
19	0.00047	0.00047	0.00230	0.00616	0.00565	0.00514	0.00463	0.00413
20	0.00047	0.00047	0.00230	0.00616	0.00565	0.00514	0.00463	0.00413
21	0.00047	0.00047	0.00234	0.00616	0.00565	0.00514	0.00463	0.00413
22	0.00047	0.00047	0.00239	0.00616	0.00565	0.00514	0.00463	0.00413
23	0.00047	0.00047	0.00244	0.00616	0.00565	0.00514	0.00463	0.00413
24	0.00047	0.00047	0.00249	0.00616	0.00565	0.00514	0.00463	0.00413
25	0.00047	0.00047	0.00254	0.00616	0.00565	0.00514	0.00463	0.00413
26	0.00047	0.00047	0.00259	0.00616	0.00565	0.00514	0.00463	0.00413
27	0.00047	0.00047	0.00264	0.00616	0.00565	0.00514	0.00463	0.00413
28	0.00047	0.00047	0.00269	0.00616	0.00565	0.00514	0.00463	0.00413
29	0.00047	0.00047	0.00273	0.00616	0.00565	0.00514	0.00463	0.00413
30	0.00047	0.00047	0.00276	0.00616	0.00565	0.00514	0.00463	0.00413
31	0.00050	0.00051	0.00277	0.00616	0.00565	0.00514	0.00463	0.00413
32	0.00054	0.00056	0.00277	0.00616	0.00565	0.00514	0.00463	0.00413
33	0.00058	0.00061	0.00275	0.00616	0.00565	0.00514	0.00463	0.00413
34	0.00063	0.00067	0.00274	0.00616	0.00565	0.00514	0.00463	0.00413
35	0.00067	0.00072	0.00272	0.00616	0.00565	0.00514	0.00463	0.00413
36	0.00072	0.00079	0.00267	0.00616	0.00565	0.00514	0.00463	0.00413
37	0.00077	0.00085	0.00262	0.00616	0.00565	0.00514	0.00463	0.00413
38	0.00082	0.00091	0.00256	0.00616	0.00565	0.00514	0.00463	0.00413
39	0.00087	0.00099	0.00302	0.00616	0.00565	0.00514	0.00463	0.00413
40	0.00092	0.00106	0.00310	0.00616	0.00565	0.00514	0.00463	0.00413
41	0.00098	0.00115	0.00325	0.00616	0.00565	0.00514	0.00463	0.00413
42	0.00105	0.00125	0.00345	0.00616	0.00565	0.00514	0.00463	0.00413
43	0.00111	0.00135	0.00370	0.00616	0.00565	0.00514	0.00463	0.00413
44	0.00119	0.00146	0.00399	0.00616	0.00565	0.00514	0.00463	0.00413
45	0.00127	0.00160	0.00432	0.00616	0.00565	0.00514	0.00463	0.00413
46	0.00137	0.00174	0.00471	0.00616	0.00565	0.00514	0.00463	0.00413
47	0.00150	0.00189	0.00515	0.00616	0.00565	0.00514	0.00463	0.00413
48	0.00165	0.00207	0.00563	0.00616	0.00565	0.00514	0.00463	0.00413
49	0.00185	0.00226	0.00615	0.00616	0.00565	0.00514	0.00463	0.00413
50	0.00211	0.00247	0.00672	0.00616	0.00565	0.00514	0.00463	0.00413
51	0.00241	0.00272	0.00733	0.00616	0.00565	0.00514	0.00463	0.00413
52	0.00278	0.00297	0.00798	0.00616	0.00565	0.00514	0.00463	0.00413
53	0.00320	0.00327	0.00874	0.00616	0.00565	0.00514	0.00463	0.00413
54	0.00370	0.00361	0.00958	0.00616	0.00565	0.00514	0.00463	0.00413
55	0.00427	0.00398	0.01051	0.00616	0.00565	0.00514	0.00463	0.00413
56	0.00492	0.00437	0.01150	0.00616	0.00565	0.00514	0.00463	0.00413
57	0.00565	0.00479	0.01257	0.00616	0.00565	0.00514	0.00463	0.00413
58	0.00649	0.00524	0.01372	0.00616	0.00565	0.00514	0.00463	0.00413
59	0.00742	0.00571	0.01493	0.00616	0.00565	0.00514	0.00463	0.00413
60	0.00846	0.00622	0.01620	0.00616	0.00565	0.00514	0.00463	0.00413
61	0.00963	0.00678	0.01754	0.00616	0.00565	0.00514	0.00463	0.00413
62	0.01088	0.00745	0.01895	0.00616	0.00565	0.00514	0.00463	0.00413
63	0.01225	0.00824	0.02045	0.00616	0.00565	0.00514	0.00463	0.00413
64	0.01371	0.00916	0.02205	0.00616	0.00565	0.00514	0.00463	0.00413
65	0.01526	0.01018	0.02375	0.00616	0.00565	0.00514	0.00463	0.00413

^{***} 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)

	N D	. 1 .1.,	D 4			nporary Disabil	•	
		isability	Permanent			ear of Retiremen		T2*
Age	Active	Reserve	Disability	One	Two	Three	Four	Five
66	0.01691	0.01133	0.02558					
67	0.01864	0.01133	0.02338					
68	0.02047	0.01200	0.02730					
69	0.02243	0.01401	0.03204	—	_			
70	0.02454	0.01337	0.03204					
71	0.02683	0.01728	0.03739					
72	0.02936	0.02129	0.04043					
73	0.03215	0.02364	0.04376					
74	0.03528	0.02630	0.04742					
75	0.03878	0.02931	0.05143					
76	0.04270	0.03273	0.05586					
70 77	0.04712	0.03666	0.06073		Z			
78	0.05207	0.04117	0.06611					
79	0.05762	0.04636	0.07204					
80	0.06379	0.05231	0.07858					
81	0.07066	0.05909	0.08578		/ -7			
82	0.07827	0.06678	0.09365					
83	0.08666	0.07543	0.10227					
84	0.09590	0.08512	0.11162					
85	0.10606	0.09589	0.12180			▶		
86	0.11717	0.10779	0.13279					
87	0.12927	0.12086	0.13277					
88	0.14243	0.13512	0.15742		—	\dashv		
89	0.15671	0.15065	0.17120		•	~ 】		
90	0.17208	0.16740	0.17120					
91	0.17266	0.18545	0.20194		,			
92	0.20646	0.20482	0.21910		,			
93	0.22551	0.22554	0.23761					
94	0.24588	0.24763	0.25753					
95	0.26755	0.27112	0.27899			(7)		
96	0.29045	0.29591	0.30074					
97	0.31694	0.32575	0.32502					
98	0.34843	0.36282	0.34954					
99	0.38562	0.40822	0.37442			Y -		
100	0.42841	0.46181	0.39959					
101	0.47643	0.52294	0.42513					
102	0.52895	0.59040	0.45098					
103	0.58525	0.66301	0.47706			F		
104	0.64493	0.73986	0.50356			سل ا	-	
105	0.70753	0.82018	0.53044					
106	0.77350	0.90435	0.55740					
107	0.84429	0.99419	0.58495					
108	0.91940	1.08857	0.61272			•	⋠ ▲	
109	0.99876	1.18669	0.64084					
110	1.08174	1.28690	2.00000			1	\rightarrow	
111	1.16761	1.38737	2.00000				(I)	
112	1.25593	1.48649	2.00000				_	
113	1.34499	1.58130	2.00000					
114	1.43375	1.66986	2.00000					
115	1.52077	1.75020	2.00000					
116	1.59874	1.81425	2.00000					
117	1.67131	1.86721	2.00000)	
118	1.73717	1.90910	2.00000				65	
119	1.79533	1.94068	2.00000				<u> </u>	
120	2.00000	2.00000	2.00000					

^{***} 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

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

[&]quot;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

	D	oD	Tre	asury		D	oD	Tre	asury
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.

[&]quot;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)

			Officers					Enlisted		
		Υe	ear of Retirem	ent			Ye	ar of Retirem	ent	
Age	One	Two	Three	Four	Five	One	Two	Three	Four	Five
16	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
17	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
18	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
19	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
20	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
21	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
22	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
23	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
24	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
25	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
26	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
27	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
28	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
29	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
30	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
31	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
32	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
33	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
34	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
35	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
36	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
37	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
38	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
39	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
40	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
41	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
42	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
43	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
44	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
45	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
46	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
47	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
48	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
49	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
50	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
51	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
52	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
53	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
54	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
55	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
56	0.0264		0.1498		0.2732			0.3127		0.4515
		0.0881		0.2115		0.1740	0.2433		0.3821	
57 58	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
58 50	0.0264 0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821 0.3821	0.4515
59		0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127		0.4515
60	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
61	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
62	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
63	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
64	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
65	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515

^{***} The above Other/Nontransfer Loss rates are used to calculate the combined DoD and Treasury NCPs per P.L. 108-136. DoD-specific Other/Nontransfer Loss rates are higher by the following factors (across all ages):

		Officers					Enlisted			
	Ye	ar of Retirem	ent		Year of Retirement					
One	Two	Three	Four	Five	One	Two	Three	Four	Five	
1.639	1.176	1.094	1.060	1.041	1.368	1.228	1.150	1.101	1.066	

TRANSFER RATES FROM TEMPORARY DISABILITY TO PERMANENT DISABILITY

		Officers Year of Retirement			Enlisted			
					Year of Retirement			
Age	One	Two	Three	Four	One	Two	Three	Four
16	0.1201	0.1740	0.2100	0.2659	0.0626	0.0047	0.1269	0.1500
16 17	0.1281		0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
17 18	0.1281 0.1281	0.1740 0.1740	0.2199 0.2199	0.2658 0.2658	0.0626 0.0626	0.0947 0.0947	0.1268 0.1268	0.1589 0.1589
19	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
20	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
21	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
22	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
23	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
24	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
25	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
26	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
27	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
28	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
29	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
30	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
31	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
32	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
33	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
34	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
35	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
36	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
37	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
38	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
39	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
40	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
41	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
42	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
43	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
44	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
45	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
46	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
47	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
48	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
49	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
50	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
51	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
52	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
53	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
54	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
55	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
56	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
57	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
58	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
59	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
60	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
61	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
62	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
63	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
64 65	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
65	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589

OTHER LOSSES FROM PERMANENT DISABILITY

	DoD		Treasury			DoD		Treasury	
Age	Officer	Enlisted	Officer	Enlisted	Age	Officer	Enlisted	Officer	Enlisted
16	0.0703	0.4892	0.0294	0.4046	54	0.0110	0.0309	0.0070	0.0182
17	0.0703	0.4892	0.0294	0.4046	55	0.0106	0.0339	0.0066	0.0203
18	0.0703	0.4892	0.0294	0.4046	56	0.0101	0.0363	0.0062	0.0218
19	0.0703	0.4892	0.0294	0.4046	57	0.0098	0.0381	0.0058	0.0229
20	0.0703	0.4892	0.0294	0.4046	58	0.0095	0.0391	0.0055	0.0236
21	0.0703	0.4222	0.0294	0.4046	59	0.0092	0.0394	0.0052	0.0233
22	0.0703	0.3595	0.0294	0.4046	60	0.0090	0.0384	0.0050	0.0212
23	0.0703	0.3012	0.0294	0.3165	61	0.0089	0.0373	0.0048	0.0193
24	0.0703	0.2484	0.0294	0.2461	62	0.0087	0.0379	0.0046	0.0184
25	0.0703	0.2024	0.0294	0.1924	63	0.0086	0.0391	0.0044	0.0174
26	0.0703	0.1646	0.0294	0.1536	64	0.0085	0.0396	0.0043	0.0151
27	0.0703	0.1349	0.0294	0.1263	65	0.0085	0.0390	0.0041	0.0123
28	0.0703	0.1127	0.0294	0.1071	66	0.0084	0.0379	0.0041	0.0098
29	0.0703	0.0967	0.0294	0.0936	67	0.0083	0.0367	0.0040	0.0084
30	0.0703	0.0856	0.0294	0.0843	68	0.0082	0.0360	0.0039	0.0082
31	0.0703	0.0770	0.0294	0.0771	69	0.0080	0.0353	0.0039	0.0081
32	0.0317	0.0690	0.0294	0.0699	70	0.0079	0.0344	0.0039	0.0078
33	0.0301	0.0607	0.0294	0.0623	71	0.0077	0.0336	0.0039	0.0072
34	0.0286	0.0531	0.0294	0.0554	72	0.0075	0.0330	0.0040	0.0065
35	0.0272	0.0467	0.0294	0.0495	73	0.0072	0.0329	0.0040	0.0060
36	0.0258	0.0419	0.0294	0.0445	74	0.0070	0.0328	0.0035	0.0057
37	0.0246	0.0386	0.0294	0.0402	75	0.0067	0.0322	0.0030	0.0056
38	0.0234	0.0362	0.0294	0.0355	76	0.0065	0.0309	0.0025	0.0053
39	0.0223	0.0351	0.0294	0.0313	77	0.0062	0.0288	0.0020	0.0045
40	0.0212	0.0355	0.0166	0.0285	78	0.0060	0.0268	0.0015	0.0036
41	0.0203	0.0367	0.0156	0.0269	79	0.0058	0.0258	0.0022	0.0034
42	0.0193	0.0373	0.0148	0.0261	80	0.0056	0.0257	0.0029	0.0037
43	0.0185	0.0363	0.0139	0.0256	81	0.0054	0.0255	0.0035	0.0041
44	0.0176	0.0345	0.0131	0.0252	82	0.0053	0.0255	0.0038	0.0042
45	0.0169	0.0330	0.0123	0.0248	83	0.0053	0.0260	0.0038	0.0036
46	0.0161	0.0323	0.0116	0.0240	84	0.0052	0.0270	0.0035	0.0042
47	0.0154	0.0328	0.0109	0.0237	85	0.0052	0.0282	0.0033	0.0042
48	0.0147	0.0329	0.0102	0.0229	86	0.0053	0.0292	0.0034	0.0042
49	0.0140	0.0319	0.0096	0.0214	87	0.0053	0.0297	0.0039	0.0042
50	0.0133	0.0304	0.0090	0.0201	88	0.0054	0.0295	0.0044	0.0042
51	0.0127	0.0290	0.0084	0.0190	89	0.0056	0.0289	0.0053	0.0042
52	0.0121	0.0281	0.0079	0.0176	90	0.0057	0.0291	0.0068	0.0042
53	0.0116	0.0287	0.0074	0.0171					

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

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

RETIREE DIVORCE RATES ***

	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	Rate	Age	Rate
		-0	
16	0.0294	38	0.0278
17	0.0294	39	0.0278
18	0.0294	40	0.0110
19	0.0294	41	0.0110
20	0.0294	42	0.0110
21	0.0294	43	0.0110
22	0.0294	44	0.0110
23	0.0294	45	0.0061
24	0.0294	46	0.0061
25	0.0294	47	0.0061
26	0.0294	48	0.0061
27	0.0294	49	0.0061
28	0.0294	50	0.0035
29	0.0294	51	0.0035
30	0.0337	52	0.0035
31	0.0337	53	0.0035
32	0.0337	54	0.0035
33	0.0337	55	0.0035
34	0.0337	56	0.0000
35	0.0278	57	0.0000
36	0.0278	58	0.0000
37	0.0278	59	0.0000

SURVIVING CHILD COVERAGE TERMINATION RATES

Age	Rate
0	0.005
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	0.198
18	0.333
19	0.127
20	0.036
21	0.365
22	0.578
23	0.146

SURVIVING SPOUSE DEATH RATES ***

		•,	
Age	Rate	Age	Rate
0	0.00464	60	0.00734
1	0.00042	61	0.00808
2	0.00027	62	0.00881
3	0.00020	63	0.00958
4	0.00015	64	0.01038
5	0.00014	65	0.01125
6	0.00013	66	0.01222
7	0.00012	67	0.01329
8	0.00011	68	0.01450
9	0.00010	69	0.01584
10	0.00010	70	0.01730
11	0.00011	71	0.01883
12	0.00012	72	0.02041
13	0.00013	73	0.02204
14	0.00015	74	0.02374
15	0.00018	75	0.02557
16	0.00020	76	0.02766
17	0.00022	77	0.03009
18	0.00023	78	0.03296
19	0.00024	79	0.03627
20	0.00024	80	0.04002
21	0.00023	81	0.04412
22	0.00025	82	0.04850
23	0.00025	83	0.05312
24	0.00026	84	0.05806
25	0.00026	85	0.06352
26	0.00028	86	0.06978
27	0.00030	87	0.07709
28	0.00031	88	0.08567
29	0.00034	89	0.09566
30	0.00037	90	0.10704
31	0.00041	91	0.11982
32	0.00044	92	0.13392
33	0.00046	93	0.14929
34	0.00048	94	0.16577
35	0.00049	95	0.18328
36	0.00051	96	0.20176
37	0.00053	97	0.22099
38	0.00055	98	0.24091
39	0.00058	99	0.26147
40	0.00062	100	0.28268
41	0.00067	101	0.30454
42	0.00072	102	0.32706
43 44	0.00077	103	0.35020
44 45	0.00080 0.00084	104	0.37410 0.39864
		105	0.42392
46 47	0.00089 0.00095	106 107	0.44694
48	0.00093	107	0.47010
49	0.00104	109	0.49407
50	0.00113	110	1.00000
51	0.00129	111	1.00000
52	0.00140	112	1.00000
53	0.00108	113	1.00000
54	0.00131	114	1.00000
55	0.00245	115	1.00000
56	0.00243	116	1.00000
57	0.00362	117	1.00000
58	0.00567	118	1.00000
59	0.00654	119	1.00000
-/		/	1.00000

^{*** &}quot;Surviving Spouses" are defined as spouses of <u>deceased</u> 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	0.00425	60	0.00316
1	0.00038	61	0.00316
2	0.00025	62	0.00402
3	0.00019	63	0.00457
4	0.00014	64	0.00519
5	0.00013	65	0.00589
6	0.00012	66	0.00664
7	0.00011	67	0.00742
8	0.00010	68	0.00817
9	0.00009	69	0.00891
10	0.00009	70	0.00972
11	0.00010	71	0.01069
12	0.00011	72	0.01192
13	0.00012	73	0.01337
14	0.00014	74	0.01500
15	0.00016	75	0.01684
16	0.00017	76	0.01894
17	0.00019	77	0.02137
18	0.00020	78	0.02405
19	0.00020	79	0.02695
20	0.00020	80	0.03018
21	0.00022	81	0.03384
22	0.00023	82	0.03803
23	0.00024	83	0.04265
24	0.00025	84	0.04764
25	0.00025	85	0.05323
26	0.00026	86	0.05958
27	0.00027	87	0.06691
28	0.00029	88	0.07538
29	0.00030	89	0.08491
30	0.00032	90	0.09542
31	0.00033	91	0.10691
32	0.00035	92	0.11932
33	0.00036	93	0.13280
34	0.00038	94	0.14743
35	0.00039	95	0.16323
36	0.00041	96	0.17875
37	0.00044	97	0.19514
38	0.00047	98	0.21257
39 40	0.00052 0.00057	99 100	0.23111 0.25047
41	0.00057	101	0.27056
42	0.00068	101	0.27030
43	0.00074	103	0.31290
44	0.00074	103	0.33596
45	0.00086	105	0.35926
46	0.00093	106	0.38194
47	0.00101	107	0.40316
48	0.00110	108	0.42447
49	0.00110	109	0.44654
50	0.00131	110	1.00000
51	0.00143	111	1.00000
52	0.00155	112	1.00000
53	0.00167	113	1.00000
54	0.00178	114	1.00000
55	0.00190	115	1.00000
56	0.00205	116	1.00000
57	0.00226	117	1.00000
58	0.00252	118	1.00000
59	0.00281	119	1.00000

^{*** &}quot;Spouses" are defined as spouses of living retirees who elected SBP spouse, or spouse & child, coverage.

Rates based on standard actuarial mortality table -- '1994 GAM Static - Female, ANB'

SURVIVING SPOUSE OTHER LOSS RATES

Age	Rate	Age	Rate
0	0.0000	55	0.0061
1	0.0000	56	0.0060
2	0.0000	57	0.0059
3	0.0000	58	0.0057
4	0.0000	59	0.0056
5	0.0000	60	0.0055
6	0.0000	61	0.0053
7	0.0000	62	0.0052
8	0.0000	63	0.0051
9	0.0000	64	0.0049
10	0.0000	65	0.0048
11	0.0000	66	0.0047
12	0.0000	67	0.0045
13	0.0000	68	0.0044
14	0.0000	69	0.0043
15	0.0000	70	0.0041
16	0.0000	71	0.0040
17	0.0000	72	0.0039
18	0.0000	73	0.0037
19	0.0000	74	0.0036
20	0.0000	75	0.0035
21	0.0000	76	0.0033
22	0.0000	77	0.0032
23	0.0000	78	0.0031
24	0.0000	79	0.0029
25	0.0101	80	0.0028
26	0.0100	81	0.0027
27	0.0099	82	0.0025
28	0.0097	83	0.0024
29	0.0096	84	0.0023
30	0.0095	85	0.0021
31	0.0093	86	0.0020
32	0.0092	87	0.0019
33	0.0091	88	0.0018
34	0.0089	89	0.0016
35	0.0088	90	0.0015
36	0.0087	91	0.0014
37	0.0085	92	0.0012
38	0.0084	93	0.0011
39	0.0083	94	0.0010
40	0.0081	95	0.0008
41	0.0080	96	0.0000
42	0.0079	97	0.0000
43	0.0077	98	0.0000
44	0.0076	99	0.0000
45	0.0075	100	0.0000
46	0.0073	101	0.0000
47	0.0072	102	0.0000
48	0.0071	103	0.0000
49	0.0069	104	0.0000
50	0.0068	105	0.0000
51	0.0067	106	0.0000
52	0.0065	107	0.0000
53	0.0064	108	0.0000
54	0.0063	109	0.0000

^{***} The above Other Loss rates are used to calculate both the DoD and Treasury NCPs per P.L. 108-136.

APPENDIX J

MORTALITY IMPROVEMENT FACTORS

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Mortality Improvement Factors (Non- / Permanent Disability, and Active / Reserve Duty)	185
Mortality Improvement Factors (Surviving / Current Spouses)	187

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 factors are based on the Society of Actuaries (SOA) "Scale Mortality Projection 2014" (MP-2014), which are two-dimensional scales (by age and projection year for males and females) based on mortality improvement trends found in the U.S. general population¹. Short-term improvement is based on 1951-2007 experience; long-term improvement is based on expert opinion (1% annual reduction of mortality for each age through age 85, and declining afterwards to 0% at age 115). Short and long-term improvement is blended smoothly over a 20-year transition period. This valuation adjusted MP-2014 to reflect the male/female mix of retirees (90% male, 10% female) and survivors (90% female, 10% male).

The following rationale highlights why MP-2014-based factors were adopted for this, and future, valuations:

- They're two-dimensional (unlike one-dimensional factors which vary by age only), reflecting both age/period and cohort effects; and
- The approach is sustainable in that the factors are based on expert demographic and actuarial analysis which the SOA expects to update on a regular, annual basis.

Projecting future mortality trends is an inherently uncertain exercise. Care will be taken to ensure emerging experience is monitored and new concepts developed by the research community are reflected as appropriate.

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¹ For an in-depth discussion of MP-2014, see: https://www.soa.org/experience-studies/2014/research-2014-mp/

MORTALITY IMPROVEMENT FACTORS

Applied to: Nondisability Retirees, Permanent Disability Retirees, and Active/Reserve Duty Personnel

Gender Mix: 90% Male / 10% Female

						Projection Year					
Age	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
< 21	0.99643	0.98851	0.97884	0.96913	0.96051	0.95801	0.95649	0.95577	0.95593	0.95670	0.95806
21	1.00124 1.00555	0.99330	0.98368 0.98812	0.97373	0.96484 0.96906	0.96022 0.96463	0.95860	0.95787	0.95784	0.95850	0.95975 0.96143
22 23	1.00924	0.99777 1.00164	0.99215	0.97821 0.98227	0.97322	0.96463	0.96061 0.96505	0.95987 0.96176	0.95974 0.96161	0.96029 0.96206	0.96300
24	1.01232	1.00498	0.99574	0.98609	0.97715	0.97274	0.96899	0.96608	0.96337	0.96371	0.96455
25	1.01467	1.00768	0.99888	0.98955	0.98084	0.97652	0.97278	0.96979	0.96754	0.96525	0.96608
26	1.01620	1.00975	1.00138	0.99258	0.98437	0.98007	0.97642	0.97334	0.97093	0.96915	0.96740
27	1.01683	1.01108	1.00342 1.00472	0.99524 0.99745	0.98765 0.99060	0.98346 0.98657	0.97982	0.97666 0.97993	0.97425 0.97736	0.97231	0.97101
28 29	1.01656 1.01539	1.01159 1.01137	1.00472	0.99902	0.99292	0.98926	0.98298 0.98582	0.98281	0.98016	0.97535 0.97816	0.97398 0.97662
30	1.01325	1.01018	1.00525	0.99979	0.99470	0.99133	0.98815	0.98527	0.98264	0.98056	0.97894
31	1.01043	1.00819	1.00423	0.99975	0.99558	0.99277	0.98985	0.98712	0.98470	0.98254	0.98083
32	1.00687	1.00545	1.00243	0.99892	0.99565	0.99329	0.99083	0.98843	0.98615	0.98409	0.98238
33	1.00293	1.00205	0.99987	0.99721	0.99472	0.99281	0.99087	0.98883	0.98686	0.98501	0.98331
34 35	0.99884 0.99496	0.99830 0.99448	0.99666 0.99318	0.99465 0.99162	0.99282 0.99024	0.99167 0.98964	0.99042 0.98908	0.98898 0.98825	0.98753 0.98731	0.98599 0.98627	0.98457 0.98507
36	0.99142	0.99080	0.98955	0.98813	0.98698	0.98684	0.98676	0.98662	0.98620	0.98568	0.98490
37	0.98859	0.98754	0.98605	0.98457	0.98336	0.98346	0.98373	0.98407	0.98424	0.98424	0.98397
38	0.98647	0.98480	0.98287	0.98114	0.97986	0.97980	0.98023	0.98092	0.98159	0.98209	0.98234
39	0.98506	0.98268	0.98031	0.97813	0.97649	0.97626	0.97664	0.97750	0.97854	0.97945	0.98021
40	0.98436	0.98135 0.98065	0.97836	0.97583	0.97382 0.97187	0.97306 0.97066	0.97327	0.97409	0.97531	0.97669	0.97787 0.97561
41 42	0.98426 0.98457	0.98063	0.97712 0.97678	0.97424 0.97355	0.97092	0.96908	0.97044 0.96842	0.97111 0.96875	0.97238 0.96989	0.97396 0.97154	0.97338
43	0.98537	0.98112	0.97713	0.97366	0.97079	0.96842	0.96723	0.96722	0.96803	0.96964	0.97166
44	0.98653	0.98228	0.97807	0.97457	0.97156	0.96877	0.96698	0.96645	0.96701	0.96830	0.97029
45	0.98814	0.98371	0.97960	0.97607	0.97303	0.97013	0.96775	0.96672	0.96677	0.96773	0.96948
46	0.98989	0.98559	0.98158	0.97797	0.97492	0.97200	0.96958	0.96769	0.96715	0.96777	0.96911
47 48	0.99205 0.99414	0.98780 0.99005	0.98374 0.98604	0.98024 0.98258	0.97711 0.97949	0.97427 0.97665	0.97174 0.97420	0.96981 0.97216	0.96832 0.97052	0.96825 0.96950	0.96926 0.96982
49	0.99624	0.99222	0.98837	0.98497	0.98203	0.97923	0.97680	0.97475	0.97310	0.97177	0.97104
50	0.99789	0.99422	0.99054	0.98731	0.98461	0.98188	0.97949	0.97745	0.97579	0.97444	0.97350
51	0.99909	0.99587	0.99254	0.98966	0.98714	0.98457	0.98232	0.98032	0.97867	0.97731	0.97624
52	0.99949	0.99697	0.99426	0.99174	0.98967	0.98737	0.98519	0.98323	0.98161	0.98025	0.97917
53	0.99911	0.99737	0.99545	0.99365	0.99194	0.99008	0.98807	0.98617	0.98459	0.98315	0.98208
54 55	0.99806 0.99627	0.99717 0.99631	0.99613 0.99612	0.99493	0.99394 0.99532	0.99253 0.99451	0.99086	0.98911 0.99187	0.98749	0.98609 0.98875	0.98484
56	0.99406	0.99482	0.99538	0.99571 0.99571	0.99590	0.99579	0.99327 0.99515	0.99407	0.99029 0.99273	0.99124	0.98753 0.98987
57	0.99152	0.99290	0.99400	0.99497	0.99572	0.99617	0.99621	0.99563	0.99462	0.99336	0.99194
58	0.98894	0.99057	0.99210	0.99351	0.99470	0.99570	0.99630	0.99631	0.99580	0.99476	0.99348
59	0.98632	0.98801	0.98978	0.99144	0.99305	0.99439	0.99545	0.99612	0.99609	0.99556	0.99450
60	0.98385	0.98551	0.98724	0.98913	0.99088	0.99255	0.99396	0.99499	0.99554	0.99550	0.99494
61 62	0.98169 0.97966	0.98314 0.98099	0.98484 0.98248	0.98669 0.98430	0.98848 0.98614	0.99029 0.98791	0.99185 0.98952	0.99324 0.99107	0.99426 0.99235	0.99469 0.99335	0.99463 0.99378
63	0.97801	0.97906	0.98053	0.98223	0.98404	0.98568	0.98735	0.98886	0.99031	0.99158	0.99248
64	0.97657	0.97752	0.97888	0.98047	0.98217	0.98378	0.98523	0.98680	0.98823	0.98967	0.99085
65	0.97533	0.97627	0.97763	0.97911	0.98071	0.98212	0.98355	0.98500	0.98638	0.98780	0.98915
66	0.97446	0.97531	0.97657	0.97805	0.97954	0.98095	0.98227	0.98360	0.98487	0.98626	0.98759
67	0.97379	0.97454	0.97580	0.97718	0.97867	0.98007	0.98130	0.98252	0.98377	0.98494	0.98624
68 69	0.97331 0.97302	0.97405 0.97367	0.97522 0.97482	0.97660 0.97619	0.97808 0.97768	0.97939 0.97899	0.98061 0.98021	0.98183 0.98134	0.98297 0.98246	0.98403 0.98351	0.98521 0.98457
70	0.97301	0.97355	0.97452	0.97589	0.97746	0.97877	0.97998	0.98111	0.98215	0.98319	0.98414
71	0.97309	0.97354	0.97440	0.97576	0.97733	0.97873	0.97994	0.98107	0.98202	0.98296	0.98391
72	0.97334	0.97361	0.97447	0.97573	0.97730	0.97869	0.97999	0.98103	0.98207	0.98292	0.98378
73	0.97368	0.97385	0.97462	0.97579	0.97736	0.97874	0.98004	0.98117	0.98212	0.98297	0.98383
74	0.97420	0.97419	0.97486	0.97604	0.97742	0.97889	0.98010	0.98122	0.98226	0.98311	0.98388
75 76	0.97470 0.97538	0.97469 0.97519	0.97528 0.97569	0.97628 0.97669	0.97766 0.97790	0.97905 0.97920	0.98025 0.98040	0.98137 0.98152	0.98231 0.98255	0.98317 0.98340	0.98393 0.98416
77	0.97604	0.97586	0.97619	0.97710	0.97832	0.97944	0.98064	0.98167	0.98270	0.98354	0.98430
78	0.97670	0.97643	0.97676	0.97759	0.97872	0.97976	0.98088	0.98191	0.98285	0.98369	0.98454
79	0.97745	0.97718	0.97742	0.97808	0.97912	0.98017	0.98120	0.98214	0.98308	0.98392	0.98468
80	0.97810	0.97783	0.97807	0.97864	0.97960	0.98056	0.98152	0.98246	0.98331	0.98415	0.98490
81	0.97885	0.97848	0.97872	0.97920	0.98008	0.98095	0.98182	0.98268	0.98353	0.98437	0.98512
82 83	0.97960 0.98036	0.97923 0.97998	0.97937 0.98003	0.97985 0.98041	0.98054 0.98109	0.98133 0.98179	0.98220 0.98257	0.98297 0.98334	0.98383 0.98402	0.98458 0.98478	0.98533 0.98544
84	0.98121	0.98073	0.98068	0.98096	0.98155	0.98215	0.98284	0.98362	0.98430	0.98497	0.98563
85	0.98208	0.98150	0.98144	0.98161	0.98201	0.98251	0.98310	0.98379	0.98447	0.98515	0.98581
86	0.98305	0.98246	0.98220	0.98218	0.98247	0.98286	0.98336	0.98404	0.98464	0.98522	0.98590
87	0.98411	0.98333	0.98297	0.98284	0.98293	0.98312	0.98361	0.98411	0.98470	0.98538	0.98597
88 89	0.98528 0.98654	0.98440 0.98547	0.98384 0.98471	0.98351 0.98418	0.98339 0.98386	0.98348 0.98375	0.98377 0.98394	0.98427 0.98433	0.98476 0.98482	0.98536 0.98533	0.98595 0.98592
90	0.98790	0.98663	0.98568	0.98495	0.98433	0.98411	0.98410	0.98439	0.98479	0.98529	0.98589
91	0.98926	0.98790	0.98675	0.98581	0.98490	0.98439	0.98427	0.98437	0.98476	0.98526	0.98577
92	0.99080	0.98925	0.98791	0.98669	0.98548	0.98476	0.98445	0.98444	0.98465	0.98514	0.98565
93	0.99235	0.99061	0.98908	0.98757	0.98616	0.98515	0.98464	0.98443	0.98463	0.98503	0.98553
94	0.99398	0.99206	0.99025	0.98854	0.98684	0.98563	0.98483	0.98453	0.98462	0.98492	0.98542
95	0.99561 0.99582	0.99360 0.99391	0.99160 0.99201	0.98961 0.99011	0.98763 0.98823	0.98613 0.98682	0.98513 0.98592	0.98463 0.98542	0.98462 0.98532	0.98482 0.98552	0.98522 0.98602
96 97	0.99602	0.99421	0.99241	0.99061	0.98883	0.98752	0.98662	0.98622	0.98612	0.98632	0.98672
98	0.99631	0.99451	0.99281	0.99112	0.98943	0.98822	0.98733	0.98692	0.98691	0.98711	0.98742
99	0.99651	0.99490	0.99330	0.99171	0.99012	0.98883	0.98812	0.98772	0.98762	0.98782	0.98822
100	0.99671	0.99520	0.99370	0.99221	0.99072	0.98953	0.98882	0.98851	0.98842	0.98861	0.98892
101	0.99691	0.99551	0.99410	0.99271	0.99132	0.99023	0.98962	0.98931	0.98921	0.98932	0.98971
102 103	0.99711 0.99740	0.99581 0.99620	0.99451 0.99491	0.99321 0.99371	0.99192 0.99261	0.99092 0.99162	0.99032 0.99111	0.99002 0.99081	0.99001 0.99072	0.99011 0.99091	0.99041 0.99112
103	0.99761	0.99650	0.99491	0.99371	0.99321	0.99162	0.99111	0.99081	0.99072	0.99091	0.99112
105	0.99781	0.99680	0.99580	0.99481	0.99381	0.99302	0.99261	0.99231	0.99231	0.99241	0.99261
106	0.99801	0.99710	0.99620	0.99531	0.99441	0.99372	0.99331	0.99311	0.99310	0.99320	0.99332
107	0.99821	0.99741	0.99661	0.99581	0.99501	0.99441	0.99402	0.99390	0.99381	0.99391	0.99411
108	0.99850	0.99780	0.99701	0.99631	0.99571	0.99511	0.99481	0.99461	0.99461	0.99470	0.99481
109 110	0.99870 0.99890	0.99810 0.99840	0.99750 0.99790	0.99690 0.99740	0.99631 0.99691	0.99581 0.99651	0.99551 0.99630	0.99541 0.99620	0.99540 0.99611	0.99541	0.99560 0.99631
110 111	0.99890	0.99840	0.99830	0.99740	0.99691	0.99651	0.99630	0.99620	0.99691	0.99620 0.99700	0.99631
112	0.99931	0.99900	0.99870	0.99841	0.99811	0.99791	0.99780	0.99770	0.99770	0.99770	0.99780
113	0.99960	0.99940	0.99920	0.99900	0.99880	0.99860	0.99850	0.99850	0.99850	0.99850	0.99850
114	0.99980	0.99970	0.99960	0.99950	0.99940	0.99930	0.99930	0.99920	0.99920	0.99920	0.99930
> 114	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

MORTALITY IMPROVEMENT FACTORS (continued)

<u>Applied to</u>: Nondisability Retirees, Permanent Disability Retirees, and Active/Reserve Duty Personnel
<u>Gender Mix</u>: 90% Male / 10% Female

4	2016	2017	2019	2010	2020	2021	Projection Ye		2024	2025	2026	2027	2029	- 2020
Age < 21	2016 0.95991	2017 0.96226	2018 0.96491	2019 0.96775	2020 0.97080	2021 0.97385	2022 0.97690	2023 0.97985	2024 0.98261	2025 0.98498	2026 0.98704	2027 0.98862	2028 0.98961	>2028 0.99000
21	0.96150	0.96364	0.96617	0.96882	0.97175	0.97459	0.97753	0.98028	0.98293	0.98528	0.98715	0.98872	0.98970	0.99000
22	0.96307	0.96501	0.96734	0.96987	0.97260	0.97533	0.97816	0.98080	0.98325	0.98549	0.98735	0.98873	0.98970	0.99000
23 24	0.96453 0.96588	0.96636 0.96760	0.96849 0.96963	0.97091 0.97194	0.97344 0.97435	0.97606 0.97678	0.97869 0.97921	0.98122 0.98163	0.98356 0.98387	0.98570 0.98591	0.98746 0.98757	0.98883 0.98883	0.98971 0.98971	0.99000 0.99000
25	0.96730	0.96883	0.97074	0.97286	0.97508	0.97749	0.97981	0.98204	0.98417	0.98611	0.98767	0.98893	0.98971	0.99000
26	0.96852	0.97003	0.97175	0.97376	0.97588	0.97810	0.98032	0.98244	0.98447	0.98622	0.98777	0.98894	0.98971	0.99000
27	0.96972	0.97105	0.97266	0.97457	0.97659	0.97861	0.98073	0.98275	0.98468	0.98642	0.98787	0.98903	0.98971	0.99000
28 29	0.97307 0.97563	0.97217 0.97510	0.97368 0.97452	0.97539 0.97612	0.97729 0.97791	0.97929 0.97979	0.98120 0.98168	0.98320 0.98347	0.98502 0.98518	0.98665 0.98678	0.98799 0.98811	0.98904 0.98915	0.98972 0.98981	0.99000 0.99000
30	0.97778	0.97716	0.97699	0.97673	0.97841	0.98019	0.98196	0.98374	0.98542	0.98691	0.98813	0.98916	0.98981	0.99000
31	0.97967	0.97887	0.97862	0.97872	0.97871	0.98047	0.98223	0.98389	0.98556	0.98695	0.98824	0.98917	0.98981	0.99000
32 33	0.98103 0.98205	0.98024 0.98115	0.97980 0.98072	0.97982 0.98066	0.98020 0.98095	0.98053 0.98161	0.98228 0.98221	0.98403 0.98395	0.98559 0.98551	0.98697 0.98698	0.98825 0.98817	0.98917 0.98918	0.98982 0.98982	0.99000 0.99000
33 34	0.98331	0.98241	0.98189	0.98174	0.98196	0.98254	0.98331	0.98401	0.98567	0.98705	0.98825	0.98918	0.98982	0.99000
35	0.98410	0.98329	0.98277	0.98253	0.98266	0.98317	0.98387	0.98476	0.98564	0.98704	0.98824	0.98917	0.98981	0.99000
36	0.98423	0.98352	0.98309	0.98294	0.98308	0.98351	0.98413	0.98503	0.98604	0.98701	0.98823	0.98916	0.98981	0.99000
37 38	0.98362 0.98242	0.98322 0.98243	0.98289 0.98240	0.98284 0.98246	0.98308 0.98279	0.98352 0.98333	0.98416 0.98408	0.98508 0.98493	0.98611 0.98598	0.98714 0.98712	0.98812 0.98819	0.98915 0.98905	0.98981 0.98972	0.99000 0.99000
39	0.98081	0.98124	0.98153	0.98189	0.98233	0.98297	0.98382	0.98478	0.98593	0.98710	0.98818	0.98908	0.98971	0.99000
40	0.97898	0.97984	0.98065	0.98123	0.98197	0.98271	0.98357	0.98463	0.98580	0.98698	0.98807	0.98908	0.98972	0.99000
41	0.97714	0.97843	0.97957	0.98065	0.98152	0.98247	0.98352	0.98458	0.98576	0.98695	0.98806	0.98907	0.98972	0.99000
42 43	0.97531 0.97378	0.97711 0.97588	0.97867 0.97777	0.97999 0.97951	0.98127 0.98102	0.98234 0.98230	0.98349 0.98357	0.98465 0.98474	0.98583 0.98592	0.98702 0.98711	0.98814 0.98813	0.98907 0.98906	0.98972 0.98972	0.99000 0.99000
44	0.97249	0.97480	0.97699	0.97904	0.98078	0.98237	0.98366	0.98493	0.98611	0.98721	0.98832	0.98916	0.98972	0.99000
45	0.97166	0.97405	0.97644	0.97870	0.98065	0.98237	0.98387	0.98515	0.98633	0.98742	0.98842	0.98925	0.98981	0.99000
46	0.97107	0.97343	0.97590	0.97827	0.98052	0.98235	0.98405	0.98544	0.98663	0.98762	0.98853	0.98926	0.98981	0.99000
47 48	0.97088 0.97103	0.97302 0.97293	0.97547 0.97516	0.97793 0.97751	0.98019 0.97995	0.98232 0.98209	0.98404 0.98402	0.98554 0.98563	0.98674 0.98693	0.98783 0.98793	0.98864 0.98874	0.98936 0.98937	0.98982 0.98982	0.99000 0.99000
49	0.97174	0.97323	0.97514	0.97744	0.97977	0.98191	0.98393	0.98564	0.98694	0.98804	0.98885	0.98947	0.98982	0.99000
50	0.97306	0.97395	0.97553	0.97752	0.97972	0.98192	0.98393	0.98564	0.98705	0.98815	0.98895	0.98948	0.98991	0.99000
51	0.97559	0.97534	0.97642	0.97808	0.97996	0.98195	0.98395	0.98565	0.98706	0.98816	0.98905	0.98958	0.98992	0.99000
52 53	0.97831 0.98119	0.97784 0.98051	0.97778 0.98023	0.97894 0.98026	0.98050 0.98132	0.98227 0.98278	0.98406 0.98445	0.98575 0.98594	0.98715 0.98724	0.98825 0.98834	0.98906 0.98915	0.98958 0.98967	0.98992 0.98992	0.99000 0.99000
54	0.98395	0.98316	0.98267	0.98239	0.98260	0.98357	0.98484	0.98621	0.98741	0.98842	0.98914	0.98967	0.98992	0.99000
55	0.98647	0.98567	0.98498	0.98458	0.98440	0.98453	0.98541	0.98649	0.98758	0.98850	0.98922	0.98966	0.98992	0.99000
56	0.98874	0.98777	0.98707	0.98648	0.98610	0.98593	0.98615	0.98685	0.98775	0.98857	0.98930	0.98975	0.98992	0.99000
57 58	0.99066 0.99215	0.98953 0.99096	0.98875 0.99001	0.98806 0.98925	0.98758 0.98867	0.98721 0.98821	0.98715 0.98796	0.98730 0.98792	0.98792 0.98817	0.98864 0.98871	0.98928 0.98927	0.98974 0.98973	0.98991 0.98991	0.99000 0.99000
58 59	0.99330	0.99206	0.99088	0.98925	0.98939	0.98893	0.98858	0.98845	0.98852	0.98879	0.98927	0.98963	0.98991	0.99000
60	0.99388	0.99277	0.99162	0.99063	0.98990	0.98936	0.98902	0.98889	0.98886	0.98895	0.98924	0.98962	0.98990	0.99000
61	0.99407	0.99309	0.99198	0.99102	0.99014	0.98962	0.98928	0.98906	0.98904	0.98913	0.98932	0.98961	0.98990	0.99000
62	0.99370	0.99313	0.99224	0.99123	0.99038	0.98978	0.98937	0.98915	0.98913	0.98922	0.98941	0.98970	0.98990	0.99000
63 64	0.99290 0.99165	0.99272 0.99205	0.99224 0.99196	0.99144 0.99147	0.99061 0.99085	0.98995 0.99021	0.98946 0.98965	0.98925 0.98935	0.98923 0.98933	0.98931 0.98933	0.98950 0.98951	0.98970 0.98971	0.98990 0.98990	0.99000 0.99000
65	0.99023	0.99102	0.99141	0.99132	0.99091	0.99038	0.98992	0.98955	0.98944	0.98943	0.98961	0.98971	0.98990	0.99000
66	0.98884	0.98991	0.99059	0.99098	0.99087	0.99054	0.99019	0.98983	0.98955	0.98953	0.98962	0.98981	0.98990	0.99000
67	0.98756	0.98872	0.98969	0.99036	0.99073	0.99061	0.99037	0.99001	0.98983	0.98964	0.98972	0.98981	0.98991	0.99000
68 69	0.98650 0.98566	0.98764 0.98677	0.98878 0.98789	0.98965 0.98894	0.99030 0.98969	0.99057 0.99025	0.99044 0.99041	0.99028 0.99036	0.99001 0.99019	0.98983 0.99001	0.98982 0.98991	0.98982 0.98991	0.98991 0.99000	0.99000 0.99000
70	0.98511	0.98619	0.98721	0.98824	0.98909	0.98983	0.99019	0.99033	0.99027	0.99010	0.99001	0.98991	0.99000	0.99000
71	0.98477	0.98574	0.98664	0.98765	0.98849	0.98932	0.98987	0.99021	0.99025	0.99018	0.99010	0.99000	0.99000	0.99000
72	0.98463	0.98541	0.98628	0.98718	0.98800	0.98882	0.98946	0.98990	0.99014	0.99017	0.99009	0.99000	0.99000	0.99000
73 74	0.98459 0.98455	0.98527 0.98523	0.98604 0.98590	0.98682 0.98658	0.98762 0.98736	0.98834 0.98806	0.98906 0.98868	0.98960 0.98930	0.98993 0.98973	0.99007 0.98996	0.99009 0.99008	0.99009 0.99009	0.99000 0.99000	0.99000 0.99000
75	0.98470	0.98528	0.98595	0.98653	0.98711	0.98780	0.98841	0.98902	0.98944	0.98976	0.98998	0.99000	0.99000	0.99000
76	0.98475	0.98542	0.98600	0.98648	0.98706	0.98764	0.98823	0.98874	0.98925	0.98966	0.98988	0.98999	0.99000	0.99000
77	0.98498	0.98556	0.98605	0.98662	0.98710	0.98759	0.98816	0.98866	0.98907	0.98948	0.98978	0.98990	0.99000	0.99000
78 79	0.98511 0.98534	0.98578 0.98591	0.98627 0.98649	0.98676 0.98688	0.98724 0.98736	0.98762 0.98775	0.98810 0.98822	0.98859 0.98852	0.98898 0.98900	0.98938 0.98939	0.98969 0.98969	0.98989 0.98989	0.99000 0.99000	0.99000 0.99000
80	0.98556	0.98613	0.98670	0.98709	0.98757	0.98796	0.98834	0.98863	0.98901	0.98930	0.98960	0.98980	0.99000	0.99000
81	0.98578	0.98634	0.98691	0.98730	0.98778	0.98807	0.98845	0.98874	0.98903	0.98931	0.98960	0.98980	0.99000	0.99000
82	0.98590	0.98655	0.98711	0.98750	0.98788	0.98827	0.98856	0.98885	0.98913	0.98942	0.98961	0.98980	0.99000	0.99000
83 84	0.98610 0.98629	0.98666 0.98685	0.98722 0.98732	0.98769 0.98779	0.98807 0.98817	0.98846 0.98855	0.98875 0.98884	0.98904 0.98913	0.98923 0.98942	0.98952 0.98962	0.98971 0.98981	0.98980 0.98990	0.99000 0.99000	0.99000 0.99000
85	0.98638	0.98695	0.98742	0.98788	0.98827	0.98865	0.98894	0.98923	0.98952	0.98971	0.98981	0.99000	0.99000	0.99000
86	0.98647	0.98704	0.98751	0.98798	0.98836	0.98874	0.98912	0.98941	0.98961	0.98981	0.99001	0.99010	0.99020	0.99010
87	0.98655	0.98712	0.98760	0.98808	0.98846	0.98883	0.98922	0.98951	0.98971	0.99000	0.99011	0.99030	0.99030	0.99030
88 89	0.98653 0.98651	0.98711 0.98710	0.98760 0.98768	0.98808 0.98816	0.98855 0.98864	0.98893 0.98903	0.98922 0.98932	0.98961 0.98961	0.98990 0.99000	0.99010 0.99020	0.99030 0.99040	0.99040 0.99060	0.99050 0.99060	0.99040 0.99060
90	0.98649	0.98708	0.98767	0.98816	0.98864	0.98913	0.98951	0.98981	0.99000	0.99020	0.99050	0.99070	0.99080	0.99080
91	0.98637	0.98697	0.98756	0.98815	0.98864	0.98913	0.98961	0.98991	0.99020	0.99040	0.99070	0.99080	0.99090	0.99090
92	0.98625	0.98695	0.98755	0.98814	0.98873	0.98923	0.98972	0.99011	0.99040	0.99060	0.99080	0.99100		0.99110
93 94	0.98614 0.98603	0.98684 0.98664	0.98744 0.98734	0.98814 0.98804	0.98873 0.98874	0.98923 0.98933	0.98982 0.98983	0.99022 0.99032	0.99061 0.99072	0.99081 0.99110	0.99100 0.99130	0.99110 0.99140	0.99120 0.99140	0.99120 0.99140
95	0.98583	0.98653	0.98724	0.98804	0.98874	0.98934	0.98994	0.99052	0.99092	0.99131	0.99151	0.99161		0.99150
96	0.98653	0.98723	0.98793	0.98863	0.98924	0.98993	0.99043	0.99093	0.99141	0.99171	0.99191	0.99210	0.99210	0.99190
97	0.98723	0.98783	0.98853	0.98923	0.98984	0.99043	0.99093	0.99142	0.99182	0.99211	0.99240	0.99250	0.99250	0.99240
98 99	0.98793	0.98853	0.98914 0.98983	0.98983 0.99043	0.99043	0.99094 0.99153	0.99143 0.99193	0.99192 0.99242	0.99231 0.99272	0.99261 0.99301	0.99280 0.99321	0.99290 0.99330	0.99290	0.99280 0.99320
100	0.98872 0.98942	0.98923 0.98992	0.99043	0.99103	0.99094 0.99153	0.99203	0.99252	0.99282	0.99321	0.99341	0.99361	0.99330	0.99330 0.99370	0.99320
101	0.99012	0.99053	0.99112	0.99163	0.99213	0.99253	0.99302	0.99332	0.99362	0.99391	0.99410	0.99411	0.99411	0.99410
102	0.99082	0.99122	0.99172	0.99222	0.99263	0.99312	0.99352	0.99382	0.99411	0.99431	0.99450	0.99460		0.99450
103	0.99152	0.99192	0.99233	0.99282	0.99322	0.99362	0.99402	0.99431	0.99452	0.99480	0.99490	0.99500	0.99500	0.99490
104 105	0.99221 0.99291	0.99262 0.99322	0.99302 0.99362	0.99342 0.99402	0.99382 0.99432	0.99412 0.99472	0.99451 0.99501	0.99481 0.99522	0.99501 0.99550	0.99521 0.99561	0.99531 0.99580	0.99540 0.99580	0.99540 0.99580	0.99530 0.99580
106	0.99361	0.99392	0.99431	0.99462	0.99492	0.99522	0.99551	0.99571	0.99591	0.99610	0.99620	0.99620	0.99620	0.99620
107	0.99431	0.99461	0.99491	0.99521	0.99551	0.99572	0.99601	0.99621	0.99640	0.99650	0.99660	0.99670	0.99670	0.99660
108	0.99501	0.99531	0.99552	0.99581	0.99602	0.99631	0.99651	0.99671	0.99681	0.99691	0.99700	0.99710		0.99700
109 110	0.99571 0.99650	0.99591 0.99661	0.99621 0.99681	0.99641 0.99701	0.99661 0.99721	0.99681 0.99731	0.99701 0.99751	0.99711 0.99761	0.99730 0.99771	0.99740 0.99780	0.99750 0.99790	0.99750 0.99790		0.99750 0.99790
111	0.99720	0.99731	0.99741	0.99761	0.99721	0.99790	0.99801	0.99810	0.99820	0.99830	0.99830	0.99830	0.99830	0.99830
112	0.99790	0.99800	0.99810	0.99821	0.99831	0.99841	0.99850	0.99860	0.99861	0.99870	0.99870	0.99870	0.99870	0.99870
113	0.99860	0.99861	0.99871	0.99880	0.99890	0.99891	0.99900	0.99901	0.99910	0.99910	0.99920	0.99920	0.99920	0.99920
114 > 114	0.99930 1.00000	0.99930 1.00000	0.99940 1.00000	0.99940 1.00000	0.99941 1.00000	0.99950 1.00000	0.99950 1.00000	0.99950 1.00000	0.99951 1.00000	0.99960 1.00000	0.99960 1.00000	0.99960 1.00000	0.99960 1.00000	0.99960
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MORTALITY IMPROVEMENT FACTORS

<u>Applied to:</u> Surviving Spouses, and Current Spouses

<u>Gender Mix</u>: 10% Male / 90% Female

	4005	400.0	400	1000	1000	2000	2004		ion Year	2004	2007	2005	****	****	2000	2010
Age < 21	1995 0.98353	1996 0.98403	1997 0.98587	1998 0.98898	1999 0.99282	2000 0.99679	2001 0.99987	2002 1.00138	2003 1.00048	2004 0.99707	2005 0.99187	2006 0.98539	2007 0.97836	2008 0.97177	2009 0.96619	0.96369
21	0.98281	0.98357	0.98576	0.98939	0.99393	0.99850	1.00217	1.00424	1.00399	1.00132	0.99676	0.99090	0.98432	0.97797	0.97236	0.96678
22	0.98177	0.98232	0.98477	0.98885	0.99402	0.99929	1.00366	1.00631	1.00682	1.00488	1.00115	0.99593	0.98988	0.98389	0.97834	0.97447
23 24	0.98035 0.97883	0.98057 0.97852	0.98300 0.98063	0.98735 0.98506	0.99307 0.99134	0.99916 0.99808	1.00424 1.00398	1.00768 1.00813	1.00886 1.01009	1.00776 1.00976	1.00476 1.00768	1.00036 1.00402	0.99495 0.99926	0.98923 0.99401	0.98378 0.98875	0.97999 0.98506
25	0.97744	0.97628	0.97787	0.98237	0.98893	0.99624	1.00398	1.00613	1.01009	1.00976	1.00768	1.00402	1.00272	0.99795	0.99316	0.98948
26	0.97620	0.97426	0.97520	0.97939	0.98613	0.99382	1.00102	1.00654	1.00992	1.01115	1.01060	1.00855	1.00522	1.00122	0.99693	0.99343
27	0.97544	0.97258	0.97275	0.97650	0.98313	0.99110	0.99868	1.00467	1.00859	1.01052	1.01067	1.00932	1.00678	1.00356	1.00005	0.99674
28 29	0.97528 0.97564	0.97147 0.97115	0.97094 0.96979	0.97404 0.97232	0.98035 0.97800	0.98821 0.98555	0.99597 0.99320	1.00223 0.99953	1.00669 1.00415	1.00907 1.00697	1.00984 1.00811	1.00911 1.00793	1.00728 1.00691	1.00505 1.00558	1.00260 1.00428	0.99993 1.00254
30	0.97672	0.97154	0.96945	0.97129	0.97633	0.98334	0.99057	0.99668	1.00413	1.00037	1.00565	1.00793	1.00565	1.00530	1.00510	1.00437
31	0.97835	0.97259	0.97004	0.97118	0.97555	0.98182	0.98842	0.99408	0.99834	1.00118	1.00267	1.00331	1.00367	1.00415	1.00502	1.00533
32	0.98043	0.97440	0.97140	0.97202	0.97570	0.98112	0.98686	0.99177	0.99548	0.99789	0.99943	1.00025	1.00107	1.00228	1.00405	1.00521
33 34	0.98296 0.98576	0.97677 0.97962	0.97353 0.97624	0.97373 0.97621	0.97672 0.97868	0.98134 0.98241	0.98611 0.98617	0.99005 0.98903	0.99290 0.99082	0.99476 0.99192	0.99597 0.99276	0.99685 0.99350	0.99803 0.99474	0.99969 0.99665	1.00208 0.99938	1.00409 1.00183
35	0.98873	0.98276	0.97954	0.97927	0.98130	0.98431	0.98706	0.98872	0.98942	0.98965	0.98984	0.99032	0.99142	0.99338	0.99616	0.99876
36	0.99177	0.98618	0.98311	0.98280	0.98448	0.98676	0.98858	0.98922	0.98883	0.98808	0.98758	0.98760	0.98835	0.98997	0.99242	0.99516
37	0.99461	0.98957 0.99284	0.98676 0.99039	0.98649 0.99016	0.98792	0.98964 0.99285	0.99072	0.99044	0.98904 0.99004	0.98739 0.98759	0.98611	0.98546 0.98400	0.98565 0.98343	0.98673	0.98864 0.98514	0.99114 0.98700
38 39	0.99722 0.99940	0.99284	0.99369	0.99369	0.99141 0.99486	0.99285	0.99328 0.99607	0.99226 0.99460	0.99004	0.98759	0.98543 0.98554	0.98332	0.98343	0.98386 0.98157	0.98514	0.98314
40	1.00086	0.99785	0.99639	0.99670	0.99797	0.99911	0.99898	0.99716	0.99396	0.99009	0.98644	0.98335	0.98124	0.98007	0.97958	0.97994
41	1.00149	0.99936	0.99846	0.99919	1.00074	1.00197	1.00183	0.99993	0.99648	0.99218	0.98794	0.98425	0.98128	0.97936	0.97803	0.97754
42 43	1.00134 1.00032	0.99994 0.99967	0.99981 1.00022	1.00096 1.00199	1.00289 1.00432	1.00439 1.00618	1.00443 1.00658	1.00262 1.00506	0.99911 1.00159	0.99458 0.99711	0.98993 0.99233	0.98567 0.98768	0.98222 0.98377	0.97955 0.98054	0.97748 0.97791	0.97612 0.97578
44	0.99867	0.99869	0.99985	1.00133	1.00508	1.00010	1.00820	1.00500	1.00133	0.99957	0.99477	0.99012	0.98583	0.98233	0.97924	0.97653
45	0.99657	0.99708	0.99877	1.00165	1.00499	1.00781	1.00908	1.00835	1.00569	1.00179	0.99726	0.99259	0.98840	0.98463	0.98127	0.97837
46	0.99420	0.99510	0.99723	1.00041	1.00410	1.00735	1.00913	1.00900	1.00696	1.00350	0.99941	0.99511	0.99102	0.98733	0.98388	0.98080
47 48	0.99193 0.98987	0.99303 0.99095	0.99522 0.99311	0.99862 0.99654	1.00259 1.00053	1.00611 1.00425	1.00834 1.00686	1.00884 1.00784	1.00744 1.00719	1.00470 1.00528	1.00125 1.00246	0.99740 0.99925	0.99366 0.99596	0.99016 0.99282	0.98679 0.98981	0.98363 0.98665
49	0.98804	0.98899	0.99100	0.99419	0.99803	1.00177	1.00469	1.00617	1.00619	1.00495	1.00296	1.00038	0.99773	0.99513	0.99267	0.98987
50	0.98663	0.98734	0.98910	0.99195	0.99553	0.99913	1.00200	1.00381	1.00441	1.00385	1.00261	1.00078	0.99886	0.99699	0.99509	0.99292
51 52	0.98557 0.98488	0.98612 0.98526	0.98754 0.98632	0.98993 0.98826	0.99307 0.99094	0.99633 0.99365	0.99914 0.99611	1.00108 0.99791	1.00193 0.99898	1.00196 0.99944	1.00141 0.99941	1.00043 0.99913	0.99926 0.99874	0.99814 0.99846	0.99706 0.99823	0.99553 0.99753
53	0.98457	0.98478	0.98557	0.98704	0.98915	0.99303	0.99329	0.99791	0.99577	0.99638	0.99679	0.99713	0.99745	0.99805	0.99866	0.99872
54	0.98446	0.98460	0.98520	0.98628	0.98771	0.98926	0.99060	0.99168	0.99238	0.99297	0.99374	0.99453	0.99557	0.99677	0.99826	0.99917
55	0.98474	0.98480	0.98520	0.98589	0.98672	0.98758	0.98833	0.98876	0.98921	0.98967	0.99043	0.99159	0.99308	0.99499	0.99708	0.99859
56 57	0.98524 0.98595	0.98520 0.98589	0.98541 0.98580	0.98578 0.98577	0.98611 0.98568	0.98636 0.98542	0.98643 0.98489	0.98637 0.98436	0.98628 0.98390	0.98660 0.98388	0.98734 0.98448	0.98858 0.98570	0.99042 0.98760	0.99259 0.98993	0.99510 0.99268	0.99731 0.99513
58	0.98686	0.98661	0.98639	0.98603	0.98553	0.98477	0.98384	0.98282	0.98208	0.98170	0.98206	0.98313	0.98490	0.98719	0.98990	0.99250
59	0.98788	0.98751	0.98708	0.98632	0.98549	0.98442	0.98309	0.98177	0.98074	0.98009	0.98008	0.98089	0.98242	0.98456	0.98705	0.98951
60	0.98902	0.98853	0.98778	0.98679	0.98566	0.98427	0.98273	0.98112	0.97980	0.97894	0.97865	0.97919	0.98036	0.98217	0.98432	0.98655
61 62	0.99017 0.99125	0.98956 0.99070	0.98868 0.98952	0.98738 0.98809	0.98594 0.98642	0.98425 0.98453	0.98250 0.98257	0.98077 0.98064	0.97924 0.97890	0.97810 0.97764	0.97761 0.97694	0.97786 0.97691	0.97876 0.97752	0.98021 0.97870	0.98192 0.98006	0.98381 0.98159
63	0.99233	0.99176	0.99055	0.98891	0.98703	0.98492	0.98275	0.98070	0.97876	0.97738	0.97649	0.97634	0.97677	0.97767	0.97876	0.97992
64	0.99332	0.99274	0.99151	0.98984	0.98784	0.98552	0.98314	0.98079	0.97882	0.97724	0.97633	0.97608	0.97632	0.97703	0.97793	0.97882
65	0.99422	0.99373 0.99455	0.99249 0.99348	0.99080 0.99178	0.98868	0.98623 0.98697	0.98364 0.98416	0.98116	0.97899 0.97927	0.97730 0.97756	0.97637	0.97603 0.97619	0.97627	0.97679	0.97759 0.97746	0.97828 0.97815
66 67	0.99503 0.99556	0.99455	0.99348	0.99178	0.98954 0.99042	0.98697	0.98416	0.98156 0.98216	0.97927	0.97794	0.97654 0.97691	0.97619	0.97633 0.97660	0.97685 0.97702	0.97746	0.97815
68	0.99609	0.99590	0.99503	0.99349	0.99122	0.98850	0.98563	0.98279	0.98036	0.97853	0.97739	0.97685	0.97698	0.97740	0.97792	0.97851
69	0.99641	0.99643	0.99566	0.99413	0.99203	0.98929	0.98639	0.98361	0.98116	0.97922	0.97798	0.97743	0.97738	0.97771	0.97832	0.97891
70 71	0.99664 0.99676	0.99676 0.99699	0.99619 0.99653	0.99476 0.99529	0.99274 0.99337	0.99008 0.99079	0.98725 0.98804	0.98446 0.98523	0.98189 0.98274	0.97994 0.98077	0.97869 0.97941	0.97795 0.97866	0.97788 0.97840	0.97821 0.97864	0.97874 0.97917	0.97933 0.97977
72	0.99687	0.99721	0.99686	0.99529	0.99390	0.99079	0.98883	0.98610	0.98274	0.98152	0.98006	0.97929	0.97903	0.97917	0.97970	0.98021
73	0.99688	0.99733	0.99708	0.99614	0.99442	0.99212	0.98954	0.98681	0.98429	0.98220	0.98072	0.97985	0.97958	0.97971	0.98024	0.98066
74	0.99698	0.99744	0.99729	0.99645	0.99484	0.99273	0.99016	0.98742	0.98499	0.98289	0.98140	0.98051	0.98014	0.98036	0.98078	0.98121
75 76	0.99709 0.99729	0.99764 0.99793	0.99750 0.99789	0.99676 0.99716	0.99534 0.99575	0.99325 0.99367	0.99069 0.99120	0.98804 0.98848	0.98552 0.98595	0.98341 0.98384	0.98190 0.98242	0.98101 0.98151	0.98072 0.98121	0.98092 0.98141	0.98134 0.98190	0.98185 0.98240
77	0.99769	0.99824	0.99828	0.99756	0.99615	0.99417	0.99163	0.98891	0.98639	0.98427	0.98276	0.98194	0.98171	0.98190	0.98248	0.98296
78	0.99810	0.99873	0.99868	0.99805	0.99665	0.99458	0.99205	0.98933	0.98673	0.98462	0.98310	0.98227	0.98204	0.98231	0.98288	0.98344
79	0.99862	0.99924	0.99928	0.99864	0.99715	0.99508	0.99246	0.98967	0.98707	0.98487	0.98345	0.98262	0.98238	0.98272	0.98328	0.98393
80 81	0.99916 0.99988	0.99985 1.00057	0.99988 1.00059	0.99924 0.99985	0.99774 0.99835	0.99559 0.99611	0.99288 0.99340	0.99009 0.99052	0.98741 0.98784	0.98522 0.98556	0.98370 0.98405	0.98287 0.98312	0.98263 0.98288	0.98296 0.98320	0.98360 0.98392	0.98424 0.98455
82	1.00054	1.00130	1.00131	1.00056	0.99906	0.99672	0.99401	0.99105	0.98828	0.98600	0.98440	0.98347	0.98313	0.98345	0.98406	0.98477
83	1.00129	1.00204	1.00204	1.00129	0.99969	0.99744	0.99464	0.99167	0.98890	0.98653	0.98484	0.98382	0.98347	0.98369	0.98421	0.98491
84 85	1.00196 1.00273	1.00271 1.00346	1.00279 1.00354	1.00202 1.00277	1.00042 1.00116	0.99817 0.99891	0.99537 0.99611	0.99240 0.99313	0.98954 0.99027	0.98708 0.98780	0.98529 0.98592	0.98417 0.98470	0.98372 0.98416	0.98384 0.98409	0.98435 0.98449	0.98495 0.98499
86	1.00273	1.00346	1.00354	1.00277	1.00116	0.99966	0.99695	0.99313	0.99027	0.98854	0.98665	0.98534	0.98460	0.98442	0.98463	0.98494
87	1.00400	1.00473	1.00479	1.00411	1.00259	1.00042	0.99771	0.99482	0.99195	0.98947	0.98739	0.98597	0.98513	0.98476	0.98477	0.98488
88	1.00460	1.00532	1.00538	1.00470	1.00327	1.00119	0.99857	0.99577	0.99290	0.99041	0.98832	0.98680	0.98576	0.98519	0.98491	0.98492
89 90	1.00510 1.00560	1.00582 1.00632	1.00597 1.00639	1.00529 1.00580	1.00395 1.00456	1.00188 1.00267	0.99944 1.00023	0.99664 0.99761	0.99395 0.99491	0.99136 0.99241	0.98926 0.99030	0.98763 0.98847	0.98639 0.98712	0.98562 0.98615	0.98514 0.98537	0.98495 0.98499
91	1.00500	1.00632	1.00680	1.00560	1.00436	1.00267	1.00023	0.99850	0.99598	0.99241	0.99030	0.98950	0.98795	0.98669	0.98570	0.98511
92	1.00650	1.00705	1.00713	1.00664	1.00551	1.00390	1.00183	0.99949	0.99696	0.99463	0.99240	0.99045	0.98879	0.98741	0.98612	0.98524
93	1.00681	1.00737	1.00746	1.00698	1.00594	1.00443	1.00255	1.00030	0.99805	0.99570	0.99355	0.99149	0.98972	0.98813	0.98664	0.98555
94 95	1.00711 1.00732	1.00760 1.00774	1.00761 1.00776	1.00723 1.00740	1.00629 1.00665	1.00497 1.00543	1.00319 1.00383	1.00121 1.00204	0.99895 0.99996	0.99678 0.99787	0.99462 0.99569	0.99254 0.99360	0.99065 0.99160	0.98886 0.98969	0.98716 0.98787	0.98587 0.98637
96	1.00732	1.00774	1.00776	1.00709	1.00626	1.00543	1.00364	1.00204	0.99996	0.99797	0.99598	0.99399	0.99209	0.99019	0.98847	0.98698
97	1.00660	1.00702	1.00705	1.00669	1.00596	1.00484	1.00344	1.00175	0.99996	0.99808	0.99618	0.99429	0.99249	0.99069	0.98907	0.98768
98 99	1.00619 1.00588	1.00661	1.00665 1.00624	1.00630 1.00590	1.00566 1.00527	1.00464 1.00434	1.00324 1.00305	1.00165	0.99996 0.99997	0.99818 0.99828	0.99639 0.99659	0.99459 0.99490	0.99289 0.99330	0.99128	0.98967 0.99028	0.98838
100	1.00588	1.00621 1.00580	1.00624	1.00590	1.00527	1.00434	1.00305	1.00156 1.00146	0.99997	0.99828	0.99659	0.99490	0.99330	0.99179 0.99229	0.99028	0.98907 0.98977
101	1.00515	1.00540	1.00544	1.00520	1.00466	1.00376	1.00265	1.00136	0.99997	0.99848	0.99699	0.99559	0.99410	0.99279	0.99148	0.99047
102	1.00475	1.00499	1.00504	1.00480	1.00427	1.00355	1.00246	1.00126	0.99997	0.99859	0.99719	0.99589	0.99459	0.99329	0.99208	0.99108
103 104	1.00443 1.00402	1.00468 1.00427	1.00464 1.00433	1.00449 1.00410	1.00397 1.00367	1.00326 1.00296	1.00226 1.00216	1.00117 1.00107	0.99997 0.99998	0.99869 0.99879	0.99740 0.99769	0.99620 0.99650	0.99499 0.99540	0.99379 0.99430	0.99269 0.99329	0.99178 0.99248
104	1.00402	1.00427	1.00433	1.00410	1.00307	1.00296	1.00216	1.00107	0.99998	0.99889	0.99789	0.99680	0.99580	0.99489	0.99329	0.99318
106	1.00330	1.00346	1.00352	1.00330	1.00298	1.00247	1.00176	1.00088	0.99998	0.99899	0.99809	0.99710	0.99620	0.99539	0.99449	0.99388
107	1.00289	1.00306	1.00312	1.00299	1.00268	1.00217	1.00157	1.00078	0.99998	0.99918	0.99829	0.99749	0.99669	0.99589	0.99509	0.99449
108 109	1.00258 1.00217	1.00274 1.00234	1.00272 1.00232	1.00260 1.00220	1.00229 1.00199	1.00188 1.00158	1.00137 1.00118	1.00068 1.00058	0.99999 0.99999	0.99929 0.99939	0.99850 0.99870	0.99780 0.99810	0.99709 0.99750	0.99639 0.99690	0.99579 0.99639	0.99519 0.99589
110	1.00217	1.00234	1.00232	1.00220	1.00199	1.00138	1.00118	1.00058	0.99999	0.99939	0.99870	0.99810	0.99750	0.99690	0.99639	0.99659
111	1.00145	1.00153	1.00152	1.00150	1.00129	1.00109	1.00078	1.00039	0.99999	0.99959	0.99910	0.99870	0.99830	0.99790	0.99759	0.99729
112	1.00113	1.00112	1.00120	1.00110	1.00099	1.00079	1.00059	1.00029	0.99999	0.99969	0.99939	0.99900	0.99870	0.99849	0.99819	0.99799
113 114	1.00072 1.00041	1.00081 1.00040	1.00080 1.00040	1.00070 1.00040	1.00069 1.00030	1.00050 1.00029	1.00039 1.00020	1.00019 1.00010	1.00000 1.00000	0.99980 0.99990	0.99960 0.99980	0.99940 0.99970	0.99920 0.99960	0.99900 0.99950	0.99880 0.99940	0.99860 0.99930
>114	1.00000	1.00040	1.00040	1.00040	1.00000	1.00029	1.00020	1.00010	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

MORTALITY IMPROVEMENT FACTORS (continued) <u>Applied to</u>: Surviving Spouses, and Current Spouses <u>Gender Mix</u>: 10% Male / 90% Female

									Proj	jection Year 2020									
Age < 21	2011 0.96201	2012 0.96113	2013 0.96097	2014 0.96150	2015 0.96254	2016 0.96399	2017 0.96594	2018 0.96819	2019 0.97055	2020 0.97320	2021 0.97585	2022 0.97850	2023 0.98105	2024 0.98349	2025 0.98562	2026 0.98736	2027 0.98878	2028 0.98969	>2028
21	0.96500	0.96403	0.96376	0.96410	0.96495	0.96630	0.96796	0.96993	0.97218	0.97455	0.97691	0.97937	0.98172	0.98397	0.98592	0.98755	0.98888	0.98970	0.99000
22 23	0.96789 0.97665	0.96683	0.96646 0.96889	0.96661 0.96894	0.96727	0.96843 0.97037	0.96989 0.97164	0.97166 0.97321	0.97363 0.97499	0.97580 0.97696	0.97797 0.97894	0.98024 0.98101	0.98240 0.98298	0.98445 0.98484	0.98621 0.98650	0.98775 0.98794	0.98897 0.98907	0.98970 0.98979	0.99000 0.99000
24	0.98171	0.97872	0.97113	0.97099	0.97135	0.97212	0.97320	0.97467	0.97626	0.97795	0.97982	0.98169	0.98347	0.98523	0.98679	0.98813	0.98907	0.98979	0.99000
25 26	0.98622 0.99018	0.98331 0.98726	0.98066 0.98477	0.97285 0.98235	0.97312 0.97460	0.97370 0.97508	0.97467 0.97587	0.97586 0.97695	0.97734 0.97824	0.97892 0.97972	0.98061 0.98130	0.98229	0.98396 0.98436	0.98553 0.98583	0.98699 0.98718	0.98823	0.98917 0.98926	0.98979 0.98979	0.99000
27	0.99358	0.99074	0.98825	0.98599	0.98389	0.97628	0.97705	0.97794	0.97913	0.98051	0.98189	0.98337	0.98475	0.98612	0.98738	0.98843	0.98927	0.98979	0.99000
28 29	0.99722 1.00038	0.99457	0.99224 0.99584	0.99015 0.99384	0.98822	0.98643	0.97913 0.98870	0.97992 0.98188	0.98091 0.98268	0.98201 0.98359	0.98321 0.98451	0.98440 0.98552	0.98560 0.98643	0.98678 0.98742	0.98785 0.98822	0.98871	0.98936 0.98955	0.98988	0.99000
30	1.00295	1.00103	0.99896	0.99704	0.99526	0.99362	0.99204	0.99051	0.98417	0.98489	0.98571	0.98644	0.98726	0.98798	0.98859	0.98917	0.98964	0.98989	0.99000
31 32	1.00465 1.00547	1.00328	1.00150 1.00335	0.99966 1.00161	0.99787	0.99623 0.99807	0.99463 0.99656	0.99318 0.99500	0.99168 0.99358	0.98599	0.98663 0.98717	0.98727 0.98772	0.98781 0.98827	0.98844 0.98871	0.98895 0.98913	0.98936 0.98945	0.98973 0.98973	0.98989 0.98998	0.99000
33	1.00503	1.00507	1.00414	1.00269	1.00099	0.99925	0.99755	0.99608	0.99474	0.99335	0.99209	0.98789	0.98835	0.98879	0.98922	0.98953	0.98982	0.98998	0.99000
34 35	1.00338	1.00402 1.00225	1.00377 1.00259	1.00271 1.00203	1.00113	0.99939	0.99769 0.99761	0.99621	0.99486 0.99477	0.99364 0.99354	0.99246 0.99253	0.99139 0.99163	0.98809	0.98863	0.98905 0.98896	0.98945 0.98936	0.98973	0.98998	0.99000
35	0.99764	0.99958	1.00060	1.00072	1.00010	0.99887	0.99728	0.99581	0.99446	0.99332	0.99239	0.99157	0.99087	0.99036	0.98869	0.98927	0.98964	0.98989	0.99000
37	0.99357	0.99583 0.99148	0.99736 0.99351	0.99816 0.99481	0.99813 0.99546	0.99738	0.99618 0.99467	0.99481	0.99356 0.99254	0.99252 0.99151	0.99168	0.99104	0.99052 0.98997	0.99019 0.98982	0.98986	0.98908 0.98971	0.98955 0.98945	0.98989	0.99000
38 39	0.98496	0.99148	0.98926	0.99461	0.99546	0.99538	0.99467	0.99360	0.99254	0.99151	0.98993	0.98958	0.98997	0.98937	0.98950	0.98962	0.98945	0.98979	0.99000
40 41	0.98103 0.97796	0.98281 0.97919	0.98499 0.98102	0.98701 0.98324	0.98883	0.99002 0.98706	0.99056 0.98827	0.99065 0.98893	0.99027 0.98905	0.98973	0.98919	0.98893	0.98887	0.98900 0.98864	0.98922	0.98943	0.98972	0.98988	0.99000
41	0.97578	0.97635	0.97781	0.97986	0.98202	0.98419	0.98599	0.98723	0.98905	0.98823	0.98826	0.98821	0.98825	0.98847	0.98878	0.98934	0.98963	0.98988	0.99000
43 44	0.97467 0.97482	0.97458 0.97405	0.97547 0.97429	0.97716 0.97550	0.97934	0.98162 0.97961	0.98372 0.98200	0.98553 0.98411	0.98679 0.98576	0.98758 0.98702	0.98790 0.98773	0.98813 0.98814	0.98826 0.98837	0.98848 0.98859	0.98879 0.98889	0.98917 0.98928	0.98954 0.98964	0.98988 0.98988	0.99000 0.99000
45	0.97462	0.97405	0.97429	0.97517	0.97652	0.97961	0.98200	0.98316	0.98510	0.98702	0.98773	0.98843	0.98875	0.98897	0.98918	0.98938	0.98965	0.98989	0.99000
46	0.97822	0.97641	0.97555	0.97553	0.97639	0.97803	0.98007	0.98230	0.98443	0.98628	0.98755	0.98845	0.98896	0.98927	0.98938	0.98957	0.98974	0.98989	0.99000
47 48	0.98380	0.97869	0.97728	0.97665	0.97694 0.97798	0.97792	0.97958	0.98163	0.98377	0.98571	0.98728 0.98681	0.98836	0.98906	0.98946	0.98967	0.98976	0.98984	0.98998	0.99000
49	0.98720	0.98475	0.98270	0.98113	0.98016	0.98006	0.98067	0.98186	0.98336	0.98513	0.98679	0.98817	0.98916	0.98966	0.98996	0.99005	0.99003	0.98998	0.99000
50 51	0.99061	0.98825	0.98611	0.98436	0.98310	0.98234	0.98235	0.98297	0.98408	0.98548	0.98688	0.98817	0.98916	0.98985	0.99015	0.99015	0.99012	0.98999	0.99000
52	0.99631	0.99467	0.99289	0.99105	0.98933	0.98799	0.98696	0.98642	0.98646	0.98690	0.98763	0.98854	0.98935	0.98995	0.99025	0.99034	0.99022	0.99008	0.99000
53 54	0.99823	0.99713	0.99571	0.99395	0.99232	0.99071	0.98939	0.98847	0.98794	0.98788	0.98822	0.98885	0.98946	0.98996	0.99026	0.99035	0.99023	0.99008	0.99000
55	0.99943	0.99963	0.99901	0.99795	0.99657	0.99503	0.99343	0.99202	0.99082	0.99000	0.98957	0.98949	0.98961	0.98982	0.99010	0.99018	0.99014	0.99008	0.99000
56 57	0.99875	0.99943 0.99827	0.99937 0.99878	0.99876 0.99864	0.99763 0.99786	0.99626 0.99674	0.99473 0.99537	0.99323	0.99192 0.99254	0.99090 0.99142	0.99017 0.99049	0.98975 0.98995	0.98965 0.98970	0.98975 0.98968	0.98993 0.98976	0.99010 0.98992	0.99015 0.99006	0.99008	0.99000
58	0.99470	0.99639	0.99740	0.99764	0.99732	0.99655	0.99544	0.99409	0.99285	0.99163	0.99069	0.99004	0.98968	0.98953	0.98959	0.98983	0.98997	0.98999	0.99000
59 60	0.99185	0.99388	0.99521 0.99266	0.99604	0.99610 0.99446	0.99570 0.99452	0.99494 0.99413	0.99392	0.99276 0.99247	0.99171 0.99150	0.99077	0.99002 0.98998	0.98965	0.98948 0.98934	0.98951 0.98935	0.98965 0.98956	0.98987 0.98978	0.98999	0.99000
61	0.98585	0.98796	0.98994	0.99390	0.99247	0.99303	0.99301	0.99262	0.99198	0.99126	0.99058	0.98992	0.98954	0.98936	0.98937	0.98948	0.98969	0.98990	0.99000
62 63	0.98328	0.98523	0.98715	0.98895	0.99042	0.99130	0.99177	0.99176	0.99147	0.99102	0.99042	0.98993	0.98955	0.98937	0.98938	0.98949	0.98970	0.98990	0.99000
64	0.97987	0.98294	0.98287	0.98463	0.98645	0.98805	0.99048	0.99096	0.99096	0.99069	0.99035	0.98994	0.98975	0.98957	0.98957	0.98959	0.98970	0.98990	0.99000
65 66	0.97915	0.98020	0.98142	0.98300	0.98475	0.98647	0.98798	0.98909 0.98811	0.98988	0.99019	0.99022	0.99008	0.98995	0.98976	0.98967	0.98969	0.98979	0.98990	0.99000
67	0.97890	0.97960	0.98033	0.98126	0.98256	0.98404	0.98568	0.98721	0.98922	0.98937	0.98989	0.99011	0.99007	0.98995	0.98996	0.98988	0.98989	0.98999	0.99000
68	0.97909	0.97967	0.98033	0.98107	0.98209	0.98330	0.98476	0.98622	0.98765	0.98870	0.98953	0.98996	0.99012	0.99009	0.99007	0.98998	0.98998	0.98999	0.99000
69 70	0.97949	0.98006	0.98054	0.98119 0.98151	0.98193	0.98294	0.98413	0.98541 0.98489	0.98686	0.98801	0.98905	0.98969	0.99004	0.99011	0.99009	0.98999	0.98999	0.99000	0.99000
71	0.98026	0.98083	0.98138	0.98184	0.98239	0.98293	0.98366	0.98456	0.98565	0.98681	0.98788	0.98883	0.98949	0.98985	0.99002	0.99010	0.99000	0.99000	0.99000
72 73	0.98071	0.98127	0.98183	0.98228 0.98273	0.98282	0.98327 0.98371	0.98389	0.98452 0.98476	0.98542	0.98640	0.98738	0.98834	0.98910	0.98966	0.98993	0.99001	0.99000	0.99000	0.99000
74	0.98170	0.98218	0.98274	0.98319	0.98372	0.98415	0.98467	0.98510	0.98562	0.98624	0.98694	0.98772	0.98850	0.98917	0.98964	0.98992	0.99001	0.99000	0.99000
75 76	0.98225 0.98280	0.98273 0.98328	0.98319 0.98375	0.98373 0.98420	0.98417 0.98464	0.98470 0.98515	0.98512 0.98558	0.98555 0.98600	0.98597 0.98632	0.98639 0.98674	0.98700 0.98716	0.98769 0.98767	0.98838 0.98826	0.98896 0.98885	0.98944	0.98982 0.98972	0.99000 0.98991	0.99000	0.99000
77	0.98336	0.98383	0.98430	0.98466	0.98510	0.98562	0.98604	0.98645	0.98678	0.98710	0.98751	0.98784	0.98834	0.98883	0.98932	0.98962	0.98990	0.99000	0.99000
78 79	0.98392	0.98439	0.98485 0.98532	0.98521 0.98568	0.98566 0.98612	0.98599 0.98646	0.98642 0.98679	0.98683 0.98721	0.98724 0.98752	0.98756 0.98784	0.98778 0.98815	0.98810 0.98838	0.98851	0.98882	0.98922 0.98931	0.98961	0.98981 0.98981	0.99000	0.99000
80	0.98488	0.98534	0.98579	0.98615	0.98650	0.98684	0.98717	0.98750	0.98781	0.98813	0.98844	0.98866	0.98887	0.98909	0.98930	0.98960	0.98980	0.99000	0.99000
81 82	0.98518 0.98540	0.98572 0.98593	0.98617 0.98647	0.98653 0.98682	0.98688 0.98717	0.98722 0.98750	0.98746 0.98775	0.98779 0.98799	0.98810 0.98830	0.98842 0.98852	0.98863	0.98885	0.98906 0.98925	0.98927 0.98937	0.98939 0.98958	0.98960	0.98980 0.98980	0.99000	0.99000 0.99000
83	0.98553	0.98606	0.98658	0.98702	0.98736	0.98770	0.98794	0.98818	0.98841	0.98863	0.98894	0.98915	0.98936	0.98947	0.98968	0.98979	0.98980	0.99000	0.99000
84 85	0.98556 0.98550	0.98618 0.98611	0.98670 0.98663	0.98713 0.98715	0.98747 0.98749	0.98781 0.98782	0.98805 0.98815	0.98828 0.98838	0.98851 0.98852	0.98873	0.98895 0.98905	0.98916 0.98926	0.98937 0.98947	0.98958	0.98978	0.98989	0.98990 0.99000	0.99000	0.99000 0.99000
86	0.98544	0.98596	0.98656	0.98698	0.98750	0.98783	0.98816	0.98839	0.98862	0.98884	0.98906	0.98928	0.98949	0.98969	0.98989	0.99009	0.99010	0.99020	0.99010
87 88	0.98529 0.98513	0.98579 0.98563	0.98630 0.98604	0.98682 0.98664	0.98733 0.98715	0.98775 0.98757	0.98808	0.98840 0.98840	0.98872 0.98872	0.98894 0.98895	0.98907 0.98917	0.98938	0.98959	0.98979	0.99000 0.99010	0.99019	0.99030 0.99040	0.99030	0.99030 0.99040
89	0.98506	0.98537	0.98578	0.98637	0.98688	0.98739	0.98790	0.98832	0.98864	0.98896	0.98927	0.98948	0.98969	0.99000	0.99020	0.99040	0.99060	0.99060	0.99060
90 91	0.98490 0.98483	0.98511 0.98493	0.98551 0.98524	0.98601 0.98574	0.98661 0.98633	0.98721 0.98693	0.98772 0.98753	0.98823 0.98804	0.98864 0.98855	0.98896 0.98896	0.98937 0.98937	0.98959	0.98989	0.99000 0.99020	0.99030 0.99040	0.99050 0.99070	0.99070 0.99080	0.99080	0.99080 0.99090
92	0.98485	0.98476	0.98505	0.98546	0.98605	0.98665	0.98735	0.98795	0.98846	0.98897	0.98947	0.98988	0.99019	0.99040	0.99060	0.99080	0.99100	0.99110	0.99110
93 94	0.98496 0.98507	0.98467 0.98477	0.98487 0.98478	0.98527 0.98508	0.98577 0.98558	0.98646 0.98627	0.98716 0.98696	0.98776 0.98766	0.98846 0.98836	0.98897 0.98906	0.98947 0.98957	0.98998	0.99038 0.99048	0.99069 0.99088	0.99089 0.99110	0.99100 0.99130	0.99110 0.99140	0.99120 0.99140	0.99120 0.99140
95	0.98537	0.98487	0.98478	0.98498	0.98538	0.98607	0.98677	0.98756	0.98836	0.98906	0.98966	0.99026	0.99068	0.99108	0.99139	0.99159	0.99169	0.99160	0.99150
96 97	0.98608 0.98678	0.98558 0.98638	0.98548 0.98628	0.98568 0.98648	0.98618 0.98688	0.98677 0.98747	0.98747 0.98807	0.98817 0.98877	0.98887 0.98947	0.98956 0.99016	0.99017 0.99067	0.99067 0.99117	0.99117 0.99158	0.99149 0.99198	0.99179 0.99219	0.99199 0.99240	0.99210 0.99250	0.99210 0.99250	0.99190 0.99240
98	0.98757	0.98708	0.98699	0.98719	0.98758	0.98817	0.98877	0.98946	0.99007	0.99067	0.99126	0.99167	0.99208	0.99239	0.99269	0.99280	0.99290	0.99290	0.99280
99	0.98828	0.98788 0.98859	0.98778	0.98798	0.98838	0.98888	0.98947	0.99007	0.99067	0.99126	0.99177	0.99217	0.99258	0.99288	0.99309	0.99329	0.99330	0.99330	0.99320
100 101	0.98898 0.98978	0.98939	0.98858 0.98929	0.98869 0.98948	0.98908 0.98979	0.98958 0.99028	0.99008 0.99077	0.99067 0.99128	0.99127 0.99187	0.99177 0.99237	0.99227 0.99277	0.99268 0.99318	0.99298 0.99348	0.99329 0.99378	0.99349 0.99399	0.99369 0.99410	0.99370 0.99419	0.99370 0.99419	0.99360 0.99410
102	0.99048	0.99018	0.99009	0.99019	0.99049	0.99098	0.99138	0.99188	0.99238	0.99287	0.99328	0.99368	0.99398	0.99419	0.99439	0.99450	0.99460	0.99460	0.99450
103 104	0.99119 0.99198	0.99089 0.99169	0.99088 0.99159	0.99099 0.99169	0.99128 0.99199	0.99168 0.99229	0.99208 0.99278	0.99257 0.99318	0.99298 0.99358	0.99338 0.99398	0.99378 0.99428	0.99418 0.99459	0.99439 0.99489	0.99468 0.99509	0.99480 0.99529	0.99490 0.99539	0.99500 0.99540	0.99500 0.99540	0.99490 0.99530
105	0.99269	0.99239	0.99239	0.99249	0.99269	0.99299	0.99338	0.99378	0.99418	0.99448	0.99488	0.99509	0.99538	0.99550	0.99569	0.99580	0.99580	0.99580	0.99580
106 107	0.99339 0.99418	0.99319 0.99390	0.99310 0.99389	0.99320 0.99399	0.99348 0.99419	0.99369 0.99439	0.99408 0.99469	0.99439 0.99499	0.99478 0.99529	0.99508 0.99559	0.99538 0.99588	0.99559 0.99609	0.99579 0.99629	0.99599 0.99640	0.99610 0.99650	0.99620 0.99660	0.99620 0.99670	0.99620 0.99670	0.99620 0.99660
108	0.99489	0.99469	0.99469	0.99470	0.99489	0.99509	0.99539	0.99568	0.99589	0.99618	0.99639	0.99659	0.99679	0.99689	0.99699	0.99700	0.99710	0.99710	0.99700
109 110	0.99559 0.99630	0.99549 0.99620	0.99540 0.99619	0.99549 0.99620	0.99560 0.99639	0.99579 0.99650	0.99599 0.99669	0.99629 0.99689	0.99649 0.99709	0.99669 0.99729	0.99689 0.99739	0.99709 0.99759	0.99719 0.99769	0.99730 0.99779	0.99740 0.99780	0.99750 0.99790	0.99750 0.99790	0.99750 0.99790	0.99750 0.99790
111	0.99709	0.99699	0.99699	0.99700	0.99709	0.99720	0.99739	0.99749	0.99769	0.99779	0.99790	0.99809	0.99810	0.99820	0.99830	0.99830	0.99830	0.99830	0.99830
112 113	0.99780 0.99850	0.99770 0.99850	0.99770 0.99850	0.99770 0.99850	0.99780 0.99850	0.99790 0.99860	0.99800 0.99869	0.99810 0.99879	0.99829 0.99880	0.99839	0.99849 0.99899	0.99850	0.99860 0.99909	0.99869 0.99910	0.99870 0.99910	0.99870 0.99920	0.99870 0.99920	0.99870 0.99920	0.99870 0.99920
113	0.99930	0.99920	0.99920	0.99920	0.99930	0.99930	0.99930	0.99940	0.99940	0.99949	0.99950	0.99950	0.99950	0.99959	0.99960	0.99960	0.99960	0.99960	0.99960
> 114	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

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. 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

Fiscal Year	<u>Full COLA</u>	Basic Pay
2016	0.0%	1.3%
2017	1.5	3.4
2018	2.0	3.4
2019	2.1	3.4
2020	2.2	3.4
2021	2.3	3.4
2022	2.2	3.4
2023	2.3	3.4
2024	2.3	3.4
2025+	2.75	3.25

ACTIVE DUTY PERSONNEL AND PAY BY FISCAL YEAR

(Dollar Amounts in Thousands)

Fiscal	People a	nt Year End (Septem	iber 30th)	Dollars During Fiscal Year					
Year	Officers	Enlisted	Total	Officers	Enlisted	Total			
2015	247,178	1,130,082	1,377,260						
2016	245,473	1,118,361	1,363,834	\$18,496,495	\$37,890,408	\$56,386,903			
2017	242,796	1,103,940	1,346,736	\$19,073,958	\$39,794,350	\$58,868,308			
2018	240,853	1,098,124	1,338,977	\$19,747,748	\$41,835,771	\$61,583,519			
2019	239,888	1,102,444	1,342,332	\$20,534,166	\$44,201,338	\$64,735,504			
2020	239,209	1,102,433	1,341,642	\$21,400,588	\$46,630,675	\$68,031,263			
2021	238,559	1,102,827	1,341,386	\$22,312,277	\$48,910,053	\$71,222,331			
2022	238,559	1,102,827	1,341,386	\$23,276,145	\$51,213,166	\$74,489,311			
2023	238,559	1,102,827	1,341,386	\$24,299,143	\$53,517,451	\$77,816,594			
2024	238,559	1,102,827	1,341,386	\$25,357,258	\$55,848,929	\$81,206,187			
2025	238,559	1,102,827	1,341,386	\$26,466,622	\$58,257,989	\$84,724,611			
2026	238,559	1,102,827	1,341,386	\$27,590,277	\$60,661,291	\$88,251,568			
2027	238,559	1,102,827	1,341,386	\$28,771,224	\$63,130,872	\$91,902,096			
2028	238,559	1,102,827	1,341,386	\$30,007,391	\$65,695,735	\$95,703,126			
2029	238,559	1,102,827	1,341,386	\$31,307,302	\$68,361,738	\$99,669,040			
2030	238,559	1,102,827	1,341,386	\$32,670,141	\$71,120,707	\$103,790,848			
2031	238,559	1,102,827	1,341,386	\$34,102,405	\$73,971,052	\$108,073,457			
2032	238,559	1,102,827	1,341,386	\$35,612,578	\$76,924,546	\$112,537,124			
2032	238,559	1,102,827	1,341,386	\$37,213,171	\$79,994,013	\$117,207,184			
2034	238,559	1,102,827	1,341,386	\$38,907,219	\$83,230,847	\$122,138,066			
2035	238,559	1,102,827	1,341,386	\$40,691,606	\$86,669,789	\$127,361,395			
2033	230,337	1,102,027	1,541,560	ψ+0,071,000	\$60,007,767	\$127,301,373			
2036	238,559	1,102,827	1,341,386	\$42,502,699	\$90,133,385	\$132,636,085			
2037	238,559	1,102,827	1,341,386	\$44,296,623	\$93,509,412	\$137,806,036			
2038	238,559	1,102,827	1,341,386	\$46,120,723	\$96,927,481	\$143,048,204			
2039	238,559	1,102,827	1,341,386	\$47,972,792	\$100,386,190	\$148,358,982			
2040	238,559	1,102,827	1,341,386	\$49,843,752	\$103,881,747	\$153,725,500			

Appendix K - 191 - DoD Office of the Actuary

NONRETIRED RESERVISTS PERSONNEL AND PAY BY FISCAL YEAR

(Dollar Amounts in Thousands)

Fiscal	People at	Year End (Septen	nber 30th)	Dollars During Fiscal Year					
Year	Officers	Enlisted	Total	Officers	Enlisted	Total			
2015	112,915	628,772	741,687						
2016	117,971	615,989	733,960	\$2,306,805	\$5,266,614	\$7,573,420			
2017	117,619	608,036	725,655	\$2,434,432	\$5,386,643	\$7,821,075			
2018	117,747	607,894	725,641	\$2,529,927	\$5,552,533	\$8,082,461			
2019	117,861	608,467	726,328	\$2,621,902	\$5,753,591	\$8,375,492			
2020	117,861	608,101	725,962	\$2,705,124	\$5,959,533	\$8,664,657			
2021	117,894	607,820	725,714	\$2,798,664	\$6,167,469	\$8,966,133			
2022	117,894	607,820	725,714	\$2,905,522	\$6,377,706	\$9,283,228			
2023	117,894	607,820	725,714	\$3,008,801	\$6,591,653	\$9,600,454			
2024	117,894	607,820	725,714	\$3,107,185	\$6,806,032	\$9,913,217			
2025	117,894	607,820	725,714	\$3,201,906	\$7,026,328	\$10,228,234			
2026	117,894	607,820	725,714	\$3,292,793	\$7,256,354	\$10,549,146			
2027	117.894	607,820	725,714	\$3,374,249	\$7,500,035	\$10.874.284			
2028	117,894	607,820	725,714	\$3,448,205	\$7,753,697	\$11,201,902			
2029	117.894	607,820	725,714	\$3,514,444	\$8,015,788	\$11,530,232			
2030	117,894	607,820	725,714	\$3,575,691	\$8,284,843	\$11,860,533			
2031	117,894	607,820	725,714	\$3,629,334	\$8,559,766	\$12,189,100			
2032	117,894	607,820	725,714	\$3,676,159	\$8,843,843	\$12,520,002			
2033	117,894	607,820	725,714	\$3,712,644	\$9,131,840	\$12,844,484			
2034	117,894	607,820	725,714	\$3,738,590	\$9,423,184	\$13,161,774			
2035	117,894	607,820	725,714	\$3,760,724	\$9,727,748	\$13,488,472			
2036	117,894	607,820	725,714	\$3,774,895	\$10,042,611	\$13,817,506			
2037	117,894	607,820	725,714	\$3,786,731	\$10,369,922	\$14,156,653			
2038	117,894	607,820	725,714	\$3,799,260	\$10,709,699	\$14,508,959			
2039	117,894	607,820	725,714	\$3,810,839	\$11,060,741	\$14,871,579			
2040	117,894	607,820	725,714	\$3,823,369	\$11,422,478	\$15,245,847			
2040	117,074	007,020	143,114	\$3,043,307	\$11,422,470	\$13,243,047			

Appendix K - 192 - DoD Office of the Actuary

TOTAL NUMBER OF RETIREES ON SEPTEMBER 30 OF EACH FISCAL YEAR

Fiscal	Nondi	sabled (non-CSB/	Redux)	Nond	isabled (CSB/Re	edux)		Disabled		Grand
Year	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	Total
2015	514,678	1,298,109	1,812,787	2,784	54,353	57,137	18,631	93,732	112,363	1,982,287
2016	517,635	1,297,478	1,815,113	3,262	61,241	64,503	19,281	99,900	119,181	1,998,798
2017	519,926	1,296,729	1,816,655	3,736	67,925	71,661	19,775	104,770	124,545	2,012,861
2018	521,988	1,296,190	1,818,178	4,180	73,919	78,099	20,125	108,413	128,538	2,024,815
2019	523,898	1,295,843	1,819,741	4,593	79,265	83,858	20,344	110,897	131,241	2,034,840
2020	525,773	1,296,352	1,822,125	4,949	83,966	88,915	20,439	112,271	132,711	2,043,751
2021	527,794	1,298,496	1,826,290	5,262	87,956	93,218	20,416	112,548	132,964	2,052,472
2022	529,903	1,301,898	1,831,801	5,558	91,455	97,012	20,408	112,831	133,238	2,062,051
2023	532,145	1,305,803	1,837,948	5,806	94,343	100,150	20,410	113,108	133,518	2,071,616
2024	539,617	1,324,239	1,863,856	5,991	95,960	101,951	20,418	113,379	133,797	2,099,604
2025	541,098	1,325,482	1,866,579	6,133	96,951	103,084	20,429	113,622	134,051	2,103,714
2026	542,052	1,325,840	1,867,892	6,243	97,544	103,787	20,440	113,844	134,284	2,105,964
2027	542,632	1,325,133	1,867,765	6,326	97,837	104,163	20,451	114,040	134,490	2,106,418
2028	542,465	1,323,084	1,865,549	6,390	97,867	104,257	20,458	114,209	134,668	2,104,474
2029	541,827	1,320,096	1,861,922	6,434	97,716	104,151	20,466	114,362	134,827	2,100,900
2030	540,671	1,316,898	1,857,569	6,460	97,378	103,839	20,472	114,512	134,984	2,096,392
2031	538,676	1,312,082	1,850,757	6,472	96,904	103,376	20,475	114,672	135,148	2,089,281
2032	536,160	1,305,809	1,841,969	6,472	96,312	102,784	20,476	114,838	135,313	2,080,066
2033	536,448	1,305,297	1,841,745	6,461	95,609	102,069	20,474	115,013	135,487	2,079,301
2034	533,113	1,295,914	1,829,027	6,438	94,770	101,207	20,468	115,172	135,640	2,065,874
2035	529,677	1,285,656	1,815,333	6,407	93,842	100,249	20,459	115,318	135,776	2,051,358
2036	526,433	1,275,800	1,802,233	6,371	92,830	99,201	20,445	115,461	135,906	2,037,339
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2037 2038 2039 2040	522,850 519,431 516,230 513,089	1,265,424 1,255,328 1,246,123 1,237,347	1,788,273 1,774,759 1,762,353 1,750,436	6,330 6,283 6,229 6,170	91,733 90,551 89,281 87,922	98,063 96,833 95,510 94,092	20,427 20,403 20,375 20,346	115,597 115,729 115,865 116,002	136,023 136,131 136,241 136,349	2,022,360 2,007,724 1,994,103 1,980,877

^{*}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 5 years, to account for the difference between what the disablity rates produce and elevated future expected experience. E.g., there were 6,149 added to disabled retirees in FY 2016.

TOTAL ANNUAL RETIRED PAY FOR EACH FISCAL YEAR

(Dollar Amounts in Thousands)

Fiscal	eal Nondisabled (non-CSB/Redux)		N	Nondisabled (CSB/Redux)			Disabled		Grand	
Year	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	Total
2016	\$22,627,686	\$27,769,542	\$50,397,227	\$112,595	\$1,156,564	\$1,269,159	\$559,025	\$1,110,453	\$1,669,478	\$53,335,864
2017	\$23,096,604	\$28,077,354	\$51,173,958	\$138,390	\$1,341,441	\$1,479,831	\$566,775	\$1,196,243	\$1,763,018	\$54,416,806
2018	\$23,711,063	\$28,602,803	\$52,313,866	\$166,132	\$1,532,927	\$1,699,059	\$576,859	\$1,272,078	\$1,848,937	\$55,861,862
2019	\$24,384,728	\$29,212,487	\$53,597,215	\$193,732	\$1,717,033	\$1,910,764	\$586,597	\$1,333,689	\$1,920,286	\$57,428,265
2020	\$25,099,806	\$29,890,508	\$54,990,314	\$220,208	\$1,892,477	\$2,112,685	\$595,699	\$1,380,843	\$1,976,541	\$59,079,541
2021	\$25,865,731	\$30,653,485	\$56,519,216	\$245,397	\$2,056,451	\$2,301,848	\$604,258	\$1,412,919	\$2,017,177	\$60,838,240
2022	\$26,651,888	\$31,468,748	\$58,120,636	\$270,249	\$2,209,127	\$2,479,376	\$613,809	\$1,445,839	\$2,059,648	\$62,659,659
2023	\$27,481,962	\$32,366,734	\$59,848,696	\$294,736	\$2,353,981	\$2,648,717	\$624,930	\$1,481,150	\$2,106,080	\$64,603,493
2024	\$28,444,906	\$33,460,338	\$61,905,243	\$317,309	\$2,480,467	\$2,797,776	\$637,423	\$1,518,474	\$2,155,898	\$66,858,917
2025	\$29,509,868	\$34,669,188	\$64,179,057	\$339,010	\$2,596,123	\$2,935,134	\$652,882	\$1,561,296	\$2,214,178	\$69,328,369
2026	\$30,529,416	\$35,806,058	\$66,335,474	\$360,086	\$2,706,400	\$3,066,487	\$669,889	\$1,606,371	\$2,276,260	\$71,678,221
2027	\$31,552,608	\$36,965,121	\$68,517,728	\$381,458	\$2,812,937	\$3,194,395	\$687,813	\$1,652,701	\$2,340,514	\$74,052,638
2028	\$32,570,597	\$38,128,883	\$70,699,480	\$403,392	\$2,917,931	\$3,321,323	\$706,632	\$1,700,332	\$2,406,965	\$76,427,768
2029	\$33,579,211	\$39,290,734	\$72,869,945	\$425,345	\$3,027,245	\$3,452,590	\$726,314	\$1,749,397	\$2,475,711	\$78,798,245
2030	\$34,583,108	\$40,459,366	\$75,042,474	\$447,326	\$3,150,310	\$3,597,636	\$747,060	\$1,800,501	\$2,547,562	\$81,187,672
2031	\$35,575,880	\$41,624,558	\$77,200,438	\$470,356	\$3,297,805	\$3,768,161	\$768,903	\$1,854,157	\$2,623,061	\$83,591,660
2032	\$36,557,737	\$42,775,700	\$79,333,436	\$494,255	\$3,464,179	\$3,958,434	\$791,729	\$1,910,549	\$2,702,277	\$85,994,147
2033	\$37,612,501	\$44,001,779	\$81,614,279	\$516,470	\$3,627,329	\$4,143,800	\$815,752	\$1,969,507	\$2,785,260	\$88,543,338
2034	\$38,655,671	\$45,200,835	\$83,856,506	\$535,733	\$3,772,171	\$4,307,904	\$840,879	\$2,030,169	\$2,871,048	\$91,035,458
2035	\$39,630,451	\$46,306,162	\$85,936,613	\$552,354	\$3,899,682	\$4,452,036	\$867,087	\$2,091,880	\$2,958,968	\$93,347,617
2036	\$40,641,617	\$47,478,166	\$88,119,783	\$567,548	\$4,014,501	\$4,582,049	\$894,487	\$2,155,656	\$3,050,143	\$95,751,975
2037	\$41,690,753	\$48,735,632	\$90,426,385	\$581,470	\$4,120,236	\$4,701,706	\$923,133	\$2,222,522	\$3,145,656	\$98,273,747
2038	\$42,772,471	\$50,046,390	\$92,818,860	\$594,455	\$4,213,940	\$4,808,395	\$952,947	\$2,291,924	\$3,244,870	\$100,872,125
2039	\$43,903,384	\$51,432,435	\$95,335,819	\$606,232	\$4,300,192	\$4,906,425	\$983,761	\$2,363,738	\$3,347,499	\$103,589,743
2040	\$45,084,439	\$52,895,066	\$97,979,506	\$616,993	\$4,380,232	\$4,997,224	\$1,015,775	\$2,438,024	\$3,453,800	\$106,430,529

^{*}This projection includes retired from active and reserve duty.

^{**}Non-CSB/Redux figures include both 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 5 years, to account A22 for the difference between what the disablity rates produce and elevated future expected experience. E.g., there were \$86.2 million added to disabled retiree outlays in FY 2016.

RETIREE GAIN STATEMENT

	Gains During the Fiscal Year					Average Starting Net Retired Pay Before CPI Increase						
Fiscal	Nondisabled (no	Nondisabled (non-CSB/Redux)		/Redux) Nondisabled (CSB/Redux)		Disabled		Nondisabled (non-CSB/Redux)		Nondisabled (CSB/Redux)		abled
Year	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted
2016	15,865	30,443	481	6,977	752	7,373	\$48,753	\$20,564	\$51,709	\$25,233	\$64,809	\$28,127
2017	15,186	30,874	477	6,789	742	7,281	\$46,679	\$20,608	\$55,134	\$27,618	\$66,948	\$29,570
2018	14,974	31,635	449	6,117	733	7,205	\$47,987	\$21,230	\$58,217	\$28,646	\$70,023	\$31,454
2019	14,867	32,377	418	5,490	723	7,152	\$49,448	\$22,192	\$60,810	\$29,736	\$73,740	\$33,675
2020	14,909	33,780	362	4,867	714	7,121	\$50,701	\$23,012	\$64,166	\$30,834	\$77,985	\$36,044
2021	15,158	35,958	320	4,182	707	7,098	\$52,099	\$23,752	\$67,052	\$31,747	\$82,589	\$38,444
2022	15,374	37,752	303	3,719	701	7,091	\$53,500	\$24,723	\$71,172	\$32,999	\$87,402	\$40,983
2023	15,659	38,777	258	3,141	696	7,081	\$54,648	\$25,875	\$76,018	\$34,776	\$92,817	\$43,664
2024	21,064	53,842	196	1,903	688	7,074	\$50,641	\$24,286	\$83,703	\$41,113	\$98,422	\$46,460
2025	15,263	37,161	153	1,317	680	7,051	\$58,475	\$28,316	\$90,348	\$46,628	\$104,586	\$49,418
2026	14,928	36,713	124	961	673	7,035	\$105,554	\$53,937	\$96,786	\$52,272	\$111,226	\$52,499
2027	14,750	36,049	99	707	665	7,017	\$110,364	\$56,412	\$103,056	\$57,777	\$118,270	\$55,722
2028	14,202	35,076	81	496	658	6,997	\$115,008	\$58,425	\$110,069	\$63,962	\$125,471	\$59,066
2029	13,927	34,471	64	370	653	6,984	\$119,746	\$60,838	\$116,537	\$69,103	\$132,777	\$62,396
2030	13,600	34,567	48	242	648	6,985	\$124,710	\$62,931	\$124,567	\$76,380	\$140,407	\$65,854
2031	12,940	33,222	36	169	642	6,997	\$131,699	\$66,155	\$133,221	\$82,133	\$148,211	\$69,323
2032	12,587	32,006	27	119	637	7,012	\$137,686	\$69,674	\$140,748	\$87,220	\$156,344	\$72,659
2033	15,544	37,990	18	80	633	7,030	\$132,290	\$65,913	\$151,694	\$91,698	\$164,803	\$75,749
2034	12,057	29,320	9	19	627	7,025	\$148,035	\$74,396	\$168,361	\$101,627	\$173,748	\$78,837
2035	12,068	28,602	5	7	620	7,021	\$152,228	\$75,725	\$181,215	\$110,524	\$182,771	\$81,747
2036	12,348	29,135	4	4	614	7,026	\$160,729	\$80,849	\$194,097	\$116,916	\$192,682	\$85,192
2037	12,071	28,716	3	2	607	7,024	\$167,870	\$83,487	\$204,828	\$122,997	\$203,190	\$88,616
2038	12,270	29,064	1	1	598	7,023	\$171,762	\$84,295	\$215,022	\$128,518	\$213,585	\$91,952
2039	12,492	29,988	0	0	592	7,031	\$176,457	\$85,643	\$0	\$0	\$224,108	\$95,395
2040	12 526	30.415	0	0	587	7.034	\$181,972	\$86,968	\$0	\$0	\$234 972	\$99 140

^{*}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 5 years are not included in this display.

TOTAL NUMBER OF SURVIVORS ON SEPTEMBER 30 OF EACH FISCAL YEAR

Fiscal Year	SBP Non-CSB/Redux	SBP CSB/Redux	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Special Survivor Indemnity Allowance	Total
2015	186,085	60	85,756	73	9,705	6,597	64,411	288,276
2016	189,096	82	87,902	65	9,722	6,057	65,807	292,924
2017	191,738	110	89,963	58	9,678	5,528	63,912	297,076
2018	194,075	145	92,040	51	9,589	5,022	0	300,921
2019	196,124	187	94,164	45	9,441	4,543	0	304,504
2020	197,907	238	96,358	40	9,232	4,091	0	307,866
2021	199,439	299	98,627	35	8,984	3,668	0	311,052
2022	200,739	371	100,977	31	8,721	3,274	0	314,114
2023	201,816	457	103,407	27	8,468	2,910	0	317,085
2024	202,679	557	105,980	24	8,217	2,575	0	320,032
2025	203,336	673	108,588	21	7,969	2,270	0	322,855
2026	203,800	807	111,252	18	7,750	1,993	0	325,620
2027	204,082	961	113,954	15	7,550	1,745	0	328,307
2028	204,191	1,136	116,680	13	7,366	1,524	0	330,910
2029	204,145	1,334	119,415	11	7,223	1,328	0	333,456
2030	203,970	1,557	122,139	9	7,126	1,156	0	335,957
2031	203,692	1,806	124,823	8	7,057	1,006	0	338,392
2032	203,333	2,082	127,439	7	7,013	877	0	340,750
2033	202,918	2,387	129,993	6	6,996	766	0	343,064
2034	202,476	2,721	132,420	5	6,989	671	0	345,281
2035	202,035	3,086	134,716	4	6,996	591	0	347,427
2036	201,611	3,481	136,852	3	7,014	523	0	349,485
2037	201,221	3,908	138,804	2	7,036	467	0	351,438
2038	200,875	4,365	140,549	2	7,057	420	0	353,268
2039	200,583	4,854	142,063	2	7,078	381	0	354,960
2040	200,338	5,372	143,331	1	7,101	348	0	356,492

^{*}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.

^{*****}TRCSDF SURVIVOR literate an survivors or reservists, not just most execute pressure of the control of the survivor Indemnity Allowance counts are shown for informational purposes and are not included in the Total column. They include the impact of both the 2008 NDAA and P.L. 110-181.

*****Excess disability retirees (their survivors) used to account for anticipated experience over 5 years are not included in this display.

TOTAL ANNUAL SURVIVOR BENEFITS FOR EACH FISCAL YEAR

(Dollar Amounts in Thousands)

Fiscal Year	SBP Non-CSB/Redux	SBP CSB/Redux	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Special Survivor Indemnity Allowance	Total
2016	\$2,972,434	\$678	\$727,647	\$551	\$94,522	\$17,846	\$211,955	\$4,025,634
2017	\$3,033,511	\$1,005	\$754,728	\$499	\$96,376	\$16,510	\$231,882	\$4,134,511
2018	\$3,113,826	\$1,441	\$787,958	\$454	\$98,619	\$15,211	\$0	\$4,017,509
2019	\$3,198,231	\$2,001	\$824,351	\$413	\$100,658	\$13,962	\$0	\$4,139,617
2020	\$3,284,291	\$2,723	\$863,657	\$377	\$102,433	\$12,767	\$0	\$4,266,249
2021	\$3,372,629	\$3,623	\$906,290	\$342	\$104,058	\$11,633	\$0	\$4,398,576
2022	\$3,458,554	\$4,730	\$951,247	\$310	\$105,434	\$10,563	\$0	\$4,530,839
2023	\$3,545,541	\$6,086	\$999,718	\$280	\$106,766	\$9,559	\$0	\$4,667,949
2024	\$3,632,885	\$7,742	\$1,051,972	\$253	\$108,110	\$8,624	\$0	\$4,809,586
2025	\$3,732,155	\$9,770	\$1,111,710	\$227	\$109,847	\$7,765	\$0	\$4,971,475
2026	\$3,835,749	\$12,237	\$1,176,344	\$204	\$111,820	\$6,980	\$0	\$5,143,335
2027	\$3,939,798	\$15,182	\$1,245,086	\$182	\$114,050	\$6,265	\$0	\$5,320,565
2028	\$4,044,408	\$18,730	\$1,318,003	\$162	\$116,511	\$5,619	\$0	\$5,503,433
2029	\$4,149,660	\$22,984	\$1,395,137	\$143	\$119,291	\$5,038	\$0	\$5,692,254
2030	\$4,255,786	\$28,021	\$1,476,493	\$126	\$122,622	\$4,520	\$0	\$5,887,569
2031	\$4,363,046	\$33,866	\$1,561,972	\$110	\$126,499	\$4,063	\$0	\$6,089,557
2032	\$4,471,849	\$40,545	\$1,651,420	\$96	\$130,737	\$3,663	\$0	\$6,298,311
2033	\$4,582,734	\$48,134	\$1,744,810	\$83	\$135,351	\$3,316	\$0	\$6,514,428
2034	\$4,696,179	\$56,752	\$1,841,991	\$71	\$140,383	\$3,017	\$0	\$6,738,393
2035	\$4,813,000	\$66,467	\$1,942,360	\$61	\$145,845	\$2,763	\$0	\$6,970,496
2036	\$4,933,870	\$77,353	\$2,045,767	\$51	\$151,683	\$2,547	\$0	\$7,211,272
2037	\$5,059,588	\$89,508	\$2,151,772	\$43	\$157,807	\$2,367	\$0	\$7,461,085
2038	\$5,190,775	\$103,033	\$2,259,915	\$36	\$164,129	\$2,217	\$0	\$7,720,105
2039	\$5,327,976	\$118,041	\$2,369,695	\$30	\$170,656	\$2,094	\$0	\$7,988,492
2040	\$5,471,763	\$134,631	\$2,480,620	\$24	\$177,404	\$1,992	\$0	\$8,266,435

^{*}This projection includes survivors of members who retired from active and reserve duty.

^{*}Inis 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 dollars are included in the Total column. They include the impact of both the 2008 NDAA and P.L. 110-181.

***Excess disability retirees (their survivors) used to account for anticipated experience over 5 years are not included in this display.

TOTAL PROJECTED BASIC PAY AND RETIRED OUTLAYS

(Dollar Amounts in Thousands)

Fiscal Year	Total Projected Basic Pay	Total Projected Outlays	Retired Outlays Over Basic Pay
1011		<u> </u>	Over Busic Tuy
2016	\$63,960,323	\$57,361,498	89.7%
2017	\$66,689,383	\$58,551,317	87.8%
2018	\$69,665,980	\$59,879,370	86.0%
2019	\$73,110,997	\$61,567,882	84.2%
2020	\$76,695,921	\$63,345,789	82.6%
2021	\$80,188,463	\$65,236,816	81.4%
2022	\$83,772,539	\$67,190,498	80.2%
2023	\$87,417,048	\$69,271,443	79.2%
2024	\$91,119,404	\$71,668,503	78.7%
2025	\$94,952,845	\$74,299,844	78.2%
2026	\$98,800,714	\$76,821,556	77.8%
2027	\$102,776,380	\$79,373,203	77.2%
2028	\$106,905,028	\$81,931,201	76.6%
2029	\$111,199,272	\$84,490,499	76.0%
2030	\$115,651,381	\$87,075,241	75.3%
2031	\$120,262,558	\$89,681,217	74.6%
2032	\$125,057,126	\$92,292,458	73.8%
2033	\$130,051,669	\$95,057,767	73.1%
2034	\$135,299,840	\$97,773,852	72.3%
2035	\$140,849,868	\$100,318,113	71.2%
2036	\$146,453,591	\$102,963,247	70.3%
2037	\$151,962,689	\$105,734,832	69.6%
2038	\$157,557,163	\$108,592,230	68.9%
2039	\$163,230,561	\$111,578,235	68.4%
2040	\$168,971,347	\$114,696,964	67.9%

^{*}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.

^{****}This projection is adjusted for the increase in survivor benefits due to P.L. 110-181.

^{*****}Excess disability retirees used to account for anticipated experience over 5 years are included in outlays. However, no survivor (of excess disability retirees) outlays are 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 generally accepted accounting principles (GAAP), 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.

Common measures of a retirement system's liabilities (frequently required for private sector plans under GAAP) are the "Accumulated Plan Benefits" and the "Market Value of Assets." In prior years, both these items and explanatory notes were included in this appendix. Only the "Market Value of Assets" is currently shown for informational purposes.

The market values shown in this appendix can be found in the *Fiscal Year 2015 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: http://comptroller.defense.gov/Financial-Management/Reports/cfs2015/.

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:

		-	
20	015		2014

Assets

		
1) Investments, at fair market value,		
in U.S. Government securities: ¹	\$640,927	\$588,892
2) Accounts receivable:		
a) Accrued interest ²	\$4,703	\$4,147
b) Due from military retirees or their survivors	\$92	\$65
c) Intragovernmental	\$0	\$0
3) Cash:	\$31	\$24
Total Assets $(1+2+3)$:	\$ <u>645,753</u>	\$ <u>593,128</u>
Accounts payable:	\$ <u>(4,641)</u>	\$ <u>(4,541)</u>
Total Assets Available for Benefits	\$ <u>641,112</u>	\$ <u>588,588</u>

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, 2015, and September 30, 2014, respectively. Additional adjustment made as a result of FY 2011 National Defense Authorization Act (P.L. 111-383) regarding retired pay date as follows:

	<u>2015</u>	<u>2014</u>
Investments, at fair market value (actual)	\$640,927	\$588,892
October Expenditures paid in September	\$0	\$0
Investments, at fair market value (adjusted)	\$640,927	\$588,892

² 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:

	2015	<u>2014</u>
Net assets available for benefits at beginning of plan year:	\$588,588	\$521,865
1) Investment/Inflation income (coupons received)	\$15,988	\$21,865
2) Net appreciation (depreciation) in fair market value of investments	(\$8,084)	\$554
3) Contributions from services	\$19,691	\$20,532
4) Appropriation to amortize the initial unfunded liability	\$75,562	\$72,885
5) Appropriation for Treasury Normal Cost Contribution	\$6,197	\$6,337
Total additions $(1+2+3+4+5)$	\$ <u>109,354</u>	\$ <u>122,174</u>
Less: Benefits paid to participants ¹	\$ <u>56,829</u>	\$ <u>55,451</u>
Net assets available for benefits at end of plan year	\$ <u>641,112</u>	\$ <u>588,588</u>

The statement has been revised to show benefits paid to participants on an accrual basis:

	<u>2015</u>	<u>2014</u>
Benefits paid on cash basis	\$56,729	\$55,354
Change in liability for benefits due at end of year	\$100	<u>\$97</u>
Benefits paid on accrual basis	\$56,829	\$55,451

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COMPARISON OF DOD BOARD AND SFFAS 33 ACTUARIAL LIABILITIES

For Military Retirement Fund liabilities, DoD Office of the Actuary (OACT) performs two annual valuations. 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, 2015, actuarial liability for the financial statements (which was due in early October 2015) was projected based on the September 30, 2014, Board valuation. The September 30, 2015, Board valuation (documented in this report) was performed at a later time, based on actual September 30, 2015 data, and therefore resulted in a different September 30, 2015 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. [A 'yield curve' is a financial representation depicting the relationship between the interest rate level (borrowing cost) and time to maturity (term length).]

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, 2005, through March 31, 2015, resulting in a single-equivalent interest rate of 4.1%. This is comparable to the Board valuation interest rate of 5.25%.

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, 2015, 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, 2015, 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 10% ¹.

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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, 2015:

		DoD Board ¹	<u>SFFAS 33</u> ²
1.	Present value of future benefits	\$1,643.2	\$1,823.0
2.	Present value of future normal cost contributions	\$226.2	<u>\$264.5</u>
3.	Actuarial accrued liability $(1 2.)$	\$1,417.0	\$1,558.5

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

	DoD Board	SFFAS 33
Full COLA:	2.75%	2.10%
Basic Pay:	3.25%	2.30%
Interest:	5.25%	4.10%

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Reproduced from Table 6A in main text.

Reproduced from the 'Fiscal Year 2015 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: http://comptroller.defense.gov/financialmanagement/reports/cfs2015.aspx. The 'Actuarial Certification' (page 2) does not apply to these figures.

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.

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. 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.

CALCULATION OF THE OCTOBER 1, 2016, TREASURY PAYMENT

The following pages (Tables M-1 through M-5) display the calculation of the October 1, 2016, Treasury payment based on the September 30, 2015, 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, 2016, Treasury payment, the actuarially determined amount due to Concurrent Receipt totals \$7.447 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 2017 full-and part-time basic pay, \$56.4 billion and \$6.9 billion, respectively, or \$7.447 billion equates to the sum of \$56.4 billion x 12.8% and \$6.9 billion x 3.3%.

Due to the *Budget Control Act of 2011*, both FY 2016 and 2017 Treasury concurrent receipt normal cost amounts displayed on the next page were reduced (or sequestered) by 9.3% (or \$0.704 billion) in FY 2016, and 9.1% (or \$0.678 billion) in FY 2017. For instance, in FY 2016 the Treasury payment of \$6.870 billion is the difference between the actuarially calculated amount (\$7.574 billion) and the sequestered amount (\$0.704 billion), and likewise in FY 2017 the Treasury payment of \$6.769 billion is the difference between \$7.447 billion and \$0.678 billion. At their July 2016 meeting, the Board decided to treat the FY 2016 sequestered amount of \$0.704 billion as an experience loss in the FY 2015 valuation, and amortized it (brought forward with one year's assumed interest) over one year. It is included in the FY 2017 payment on the next page. (See "Unpaid contribution" of \$0.741 billion = \$0.704 billion x 1.0525.) The Board will likely treat the FY 2017 sequestered amount in the same manner (i.e., as a loss in the 2016 valuation and added, with interest, to the FY 2018 Treasury payment).

TABLE M-1

TOTAL TREASURY PAYMENT OCTOBER 1, 2016 AND OCTOBER 1, 2015

		October 1, 2016	October 1, 2015
Amortization	payment for:		
1.	Initial unfunded liability	\$90.024	\$87.169
2.	Changes in benefits	\$7.724	\$8.796
3.	Gains and Losses Amortization		
	a. Changes in actuarial assumptions	\$4.459	\$3.770
	b. Actuarial experience	\$(21.756)	\$(21.132)
	c. Unpaid contribution	\$0.741	\$0.686
	Total amortization payment	\$ <u>81.192</u>	\$ <u>79.289</u>
Norm	nal cost payment	\$ <u>6.769</u>	\$ <u>6.870</u>
	Total Treasury payment	<u>\$87.961</u>	<u>\$86.159</u>

CALCULATION OF OCTOBER 1, 2016, PAYMENT ON INITIAL UNFUNDED LIABILITY (UFL)

1.	Unamortized balance of initial UFL $(10/1/14 \text{ balance} \times 1.055)$	9/30/15	\$ 872.953
2.	Payment on UFL	10/1/15	\$ 87.169
3.	Unamortized balance of initial UFL (1 2.)	10/1/15	\$ 785.784
4.	Balance on 9/30/16 (3. × 1.0525)	9/30/16	\$ 827.038
5.	Number of Annual Payments Remaining	9/30/16	10
6.	Value of an annuity due for remaining amortization period at interest rate equal to $(1.0525 \div 1.0325)$ - 1		9.1868
7.	Payment on initial UFL due $10/1/16$ (4. \div 6.)		<u>\$ 90.024</u>

CALCULATION OF OCTOBER 1, 2016, PAYMENT ON UNFUNDED LIABILITY (UFL) RESULTING FROM BENEFIT CHANGES

1.	Unamortized UFL balance due to benefit changes (10/1/14 balance x 1.055)	9/30/15	\$ 141.840
2.	Payment on UFL	10/1/15	\$ 8.796
3.	Unamortized UFL balance after payment (1 2.)	10/1/15	\$ 133.044
4.	Additional (new) UFL due to benefit changes	9/30/15	-\$ 14.029
5.	Unamortized UFL balance due to benefit changes (3. + 4.)	10/1/15	\$ 119.015
6.	Balance on 9/30/16 (5. × 1.0525)	9/30/16	\$ 125.263
7.	Total number of years of prior amortization schedule		19.06
8.	Remaining number of years of prior amortization schedule (7 1)		18.06
9.	Total number of years of new amortization schedule (absolute values used for all numbers)		
	$[(3. \times 8.) + (4. \times 30)] \div (3. + 4.)$		19.20
10	. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0525 \div 1.0325)$ - 1		16.2168
11	Payment on UFL due to benefit changes $(6. \div 10.)$	10/1/16	<u>\$ 7.724</u>

CALCULATION OF OCTOBER 1, 2016, PAYMENT ON UNFUNDED LIABILITY (UFL) RESULTING FROM ASSUMPTION CHANGES

1.	Unamortized balance of UFL due to assumption changes ($10/1/14$ balance \times 1.055)	9/30/15	\$ 83.662
2.	Payment on UFL	10/1/15	\$ 3.770
3.	Unamortized UFL balance after payment (1 2.)	10/1/15	\$ 79.892
4.	Additional (new) UFL	9/30/15	\$ 12.407
5.	Unamortized UFL balance due to assumption changes (3. + 4.)	10/1/15	\$ 92.298
6.	Balance on 9/30/16 (5. × 1.0525)	9/30/16	\$97.144
7.	Number of years in prior amortization schedule		28.52
8.	Remaining number of years in prior amortization schedule (7 1)		27.52
9.	Number of years in new amortization schedule (absolute values used for all numbers) $[(3. \times 8.) + (4. \times 30)] \div (3. + 4.)$		27.86
10	. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0525 \div 1.0325)$ - 1		21.7870
11	. Payment on UFL due to assumption changes $(6. \div 10.)$	10/1/16	<u>\$ 4.459</u>

CALCULATION OF OCTOBER 1, 2016, PAYMENT ON UNFUNDED LIABILITY (UFL) RESULTING FROM EXPERIENCE GAINS AND LOSSES

1.	Unamortized UFL balance due to experience gains and losses (10/1/14 balance × 1.055)	9/30/15	\$ (262.663)
2.	Payment on UFL	10/1/15	\$ (20.446)
3.	Unamortized UFL balance after payment (1 2.)	10/1/15	\$ (242.217)
4.	Additional (new) UFL	9/30/15	\$ (18.424)
5.	Unamortized UFL balance due to experience gains and losses (3. + 4.)	10/1/15	\$ (260.641)
6.	Balance on 9/30/16 (5. × 1.055)	9/30/16	\$ (274.325)
7.	Number of years in prior amortization schedule		14.08
8.	Remaining number of years in prior amortization schedule (7 1)		13.08
9.	Number of years in new amortization schedule (absolute values used for all numbers) $[(3. \times 8.) + (4. \times 30)] \div (3. + 4.)$		14.28
10	. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0525 \div 1.0325)$ - 1		12.6090
11	. Payment* on UFL due to experience gains and losses (6. ÷ 10.)	10/1/16	\$ (21.756)

^{*} Excludes payment on loss due to 10/1/15 unpaid (sequestered) contribution.

OACT ENDNOTES

VISION STATEMENT Dod Office of the actuary

To be the leading professionals in the measurement of contingent events and risk related to military benefits and to provide world-class actuarial support to the Department and other stakeholders on matters related to military benefits.

MISSION STATEMENT Dod Office of the actuary

The Office of the Actuary is responsible for performing annual valuations and providing actuarial analysis and cost estimates by applying theories, methods and techniques of actuarial science to the Department 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 benefits funded through the Voluntary Separation Incentive Fund. We provide requisite actuarial support to the DoD Boards of Actuaries, and are responsible for calculating actuarial liabilities and providing actuarial input for the Department's and government-wide financial statements, producing actuarial analysis and products for the Survivor Benefit Plan, developing quarterly reserves for incurred but not reported liabilities of DoD health care programs, providing actuarial support to the DoD Investment Board, and providing actuarial and statistical information about the military retirement system for analysts and other interested offices and individuals.

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, 2016

Expected Report Release Date: February 2018