



**TECHNICAL REFERENCE to the  
FY 2022 VALUATION OF THE  
MILITARY RETIREMENT FUND**

**Data, Methods, and Assumptions**

**DoD Office of the Actuary  
January 2024**

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THE MILITARY RETIREMENT FUND: BENEFITS

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## THE MILITARY RETIREMENT FUND: BENEFITS

As of September 30, 2022

### Summary

The Military Retirement Fund (MRF or Fund) covers members of the Army, Navy, Marine Corps, Air Force, and Space Force. The National Defense Authorization Act (NDAA) of FY 2021(P.L. 116-283) added United States Coast Guard (USCG) to the MRF.

The system is a funded, noncontributory defined benefit plan that includes nondisability retired pay, disability retired pay, retired pay for reserve service, and survivor annuity programs. 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 must be at least 60 years old and have at least 20 qualifying years of service before retired pay commences, with some exceptions. There is no vesting of benefits paid from the MRF before retirement.

There are four distinct nondisability benefit formulas within the MRF. A summary is displayed in Tables B-1 and B-2 (see Appendix B).

- 1) ***Final Pay***: Military personnel who first became members of a uniformed service before September 8, 1980, have retired pay equal to final basic pay times a multiplier. The multiplier is equal to 2.5 percent times years of service.
- 2) ***High-3***: If the retiree first became a member of a uniformed service on or after September 8, 1980, the average of the highest 36 months of basic pay is used instead of final basic pay.
- 3) ***Career Status Bonus (CSB)/REDUX***: Those who first became a member of a uniformed service on or after August 1, 1986, may choose between a High-3 and CSB/REDUX retirement. Those who elect CSB/REDUX receive the CSB outlined below also have retired pay based on 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). P.L. 114-92 sunset the CSB/REDUX benefit tier by not allowing any CSB elections after December 31, 2017.
- 4) ***Blended Retirement System (BRS)***: Members who first entered the military after December 31, 2017, are covered under the new Blended Retirement System (BRS), which was enacted in NDAA 2016 and took effect January 1, 2018. Members who first entered the military before January 1, 2018, and who have served for fewer than 12 years (or for reservists who have fewer than 4,320 points) as of December 31, 2017, had the option to “opt-in” to BRS during the one-year (calendar year 2018) open season or remain in the High-3 system. Members who served 12 or more years as of December 31, 2017, were not permitted to opt-in to BRS and received benefits based on their current plan. 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

accounts and a mid-career continuation bonus if the member agrees to serve additional time. The BRS also provides the option at retirement for members to elect a discounted lump sum, which is paid from the Fund, representing a portion of their retired pay entitlement instead of an annuity. For additional information, see Table B-1 or refer to the DoD Office of Military Compensation website (<https://militarypay.defense.gov/BlendedRetirement/>).

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 military 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, but when the member reaches 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 restoration is in combination with the elimination of the multiplier penalty for retiring with less than 30 years of service. However, after this restoration, a CPI minus 1 percent continues for future retired pay and survivor annuities.

P.L. 111-383 and later legislation required that retired pay and survivor annuities to be paid monthly on the first day of the month unless that day is a weekend or holiday. In that case, it is paid on the last business day of the previous month. This results in 13 payments in some fiscal years and 11 payments in others.

### **Nondisability Retirement from Active Duty**

The current system allows voluntary retirement upon completion of at least 20 years of service at any age, subject to Service Secretary approval. For more information of military nondisability retired pay, refer to DoD Office of Military Compensation website (<https://militarypay.defense.gov/Pay/Retirement/ActiveDuty/>).

As of September 2022, 1.46 million nondisability retirees from active duty and full-time reserves were receiving an annualized retired pay entitlement totaling \$53.66 billion. Included in this number are a reported 91,000 nondisabled retirees who elected CSB/REDUX.

### **Disability Retirement**

A military member may be entitled to disability retired pay. For more information on military disability retired pay, refer to DoD Office of Military Compensation website (<https://militarypay.defense.gov/Pay/Retirement/Disability/>).

As of September 2022, 136,000 disability retirees were receiving an annualized retired pay entitlement totaling \$2.23 billion. Included in this number are a reported 5,500 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 usually not payable until age 60. For more information on military reserve retired pay, refer to DoD Office of Military Compensation website (<http://militarypay.defense.gov/Pay/Retirement/Reserve/>).

As of September 2022, 444,000 reserve retirees were receiving an annualized retired pay entitlement totaling \$8.47 billion.

### **Survivor Benefits**

The Survivor Benefit Plan is a optional program that provides up to 55 percent of a service member's retired pay to an eligible beneficiary upon the death of the member. For more information on military survivor benefit, refer to DoD Office of Military Compensation website (<https://militarypay.defense.gov/Benefits/Survivor-Benefit-Program/>).

As of September 2022, 319,000 survivors of military members were receiving an annualized annuity and/or Special Survivor Indemnity Allowance entitlements totaling \$4.91 billion.

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

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. For more information on TERA, refer to Defense Finance and Accounting Service website (<https://www.dfas.mil/retiredmilitary/plan/retirement-types/tera/>).

As of September 2022, 69,700 TERA retirees were receiving an annualized retired pay entitlement totaling \$1.42 billion.

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

The VA provides compensation for Service-connected and certain non-Service-connected disabilities, which can impact DoD retired pay. For more information on VA disability compensation, refer to the DFAS websites (<https://www.dfas.mil/retiredmilitary/disability/crdp/> and <https://www.dfas.mil/retiredmilitary/disability/crsc/>)

As of September 2022, there were 800,000 CRDP members and 95,000 CRSC members. These members were paid an additional monthly amount of \$1.66 billion and \$105 million, respectively.

### **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 to receive credit. Military service is not generally creditable under both systems (but is for reservists and certain disability retirees). Military retirees may qualify separately for Civil Service retirement and receive concurrent pay from both systems.

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

Basic pay is the only element of military compensation upon which nondisability retired pay is based and entitlement is determined. Basic pay is the principal element of military compensation that all members receive, but it is not representative of salary levels in the public and private sectors for comparative purposes. Reasonable comparisons can be made to regular military compensation (RMC). RMC is the sum of (1) basic pay, (2) the housing allowance, which varies by grade, location, and dependency status, (3) the subsistence allowance and, (4) the tax advantages accruing to the housing and subsistence allowances because they are not subject to federal income tax. Basic pay represents approximately 70 percent of RMC for all retirement eligible members. For the 20-year retiree, basic pay is approximately 67 percent of RMC. Consequently, a member retired with 20-years of service and entitled to 50 percent of basic pay, receives approximately 34 percent of RMC. Further, such 20-year retirees (except for those who first entered service prior to September 8, 1980) receive a percentage (50 percent, or 40 percent for those under CSB/REDUX or BRS) of their high 36-month average of basic pay, typically less than final basic pay. For a 30-year retiree, basic pay is approximately 73 percent of RMC, e.g., a member entitled to 75 percent of basic pay receives approximately 55% of RMC. Note that most members currently retiring with 30 years will 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. For more information on these Social Security benefits for military members, refer to Social Security website (<https://www.ssa.gov/benefits/retirement/planner/military.html>).

### **Performance Measures**

During FY 2022, the Fund made monthly disbursements to approximately 2.4 million retirees and survivors. Table A-1 shows Percent Funded, Asset-to-Annuitant Liability Ratio, and Fund Yield.

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 Yield (7)
1984	\$528.7	\$0	\$310.0	\$528.7	0.0%	---	---
1985	551.5	11.8	322.7	539.7	2.1	3.7%	14.3%
1986	566.2	24.6	321.4	541.6	4.3	7.7	11.8
1987	585.2	38.9	326.3	546.3	6.6	11.9	11.0
1988	551.8	53.4	329.4	498.4	9.7	16.2	10.5
1989	580.3	67.6	345.8	512.7	11.6	19.5	10.1
1990	612.9	80.4	367.5	532.5	13.1	21.9	9.9
1991	604.2	93.7	372.9	510.5	15.5	25.1	9.8
1992	619.0	106.1	392.7	512.9	17.1	27.0	9.5
1993	629.9	115.9	409.3	514.0	18.4	28.3	9.1
1994	615.6	124.2	409.9	491.4	20.2	30.3	8.7
1995	631.8	131.0	431.3	500.8	20.7	30.4	8.6
1996	625.8	135.3	432.2	490.5	21.6	31.3	8.6
1997	639.2	143.3	444.9	495.9	22.4	32.2	8.5
1998	649.4	149.9	452.9	499.5	23.1	33.1	8.4
1999	657.2	156.0	442.7	501.2	23.7	35.2	8.1
2000	682.6	162.7	459.8	519.9	23.8	35.4	8.0
2001	708.8	169.2	487.3	539.6	23.9	34.7	8.0
2002	721.6	176.5	467.2	545.1	24.5	37.8	7.2
2003	810.9	182.6	519.8	628.3	22.5	35.1	5.5
2004	854.1	188.0	556.3	666.1	22.0	33.8	5.4
2005	900.6	197.9	592.2	702.7	22.0	33.4	5.5
2006	973.7	208.4	636.3	765.3	21.4	32.8	5.9
2007	1,042.3	218.2	677.3	824.1	20.9	32.2	4.7
2008	1,157.3	253.1	750.6	904.2	21.9	33.7	6.2
2009	1,186.9	278.4	751.8	908.5	23.5	37.0	1.0
2010	1,225.2	321.7	768.0	903.5	26.3	41.9	3.2
2011	1,273.3	376.1	807.3	897.2	29.5	46.6	4.9
2012	1,361.5	428.0	854.6	933.5	31.4	50.1	2.9
2013	1,368.6	483.5	869.5	885.1	35.3	55.6	3.1
2014	1,412.8	545.0	911.3	867.8	38.6	59.8	3.2
2015	1,417.0	600.6	919.2	816.4	42.4	65.3	1.8
2016	1,407.0	664.4	914.1	742.6	47.2	72.7	2.3
2017	1,502.0	734.1	974.0	767.9	48.9	75.4	2.9
2018	1,533.4	813.9	994.1	719.6	53.1	81.9	3.8
2019	1,652.7	897.0	1,060.4	755.7	54.3	84.6	3.0
2020	1,732.7	979.4	1,107.4	753.3	56.5	88.4	2.3
2021	1,851.6	1,106.5	1,198.5	745.1	59.8	92.3	5.3
2022	2,108.4	1,279.1	1,372.1	829.3	60.7	93.2	7.7

**NOTES:**

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



APPENDIX B

THE MILITARY RETIREMENT FUND: HISTORY

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TABLE B-1

MILITARY RETIREMENT FUND PROPERTIES  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

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

**Notes:** - Due to breaks in service and technical differences in the definition of qualifying years of service under different benefit systems, in some cases above it's not possible to precisely define which benefit systems cover the appropriate members based solely on dates of entry. The above table does not cover every possibility.  
- For additional up-to-date information, refer to the DoD Office of Military Compensation website (<http://militarypay.defense.gov/>).

TABLE B-2

MILITARY RETIREMENT FUND MULTIPLIERS  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

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

TABLE B-3

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

<u>Date of Increase</u>		<u>Percentage Increase</u>	<u>Cumulative % From Date of Increase</u>
6/1/58		6.0 %	1,007.2 %
10/1/63		5.0	944.6
9/1/65		4.4	894.8
12/1/66		3.7	852.9
4/1/68		3.9	818.9
2/1/69		4.0	784.4
11/1/69		5.3	750.4
8/1/70		5.6	707.6
6/1/71		4.5	664.8
7/1/72	one percent over	4.8	631.8
7/1/73	inflation was	6.1	598.3
1/1/74	added during	5.5	558.2
7/1/74	these years	6.3	523.8
1/1/75		7.3	486.9
8/1/75		5.1	446.9
3/1/76		5.4	420.4
3/1/77		4.8	393.7
9/1/77		4.3	371.1
3/1/78		2.4	351.7
9/1/78	twice-a-year	4.9	341.1
3/1/79	increases	3.9	320.5
9/1/79		6.9	304.7
3/1/80		6.0	278.6
9/1/80		7.7	257.2
3/1/81	once-a-year	4.4	231.6
3/1/82	increases	8.7	217.7
4/1/83	(Dec to Dec)	3.9 (1)	192.2
12/1/84		3.5 (2)	181.3
12/1/85		- (3)	171.8
12/1/86	once-a-year	1.3	171.8
12/1/87	increases (3rd	4.2	168.3
12/1/88	qtr to 3rd qtr)	4.0	157.5
12/1/89		4.7	147.6
12/1/90		5.4	136.4
12/1/91		3.7	124.3
12/1/92		3.0	116.3
3/1/94		2.6 (4)	110.0
3/1/95		2.8 (5)	104.7
3/1/96		2.6 (6)	99.1
12/1/96		2.9	94.1
12/1/97		2.1	88.6
12/1/98		1.3	84.7
12/1/99		2.4	82.4
12/1/00		3.5	78.1
12/1/01		2.6	72.1
12/1/02		1.4	67.7
12/1/03		2.1	65.4
12/1/04		2.7	62.0
12/1/05		4.1	57.7
12/1/06		3.3	51.5
12/1/07		2.3	46.7
12/1/08		5.8	43.4
12/1/09		-	35.5
12/1/10		-	35.5
12/1/11		3.6	35.5
12/1/12		1.7	30.8
12/1/13		1.5	28.6
12/1/14		1.7	26.7
12/1/15		-	24.6
12/1/16		0.3	24.6
12/1/17		2.0	24.2
12/1/18		2.8	21.8
12/1/19		1.6	18.5
12/1/20		1.3	16.6
12/1/21		5.9	15.1
12/1/22		8.7	8.7

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

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

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

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

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

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

TABLE B-4

MILITARY BASIC PAY SCALE INCREASES  
(JUNE 1958 TO PRESENT)

<u>Date of Increase</u>	<u>Percentage Increase</u>	<u>Cumulative % From Date of Increase</u>
6/1/58	8.3%	1645.1%
10/1/63	14.2%	1511.4%
9/1/64	2.3%	1311.0%
9/1/65	10.4%	1279.3%
7/1/66	3.2%	1149.4%
10/1/67	5.6%	1110.6%
7/1/68	6.9%	1046.4%
7/1/69	12.6%	972.4%
1/1/70	8.1%	852.4%
1/1/71	7.9%	781.1%
11/14/71	11.6%	716.6%
1/1/72	7.2%	631.7%
10/1/72	6.7%	582.5%
10/1/73	6.2%	539.7%
10/1/74	5.5%	502.3%
10/1/75	5.0%	470.9%
10/1/76	3.6%	443.7%
10/1/77	6.2%	424.8%
10/1/78	5.5%	394.2%
10/1/79	7.0%	368.4%
10/1/80	11.7%	337.8%
10/1/81	14.3% (1)	291.9%
10/1/82	4.0% (2)	242.9%
1/1/84	4.0% (2)	229.7%
1/1/85	4.0%	217.0%
10/1/85	3.0%	204.8%
1/1/87	3.0%	196.0%
1/1/88	2.0%	187.3%
1/1/89	4.1%	181.7%
1/1/90	3.6%	170.6%
1/1/91	4.1%	161.2%
1/1/92	4.2%	150.9%
1/1/93	3.7%	140.8%
1/1/94	2.2%	132.2%
1/1/95	2.6%	127.2%
1/1/96	2.4%	121.5%
1/1/97	3.0%	116.3%
1/1/98	2.8%	110.0%
1/1/99	3.6%	104.3%
1/1/00	4.8% (3)	97.2%
1/1/01	3.7% (3)	88.1%
1/1/02	4.6% (3)	81.4%
1/1/03	4.1% (3)	73.4%
1/1/04	3.7% (3)	66.6%
1/1/05	3.5%	60.7%
1/1/06	3.1%	55.2%
1/1/07	2.2% (3)	50.6%
1/1/08	3.5%	47.3%
1/1/09	3.9%	42.3%
1/1/10	3.4%	37.0%
1/1/11	1.4%	32.5%
1/1/12	1.6%	30.7%
1/1/13	1.7%	28.6%
1/1/14	1.0%	26.5%
1/1/15	1.0%	25.2%
1/1/16	1.3% (4)	24.0%
1/1/17	2.1%	22.4%
1/1/18	2.4%	19.9%
1/1/19	2.6%	17.0%
1/1/20	3.1%	14.1%
1/1/21	3.0%	10.6%
1/1/22	2.7%	7.4%
1/1/23	4.6%	4.6%

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

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

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

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

APPENDIX C

VALUATION DATA

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## VALUATION DATA NOTES

- This data is the starting census for the closed and open group projections.
- The valuation input data was extracted from files maintained by DMDC. Data on individual retirees and survivors comes from files submitted by DFAS. Active duty data comes from the Active Duty Military Personnel Master File, and reserve data comes from the Reserve Component Common Personnel Data System Master File. 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 accuracy and comprehensiveness.
- 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 0.3% of aggregate end strength totals.
- Table-specific notes are included at the bottom of the valuation data tables.
- Some totals may not add due to rounding.







Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

All DoD Active Duty Personnel by Years of Service and Age for FY 2022 Valuation

Table with columns for Age, Years of Active Service (YAS) from 0 to 30+, and Total. The table lists personnel counts across various age and service year combinations, with a total count of 1,433,234.

Notes: Age is age nearest birthday as of the end of the fiscal year. Average Age: 29.7 Average YAS: 7.8





Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

All DoD Average Monthly Active Duty Basic Pay by Active Years of Service and Age for FY 2022 Valuation

Table with columns for Age (0 to 60+) and Years of Active Service (YAS) (0 to 30+). The table contains numerical values representing monthly active duty basic pay for each combination of age and years of service.

Note: Basic pay figures reflect the January 2023 increase of 4.6%. Age is age nearest birthday as of the end of the fiscal year.





Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

All DoD Selected Reserve Personnel by PEBB Years of Service and Age for FY 2022 Valuation

Table with columns for Age (16-62), Completed Pay Base Date (PEBB) Years of Service (YOS) (0-41), and Total. Rows represent age groups from 16 to 62, with a final Total row. The table contains numerical data for each cell, representing the count of personnel for that age and YOS combination.

Average PEBB Years of Service: 9.2
Average Age: 31.6

Note: Age is age nearest birthday as of the end of the fiscal year.
Age 63 is 63 and over in YOS 41 and over.







# Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

## All DoD Annualized Average Monthly Selected Reserve Personnel Basic Pay by PEBD Years of Service and Age for FY 2022 Valuation

Completed Pay Entry Base Date (PEBD) Years Of Service (YOS)

Age	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41+	Total							
16																																																		

Note: Base pay figures reflect the January 2022 increase of 4.6%.  
 Age is age nearest the end of the term of this final year.  
 \*Continued from the Average Points Per Year attachment in Appendix U, with unearned 13-point deduction for average points earned per year as part of reserve component membership.

**DoD Officers Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2022 Valuation**

Age	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Total
<37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
38	0	2	34	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
39	0	7	32	65	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
40	0	3	25	75	68	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177
41	0	4	20	54	85	78	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	249
42	0	12	72	46	55	103	83	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	380
43	0	6	93	133	52	73	113	94	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	577
44	0	5	42	125	124	59	77	103	72	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	616
45	0	4	40	71	156	154	71	90	115	84	5	0	0	0	0	0	0	0	0	0	0	0	0	0	791
46	0	5	26	54	95	194	153	61	66	113	85	15	0	0	0	0	0	0	0	0	0	0	0	0	868
47	0	3	20	43	48	93	190	157	81	83	117	110	12	0	0	0	0	0	0	0	0	0	0	0	959
48	0	4	15	38	54	64	106	215	184	94	109	158	133	15	0	0	0	0	0	0	0	0	0	0	1,190
49	0	1	14	21	39	71	77	113	256	236	90	119	204	113	15	0	0	0	0	0	0	0	0	0	1,370
50	0	6	5	19	36	48	73	85	135	249	210	141	174	176	165	27	0	0	0	0	0	0	0	0	1,551
51	0	1	13	13	23	30	46	81	104	127	285	306	162	166	260	276	36	0	0	0	0	0	0	0	1,931
52	0	1	9	18	30	24	39	80	84	93	214	373	422	187	221	345	294	18	0	0	0	0	0	0	2,453
53	0	2	6	7	18	21	24	47	81	80	101	204	506	523	307	340	360	38	0	0	0	0	0	0	2,892
54	0	0	5	12	18	19	26	31	42	66	76	101	222	519	634	261	296	453	354	43	0	0	0	0	3,178
55	0	0	6	7	7	19	18	22	26	45	68	76	115	252	629	715	267	381	464	364	63	0	0	0	3,546
56	0	0	7	5	16	22	19	23	25	31	46	78	118	153	313	757	750	553	423	378	379	48	0	0	3,946
57	0	2	2	16	18	14	18	24	20	34	41	49	92	139	152	385	741	785	374	339	416	392	42	0	4,097
58	0	0	0	7	10	13	13	26	23	30	34	50	62	88	127	238	378	815	853	290	367	448	382	45	4,299
59	0	1	0	2	2	7	11	13	18	20	22	34	56	70	121	153	231	440	833	803	329	372	427	445	4,411
60	0	1	0	3	4	4	3	6	9	9	13	13	20	17	31	67	71	116	246	521	283	112	137	288	1,975
61	0	0	0	0	0	1	1	1	3	0	1	0	2	3	3	1	5	10	14	19	39	37	6	27	173
62	0	0	0	0	0	0	0	1	0	0	0	1	0	1	3	3	1	9	12	11	12	28	13	15	110
63	0	0	2	0	3	0	2	2	2	0	3	2	3	5	3	10	15	10	20	22	15	39	51	309	518
Total	0	78	489	841	967	1,119	1,171	1,285	1,357	1,404	1,523	1,831	2,303	2,428	2,904	3,547	3,427	3,752	3,632	2,791	1,904	1,476	1,058	1,129	42,416

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

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

Age 63 is 63 and over and YOS 41 is 41 and over.

Average Age: 54.0

Average PEBD Years of Service: 32.1

**DoD Enlisted Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2022 Valuation**

Age	Completed Pay Entry Base Date (PEBD) Years of Service (YOS)																				Total				
	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40	41
<37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	60	33	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
38	0	44	219	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	312
39	0	38	330	565	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,019
40	0	27	256	762	700	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,811
41	0	18	159	463	883	641	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,222
42	0	16	142	314	601	885	654	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,672
43	0	18	107	195	357	629	972	680	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,022
44	0	10	72	153	267	392	682	915	607	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,151
45	0	5	51	119	200	312	449	699	878	528	41	0	0	0	0	0	0	0	0	0	0	0	0	0	3,282
46	0	3	38	98	183	204	306	465	704	813	531	62	0	0	0	0	0	0	0	0	0	0	0	0	3,408
47	0	6	58	71	133	171	244	384	469	610	889	597	65	0	0	0	0	0	0	0	0	0	0	0	3,698
48	0	3	32	81	101	141	199	266	336	419	765	963	699	51	0	0	0	0	0	0	0	0	0	0	4,057
49	0	2	39	64	93	115	144	267	247	323	564	793	1,047	576	72	0	0	0	0	0	0	0	0	0	4,348
50	0	1	28	67	90	124	173	181	258	277	377	611	892	1,050	946	108	0	0	0	0	0	0	0	0	5,184
51	0	4	29	56	88	109	146	181	218	279	320	451	716	1,055	1,434	1,204	122	0	0	0	0	0	0	0	6,413
52	0	3	31	35	87	96	163	192	223	245	321	439	563	835	1,269	1,857	1,363	77	0	0	0	0	0	0	7,800
53	0	4	25	44	76	98	118	154	178	194	257	376	479	543	831	1,461	1,909	1,427	122	0	0	0	0	0	8,297
54	0	2	23	38	64	85	114	151	172	183	224	266	352	479	655	1,048	1,483	2,172	1,547	132	0	0	0	0	9,192
55	0	1	25	35	49	73	103	118	132	168	212	254	279	381	461	697	1,002	1,646	2,219	1,521	264	0	0	0	9,641
56	0	2	15	33	41	72	88	113	131	138	187	218	273	322	400	590	775	1,243	1,810	1,853	1,865	188	0	0	10,360
57	0	1	20	31	66	74	91	98	114	138	185	198	236	269	393	516	637	898	1,317	1,521	2,438	1,818	182	0	11,243
58	0	1	10	17	52	57	96	101	110	118	159	188	219	258	326	405	533	765	1,063	1,163	1,965	2,611	2,032	252	12,503
59	0	2	7	18	46	62	66	99	114	96	141	150	193	242	268	381	482	637	848	990	1,372	2,017	2,606	2,400	13,239
60	0	0	2	3	23	25	29	43	45	50	54	67	100	101	136	161	221	295	392	467	640	841	1,199	2,484	7,379
61	0	0	1	0	1	2	4	5	9	9	10	8	11	15	15	16	26	36	58	45	59	103	130	485	1,048
62	0	0	0	1	0	0	1	7	5	5	2	4	5	11	7	11	20	31	33	30	42	41	70	348	674
63	0	0	0	0	0	0	0	6	3	5	5	6	8	17	29	17	32	54	71	80	107	136	130	1,522	2,228
Total	0	271	1,754	3,313	4,289	4,434	4,902	5,187	5,018	4,651	5,246	5,654	6,138	6,205	7,243	8,474	8,606	9,281	9,481	7,804	8,752	7,754	6,350	7,491	138,296

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
 Age is age nearest birthday as of the end of the fiscal year.  
 Age 63 is 63 and over and YOS 41 is 41 and over.  
 Average Age: 53.2  
 Average PEBD Years of Service: 32.2

**All DoD Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2022 Valuation**

Age	Completed Pay Entry Base Date (PEBD) Years Of Service (YOS)																				Total				
	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40	41
<37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	68	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	46	253	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
39	0	45	362	629	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	354
40	0	30	281	837	767	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,128
41	0	22	179	517	968	720	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,988
42	0	28	215	360	656	988	737	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,471
43	0	24	201	328	410	703	1,084	774	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,052
44	0	15	115	279	391	451	759	1,018	679	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,599
45	0	9	91	191	356	465	520	790	992	612	46	0	0	0	0	0	0	0	0	0	0	0	0	0	3,767
46	0	8	64	152	278	398	459	527	770	926	617	77	0	0	0	0	0	0	0	0	0	0	0	0	4,073
47	0	9	78	114	181	264	435	541	550	693	1,007	707	77	0	0	0	0	0	0	0	0	0	0	0	4,276
48	0	7	47	119	155	205	306	481	520	513	874	1,121	831	66	0	0	0	0	0	0	0	0	0	0	4,657
49	0	3	53	85	132	186	221	381	503	559	654	912	1,251	689	87	0	0	0	0	0	0	0	0	0	5,247
50	0	7	33	86	126	172	247	266	393	527	588	753	1,066	1,226	1,111	135	0	0	0	0	0	0	0	0	5,718
51	0	5	42	69	111	139	192	262	322	406	605	758	879	1,222	1,694	1,480	158	0	0	0	0	0	0	0	6,735
52	0	4	40	53	117	120	202	272	307	338	535	812	985	1,022	1,490	2,203	1,657	95	0	0	0	0	0	0	8,344
53	0	6	31	51	94	119	142	201	259	274	358	580	985	1,066	1,056	1,769	2,250	1,788	160	0	0	0	0	0	10,253
54	0	2	28	50	82	104	140	182	214	249	300	367	574	998	1,289	1,309	1,779	2,625	1,901	175	0	0	0	0	11,189
55	0	1	31	42	56	92	121	140	158	213	280	330	394	633	1,091	1,413	1,270	2,027	2,683	1,885	327	0	0	0	12,370
56	0	2	22	38	57	94	107	136	156	169	233	296	391	475	713	1,348	1,525	1,596	2,234	2,232	2,245	236	0	0	13,187
57	0	3	22	47	84	88	109	122	134	172	226	247	328	408	545	902	1,378	1,683	1,691	1,861	2,245	2,210	224	0	14,306
58	0	1	10	24	62	70	109	127	133	148	193	238	281	346	453	643	911	1,580	1,916	1,453	2,332	3,059	2,414	297	15,340
59	0	3	7	20	48	69	77	112	132	116	163	184	249	312	389	534	713	1,077	1,682	1,794	1,701	2,389	3,033	2,845	16,802
60	0	1	2	6	27	29	32	49	54	59	67	80	120	118	167	228	292	411	638	989	923	953	1,336	2,772	17,650
61	0	0	1	0	1	3	5	6	12	9	11	8	13	18	18	17	31	46	72	64	98	140	136	512	1,221
62	0	0	0	1	0	0	1	8	5	5	2	5	5	12	10	14	21	40	45	41	54	69	83	363	784
63	0	0	0	0	0	0	0	2	8	5	8	8	11	22	33	27	48	64	91	102	122	175	180	1,831	2,746
Total	0	349	2,244	4,153	5,256	5,553	6,073	6,472	6,375	6,055	6,769	7,485	8,441	8,633	10,147	12,021	12,033	13,032	13,113	10,595	10,656	9,230	7,407	8,620	180,712

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
 Age is age nearest birthday as of the end of the fiscal year.  
 Age 63 is 63 and over and YOS 41 is 41 and over.

Average Age: 53.4  
 Average PEBD Years of Service: 32.2

Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All Officers

Age	Number				Average Annual Net Retired Pay				Average Annual Net Retired Pay				CSB			
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	Tera Non-Dis	Tera Res Ret	CSB Non-Dis	CSB Dis	Total	Tera Non-Dis	Tera Res Ret	CSB Non-Dis	CSB Dis	Non-Dis	Dis
16	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
20	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22	1	2	0	0	3	0	0	0	0	\$0	\$5,220	\$0	\$0	\$0	\$0	\$0
23	0	2	1	0	3	0	0	0	0	\$16,300	\$0	\$0	\$0	\$0	\$0	\$0
24	0	7	1	0	8	0	0	0	0	\$9,053	\$0	\$0	\$0	\$0	\$0	\$0
25	1	7	9	0	17	0	0	0	0	\$9,457	\$0	\$0	\$0	\$0	\$0	\$0
26	0	31	19	0	50	0	0	0	0	\$10,517	\$0	\$0	\$0	\$0	\$0	\$0
27	0	44	27	0	71	0	0	0	0	\$6,862	\$0	\$0	\$0	\$0	\$0	\$0
28	0	58	35	0	93	0	0	0	0	\$10,003	\$0	\$0	\$0	\$0	\$0	\$0
29	0	85	33	0	118	0	0	0	0	\$9,197	\$0	\$0	\$0	\$0	\$0	\$0
30	1	102	33	0	136	0	0	0	0	\$10,159	\$0	\$0	\$0	\$0	\$0	\$0
31	0	132	22	0	154	0	0	0	0	\$12,736	\$0	\$0	\$0	\$0	\$0	\$0
32	0	170	34	0	204	0	0	0	0	\$12,038	\$0	\$0	\$0	\$0	\$0	\$0
33	1	228	34	0	263	0	0	0	0	\$11,819	\$0	\$0	\$0	\$0	\$0	\$0
34	1	217	43	0	261	0	0	0	0	\$11,930	\$0	\$0	\$0	\$0	\$0	\$0
35	1	236	27	0	264	0	0	0	0	\$12,715	\$0	\$0	\$0	\$0	\$0	\$0
36	6	330	33	0	369	5	0	0	0	\$14,213	\$26,267	\$0	\$0	\$0	\$0	\$0
37	9	330	43	0	382	9	0	0	0	\$14,041	\$28,948	\$0	\$0	\$0	\$0	\$0
38	41	357	38	0	430	4	0	0	0	\$17,694	\$23,688	\$0	\$0	\$0	\$40,404	\$0
39	172	432	32	0	642	13	0	3	0	\$22,310	\$28,664	\$0	\$0	\$0	\$34,688	\$0
40	435	486	43	0	964	14	0	19	10	\$28,885	\$27,476	\$0	\$0	\$0	\$30,492	\$24,828
41	637	482	50	0	1,169	20	0	40	7	\$31,597	\$27,560	\$0	\$0	\$0	\$31,279	\$33,368
42	1,107	563	57	0	1,727	43	0	58	14	\$36,331	\$37,626	\$0	\$0	\$0	\$34,361	\$28,288
43	1,885	591	53	1	2,530	83	0	76	21	\$46,184	\$40,843	\$0	\$0	\$0	\$36,275	\$31,983
44	2,631	556	30	1	3,218	123	0	102	24	\$68,307	\$44,498	\$0	\$0	\$0	\$36,190	\$33,791
45	3,254	617	33	1	3,905	255	0	126	27	\$39,416	\$45,342	\$0	\$0	\$0	\$36,069	\$35,506
46	3,962	544	25	0	4,531	369	0	179	28	\$47,254	\$35,215	\$0	\$0	\$0	\$38,882	\$33,255
47	4,567	582	24	2	5,175	376	0	242	37	\$67,347	\$49,192	\$0	\$0	\$0	\$41,014	\$34,833
48	5,142	626	24	2	5,794	296	0	287	42	\$49,988	\$50,933	\$0	\$0	\$0	\$41,281	\$37,755
49	5,815	608	17	4	6,444	248	0	362	51	\$56,593	\$38,156	\$0	\$0	\$0	\$44,951	\$39,751
50	6,441	654	30	0	7,125	207	0	440	64	\$54,988	\$39,822	\$0	\$0	\$0	\$46,954	\$41,903
51	7,384	664	20	3	8,071	188	0	579	59	\$54,824	\$56,639	\$0	\$0	\$0	\$48,845	\$45,344
52	8,388	726	17	7	9,138	127	0	676	55	\$63,690	\$58,516	\$0	\$0	\$0	\$50,078	\$44,365
53	8,614	665	16	20	9,315	92	0	746	58	\$53,664	\$59,819	\$0	\$0	\$0	\$51,597	\$43,291
54	8,538	578	13	39	9,168	66	0	575	48	\$53,900	\$61,180	\$0	\$0	\$0	\$52,322	\$42,733
55	8,672	535	15	92	9,314	36	0	365	28	\$52,427	\$62,142	\$0	\$0	\$0	\$51,827	\$48,495
56	9,055	494	9	157	9,715	38	0	261	16	\$54,424	\$62,761	\$0	\$0	\$0	\$52,088	\$42,198
57	9,367	504	12	285	10,168	23	0	198	10	\$50,931	\$62,139	\$0	\$0	\$0	\$52,131	\$46,123
58	9,824	498	5	471	10,798	32	0	141	8	\$50,589	\$62,734	\$0	\$0	\$0	\$51,651	\$56,422
59	9,977	474	7	903	11,361	41	5	100	6	\$45,335	\$60,936	\$0	\$0	\$0	\$51,155	\$45,010
60	9,747	437	3	2,725	12,912	72	38	72	3	\$37,640	\$57,718	\$0	\$0	\$0	\$52,664	\$32,211
61	9,679	395	3	5,322	15,399	105	104	44	1	\$35,230	\$53,689	\$0	\$0	\$0	\$45,962	\$44,340
62	9,559	366	3	5,271	15,201	231	156	35	2	\$34,977	\$53,659	\$0	\$0	\$0	\$52,225	\$39,104
63	9,606	353	0	5,281	15,240	449	224	27	1	\$34,188	\$53,032	\$0	\$0	\$0	\$60,278	\$42,960
64	9,806	314	2	5,179	15,301	752	211	16	2	\$34,023	\$52,716	\$0	\$0	\$0	\$61,000	\$60,700
65	10,117	318	0	5,349	15,784	1,143	283	10	1	\$34,284	\$52,190	\$0	\$0	\$0	\$57,799	\$42,372
66	10,255	298	0	5,458	16,011	1,376	320	14	1	\$33,249	\$51,181	\$0	\$0	\$0	\$57,923	\$10,230
67	10,489	271	0	5,504	16,264	1,523	314	7	0	\$33,252	\$50,586	\$0	\$0	\$0	\$58,866	\$0
68	10,442	282	0	5,299	16,023	1,465	266	3	0	\$32,174	\$50,309	\$0	\$0	\$0	\$63,132	\$0
69	10,540	295	0	5,320	16,155	1,272	231	7	0	\$31,921	\$50,212	\$0	\$0	\$0	\$46,315	\$0
70	10,492	277	0	5,629	16,398	979	205	4	0	\$31,169	\$49,230	\$0	\$0	\$0	\$42,904	\$0

Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All Officers

Age	Non Disabled		Perm Disabled		Temp Disabled		Reserve Retired		Number		TERA Non-Dis		TERA Res Ret		CSB Non-Dis		CSB Dis		Average Annual Net Retired Pay					
	Dis	Dis	Dis	Dis	Dis	Dis	Total	Non-Dis	Dis	Non-Dis	Dis	Non-Dis	Dis	Dis	Total	Non-Dis	Dis	Non-Dis	Dis	Total	Non-Dis	Dis		
71	10,183	261	0	5,415	0	15,859	713	144	7	1	1	144	144	144	\$38,081	\$38,081	\$22,142	\$57,056	\$21,918	\$48,740	\$38,081	\$22,142	\$57,056	\$21,918
72	10,297	296	0	5,873	0	16,466	439	115	1	0	0	115	115	115	\$38,501	\$38,501	\$20,696	\$44,664	\$0	\$47,910	\$38,501	\$20,696	\$44,664	\$0
73	10,757	309	0	6,676	0	17,742	349	123	3	0	0	123	123	123	\$36,272	\$36,272	\$23,618	\$49,955	\$0	\$46,448	\$36,272	\$23,618	\$49,955	\$0
74	11,244	328	0	7,618	0	19,190	267	100	3	0	0	100	100	100	\$33,814	\$33,814	\$19,829	\$59,862	\$0	\$40,239	\$33,814	\$19,829	\$59,862	\$0
75	11,987	405	0	8,282	0	20,674	237	85	0	0	0	85	85	85	\$27,478	\$27,478	\$18,483	\$0	\$0	\$40,550	\$27,478	\$18,483	\$0	\$0
76	12,438	503	0	8,644	0	21,585	182	90	0	0	0	90	90	90	\$33,724	\$33,724	\$18,880	\$0	\$0	\$41,814	\$33,724	\$18,880	\$0	\$0
77	8,489	361	0	6,136	0	14,986	112	51	0	0	0	51	51	51	\$31,387	\$31,387	\$18,319	\$0	\$0	\$42,213	\$31,387	\$18,319	\$0	\$0
78	8,352	350	0	5,825	0	14,527	72	29	0	0	0	29	29	29	\$30,974	\$30,974	\$18,241	\$0	\$0	\$46,513	\$30,974	\$18,241	\$0	\$0
79	8,280	333	0	5,468	0	14,081	56	26	0	0	0	26	26	26	\$33,643	\$33,643	\$20,834	\$0	\$0	\$44,295	\$33,643	\$20,834	\$0	\$0
80	8,005	333	0	5,257	0	13,595	52	33	0	0	0	33	33	33	\$34,917	\$34,917	\$16,252	\$0	\$0	\$46,464	\$34,917	\$16,252	\$0	\$0
81	6,761	234	0	4,084	0	11,079	26	24	0	0	0	24	24	24	\$35,244	\$35,244	\$13,682	\$0	\$0	\$46,792	\$35,244	\$13,682	\$0	\$0
82	6,409	220	0	3,505	0	10,134	12	25	0	0	0	25	25	25	\$39,663	\$39,663	\$17,198	\$0	\$0	\$47,649	\$39,663	\$17,198	\$0	\$0
83	6,247	177	0	3,174	0	9,598	11	29	0	0	0	29	29	29	\$44,217	\$44,217	\$15,301	\$0	\$0	\$48,695	\$44,217	\$15,301	\$0	\$0
84	5,702	166	0	3,056	0	8,924	7	25	0	0	0	25	25	25	\$43,383	\$43,383	\$18,210	\$0	\$0	\$48,095	\$43,383	\$18,210	\$0	\$0
85	5,211	141	0	2,777	0	8,129	5	20	0	0	0	20	20	20	\$44,979	\$44,979	\$17,906	\$0	\$0	\$48,756	\$44,979	\$17,906	\$0	\$0
86	4,636	106	0	2,429	0	7,171	5	12	0	0	0	12	12	12	\$43,034	\$43,034	\$17,198	\$0	\$0	\$49,140	\$43,034	\$17,198	\$0	\$0
87	4,076	103	0	2,162	0	6,341	6	9	0	0	0	9	9	9	\$45,461	\$45,461	\$14,513	\$0	\$0	\$49,516	\$45,461	\$14,513	\$0	\$0
88	3,914	86	0	2,021	0	6,021	4	14	0	0	0	14	14	14	\$47,947	\$47,947	\$14,781	\$0	\$0	\$50,929	\$47,947	\$14,781	\$0	\$0
89	3,304	84	0	1,699	0	5,087	2	8	0	0	0	8	8	8	\$51,666	\$51,666	\$12,755	\$0	\$0	\$51,627	\$51,666	\$12,755	\$0	\$0
90	2,968	73	0	1,578	0	4,619	4	3	0	0	0	3	3	3	\$48,120	\$48,120	\$21,279	\$0	\$0	\$51,275	\$48,120	\$21,279	\$0	\$0
91	2,477	73	0	1,357	0	3,907	3	3	0	0	0	3	3	3	\$49,535	\$49,535	\$24,616	\$0	\$0	\$52,002	\$49,535	\$24,616	\$0	\$0
92	2,066	60	0	1,307	0	3,433	0	0	0	0	0	0	0	0	\$50,891	\$50,891	\$0	\$0	\$0	\$49,516	\$50,891	\$0	\$0	
93	1,521	52	0	1,022	0	2,595	0	0	0	0	0	0	0	0	\$53,241	\$53,241	\$0	\$0	\$0	\$50,904	\$53,241	\$0	\$0	
94	1,107	48	0	700	0	1,855	0	2	0	0	0	2	2	2	\$70,992	\$70,992	\$27,948	\$0	\$0	\$52,240	\$70,992	\$27,948	\$0	\$0
95	652	20	0	412	0	1,084	0	0	0	0	0	0	0	0	\$73,776	\$73,776	\$0	\$0	\$0	\$54,483	\$73,776	\$0	\$0	
96	355	22	0	264	0	641	0	0	0	0	0	0	0	0	\$76,285	\$76,285	\$0	\$0	\$0	\$53,972	\$76,285	\$0	\$0	
97	322	18	0	280	0	620	0	0	0	0	0	0	0	0	\$77,791	\$77,791	\$0	\$0	\$0	\$51,878	\$77,791	\$0	\$0	
98	294	16	0	269	0	579	0	0	0	0	0	0	0	0	\$76,632	\$76,632	\$0	\$0	\$0	\$49,408	\$76,632	\$0	\$0	
99	185	14	0	190	0	389	0	0	0	0	0	0	0	0	\$73,805	\$73,805	\$0	\$0	\$0	\$46,708	\$73,805	\$0	\$0	
100	146	17	0	139	0	302	0	0	0	0	0	0	0	0	\$76,558	\$76,558	\$0	\$0	\$0	\$49,818	\$76,558	\$0	\$0	
101	99	20	0	90	0	209	0	0	0	0	0	0	0	0	\$77,935	\$77,935	\$0	\$0	\$0	\$50,078	\$77,935	\$0	\$0	
102	69	16	0	64	0	149	0	0	0	0	0	0	0	0	\$69,432	\$69,432	\$0	\$0	\$0	\$46,198	\$69,432	\$0	\$0	
103	39	4	0	25	0	68	0	0	0	0	0	0	0	0	\$69,160	\$69,160	\$0	\$0	\$0	\$49,333	\$69,160	\$0	\$0	
104	17	2	0	23	0	42	0	0	0	0	0	0	0	0	\$66,692	\$66,692	\$0	\$0	\$0	\$42,049	\$66,692	\$0	\$0	
105	9	1	0	3	0	13	0	0	0	0	0	0	0	0	\$74,896	\$74,896	\$0	\$0	\$0	\$67,661	\$74,896	\$0	\$0	
106	2	2	0	6	0	10	0	0	0	0	0	0	0	0	\$55,028	\$55,028	\$0	\$0	\$0	\$32,576	\$55,028	\$0	\$0	
107	0	0	0	0	0	1	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$24,252	\$0	\$0	\$0	\$0
108	1	0	0	0	0	1	0	0	0	0	0	0	0	0	\$37,080	\$37,080	\$0	\$0	\$0	\$37,080	\$37,080	\$0	\$0	
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
110+	1	0	0	0	0	1	0	0	0	0	0	0	0	0	\$49,716	\$49,716	\$0	\$0	\$0	\$49,716	\$49,716	\$0	\$0	
Total	385,283	23,077	977	156,156	565,493	14,639	3,337	5,829	625	12	8	3,337	3,332	253	\$30,932	\$30,932	\$29,635	\$48,077	\$40,176	\$50,794	\$35,811	\$22,619	\$48,077	\$40,176
60+	269,354	8,860	13	154,168	432,395	11,931	3,322	5,829	12	12	12	3,322	3,322	253	\$48,259	\$48,259	\$29,388	\$54,033	\$31,901	\$49,303	\$35,654	\$22,614	\$54,033	\$31,901
62+	249,928	8,028	7	146,121	404,084	11,754	3,190	137	8	8	8	3,190	3,190	137	\$34,507	\$34,507	\$29,021	\$57,346	\$30,230	\$48,866	\$35,747	\$22,622	\$57,346	\$30,230
65+	220,957	6,995	0	130,390	358,342	10,322	2,599	59	3	3	3	2,599	2,599	59	\$0	\$0	\$28,372	\$56,271	\$24,840	\$48,322	\$36,370	\$22,298	\$56,271	\$24,840

Notes: Age is retiree's current age nearest birthday at end of fiscal year.  
 60+ is total for ages 60 and over.  
 62+ is total for ages 62 and over.  
 65+ is total for ages 65 and over.  
 Includes only retirees receiving payment from DoD.  
 Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.  
 Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.  
 TERA and CSB numbers and payments are included in the appropriate categories.  
 Pay amounts do not include the 12/1/22 cost of living increase of 8.7%.

Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All Enlisted

Age	Number				Average Annual Net Retired Pay				CSB				
	Non-Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERA Non-Dis	TERA Res Ret	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	CSB Non-Dis	CSB Dis
16	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	2	1	0	4	0	0	0	0	0	0	0	0
20	0	15	15	0	30	0	0	0	0	0	0	0	0
21	1	31	26	0	58	0	0	0	0	0	0	0	0
22	2	85	83	0	171	0	0	0	0	0	0	0	0
23	2	142	94	0	238	0	0	0	0	0	0	0	0
24	3	195	87	0	285	0	0	0	0	0	0	0	0
25	2	266	125	0	393	0	0	0	0	0	0	0	0
26	0	284	118	0	402	0	0	0	0	0	0	0	0
27	2	332	131	0	465	0	0	0	0	0	0	0	0
28	3	405	100	0	508	0	0	0	0	0	0	0	0
29	1	519	99	0	619	0	0	0	0	0	0	0	0
30	1	685	120	0	806	0	0	0	0	0	0	0	0
31	2	1,042	109	0	1,153	0	0	0	0	0	0	0	0
32	0	1,353	112	0	1,465	0	0	0	0	0	0	0	0
33	3	1,603	112	1	1,719	2	0	0	0	0	0	0	0
34	12	2,016	106	1	2,135	9	0	1	0	0	0	0	0
35	28	2,403	104	0	2,535	27	0	0	0	0	0	0	0
36	66	3,052	99	0	3,217	63	0	0	0	0	0	0	0
37	103	3,341	101	0	3,545	96	0	0	0	0	0	0	0
38	626	3,819	99	0	4,544	117	0	49	0	0	0	0	0
39	2,798	3,827	96	0	6,721	175	0	302	0	0	0	0	0
40	5,726	3,928	135	0	9,789	233	0	646	0	0	0	0	0
41	8,028	3,775	166	0	11,969	367	0	1,062	0	0	0	0	0
42	10,597	3,563	128	0	14,288	665	0	1,539	0	0	0	0	0
43	12,807	3,389	938	0	16,326	938	0	2,131	0	0	0	0	0
44	14,124	3,193	117	0	17,434	977	0	2,542	0	0	0	0	0
45	14,982	3,044	85	1	18,112	940	0	3,079	0	0	0	0	0
46	15,714	2,799	72	0	18,585	763	0	3,561	0	0	0	0	0
47	16,597	2,617	50	0	19,264	552	0	4,192	0	0	0	0	0
48	17,782	2,546	33	0	20,361	384	0	4,960	0	0	0	0	0
49	18,674	2,455	41	0	21,170	258	0	5,782	0	0	0	0	0
50	19,946	2,513	25	0	22,484	185	0	6,576	0	0	0	0	0
51	22,204	2,463	25	1	24,693	138	0	7,517	0	0	0	0	0
52	23,876	2,462	24	2	26,364	114	0	8,714	0	0	0	0	0
53	23,525	2,238	21	15	25,799	60	0	8,926	0	0	0	0	0
54	24,195	2,058	23	27	26,303	47	1	7,160	0	0	0	0	0
55	25,647	1,839	12	34	27,532	43	1	4,853	0	0	0	0	0
56	27,794	1,833	19	73	29,719	52	0	3,158	0	0	0	0	0
57	29,974	1,710	10	160	31,854	167	0	2,229	0	0	0	0	0
58	32,648	1,738	5	351	34,742	358	2	1,662	0	0	0	0	0
59	34,499	1,706	6	853	37,064	803	4	1,178	0	0	0	0	0
60	35,899	1,757	4	5,369	43,029	1,541	150	866	0	0	0	0	0
61	37,149	1,601	6	12,951	51,707	2,671	468	653	0	0	0	0	0
62	37,536	1,550	0	13,536	52,622	3,718	507	429	0	0	0	0	0
63	36,575	1,476	2	13,069	51,122	4,375	493	322	0	0	0	0	0
64	35,032	1,267	0	12,639	48,938	4,661	502	199	0	0	0	0	0
65	33,912	1,312	0	12,626	47,850	4,474	499	175	0	0	0	0	0
66	31,924	1,225	0	12,455	45,604	3,745	425	123	0	0	0	0	0
67	30,664	1,207	0	11,845	43,716	2,770	392	78	0	0	0	0	0
68	29,897	1,198	0	11,024	42,119	2,035	386	85	0	0	0	0	0
69	28,266	1,159	0	11,098	40,523	1,402	371	33	0	0	0	0	0
70	27,785	1,225	0	12,471	41,481	985	323	22	0	0	0	0	0



Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All Enlisted

Age	Number				Total	TERRA				Average Annual Net Retired Pay				TERRA		CSB	
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired		Non-Dis	Res Ret	CSB Non-Dis	CSB Dis	Perm Disabled	Temp Disabled	Reserve Retired	Total	Non-Dis	Dis	Non-Dis	Dis
71	25,007	1,154	0	12,435	38,596	781	321	7	0	\$26,577	\$15,872	\$0	\$21,914	\$17,870	\$8,470	\$24,682	\$0
72	23,515	1,412	0	12,990	37,917	582	280	0	0	\$26,992	\$13,853	\$0	\$21,650	\$18,487	\$8,388	\$0	\$0
73	23,272	1,744	0	14,067	39,083	445	305	0	0	\$27,429	\$11,441	\$0	\$21,347	\$19,159	\$7,980	\$0	\$0
74	22,798	2,028	0	14,526	39,352	362	344	0	0	\$27,830	\$10,383	\$0	\$21,317	\$19,508	\$8,119	\$0	\$0
75	22,297	2,006	0	15,189	39,492	314	334	0	0	\$28,315	\$10,048	\$0	\$21,370	\$19,750	\$8,361	\$0	\$0
76	21,250	1,678	0	14,687	37,615	246	286	0	0	\$28,735	\$11,125	\$0	\$21,523	\$21,012	\$8,208	\$0	\$0
77	14,375	1,021	0	9,971	25,367	153	190	0	0	\$28,784	\$13,307	\$0	\$21,661	\$21,179	\$8,224	\$0	\$0
78	14,000	839	0	8,902	23,741	103	151	0	0	\$28,890	\$14,563	\$0	\$22,153	\$22,210	\$7,825	\$0	\$0
79	14,422	665	0	8,167	23,254	82	127	0	0	\$28,747	\$16,898	\$0	\$22,562	\$22,678	\$8,706	\$0	\$0
80	15,083	625	0	7,570	23,278	52	115	0	0	\$28,588	\$18,053	\$0	\$22,913	\$22,251	\$8,553	\$0	\$0
81	13,357	513	0	5,755	19,625	44	92	0	0	\$28,394	\$17,622	\$0	\$23,154	\$23,555	\$7,525	\$0	\$0
82	12,345	439	0	4,656	17,440	18	63	0	0	\$28,239	\$20,264	\$0	\$23,497	\$24,071	\$7,487	\$0	\$0
83	11,486	328	0	4,397	16,211	13	70	0	0	\$27,999	\$20,197	\$0	\$23,290	\$24,584	\$6,844	\$0	\$0
84	11,366	328	0	4,098	15,792	17	74	0	0	\$28,260	\$20,287	\$0	\$23,605	\$24,377	\$7,285	\$0	\$0
85	11,394	296	0	3,750	15,440	6	77	0	0	\$28,510	\$20,907	\$0	\$24,126	\$20,341	\$6,189	\$0	\$0
86	10,208	244	0	3,327	13,779	6	67	0	0	\$28,832	\$20,170	\$0	\$24,387	\$23,948	\$6,122	\$0	\$0
87	9,105	215	0	2,930	12,250	2	71	0	0	\$28,920	\$20,074	\$0	\$24,511	\$27,272	\$7,050	\$0	\$0
88	7,546	231	0	2,274	10,051	0	32	0	0	\$29,096	\$19,732	\$0	\$24,878	\$0	\$6,819	\$0	\$0
89	6,251	216	0	1,721	8,188	0	39	0	0	\$29,365	\$17,858	\$0	\$25,362	\$0	\$6,767	\$0	\$0
90	5,363	226	0	1,433	7,022	0	3	0	0	\$29,855	\$17,762	\$0	\$25,792	\$0	\$6,378	\$0	\$0
91	4,439	212	0	1,234	5,885	0	1	0	0	\$29,711	\$17,285	\$0	\$25,527	\$0	\$18,162	\$0	\$0
92	3,731	195	0	1,032	4,958	0	1	0	0	\$29,509	\$17,916	\$0	\$25,445	\$0	\$5,728	\$0	\$0
93	2,825	169	0	666	3,660	0	0	0	0	\$29,681	\$18,877	\$0	\$25,981	\$0	\$0	\$0	\$0
94	1,858	114	0	475	2,447	0	0	0	0	\$29,646	\$20,749	\$0	\$25,805	\$0	\$0	\$0	\$0
95	1,282	82	0	248	1,612	0	0	0	0	\$29,189	\$20,119	\$0	\$26,161	\$0	\$0	\$0	\$0
96	729	29	0	186	944	0	0	0	0	\$29,017	\$24,695	\$0	\$26,601	\$0	\$0	\$0	\$0
97	451	21	0	123	595	0	0	0	0	\$29,248	\$23,348	\$0	\$26,651	\$0	\$0	\$0	\$0
98	306	18	0	103	427	0	0	0	0	\$29,902	\$25,157	\$0	\$26,600	\$0	\$0	\$0	\$0
99	190	6	0	59	255	0	0	0	0	\$27,851	\$21,778	\$0	\$24,178	\$0	\$0	\$0	\$0
100	123	8	0	27	158	0	0	0	0	\$26,878	\$21,428	\$0	\$24,008	\$0	\$0	\$0	\$0
101	68	6	0	14	88	0	0	0	0	\$24,918	\$19,878	\$0	\$22,351	\$0	\$0	\$0	\$0
102	36	3	0	12	51	0	0	0	0	\$26,680	\$32,417	\$0	\$23,260	\$0	\$0	\$0	\$0
103	22	2	0	2	26	0	0	0	0	\$32,081	\$37,290	\$0	\$30,803	\$0	\$0	\$0	\$0
104	6	1	0	2	9	0	0	0	0	\$23,255	\$4,464	\$0	\$19,220	\$0	\$0	\$0	\$0
105	5	0	0	1	6	0	0	0	0	\$16,901	\$0	\$0	\$16,289	\$0	\$0	\$0	\$0
106	5	0	0	1	6	0	0	0	0	\$27,607	\$0	\$0	\$26,462	\$0	\$0	\$0	\$0
107	0	0	0	0	1	0	0	0	0	\$0	\$0	\$0	\$11,256	\$0	\$0	\$0	\$0
108	2	1	0	1	4	0	0	0	0	\$22,010	\$1,167	\$0	\$12,706	\$0	\$0	\$0	\$0
109	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
110+	1	0	0	0	1	0	0	0	0	\$23,580	\$0	\$0	\$23,580	\$0	\$0	\$0	\$0
Total	1,078,154	109,338	3,076	287,634	1,478,202	44,136	7,567	84,815	4,908	\$28,129	\$12,974	\$15,847	\$24,107	\$17,087	\$8,762	\$24,861	\$24,767
60+	675,158	32,052	12	286,115	993,337	35,603	7,559	2,992	83	\$27,545	\$15,239	\$26,156	\$23,041	\$16,883	\$8,756	\$25,011	\$27,472
62+	602,110	28,694	2	267,795	898,601	31,391	6,941	1,473	39	\$27,442	\$14,977	\$42,856	\$22,768	\$17,168	\$8,666	\$26,459	\$28,103
65+	492,967	24,401	0	228,551	745,919	18,637	5,439	523	11	\$27,502	\$14,739	\$0	\$22,558	\$17,859	\$8,411	\$26,114	\$32,554

Notes: Age is retiree's current age nearest birthday at end of fiscal year.  
60+ is total for ages 60 and over.  
62+ is total for ages 62 and over.  
65+ is total for ages 65 and over.  
Includes only retirees receiving payment from DoD.  
Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.  
Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.  
TERA and CSB numbers and payments are included in the appropriate categories.  
Pay amounts do not include the 12/1/22 cost of living increase of 8.7%.

Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All DoD

Age	Number				Average Annual Net Retired Pay				CSB			
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	TERA Res Ret	CSB Non-Dis	CSB Dis
16	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0
17	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0
18	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0
19	1	0	2	0	4	0	0	\$96	\$16,668	\$0	\$0	\$0
20	0	15	0	0	30	0	0	\$8,109	\$12,555	\$0	\$0	\$0
21	1	31	26	0	58	0	0	\$972	\$7,795	\$0	\$0	\$0
22	4	87	83	0	174	0	0	\$1,461	\$11,866	\$0	\$0	\$0
23	2	144	95	0	241	0	0	\$9,380	\$10,942	\$0	\$0	\$0
24	3	202	88	0	293	0	1	\$1,530	\$9,532	\$0	\$0	\$0
25	3	273	134	0	410	0	0	\$7,441	\$7,238	\$0	\$0	\$0
26	0	315	137	0	452	0	0	\$5,568	\$8,080	\$0	\$0	\$0
27	2	376	158	0	536	0	0	\$5,150	\$6,650	\$0	\$0	\$0
28	3	463	135	0	601	0	0	\$5,312	\$6,939	\$0	\$0	\$0
29	1	604	132	0	737	0	0	\$5,028	\$6,803	\$0	\$0	\$0
30	2	787	153	0	942	0	1	\$5,228	\$7,509	\$0	\$0	\$0
31	2	1,174	131	0	1,307	0	0	\$5,044	\$7,885	\$0	\$0	\$0
32	0	1,523	146	0	1,669	0	0	\$11,887	\$5,378	\$0	\$0	\$0
33	4	1,831	146	1	1,982	2	0	\$5,350	\$9,574	\$0	\$0	\$0
34	13	2,233	149	1	2,396	9	0	\$5,617	\$10,866	\$11,460	\$0	\$0
35	29	2,639	131	0	2,799	27	0	\$5,674	\$10,788	\$8,088	\$0	\$0
36	72	3,382	132	0	3,586	68	0	\$19,541	\$5,992	\$6,074	\$0	\$0
37	112	3,671	144	0	3,927	105	0	\$20,671	\$6,568	\$7,093	\$0	\$0
38	667	4,176	131	0	4,974	121	5	\$21,449	\$6,782	\$7,458	\$0	\$0
39	2,970	4,259	134	0	7,363	188	0	\$7,502	\$13,796	\$10,180	\$0	\$0
40	6,161	4,414	178	0	10,753	247	0	\$26,233	\$13,816	\$20,511	\$0	\$0
41	8,665	4,257	216	0	13,138	387	0	\$8,404	\$20,479	\$16,136	\$0	\$0
42	11,704	4,126	185	0	16,015	708	0	\$9,859	\$23,093	\$19,935	\$0	\$0
43	14,692	3,980	183	1	18,856	1,021	0	\$11,151	\$25,911	\$22,693	\$0	\$0
44	18,236	3,749	147	1	20,652	1,190	0	\$12,547	\$29,150	\$24,642	\$0	\$0
45	18,236	3,661	118	2	22,017	1,195	0	\$28,822	\$14,217	\$26,530	\$0	\$0
46	19,676	3,343	97	0	23,116	1,132	0	\$29,822	\$15,363	\$28,316	\$0	\$0
47	21,164	3,199	74	2	24,439	928	0	\$16,839	\$33,438	\$29,313	\$0	\$0
48	22,924	3,172	58	2	26,155	680	0	\$18,045	\$34,134	\$30,682	\$0	\$0
49	24,489	3,063	58	4	27,614	506	0	\$33,549	\$36,106	\$31,601	\$0	\$0
50	26,387	3,167	55	0	29,609	392	0	\$35,330	\$20,821	\$33,738	\$0	\$0
51	29,588	3,127	45	4	32,764	326	0	\$36,257	\$21,423	\$34,694	\$0	\$0
52	32,264	3,188	41	9	35,502	241	0	\$36,896	\$21,690	\$35,456	\$0	\$0
53	32,139	2,903	37	35	35,114	152	0	\$37,636	\$22,051	\$36,247	\$0	\$0
54	32,733	2,636	36	66	35,471	113	1	\$38,086	\$22,300	\$36,794	\$0	\$0
55	34,319	2,374	27	126	36,846	79	1	\$38,316	\$22,536	\$37,149	\$24,031	\$0
56	36,849	2,327	28	230	39,434	90	0	\$38,419	\$22,313	\$37,410	\$18,709	\$0
57	39,341	2,214	22	445	42,022	90	0	\$38,342	\$21,800	\$37,420	\$0	\$0
58	42,472	2,236	10	822	45,540	390	0	\$38,113	\$21,615	\$42,972	\$0	\$0
59	44,476	2,180	13	1,756	48,425	844	9	\$37,645	\$22,443	\$43,072	\$16,277	\$0
60	45,646	2,194	7	8,094	55,941	1,613	7	\$36,733	\$21,593	\$44,018	\$15,077	\$0
61	46,828	1,996	9	18,273	67,106	2,776	697	\$36,233	\$20,968	\$44,621	\$33,883	\$0
62	47,095	1,916	5	18,807	67,823	3,949	663	\$35,692	\$21,446	\$45,142	\$31,364	\$0
63	46,181	1,829	2	18,350	66,362	4,824	14	\$35,029	\$20,675	\$45,972	\$30,718	\$0
64	44,838	1,581	2	17,818	64,239	5,413	215	\$34,835	\$20,291	\$46,567	\$30,517	\$0
65	44,029	1,630	0	17,975	63,634	5,617	185	\$34,749	\$20,066	\$47,208	\$30,428	\$0
66	42,179	1,523	0	17,913	61,615	5,121	745	\$34,656	\$19,312	\$47,208	\$30,256	\$0
67	41,153	1,478	0	17,349	59,980	4,293	606	\$34,722	\$19,986	\$47,208	\$30,065	\$0
68	40,339	1,480	0	16,323	58,142	3,500	652	\$34,837	\$20,117	\$47,208	\$30,166	\$0
69	38,806	1,454	0	16,418	56,678	2,674	602	\$35,270	\$20,032	\$47,208	\$30,223	\$0
70	38,277	1,502	0	18,100	57,879	1,964	528	\$35,409	\$19,541	\$47,208	\$30,320	\$0

Technical Reference to the FY 2022 Valuation of the Military Retirement Fund

DoD Retired Military Valuation Data as of Year-End FY 2022

All DoD

Age	Number				Average Annual Net Retired Pay				Reserve				CSB			
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	Total	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis		
71	35,190	1,415	0	17,850	54,455	1,494	465	14	1	\$19,840	\$18,385	\$29,726	\$27,515	\$12,704		
72	33,812	1,708	0	18,863	54,383	1,021	395	1	0	\$18,125	\$18,068	\$29,601	\$26,902	\$11,971		
73	34,029	2,053	0	20,743	56,825	794	428	3	0	\$17,144	\$17,513	\$29,184	\$27,593	\$12,474		
74	34,042	2,356	0	22,144	58,542	629	444	3	0	\$13,645	\$17,733	\$29,190	\$28,308	\$10,756		
75	34,284	2,411	0	23,471	60,166	551	419	0	0	\$38,692	\$17,987	\$29,631	\$28,697	\$10,617		
76	33,688	2,181	0	23,331	59,200	428	271	0	0	\$16,337	\$17,194	\$30,395	\$30,395	\$10,762		
77	22,864	1,382	0	16,107	40,353	265	241	0	0	\$40,180	\$18,246	\$30,666	\$30,914	\$10,360		
78	22,352	1,189	0	14,727	38,268	175	187	0	0	\$19,394	\$18,586	\$31,400	\$30,233	\$10,407		
79	22,702	998	0	13,635	37,335	138	156	0	0	\$40,239	\$18,258	\$31,737	\$31,450	\$10,961		
80	23,088	958	0	12,827	36,873	104	148	0	0	\$39,410	\$18,106	\$31,596	\$33,856	\$10,270		
81	20,118	747	0	9,839	30,704	70	116	0	0	\$38,910	\$17,554	\$32,387	\$32,387	\$8,799		
82	18,754	659	0	8,161	27,574	30	88	0	0	\$38,978	\$17,671	\$32,373	\$31,773	\$10,199		
83	17,733	505	0	7,571	25,809	24	95	0	0	\$39,393	\$17,426	\$32,738	\$38,667	\$9,069		
84	17,068	494	0	7,154	24,716	24	103	0	0	\$39,061	\$16,972	\$32,447	\$33,912	\$10,361		
85	16,605	437	0	6,527	23,569	11	97	0	0	\$38,970	\$16,733	\$32,621	\$40,378	\$8,605		
86	14,844	350	0	5,756	20,950	11	79	0	0	\$39,274	\$16,671	\$32,860	\$34,540	\$7,805		
87	13,181	318	0	5,092	18,591	8	80	0	0	\$39,550	\$16,483	\$33,040	\$40,656	\$7,889		
88	11,460	317	0	4,295	16,072	4	53	0	0	\$41,355	\$17,250	\$34,637	\$46,577	\$8,922		
89	9,555	300	0	3,420	13,275	2	40	0	0	\$41,899	\$18,056	\$35,427	\$62,776	\$7,964		
90	8,331	299	0	3,011	11,641	4	6	0	0	\$42,599	\$18,443	\$35,903	\$50,156	\$13,829		
91	6,916	285	0	2,591	9,792	3	4	0	0	\$43,206	\$18,259	\$36,091	\$56,200	\$23,002		
92	5,797	255	0	2,339	8,391	255	1	0	0	\$43,288	\$18,312	\$35,855	\$50	\$5,728		
93	4,346	221	0	1,688	6,255	0	0	0	0	\$43,702	\$18,541	\$36,321	\$50	\$50		
94	2,965	162	0	1,175	4,302	0	2	0	0	\$45,083	\$18,254	\$37,204	\$50	\$27,948		
95	1,934	102	0	660	2,696	0	0	0	0	\$44,221	\$19,657	\$37,548	\$50	\$50		
96	1,084	51	0	450	1,585	0	0	0	0	\$44,497	\$19,036	\$37,104	\$50	\$50		
97	773	39	0	403	1,215	0	0	0	0	\$49,469	\$19,208	\$39,034	\$50	\$50		
98	600	34	0	372	1,006	0	0	0	0	\$52,799	\$18,063	\$39,303	\$50	\$50		
99	375	20	0	249	644	0	0	0	0	\$50,522	\$18,164	\$37,787	\$50	\$50		
100	269	25	0	166	460	0	0	0	0	\$53,842	\$19,888	\$40,953	\$50	\$50		
101	167	26	0	104	297	0	0	0	0	\$56,347	\$19,324	\$41,863	\$50	\$50		
102	105	19	0	76	200	0	0	0	0	\$54,774	\$19,932	\$40,349	\$50	\$50		
103	61	6	0	27	94	0	0	0	0	\$55,787	\$20,288	\$44,208	\$50	\$50		
104	23	3	0	25	51	0	0	0	0	\$55,360	\$24,920	\$38,020	\$50	\$50		
105	14	1	0	4	19	0	0	0	0	\$54,184	\$31,722	\$51,438	\$50	\$50		
106	7	2	0	0	16	0	0	0	0	\$38,228	\$22,855	\$30,283	\$50	\$50		
107	0	0	0	2	2	0	0	0	0	\$17,754	\$17,754	\$17,754	\$50	\$50		
108	3	1	0	1	5	0	0	0	0	\$5,635	\$17,581	\$50	\$50	\$50		
109	0	0	0	0	0	0	0	0	0	\$50	\$50	\$50	\$50	\$50		
110+	2	0	0	0	2	0	0	0	0	\$50	\$50	\$50	\$50	\$50		
Total	1,463,437	132,415	4,053	443,790	2,043,695	58,775	10,904	90,644	5,533	\$36,670	\$19,080	\$31,491	\$21,751	\$13,003		
60+	944,512	40,912	25	440,283	1,425,732	47,534	10,891	3,245	95	\$37,115	\$18,924	\$31,005	\$21,595	\$12,996		
62+	852,038	36,722	9	413,916	1,302,685	43,145	10,131	1,610	47	\$37,241	\$18,715	\$30,863	\$22,230	\$13,060		
65+	713,924	31,396	0	358,941	1,104,261	28,959	8,038	582	14	\$37,699	\$18,411	\$30,918	\$24,457	\$12,901		

Notes: Age is retiree's current age nearest birthday at end of fiscal year.  
60+ is total for ages 60 and over.  
62+ is total for ages 62 and over.  
65+ is total for ages 65 and over.  
Includes only retirees receiving payment from DoD.  
Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.  
Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.  
TERA and CSB numbers and payments are included in the appropriate categories.  
Pay amounts do not include the 12/1/22 cost of living increase of 8.7%.

*Technical Reference to the FY 2022 Valuation of the Military Retirement Fund*

**DoD Survivor Valuation Data as of Year-End FY 2022**

Age	Number						Average Annual Net Survivor Pay					
	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Total	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Total
0	0	0	0	12	0	12	\$0	\$0	\$0	\$8,640	\$0	\$8,640
1	0	0	0	9	0	9	\$0	\$0	\$0	\$12,542	\$0	\$12,542
2	4	1	0	21	0	26	\$7,992	\$468	\$0	\$10,635	\$0	\$9,838
3	6	0	0	73	0	79	\$10,487	\$0	\$0	\$9,627	\$0	\$9,693
4	7	0	0	90	0	97	\$7,169	\$0	\$0	\$11,317	\$0	\$11,017
5	6	0	0	105	0	111	\$8,714	\$0	\$0	\$9,515	\$0	\$9,472
6	10	1	0	141	0	152	\$9,129	\$3,712	\$0	\$10,654	\$0	\$10,508
7	12	0	0	165	0	177	\$9,305	\$0	\$0	\$10,574	\$0	\$10,488
8	27	2	0	205	0	234	\$10,042	\$6,729	\$0	\$10,377	\$0	\$10,307
9	26	6	0	258	0	290	\$8,164	\$3,100	\$0	\$9,909	\$0	\$9,612
10	40	3	0	331	0	374	\$9,928	\$4,136	\$0	\$9,773	\$0	\$9,745
11	54	5	0	409	0	468	\$9,881	\$5,737	\$0	\$9,615	\$0	\$9,604
12	60	7	0	443	5	515	\$9,822	\$6,520	\$0	\$10,032	\$2,716	\$9,889
13	69	7	0	517	4	597	\$11,498	\$9,160	\$0	\$10,102	\$1,658	\$10,195
14	72	10	0	580	10	672	\$10,895	\$5,422	\$0	\$9,501	\$6,398	\$9,544
15	93	13	0	602	6	714	\$9,642	\$6,423	\$0	\$9,913	\$4,278	\$9,767
16	92	11	0	707	2	812	\$11,234	\$6,589	\$0	\$9,851	\$10,410	\$9,964
17	132	19	0	686	3	840	\$11,504	\$5,805	\$0	\$10,048	\$1,668	\$10,151
18	125	15	0	729	1	870	\$11,321	\$5,709	\$0	\$10,338	\$18,072	\$10,408
19	154	17	0	713	1	885	\$12,582	\$8,212	\$0	\$10,933	\$22,500	\$11,181
20	175	21	0	706	0	902	\$13,372	\$6,527	\$0	\$11,301	\$0	\$11,592
21	169	28	0	619	0	816	\$13,222	\$9,021	\$0	\$11,187	\$0	\$11,535
22	115	12	0	403	0	530	\$13,276	\$6,124	\$0	\$11,655	\$0	\$11,881
23	13	3	0	51	0	67	\$16,008	\$13,840	\$0	\$12,209	\$0	\$13,019
24	5	0	0	50	0	55	\$10,339	\$0	\$0	\$12,282	\$0	\$12,105
25	12	1	0	67	0	80	\$12,879	\$6,096	\$0	\$11,283	\$0	\$11,458
26	15	0	0	63	0	78	\$10,003	\$0	\$0	\$11,437	\$0	\$11,162
27	12	1	0	69	0	82	\$12,394	\$13,728	\$0	\$13,131	\$0	\$13,031
28	20	4	0	81	0	105	\$12,215	\$7,182	\$0	\$12,438	\$0	\$12,195
29	24	5	0	77	0	106	\$12,757	\$8,616	\$0	\$12,481	\$0	\$12,361
30	18	5	0	87	0	110	\$15,330	\$12,641	\$0	\$13,463	\$0	\$13,731
31	42	6	0	92	0	140	\$15,367	\$6,966	\$0	\$13,357	\$0	\$13,686
32	46	4	0	113	0	163	\$13,658	\$2,981	\$0	\$13,060	\$0	\$12,981
33	49	4	0	134	0	187	\$11,899	\$7,020	\$0	\$14,249	\$0	\$13,479
34	62	6	0	123	0	191	\$13,390	\$10,532	\$0	\$13,440	\$0	\$13,332
35	63	10	0	119	0	192	\$14,459	\$8,762	\$0	\$14,832	\$0	\$14,394
36	86	5	0	144	0	235	\$15,612	\$13,466	\$0	\$15,083	\$0	\$15,242
37	91	13	0	138	0	242	\$13,690	\$7,442	\$0	\$15,955	\$0	\$14,646
38	104	13	0	167	0	284	\$16,680	\$8,059	\$0	\$15,488	\$0	\$15,584
39	118	17	0	170	0	305	\$15,202	\$9,601	\$0	\$16,717	\$0	\$15,734
40	126	18	0	156	0	300	\$14,345	\$7,491	\$0	\$16,880	\$0	\$15,252
41	171	21	0	142	0	334	\$16,224	\$9,980	\$0	\$17,576	\$0	\$16,407
42	137	38	0	142	0	317	\$16,571	\$7,649	\$0	\$19,092	\$0	\$16,631
43	151	35	0	141	0	327	\$15,689	\$8,417	\$0	\$20,235	\$0	\$16,871
44	190	38	0	126	0	354	\$16,012	\$9,135	\$0	\$20,713	\$0	\$16,947
45	165	40	0	126	0	331	\$16,890	\$10,125	\$0	\$22,811	\$0	\$18,326
46	228	59	0	126	0	413	\$16,975	\$9,115	\$0	\$24,378	\$0	\$18,110
47	243	59	0	102	1	405	\$15,693	\$10,197	\$0	\$24,026	\$1,321	\$16,956
48	273	70	0	122	0	465	\$17,501	\$10,779	\$0	\$25,188	\$0	\$18,506
49	296	89	0	104	0	489	\$16,712	\$10,486	\$0	\$25,729	\$0	\$17,496
50	325	110	0	111	3	549	\$17,838	\$9,748	\$0	\$29,381	\$5,664	\$18,485
51	407	126	0	108	5	646	\$18,003	\$9,228	\$0	\$26,022	\$2,078	\$17,509
52	482	172	0	131	6	791	\$16,876	\$9,778	\$0	\$26,777	\$2,102	\$16,860
53	549	172	0	128	21	870	\$17,710	\$9,268	\$0	\$28,386	\$2,342	\$17,241
54	660	229	0	120	11	1,020	\$16,901	\$10,220	\$0	\$27,016	\$2,807	\$16,439
55	641	223	0	117	17	998	\$17,965	\$10,313	\$0	\$27,054	\$3,386	\$17,072
56	792	271	0	107	18	1,188	\$16,725	\$9,463	\$0	\$31,040	\$2,948	\$16,149
57	893	354	0	115	17	1,379	\$16,430	\$9,411	\$0	\$29,319	\$2,943	\$15,537
58	1,108	426	0	121	10	1,665	\$17,066	\$9,986	\$0	\$28,492	\$5,176	\$16,013
59	1,211	540	0	88	31	1,870	\$16,893	\$9,692	\$0	\$29,944	\$4,719	\$15,226

*Technical Reference to the FY 2022 Valuation of the Military Retirement Fund*

**DoD Survivor Valuation Data as of Year-End FY 2022**

Age	Number						Average Annual Net Survivor Pay					
	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Total	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Total
60	1,380	629	0	102	9	2,120	\$16,555	\$10,068	\$0	\$31,974	\$3,987	\$15,319
61	1,549	726	0	107	13	2,395	\$16,859	\$9,168	\$0	\$34,373	\$3,165	\$15,236
62	1,753	746	0	96	22	2,617	\$16,514	\$9,582	\$0	\$32,139	\$3,179	\$14,999
63	1,986	877	0	77	10	2,950	\$16,708	\$9,557	\$0	\$29,254	\$3,597	\$14,865
64	2,137	1,021	0	85	15	3,258	\$15,759	\$9,680	\$0	\$31,481	\$4,238	\$14,211
65	2,418	1,249	0	78	9	3,754	\$15,899	\$9,591	\$0	\$30,762	\$2,698	\$14,078
66	2,717	1,338	0	89	8	4,152	\$15,996	\$9,822	\$0	\$31,656	\$2,459	\$14,316
67	2,962	1,465	0	64	3	4,494	\$16,166	\$9,426	\$0	\$32,996	\$3,830	\$14,200
68	3,232	1,763	0	59	6	5,060	\$15,933	\$9,384	\$0	\$31,265	\$3,435	\$13,815
69	3,556	1,929	0	67	6	5,558	\$16,233	\$9,366	\$0	\$31,499	\$3,998	\$14,020
70	3,903	2,233	0	58	4	6,198	\$16,144	\$9,400	\$0	\$30,120	\$1,962	\$13,836
71	4,134	2,571	0	66	3	6,774	\$16,173	\$9,354	\$0	\$26,708	\$2,239	\$13,682
72	4,584	2,741	0	61	3	7,389	\$16,182	\$9,284	\$0	\$29,458	\$3,406	\$13,728
73	4,984	3,059	0	62	1	8,106	\$16,710	\$9,310	\$0	\$30,277	\$492	\$14,019
74	5,346	3,396	1	45	6	8,794	\$16,523	\$9,320	\$9,061	\$27,397	\$3,474	\$13,787
75	6,089	3,891	0	54	4	10,038	\$16,741	\$9,397	\$0	\$27,662	\$954	\$13,947
76	6,711	3,971	1	44	1	10,728	\$17,182	\$9,563	\$9,888	\$29,088	\$1,600	\$14,408
77	5,567	3,089	0	45	5	8,706	\$16,916	\$9,440	\$0	\$23,577	\$1,638	\$14,289
78	6,346	3,297	0	52	9	9,704	\$17,135	\$9,509	\$0	\$26,819	\$1,161	\$14,581
79	7,205	3,514	1	45	8	10,773	\$17,164	\$9,519	\$9,888	\$25,868	\$1,014	\$14,694
80	7,927	3,783	0	53	14	11,777	\$17,251	\$9,550	\$0	\$29,297	\$2,239	\$14,814
81	7,876	3,562	0	45	18	11,501	\$17,116	\$9,543	\$0	\$27,284	\$1,831	\$14,787
82	8,109	3,397	1	44	34	11,585	\$17,409	\$9,331	\$9,888	\$25,318	\$2,036	\$15,024
83	8,450	3,399	0	56	33	11,938	\$17,435	\$9,412	\$0	\$27,131	\$1,615	\$15,152
84	8,692	3,456	2	36	33	12,219	\$18,030	\$9,327	\$9,888	\$28,150	\$1,881	\$15,553
85	8,742	3,322	1	43	40	12,148	\$18,176	\$9,554	\$8,462	\$25,868	\$2,465	\$15,793
86	8,505	3,239	3	61	79	11,887	\$18,429	\$9,632	\$9,045	\$25,155	\$2,086	\$15,956
87	8,407	3,180	4	39	95	11,725	\$18,793	\$9,476	\$8,711	\$25,801	\$2,229	\$16,152
88	7,752	3,057	1	54	120	10,984	\$19,431	\$9,678	\$9,888	\$27,185	\$2,258	\$16,566
89	7,174	2,643	1	44	147	10,009	\$20,098	\$9,720	\$5,184	\$29,003	\$2,168	\$17,132
90	6,652	2,601	1	50	179	9,483	\$20,343	\$9,847	\$8,298	\$26,378	\$1,893	\$17,147
91	5,855	2,278	1	45	173	8,352	\$20,746	\$9,816	\$5,361	\$24,748	\$2,603	\$17,409
92	5,028	1,935	1	26	200	7,190	\$21,480	\$10,279	\$9,888	\$23,640	\$2,691	\$17,949
93	3,923	1,681	1	32	173	5,810	\$22,084	\$9,869	\$8,888	\$16,554	\$2,254	\$17,927
94	3,215	1,490	2	28	153	4,888	\$22,283	\$10,302	\$9,888	\$20,598	\$2,416	\$17,994
95	2,577	1,180	1	26	132	3,916	\$23,039	\$10,433	\$9,888	\$15,763	\$2,569	\$18,498
96	2,098	1,034	2	26	129	3,289	\$23,681	\$10,561	\$11,969	\$19,822	\$2,745	\$18,698
97	1,752	804	2	13	126	2,697	\$24,683	\$10,859	\$9,888	\$17,491	\$2,801	\$19,494
98	1,364	677	0	17	99	2,157	\$25,009	\$10,623	\$0	\$12,001	\$3,146	\$19,388
99	1,032	530	4	20	81	1,667	\$26,815	\$11,140	\$10,970	\$15,168	\$2,992	\$20,496
100	707	346	1	11	59	1,124	\$26,380	\$11,589	\$6,204	\$14,494	\$3,782	\$20,506
101	478	284	2	7	36	807	\$26,550	\$11,031	\$9,888	\$21,562	\$2,269	\$19,921
102	286	171	0	0	28	485	\$26,714	\$12,039	\$0	\$0	\$2,969	\$20,169
103	153	88	1	1	20	263	\$26,935	\$11,525	\$7,998	\$3,439	\$5,121	\$19,959
104	74	35	0	3	3	115	\$27,790	\$12,787	\$0	\$3,439	\$2,224	\$21,922
105	33	22	1	0	5	61	\$23,484	\$10,351	\$9,888	\$0	\$1,958	\$16,760
106	23	10	0	1	0	34	\$26,376	\$14,456	\$0	\$3,439	\$0	\$22,196
107	9	4	0	0	2	15	\$14,733	\$16,986	\$0	\$0	\$864	\$13,485
108	5	3	0	0	0	8	\$29,777	\$10,736	\$0	\$0	\$0	\$22,637
109	4	4	0	0	1	9	\$21,117	\$8,781	\$0	\$0	\$6,624	\$14,024
110	2	1	0	0	0	3	\$26,592	\$4,008	\$0	\$0	\$0	\$19,064
111	1	1	0	0	0	2	\$10,068	\$3,156	\$0	\$0	\$0	\$6,612
112	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0
113	0	0	1	0	1	2	\$0	\$0	\$9,624	\$0	\$0	\$4,812
114	2	1	2	0	0	5	\$18,159	\$9,608	\$8,902	\$15,678	\$2,608	\$12,746
Total	206,742	95,088	39	14,839	2,530	319,238	\$18,159	\$9,608	\$9,359	\$15,678	\$2,608	\$15,372
60+	195,466	91,723	39	2,137	2,358	291,723	\$18,278	\$9,610	\$9,359	\$28,082	\$2,519	\$15,496
62+	192,537	90,368	39	1,928	2,336	287,208	\$18,301	\$9,611	\$9,359	\$27,527	\$2,510	\$15,499
65+	186,661	87,724	39	1,670	2,289	278,383	\$18,364	\$9,611	\$9,359	\$26,981	\$2,488	\$15,526

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

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only survivors receiving payment from DoD.

Survivors receiving payment under SBP and RSFPP are counted twice.

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

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

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

Pay amounts do not include the 12/1/22 cost of living increase of 8.7%.

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

Amounts do not reflect reduction due to VA's DIC offset.

APPENDIX D

ECONOMIC ASSUMPTIONS

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## ECONOMIC ASSUMPTIONS

In June 2022, the Board approved the following economic assumptions for use in the valuation as of September 30, 2022: the rate of inflation (CPI) is assumed to be 2.50 percent per year; the investment return (interest rate) is 4.00 percent per year; and the basic pay scale increases are 2.75 percent per year. For access to the official transcript of the meeting, follow this link: <https://actuary.defense.gov/External-Links/>

As noted in the “Valuation Data and Procedure” section in the FY 2022 Valuation Report, the valuation results are highly sensitive to changes in these three primary economic assumptions. As background for approving the economic assumptions, the Board receives information from economists and actuaries as well as extensive historical data on inflation, interest rates, and wage growth. The Board considers the 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 Board’s approved long-term economic assumptions by valuation year since the Fund’s inception in 1984.

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

### **Inflation**

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

The DoD assumption for CPI is reasonably consistent with what is used in other parts of the government. In its 2022 report, the Civil Service Retirement System (CSRS) assumes a 2.40 percent CPI increase. The Trustees of the Social Security Administration (SSA) in their 2022 Annual Report made projections under three alternative sets of assumptions. Their intermediate assumption for CPI was 2.40 percent. The Board has noted that in certain respects, the effect of the CPI on the valuation is relatively minor in a system where retirement benefits are fully indexed and expressed as a percentage of payroll.

### **Interest Rate**

The Board focuses on “real” interest rates. To simplify discussion, the real interest rate is defined as the difference between the nominal interest rate and the CPI. Other things being equal, a lower element of risk in an investment will give a lower real interest rate. Because the MRF 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

FY 2022 Valuation Report, the Fund is currently heavily invested in Treasury Inflation-Protected Securities (TIPS). TIPS allow the investor/institution to lock in the real interest rate for a given period of time.

The Board examines what real interest rates the Fund is expected to earn by the types of public debt securities in which the Fund is invested, as well as how future contributions can be invested under current and projected capital market assumptions. 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 in the near term.

After analyzing forecasts of government trust fund earnings, 1.50 percent was adopted as the assumed rate of real interest. Since 2.50 percent had been adopted as the inflation rate, the assumed nominal rate of interest is 4.00 percent ( $4.00 = 2.50 + 1.50$ ). 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 2.3 percent in their 2022 report. The Board of Actuaries of the CSRS used a 1.60 percent real interest rate assumption in its 2022 valuation.

### **Wage Growth**

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

The Military Pay Comparability Act of 2003 ensures that military pay increases are comparable to private sector pay growth, as measured by the Employment Cost Index (ECI) – Wages and Salaries index on a 15-month lag. (“Wages and Salaries” account for about 70 percent of the broader “Compensation” costs, with “Benefits” making up the remaining 30 percent.) Covenants are embedded within the Act which give the President the authority to propose an alternate basic pay adjustment. This Act specifically referenced fiscal years through 2006. However, Congress has continued to use the basic framework of the Act in the subsequent fiscal years.

In making its recommendation for the real rate of the annual basic pay scale increase, the Board considered information presented and approved a real basic pay growth assumption of 0.25 percent, leading to a nominal growth of 2.75 percent ( $2.75 = 0.25 + 2.50$ ). The Board of Actuaries of the CSRS assumed 0.25 percent real wage growth for its 2022 valuation. The Social Security Trustees’ 2022 report had an intermediate ultimate assumption for real wage growth of 1.15 percent. (For the MRF and CSRS, wage increase relates to “across-the-board”



salary increase which excludes merit and certain longevity increases, whereas for Social Security, wage increase generally relates to the total salary increase.)

Table D-1

DoD Board of Actuaries' Long-Term Economic Assumptions

Fiscal Year	Inflation (1)	Interest (2)	Salary Growth (3)	"Real" Interest (4)	"Real" Salary (5)
1984	5.00%	6.60%	6.20%	1.60%	1.20%
1985	5.00	6.60	6.20	1.60	1.20
1986	5.00	6.60	6.20	1.60	1.20
1987	5.00	6.60	6.20	1.60	1.20
1988	5.00	7.00	5.75	2.00	0.75
1989	5.00	7.00	5.75	2.00	0.75
1990	5.00	7.00	5.75	2.00	0.75
1991	5.00	7.50	5.50	2.50	0.50
1992	5.00	7.50	5.50	2.50	0.50
1993	5.00	7.50	5.50	2.50	0.50
1994	4.00	6.75	4.50	2.75	0.50
1995	4.00	6.75	4.50	2.75	0.50
1996	3.50	6.50	4.00	3.00	0.50
1997	3.50	6.50	4.00	3.00	0.50
1998	3.50	6.50	4.00	3.00	0.50
1999	3.00	6.25	3.50	3.25	0.50
2000	3.00	6.25	3.50	3.25	0.50
2001	3.00	6.25	3.50	3.25	0.50
2002	3.00	6.25	3.50	3.25	0.50
2003	3.00	6.25	3.75	3.25	0.75
2004	3.00	6.25	3.75	3.25	0.75
2005	3.00	6.25	3.75	3.25	0.75
2006	3.00	6.00	3.75	3.00	0.75
2007	3.00	6.00	3.75	3.00	0.75
2008	3.00	5.75	3.75	2.75	0.75
2009	3.00	5.75	3.75	2.75	0.75
2010	3.00	5.75	3.75	2.75	0.75
2011	3.00	5.75	3.75	2.75	0.75
2012	3.00	5.50	3.50	2.50	0.50
2013	3.00	5.50	3.50	2.50	0.50
2014	3.00	5.50	3.50	2.50	0.50
2015	2.75	5.25	3.25	2.50	0.50
2016	2.75	5.25	3.25	2.50	0.50
2017	2.75	5.00	3.25	2.25	0.50
2018	2.75	5.00	3.25	2.25	0.50
2019	2.75	4.75	3.25	2.00	0.50
2020	2.50	4.25	2.75	1.75	0.25
2021	2.50	4.00	2.75	1.50	0.25
2022	2.50	4.00	2.75	1.50	0.25

NOTES:

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

APPENDIX E

NORMAL COST WEIGHTING FACTORS

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## NORMAL COST WEIGHTING FACTORS

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

In order to continue to budget for NCPs well in advance of the valuation date, the Board 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 2020 data. Table E-1 displays the active duty and reserve basic payroll percentage distributions by completed years of service at the end of FY 2020.

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<sup>1</sup> The Blended Retirement System (enacted in NDAA 2016) is the fourth tier, effective January 1, 2018, for those who enter military service on or after January 1, 2018, or opt-in with fewer than 12 years of service during the one-year open season starting January 1, 2018. NDAA 2016 also sunsets CSB/REDUX.

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

Table E-1

BASIC PAYROLL PERCENTAGE DISTRIBUTION  
By COMPLETED YEARS OF SERVICE

Completed Years of Service	Percentage of Payroll on 9/30/2020:	
	Full-time	Part-time
0	3%	4%
1 or less	9%	9%
2 or less	15%	13%
3 or less	21%	18%
4 or less	26%	22%
5 or less	31%	27%
6 or less	35%	32%
7 or less	40%	36%
8 or less	44%	40%
9 or less	47%	43%
10 or less	51%	47%
11 or less	55%	51%
12 or less	58%	54%
13 or less	61%	57%
14 or less	64%	59%
15 or less	67%	62%
16 or less	70%	65%
17 or less	74%	68%
18 or less	77%	71%
19 or less	81%	75%
20 or less	84%	77%
21 or less	86%	80%
22 or less	88%	82%
23 or less	90%	83%
24 or less	92%	85%
25 or less	93%	86%
26 or less	94%	87%
27 or less	95%	89%
28 or less	96%	90%
29 or less	97%	91%
30 or less	97%	92%
31 or less	98%	94%
32 or less	99%	95%
33 or less	99%	96%
34 or less	99%	97%
35 or less	99%	98%
36 or less	100%	98%
37 or less	100%	99%
38 or less	100%	99%
39 and greater	100%	100%
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; 9% of payroll is assumed to apply to members who entered in that fiscal year or the year prior; etc.

APPENDIX F

VALUATION PROGRAM PARAMETERS

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## **VALUATION PROGRAM PARAMETERS DESCRIPTION**

GORGO is an actuarial projection model run in a spreadsheet environment with embedded Visual Basic programming. The model is used to compute the aggregate entry-age NCP, unfunded liability, and make long-term projections. In addition to being affected by the decrement rates, GORGO has a number of parameters which affect its results. These parameters are summaries of recent experience and/or future expectations. Examples include the rates of election of SBP and member-spouse age differences.

Concurrent Receipt required additional breakouts of some parameters in order to calculate the DoD and Treasury normal cost components.

A description of valuation program parameters is given in Table F-1.

**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 2.75 percent.
2) CPI (Inflation)	A parameter for each of the next nine fiscal years specifies the annual inflation rate for that year. A tenth parameter specifies the inflation rate for all subsequent years. The value for the valuation is 2.50 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 4.00 percent.
4) Lump Sum Discount Rate	A parameter that specifies the assumed annual interest rate (in real economic terms) used to calculate BRS lump sums. The value for the valuation is 7.3%.

**Active Duty**

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



**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
2) Full Offsets	It is possible have all of DoD retired pay offset by VA disability compensation or receipt of a federal civilian retirement. The factors are percentages of new retiree counts and dollars fully offset. They are separate by officer/enlisted status, benefit tier, and type of retirement (disability (over/under 20 years of service)/nondisability). “Total” factors are used to compute the accrued liability, and “DoD” factors are used for the DoD NCPs. Factors under “#” apply to new retiree counts and “\$” apply to pay.

<b>Full Offset Factors</b>				
	<b>DoD</b>		<b>Total</b>	
	<b>Average FYs 04-05 and 18-19</b>		<b>FYs 18-19</b>	
	<b>#</b>	<b>\$</b>	<b>#</b>	<b>\$</b>
<b>Nondisability</b>				
Officer	0.016	0.010	0.000	0.000
Enlisted	0.155	0.135	0.000	0.000
	<b>FYs 18-19</b>			
<b>Disability</b>	<b>&lt; 20 / &gt;= 20</b>	<b>&lt; 20 / &gt;= 20</b>	<b>&lt; 20 / &gt;= 20</b>	<b>&lt; 20 / &gt;= 20</b>
Officer	0.272 / 0.117	0.19 / 0.08	0.233 / 0	0.158 / 0
Enlisted	0.839 / 0.585	0.816 / 0.546	0.737 / 0	0.681 / 0

3) Partial VA Offsets	It is possible to have a portion of DoD retired pay offset by VA disability compensation. The factors are percentages deducted from retired pay of new retirees. They are separate by officer/enlisted status, benefit tier, and disability (over/under 20 years of service)/nondisability status. “Total” factors are used to compute the accrued liability, and “DoD” factors are used for the DoD NCPs. Factors under “#” apply to new retiree counts and “\$” apply to pay.
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<b>Partial Offset Factors</b>				
	<b>DoD</b>		<b>Total</b>	
	<b>Average FYs 04-05 and 18-19</b>		<b>FYs 18-19</b>	
	<b>\$</b>		<b>\$</b>	
<b>Nondisability</b>				
Officer	0.149		0.004	
Enlisted	0.236		0.014	
	<b>FYs 18-19</b>			
<b>Disability</b>	<b>&lt; 20 / &gt;= 20</b>		<b>&lt; 20 / &gt;= 20</b>	
Officer	0.618 / 0.584		0.583 / 0.111	
Enlisted	0.601 / 0.692		0.555 / 0.141	

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
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.
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 DIC from the VA. 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 benefit from DoD up to 55 percent of the member's full retired pay. If no spouse is present, the benefit passes on to an eligible child. If both spouse and eligible child are present then, under certain tax provisions, it is advantageous for the spouse to pass the benefits to the child. Thus, it is necessary to estimate the percent of active duty members with beneficiaries. The percentages are given by officer/enlisted status, and further allocated by spouse/child.
6) Reduction Factors for SBP	Premium amounts, as a percent of retired pay, by age, officer/enlisted status, and benefit tier.
7) Rounding Assumptions for Partially Completed Years of Service	When retired pay is computed, years of service are rounded down to the nearest completed month. An assumption must be made for the computation. The value for the valuation is 0.017.
8) CSB/REDUX election proportion	The proportion of members who elect CSB/REDUX. For the unfunded liability and open group valuations, the proportion varies by entry year and officer/enlisted status. For the normal cost (new entrant) valuation, the proportion is 10 percent. This value is essentially a representative rate needed to approximate the floating proportions (of CSB/REDUX electors) used in the unfunded liability and open group valuations.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
9) 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.
10) BRS Opt-In Rates	Rates used to determine the portion of members with fewer than 12 years of service as of December 31, 2017, electing, during the calendar year 2018 Open Season, to opt-in to BRS. These rates are used in the determination of the weighted normal cost percentage. Varies by years of service, officer/enlisted and active/reserve.

YOS	<u>Active</u> Off / Enl	<u>Reserves</u> Off / Enl
0	100%	100%
1	100%	100%
2	86%	80%
3	44%	21%
4	45%	21%
5	42%	21%
6	41%	22%
7	39%	21%
8	36%	21%
9	31%	19%
10	28%	18%
11	22%	15%
12	18%	13%
13	13%	11%
14	9%	9%
15	4%	7%
16	2%	5%
17	1%	4%
18	1%	3%
19	0%	2%

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
11) BRS Lump Sum Election Rates /Discount Factor/Option	This is the rate of election of lump sums by those who are covered under BRS. The value is based on a study completed by an external organization and represents members having a “Low Personal Discount Rate and Aware of Tax and VA Offset Implications.” It is an interpolated value for active duty using an assumed lump sum discount rate of 7.3%; the assumptions are 5.2% for officers and 22.8% for enlisted. Of those who elect lump sums, all are assumed to elect the 50% lump sum option in the September 30, 2022 valuation.

**Reserve Duty**

<u>Item</u>	<u>Description/Value</u>
1) Ratio of Net to Gross Retired Pay For Reserves	This is the ratio of reserve net retired pay to gross retired pay. This is given by officer/enlisted status, age, and benefit tier.
2) Proportion of Points Based on Active Service	This amount is used to allocate the part of the reserve normal cost that are paid for as a part of the active duty normal cost. The value for the valuation is 51%.
3) Initial Annual Pay of new Selected Reserve member	This array is used to set initial pay for a new Selected Reserve member in a normal cost run. The values for the valuation are updated with an across-the-board salary increase each year.
4) Ratio of Reserve to Active Payroll	For the purposes of the allocation referred to in item 2) above, this value represents the assumed ratio of reserve duty to active duty basic payroll. The value for the valuation is 10%.
5) BRS Opt-In Rates	Rates used to determine the portion of members with fewer than 4,320 points as of December 31, 2017, opting into BRS during the calendar year 2018 Open Season. Varies by years of service and active/reserve. See item (10) of the Active Duty section.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
6) BRS Lump Sum Election Rates	It is an interpolated value for reserves using an assumed lump sum discount rate (used to calculate lump sums) of 7.3%; the assumptions are 2.0% for officers and 8.4% for enlisted. Of those who elect lump sums, all are assumed to elect the 50% lump sum.

**Retiree**

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

**TABLE F-1 (continued)**

**Survivor**

<u>Item</u>	<u>Description/Value</u>
1) Member-Survivor Age Difference	When a member dies, a survivor is assumed to be a certain number of years younger (or older) than the member. This is given by active/reserve, age, officer/enlisted status, type of retirement (i.e., nondisability, temporary disability, permanent disability), and type of survivor (i.e., spouse, child, insurable interest).
2) Ratio of SBP Base Amount to Net Retired Pay	Under SBP the retiree may elect an amount less than gross retired pay as a base in computing the survivor annuity. Base amounts can exceed net retired pay due to factors that reduce gross retired pay to net retired pay, such as receipt of VA disability compensation. The ratios are applied to net retired pay at the point of death of an SBP-electing retiree and used to compute survivor pay. They are given by age, officer/enlisted status, benefit tier, and type of retirement disability/nondisability/reserve.
3) Ratio of RSFPP Survivor Benefit To Net Retired Pay	For RSFPP (Retired Servicemen's Family Protection Plan), this gives the ratio of the survivor payment to the net amount of retired pay.
4) Reservists' Election of RCSBP	Proportion of reservists who have elected the Reserve Component Survivor Benefit Plan (RCSBP) by immediate and deferred annuity, age, and officer/enlisted status.
5) 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).
6) 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.

APPENDIX G

ACTIVE DUTY RATES

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## ACTIVE DUTY RATE DESCRIPTION

The active duty rates consist 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 reenrant ratios, and ratios for promotion and merit scales. For the purposes of active duty rate development, full-time support reservists are included in the 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 losses). The active duty decrements also include rates of transfer from enlisted to officer. 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 experience period was selected such that the sum of the active force size changes for the included periods was near zero. Even though some active duty members terminate and later join the reserves, for valuation purposes there is no assumption modeling anyone who terminates from the active duty and is rehired as a reservist.

The death rates were smoothed using the GAM function in R.

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.

A reenrant 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 reenrant ratios give the expected number of reenrants 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 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.



## ACTIVE DUTY RATE FORMULAS

### ACTIVE DEATH (by age nearest birthday)

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

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

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

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

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

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

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

### WITHDRAWAL (by completed years of service)

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

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

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

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

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

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

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

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

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

SUMMARY OF YEARS ON WHICH ACTIVE DUTY RATES ARE BASED

**By Fiscal Year**

<u>RATE</u>	<u>2015-2019</u>
Death	X
Nondisability Retirement	X
Temporary Disability Retirement	X
Permanent Disability Retirement	X
Withdrawal (other losses)	X
Reentrant Ratios	X
New Entrant Distribution	X
Paygrade Transfer	X
Promotion and Merit Scales (PAMS)	X

DEATH RATES FOR NONRETIRED MILITARY

(AGE NEAREST BIRTHDAY)

<u>Age</u>	<u>Officer</u>	<u>Enlisted</u>
16	0.00030	0.00052
17	0.00030	0.00057
18	0.00031	0.00061
19	0.00031	0.00066
20	0.00031	0.00070
21	0.00033	0.00073
22	0.00033	0.00075
23	0.00034	0.00073
24	0.00034	0.00070
25	0.00035	0.00069
26	0.00036	0.00066
27	0.00037	0.00065
28	0.00038	0.00065
29	0.00040	0.00064
30	0.00040	0.00064
31	0.00042	0.00064
32	0.00042	0.00065
33	0.00044	0.00065
34	0.00044	0.00066
35	0.00046	0.00068
36	0.00046	0.00068
37	0.00047	0.00069
38	0.00048	0.00070
39	0.00048	0.00071
40	0.00049	0.00071
41	0.00048	0.00072
42	0.00048	0.00072
43	0.00049	0.00071
44	0.00048	0.00071
45	0.00048	0.00071
46	0.00047	0.00070
47	0.00047	0.00069
48	0.00047	0.00069
49	0.00046	0.00068
50	0.00046	0.00068
51	0.00049	0.00072
52	0.00052	0.00076
53	0.00056	0.00082
54	0.00060	0.00087
55	0.00063	0.00093
56	0.00068	0.00100
57	0.00074	0.00108
58	0.00079	0.00116
59	0.00085	0.00126
60	0.00092	0.00136

Note: 1. 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.  
2. These death rates are mortality rates for Fiscal Year 2022

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

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

<u>Years of Service</u>	<u>Non-disability</u>	<u>Temporary Disability ***</u>	<u>Permanent Disability ***</u>
0	0.00000	0.00030	0.00050
1	0.00000	0.00095	0.00113
2	0.00000	0.00155	0.00175
3	0.00000	0.00176	0.00219
4	0.00000	0.00193	0.00261
5	0.00000	0.00190	0.00310
6	0.00000	0.00212	0.00335
7	0.00000	0.00242	0.00353
8	0.00000	0.00288	0.00355
9	0.00000	0.00227	0.00374
10	0.00000	0.00303	0.00396
11	0.00000	0.00271	0.00398
12	0.00000	0.00299	0.00333
13	0.00000	0.00298	0.00297
14	0.00000	0.00228	0.00289
15	0.00000	0.00233	0.00280
16	0.00000	0.00180	0.00237
17	0.00000	0.00183	0.00171
18	0.00000	0.00085	0.00120
19	0.29403	0.00338	0.00532
20	0.16779	0.00555	0.00915
21	0.14554	0.00346	0.00698
22	0.13847	0.00279	0.00646
23	0.14688	0.00258	0.00574
24	0.15556	0.00195	0.00631
25	0.16765	0.00250	0.00596
26	0.16944	0.00134	0.00466
27	0.18323	0.00129	0.00466
28	0.17728	0.00140	0.00442
29	0.37643	0.00166	0.00432
30	0.32271	0.00292	0.00537
31	0.22694	0.00151	0.00481
32	0.22616	0.00151	0.00481
33	0.26632	0.00151	0.00481
34	0.26337	0.00151	0.00481
35	0.26825	0.00151	0.00481
36	0.27241	0.00151	0.00481
37	0.36614	0.00151	0.00481
38	0.30560	0.00151	0.00481
39	0.50633	0.00151	0.00481
40	1.00000	0.00151	0.00481

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

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

NONDISABILITY, TEMPORARY DISABILITY &  
PERMANENT DISABILITY RETIREMENT RATES

ENLISTED (BY COMPLETED YEARS OF SERVICE)			
<u>Years of Service</u>	<u>Non-disability</u>	<u>Temporary Disability ***</u>	<u>Permanent Disability ***</u>
0	0.00000	0.00071	0.00049
1	0.00000	0.00293	0.00250
2	0.00000	0.00523	0.00524
3	0.00000	0.00670	0.00624
4	0.00000	0.00692	0.00756
5	0.00000	0.00743	0.00823
6	0.00000	0.00817	0.00870
7	0.00000	0.00887	0.00917
8	0.00000	0.00930	0.00949
9	0.00000	0.00947	0.00997
10	0.00000	0.00924	0.00994
11	0.00000	0.00969	0.01003
12	0.00000	0.00874	0.01000
13	0.00000	0.00829	0.00967
14	0.00000	0.00736	0.00884
15	0.00000	0.00594	0.00768
16	0.00000	0.00537	0.00656
17	0.00000	0.00450	0.00521
18	0.00000	0.00308	0.00359
19	0.44646	0.00718	0.01239
20	0.24403	0.01022	0.02069
21	0.21888	0.00761	0.01793
22	0.22832	0.00745	0.01693
23	0.36389	0.00607	0.01405
24	0.24012	0.00565	0.01646
25	0.42157	0.00545	0.01439
26	0.21405	0.00455	0.01314
27	0.18270	0.00442	0.01001
28	0.21955	0.00493	0.00950
29	0.65357	0.00489	0.00826
30	0.56604	0.00450	0.01350
31	0.57998	0.00780	0.02220
32	0.56550	0.00780	0.02220
33	0.53907	0.00780	0.02220
34	0.57436	0.00780	0.02220
35	0.54193	0.00780	0.02220
36	0.54193	0.00780	0.02220
37	0.54193	0.00780	0.02220
38	0.54193	0.00780	0.02220
39	0.54193	0.00780	0.02220
40	1.00000	0.00780	0.02220

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

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

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

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

<u>Years of Service</u>	<u>Withdrawal</u>	<u>Reentrant ***</u>	<u>Net Loss</u>
0	0.00598	0.25021	-0.24423
1	0.00933	0.01792	-0.00859
2	0.02707	0.01788	0.00919
3	0.07932	0.02102	0.05830
4	0.09222	0.01924	0.07298
5	0.07260	0.01771	0.05489
6	0.08255	0.01617	0.06638
7	0.08597	0.01636	0.06961
8	0.06623	0.01484	0.05139
9	0.05855	0.01378	0.04477
10	0.08470	0.01274	0.07196
11	0.06448	0.01467	0.04981
12	0.04453	0.01313	0.03140
13	0.03107	0.01152	0.01955
14	0.02274	0.00804	0.01470
15	0.01625	0.00693	0.00932
16	0.01136	0.00602	0.00534
17	0.00774	0.00551	0.00223
18	0.00405	0.00492	-0.00087
19	0.00000	0.00272	-0.00272
20	0.00000	0.00298	-0.00298
21	0.00000	0.00256	-0.00256
22	0.00000	0.00227	-0.00227
23	0.00000	0.00234	-0.00234
24	0.00000	0.00157	-0.00157
25	0.00000	0.00135	-0.00135
26	0.00000	0.00180	-0.00180
27	0.00000	0.00179	-0.00179
28	0.00000	0.00104	-0.00104
29	0.00000	0.00076	-0.00076
30	0.00000	0.00231	-0.00231
31	0.00000	0.00157	-0.00157
32	0.00000	0.00134	-0.00134
33	0.00000	0.00118	-0.00118
34	0.00000	0.00113	-0.00113
35	0.00000	0.00102	-0.00102
36	0.00000	0.00083	-0.00083
37	0.00000	0.00079	-0.00079
38	0.00000	0.00064	-0.00064
39	0.00000	0.00048	-0.00048
40	0.00000	0.00000	0.00000

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

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

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

ENLISTED (BY COMPLETED YEARS OF SERVICE)

<u>Years of Service</u>	<u>Withdrawal</u>	<u>Reentrant ***</u>	<u>Net Loss</u>
0	0.07250	0.02377	0.04873
1	0.05576	0.00855	0.04721
2	0.09772	0.00741	0.09031
3	0.26795	0.01103	0.25692
4	0.18400	0.00953	0.17447
5	0.17611	0.00902	0.16709
6	0.10506	0.00830	0.09676
7	0.14336	0.00815	0.13521
8	0.09028	0.00736	0.08292
9	0.08105	0.00678	0.07427
10	0.06290	0.00543	0.05747
11	0.05449	0.00491	0.04958
12	0.04363	0.00476	0.03887
13	0.05195	0.00410	0.04785
14	0.04700	0.00360	0.04340
15	0.01822	0.00279	0.01543
16	0.01524	0.00219	0.01305
17	0.00909	0.00187	0.00722
18	0.00356	0.00160	0.00196
19	0.00000	0.00084	-0.00084
20	0.00000	0.00110	-0.00110
21	0.00000	0.00104	-0.00104
22	0.00000	0.00088	-0.00088
23	0.00000	0.00125	-0.00125
24	0.00000	0.00146	-0.00146
25	0.00000	0.00135	-0.00135
26	0.00000	0.00273	-0.00273
27	0.00000	0.00121	-0.00121
28	0.00000	0.00166	-0.00166
29	0.00000	0.00167	-0.00167
30	0.00000	0.00230	-0.00230
31	0.00000	0.00844	-0.00844
32	0.00000	0.00871	-0.00871
33	0.00000	0.00724	-0.00724
34	0.00000	0.00769	-0.00769
35	0.00000	0.00757	-0.00757
36	0.00000	0.00513	-0.00513
37	0.00000	0.00435	-0.00435
38	0.00000	0.00357	-0.00357
39	0.00000	0.00444	-0.00444
40	0.00000	0.00000	0.00000

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

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

PERCENTAGE DISTRIBUTION OF NEW ENTRANTS

(AGE NEAREST BIRTHDAY)

<u>Age</u>	<u>Officers</u>	<u>Enlisted</u>	<u>Total</u>
16	0.00000	0.00000	0.00000
17	0.00000	0.00050	0.00050
18	0.00000	0.09671	0.09671
19	0.00001	0.24693	0.24694
20	0.00004	0.18239	0.18243
21	0.00019	0.10786	0.10805
22	0.01306	0.07295	0.08601
23	0.02407	0.05589	0.07996
24	0.01025	0.04433	0.05458
25	0.00405	0.03366	0.03771
26	0.00354	0.02485	0.02839
27	0.00359	0.01769	0.02128
28	0.00253	0.01302	0.01555
29	0.00191	0.00950	0.01141
30	0.00128	0.00676	0.00804
31	0.00098	0.00489	0.00587
32	0.00071	0.00375	0.00446
33	0.00061	0.00285	0.00346
34	0.00047	0.00234	0.00281
35	0.00035	0.00196	0.00231
36	0.00025	0.00081	0.00106
37	0.00021	0.00038	0.00059
38	0.00018	0.00028	0.00046
39	0.00013	0.00028	0.00041
40	0.00014	0.00022	0.00036
41	0.00011	0.00007	0.00018
42	0.00009	0.00002	0.00011
43	0.00005	0.00003	0.00008
44	0.00004	0.00001	0.00005
45	0.00003	0.00001	0.00004
46	0.00002	0.00000	0.00002
47	0.00003	0.00001	0.00004
48	0.00003	0.00000	0.00003
49	0.00002	0.00001	0.00003
50	0.00002	0.00001	0.00003
51	0.00001	0.00000	0.00001
52	0.00001	0.00001	0.00002
53	0.00000	0.00000	0.00000
54	0.00001	0.00000	0.00001
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
Total	0.06902	0.93098	1.00000



PAYGRADE TRANSFER RATES

STATUS (BY COMPLETED YEARS OF SERVICE)

<u>Years of Service</u>	<u>Enlisted to Officer</u>
0	0.00625
1	0.00135
2	0.00155
3	0.00191
4	0.00258
5	0.00306
6	0.00395
7	0.00547
8	0.00701
9	0.00886
10	0.00999
11	0.01118
12	0.01056
13	0.00905
14	0.00757
15	0.00569
16	0.00432
17	0.00330
18	0.00285
19	0.00261
20	0.00132
21	0.00148
22	0.00099
23	0.00075
24	0.00043
25	0.00025
26	0.00000
27	0.00000
28	0.00000
29	0.00000
30	0.00000
31	0.00000
32	0.00000
33	0.00000
34	0.00000
35	0.00000
36	0.00000
37	0.00000
38	0.00000
39	0.00000
40	0.00000

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

**PROMOTION AND MERIT SCALES**

**OFFICERS (BY ENTRY AGE)**

Years of Service	Entry Age										
	16	17	18	19	20	21	22	23	24	25	26
1	1.09800	1.09800	1.09800	1.09800	1.05300	1.07400	1.01400	1.01800	1.04600	1.07400	1.09000
2	1.09800	1.09800	1.09800	1.09800	1.15700	1.14700	1.27200	1.26300	1.22600	1.21200	1.16200
3	1.12500	1.12500	1.12500	1.12500	1.20200	1.20400	1.16200	1.14900	1.12600	1.13700	1.10700
4	1.06800	1.06800	1.06800	1.01600	1.06900	1.12200	1.15000	1.14400	1.12600	1.11200	1.08700
5	0.99600	0.99600	0.99600	1.05700	1.09500	1.05000	1.02000	1.02400	1.03200	1.03500	1.02800
6	1.03000	1.03000	1.03000	1.03700	1.05400	1.07600	1.05000	1.04500	1.03800	1.04600	1.06500
7	1.26100	1.26100	1.26100	1.20100	1.09000	1.05100	1.00400	1.00700	1.01700	1.02100	1.02400
8	1.12300	1.12300	1.12300	1.10000	1.06500	1.05400	1.04900	1.04700	1.04300	1.04900	1.05200
9	1.03800	1.03800	1.06400	1.06900	1.04600	1.03000	1.00700	1.01000	1.02400	1.02700	1.02300
10	1.11600	1.11600	1.08300	1.07200	1.06900	1.06000	1.08600	1.08800	1.07900	1.06800	1.05100
11	1.07500	1.07500	1.05500	1.06100	1.04800	1.04200	1.04600	1.04400	1.04000	1.03600	1.02600
12	1.04400	1.04400	1.08000	1.07900	1.07700	1.07400	1.05400	1.05200	1.04700	1.04700	1.04100
13	1.03700	1.03700	1.04600	1.05700	1.05100	1.04000	1.00800	1.00800	1.01300	1.01600	1.01700
14	1.01600	1.01600	1.08500	1.07800	1.06800	1.05500	1.03800	1.03500	1.03200	1.03400	1.03100
15	1.08700	1.08700	1.04600	1.04400	1.03800	1.03200	1.02000	1.01900	1.02200	1.02200	1.01800
16	1.04800	1.04800	1.05900	1.05400	1.04900	1.04600	1.04900	1.04800	1.04100	1.03600	1.03300
17	1.04000	1.04000	1.03700	1.03300	1.03600	1.02800	1.02700	1.02700	1.02900	1.02600	1.02000
18	1.04600	1.04600	1.05300	1.05200	1.04800	1.04200	1.03300	1.03100	1.02900	1.02800	1.03100
19	1.03900	1.03900	1.03100	1.03000	1.02900	1.02800	1.01000	1.00900	1.01100	1.01500	1.01400
20	1.05400	1.05400	1.04400	1.04500	1.04200	1.03800	1.03900	1.03800	1.03800	1.03800	1.04000
21	1.01700	1.01700	1.02300	1.02400	1.02200	1.02300	1.02400	1.02800	1.03000	1.02900	1.02100
22	1.04800	1.04800	1.03400	1.03400	1.03200	1.03700	1.06800	1.06700	1.05200	1.04300	1.03100
23	1.05900	1.05900	1.02300	1.02400	1.02300	1.03000	1.02300	1.02600	1.02700	1.02800	1.01800
24	1.00000	1.00000	1.03500	1.03300	1.03400	1.03500	1.03400	1.03100	1.02900	1.03000	1.02200
25	1.04800	1.04800	1.01900	1.02500	1.02600	1.02200	1.01600	1.02000	1.02400	1.02400	1.01600
26	1.04300	1.04300	1.03600	1.03700	1.03500	1.04000	1.04300	1.03500	1.02800	1.02600	1.02800
27	1.03300	1.03300	1.02800	1.02500	1.02500	1.02600	1.01200	1.01200	1.01300	1.00700	1.01000
28	1.00500	1.00500	1.02500	1.02400	1.02200	1.02400	1.02300	1.01900	1.01000	1.01000	1.01600
29	1.02300	1.02300	1.02500	1.02300	1.02500	1.01600	1.01700	1.01800	1.01100	1.00400	1.01100
30	1.02100	1.02100	1.04800	1.05700	1.05500	1.05900	1.06200	1.05400	1.03600	1.03000	1.00000
31	1.03500	1.03500	1.05700	1.04600	1.04200	1.03500	1.05100	1.04800	1.01700	1.02100	1.01100
32	1.03600	1.03600	1.02300	1.02700	1.02800	1.00800	1.03700	1.04900	1.02600	1.01800	1.01800
33	1.02600	1.02600	1.02800	1.02200	1.01600	1.02700	1.03700	1.03800	1.02200	1.04500	1.00000
34	1.03600	1.03600	1.02900	1.03000	1.02900	1.03100	1.04200	1.03900	1.07200	1.01200	1.02200
35	0.99700	0.99700	1.03100	1.02200	1.02700	1.02800	1.02600	1.01200	1.02700	1.02800	0.98300
36	1.00500	1.00500	1.02900	1.02800	1.02000	1.02200	1.00500	1.02400	0.99500	1.02200	0.98300
37	1.01500	1.01500	1.02700	1.01900	1.01300	1.02400	1.00300	0.98300	1.01200	1.01300	0.98300
38	1.01000	1.01000	1.02000	1.02300	1.05300	1.02700	0.98500	1.00500	1.01200	1.01300	0.98300
39	1.02600	1.02600	1.00400	1.02600	1.03100	1.01900	0.98700	1.00500	1.01200	1.01300	0.98300
40	0.98200	0.98200	1.02100	0.95300	1.00300	1.04900	0.98700	1.00500	1.01200	1.01300	0.98300

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 SCALES**

**ENLISTED (BY ENTRY AGE)**

Years of Service	Entry Age										
	16	17	18	19	20	21	22	23	24	25	26
1	1.12700	1.12700	1.11400	1.10300	1.08600	1.08200	1.08000	1.07900	1.07700	1.07900	1.09800
2	1.10700	1.10700	1.11600	1.11600	1.11800	1.11800	1.11900	1.11700	1.11700	1.11800	1.13000
3	1.08400	1.08400	1.09700	1.09500	1.09200	1.09100	1.09100	1.09200	1.09300	1.09400	1.10400
4	1.06500	1.06500	1.08700	1.08500	1.08200	1.08200	1.08400	1.08700	1.08900	1.09100	1.09800
5	1.05100	1.05100	1.03600	1.03400	1.03100	1.03100	1.03200	1.03400	1.03500	1.03700	1.04800
6	1.08400	1.08400	1.09000	1.09100	1.09100	1.09000	1.08900	1.08800	1.09000	1.09000	1.09100
7	1.01300	1.01300	1.02300	1.02300	1.02300	1.02400	1.02600	1.02700	1.02800	1.02900	1.03800
8	1.09600	1.09600	1.09900	1.09800	1.09700	1.09600	1.09600	1.09500	1.09400	1.09400	1.08900
9	1.02000	1.02000	1.02500	1.02400	1.02300	1.02400	1.02500	1.02600	1.02800	1.02700	1.03200
10	1.06100	1.06100	1.06300	1.06200	1.06200	1.06100	1.06000	1.05800	1.05700	1.05500	1.05000
11	1.01800	1.01800	1.02200	1.02200	1.02100	1.02300	1.02400	1.02500	1.02600	1.02700	1.02800
12	1.07100	1.07100	1.07100	1.06800	1.06600	1.06300	1.06200	1.05900	1.05800	1.05800	1.04800
13	1.01600	1.01600	1.02300	1.02300	1.02400	1.02400	1.02400	1.02500	1.02500	1.02500	1.02600
14	1.03700	1.03700	1.05000	1.04900	1.04700	1.04700	1.04500	1.04600	1.04500	1.04400	1.04000
15	1.02500	1.02500	1.02400	1.02500	1.02600	1.02800	1.02800	1.02700	1.02600	1.02700	1.02800
16	1.04000	1.04000	1.04100	1.04000	1.03900	1.03900	1.03700	1.03500	1.03500	1.03500	1.02900
17	1.01600	1.01600	1.01700	1.01900	1.01900	1.02000	1.02000	1.02200	1.01900	1.02000	1.02200
18	1.05100	1.05100	1.04700	1.04500	1.04200	1.04000	1.03900	1.03800	1.03700	1.03600	1.02800
19	1.00600	1.00600	1.01400	1.01400	1.01400	1.01400	1.01400	1.01400	1.01300	1.01600	1.01100
20	1.06400	1.06400	1.05900	1.06300	1.07100	1.07500	1.07300	1.07500	1.07700	1.07700	1.07200
21	1.03800	1.03800	1.03000	1.02900	1.02800	1.02800	1.02900	1.03300	1.03300	1.03000	1.02800
22	1.05000	1.05000	1.06600	1.06400	1.06100	1.06000	1.05900	1.05700	1.05500	1.05100	1.04000
23	1.08200	1.08200	1.02900	1.02900	1.02900	1.03300	1.03400	1.03700	1.03700	1.03700	1.03600
24	1.09700	1.09700	1.07900	1.08300	1.08700	1.07900	1.07900	1.07700	1.07200	1.06800	1.05900
25	1.11900	1.11900	1.03000	1.03500	1.03500	1.03700	1.03500	1.04100	1.03900	1.03400	1.03800
26	1.10700	1.10700	1.11800	1.11600	1.11400	1.11200	1.10700	1.11300	1.09900	1.11300	1.10100
27	1.00000	1.00000	1.02300	1.02000	1.01900	1.02600	1.02300	1.02700	1.02700	1.01900	1.02200
28	1.00000	1.00000	1.01300	1.01200	1.01300	1.01200	1.02000	1.01400	1.02000	1.01200	1.02300
29	1.00700	1.00700	1.01600	1.01500	1.01400	1.01600	1.01800	1.01600	1.02100	1.02200	1.02300
30	1.06900	1.06900	1.04700	1.04800	1.04300	1.04000	1.04400	1.04600	1.05400	1.04400	1.04900
31	1.00800	1.00800	1.00500	1.00200	1.00100	1.00900	1.00500	1.02300	1.00300	0.99800	1.02200
32	1.00400	1.00400	1.00500	1.00800	0.98800	0.99900	1.00000	0.99900	1.00300	0.99800	1.03500
33	1.00000	1.00000	1.00300	1.00100	1.00900	1.00100	0.94600	1.00400	1.00800	0.99800	1.04400
34	1.06700	1.06700	1.04900	1.03800	1.05000	1.02500	0.94900	1.06600	1.09300	0.99800	1.00000
35	1.06700	1.06700	1.04900	0.94200	0.92500	1.01700	0.98400	1.06600	0.98400	1.04600	1.00000
36	1.06700	1.06700	1.04900	0.94200	0.92500	1.01700	1.02000	1.06600	0.95200	1.04600	1.00000
37	1.06700	1.06700	1.04900	0.94200	0.92500	1.01700	1.06800	1.06600	0.95200	1.04600	1.00000
38	1.00000	1.00000	1.04900	0.94200	0.93800	1.01700	1.02400	1.06600	0.95200	1.04600	1.00000
39	1.00000	1.00000	1.04900	0.94200	0.93800	1.01700	1.00000	1.06600	0.95200	1.04600	1.00000
40	1.00000	1.00000	1.00000	0.94200	1.00000	1.01700	1.00000	1.06600	0.95200	1.04600	1.00000

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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## RESERVE DUTY RATES DESCRIPTION

There are unique challenges to modelling reserve decrement rates due to members moving between active and reserve components, the structure of the reserve force, limitations of the reserve data, and changes in how the reserves are used.

Reserves are modeled in two pre-retirement population categories— Selected Reserves and non-Selected Reserves with 20 good years. The Selected Reserves include only part-time members and are the reservists for whom normal costs are paid. The non-Selected Reserves with 20 good years<sup>1</sup> are not actively drilling reservists nor yet receiving retired pay.

The reserve rates consist 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 scales; average points per year; transfer to 20-year non-Selected Reserve status; and blow-up<sup>2</sup> factors. The decrement rates are 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 as if there were 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.

Data for the rates is taken from the fiscal year-end RCCPDS files. The experience period underlying the rates is from FYs 2017 through 2019. The period was selected due to its being neutral in terms of the change in the reserve force size.

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 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.

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

<sup>2</sup> These factors adjust for new reserve retirees (mostly age 60) showing up in the data each year who were not in the data as eligible-to-retire reservists the year before.

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.

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

The PAMS give the expected annual percentage increase in pay independent of the across-the-board increases in the active duty pay scale. The PAMS are defined by length of PEBD service, by age, and by officer/enlisted status.

SUMMARY OF YEARS ON WHICH RESERVE RATES ARE BASED

	By Fiscal Year				
<u>RATE</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
New Entrant Distribution <i>(Officer/Enlisted)</i>			X	X	X
Death <i>(Officer/Enlisted; Selected/Non-Selected)</i>	X	X	X	X	X
Separation <i>(Officer/Enlisted; Selected/Non-Selected)</i>			X	X	X
Reentrant <i>(Officer/Enlisted; Selected)</i>			X	X	X
Paygrade Transfer <i>(Enlisted; Selected)</i>			X	X	X
Status Transfer <i>(Officer/Enlisted; Selected-to- Non-Selected)</i>			X	X	X
Retirement <i>(Officer/Enlisted; Selected/Non-Selected)</i>			X	X	X
Disability Retirement <i>(Permanent/Temporary; Officer/Enlisted; Selected)</i>			X	X	X
Average Points Per Year <i>(Officer/Enlisted; Selected/Non- Selected)</i>			X	X	X
Career Points Adjustment <i>(Officer/Enlisted; Selected)</i>			X	X	X
Reentering Average Points <i>(Officer/Enlisted; Selected)</i>			X	X	X
Blow-up Factor <i>(Officer/Enlisted; Non-Selected to Retired)</i>				X	X
Transfer Blow-up Factor <i>(Officer/Enlisted; Selected-to- Non-Selected)</i>			X	X	X
Selected Reserve PAMS <i>(Officer/Enlisted)</i>			X	X	X
Non-Selected Reserve PAMS <i>(Officer/Enlisted)</i>			X	X	X



New Entrant Distribution

By Paygrade (Officer/Enlisted)

<u>Entry Age</u>	<u>Officer</u>	<u>Enlisted</u>	<u>Total</u>
17	0.00000	0.02166	0.02166
18	0.00000	0.20339	0.20339
19	0.00000	0.23829	0.23829
20	0.00009	0.14083	0.14092
21	0.00012	0.08611	0.08623
22	0.00155	0.05645	0.05800
23	0.00358	0.04284	0.04642
24	0.00218	0.03464	0.03682
25	0.00120	0.02816	0.02936
26	0.00111	0.02358	0.02469
27	0.00115	0.01956	0.02071
28	0.00104	0.01684	0.01788
29	0.00125	0.01397	0.01522
30	0.00134	0.01077	0.01211
31	0.00118	0.00908	0.01026
32	0.00125	0.00772	0.00897
33	0.00111	0.00675	0.00786
34	0.00100	0.00627	0.00727
35	0.00096	0.00609	0.00705
36	0.00082	0.00324	0.00406
37	0.00095	0.00188	0.00283
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	0.02188	0.97812	1.00000

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

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

Reserve Death Rates

By Reserve Status and Paygrade

Age	Selected		Non-Selected	
	Officer	Enlisted	Officer	Enlisted
16	0.00015	0.00065		
17	0.00016	0.00068		
18	0.00017	0.00072		
19	0.00018	0.00077		
20	0.00019	0.00080		
21	0.00019	0.00083		
22	0.00020	0.00085		
23	0.00020	0.00087		
24	0.00020	0.00087		
25	0.00021	0.00087		
26	0.00022	0.00086		
27	0.00023	0.00084		
28	0.00025	0.00081		
29	0.00026	0.00079		
30	0.00029	0.00078	0.00039	0.00079
31	0.00030	0.00075	0.00039	0.00080
32	0.00032	0.00075	0.00040	0.00081
33	0.00033	0.00075	0.00040	0.00082
34	0.00036	0.00076	0.00041	0.00083
35	0.00037	0.00077	0.00041	0.00083
36	0.00040	0.00079	0.00041	0.00084
37	0.00041	0.00080	0.00041	0.00084
38	0.00043	0.00081	0.00042	0.00085
39	0.00046	0.00082	0.00042	0.00085
40	0.00048	0.00083	0.00043	0.00087
41	0.00049	0.00084	0.00043	0.00088
42	0.00051	0.00085	0.00044	0.00081
43	0.00053	0.00086	0.00044	0.00076
44	0.00056	0.00088	0.00046	0.00076
45	0.00058	0.00089	0.00046	0.00079
46	0.00060	0.00092	0.00047	0.00089
47	0.00062	0.00096	0.00049	0.00103
48	0.00064	0.00101	0.00052	0.00119
49	0.00067	0.00107	0.00060	0.00128
50	0.00071	0.00115	0.00069	0.00132
51	0.00075	0.00123	0.00080	0.00139
52	0.00080	0.00134	0.00093	0.00155
53	0.00086	0.00144	0.00109	0.00177
54	0.00092	0.00156	0.00130	0.00201
55	0.00099	0.00169	0.00150	0.00225
56	0.00107	0.00183	0.00169	0.00261
57	0.00116	0.00197	0.00184	0.00309
58	0.00126	0.00212	0.00199	0.00354
59	0.00138	0.00227	0.00217	0.00374
60	0.00150	0.00243	0.00248	0.00391
61	0.00164	0.00261	0.00307	0.00452
62	0.00179	0.00279	0.00402	0.00594
63	0.00195	0.00298	0.00547	0.00836

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

Officer Selected Reserve Separation Rates (Non-Retirement Causes)

Table with columns for 'Years of Service' (16-42) and 'By Entry Age' (Under 1-42). The table contains numerical values representing separation rates for various age groups and service lengths. It includes a 'DESCRIPTION' box with text: 'Arrayed by entry age, completed PEED 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)'.























**Reserve Retirement Rates**

By Reserve Status and Paygrade

<b>Age</b>	<b>Selected</b>		<b>Non-Selected</b>	
	<b>Officer</b>	<b>Enlisted</b>	<b>Officer</b>	<b>Enlisted</b>
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	0.001	0.001	0.000	0.000
40	0.001	0.002	0.000	0.000
41	0.001	0.001	0.001	0.000
42	0.001	0.002	0.000	0.000
43	0.002	0.002	0.002	0.000
44	0.002	0.003	0.002	0.000
45	0.002	0.003	0.001	0.000
46	0.002	0.003	0.001	0.000
47	0.003	0.003	0.001	0.000
48	0.004	0.004	0.001	0.000
49	0.004	0.004	0.001	0.000
50	0.006	0.004	0.002	0.006
51	0.006	0.004	0.002	0.000
52	0.010	0.003	0.002	0.000
53	0.011	0.004	0.004	0.000
54	0.015	0.004	0.007	0.001
55	0.013	0.007	0.011	0.001
56	0.025	0.011	0.019	0.004
57	0.048	0.023	0.032	0.008
58	0.060	0.076	0.054	0.023
59	0.275	0.397	0.457	0.399
60	0.462	0.813	0.906	0.850
61	0.234	0.515	0.382	0.284
62	0.317	0.660	0.234	0.133
>62	1.000	1.000	1.000	1.000

<p><b>DESCRIPTION:</b> Selected Reserve and Non-Selected Reserve with 20 Good Years ('Grey Area') Retirement Rates.                  Arrayed by reserve status (Selected/Non-Selected), age (nearest birthday), and paygrade (officer/enlisted).                  Probability that a member retires during the fiscal year.</p>
---

Selected Reserve Disability Retirement Rates

By Disability Type and Paygrade

PEBD Years of Service	Permanent		Temporary	
	Officer	Enlisted	Officer	Enlisted
Under 1	0.00055	0.00011	0.00010	0.00008
1	0.00055	0.00016	0.00010	0.00010
2	0.00055	0.00024	0.00010	0.00011
3	0.00055	0.00036	0.00010	0.00013
4	0.00055	0.00054	0.00010	0.00016
5	0.00068	0.00082	0.00010	0.00021
6	0.00084	0.00124	0.00010	0.00028
7	0.00100	0.00183	0.00019	0.00036
8	0.00117	0.00257	0.00026	0.00044
9	0.00131	0.00336	0.00030	0.00053
10	0.00144	0.00406	0.00032	0.00060
11	0.00156	0.00459	0.00032	0.00067
12	0.00167	0.00495	0.00033	0.00074
13	0.00179	0.00522	0.00033	0.00080
14	0.00192	0.00546	0.00036	0.00087
15	0.00207	0.00574	0.00039	0.00093
16	0.00225	0.00608	0.00043	0.00100
17	0.00247	0.00650	0.00048	0.00107
18	0.00272	0.00703	0.00053	0.00114
19	0.00301	0.00770	0.00057	0.00121
20	0.00331	0.00843	0.00060	0.00127
21	0.00361	0.00913	0.00063	0.00132
22	0.00388	0.00966	0.00065	0.00135
23	0.00409	0.00989	0.00066	0.00135
24	0.00424	0.00984	0.00067	0.00133
25	0.00435	0.00961	0.00068	0.00131
26	0.00441	0.00933	0.00072	0.00131
27	0.00447	0.00911	0.00076	0.00132
28	0.00454	0.00898	0.00082	0.00135
29	0.00467	0.00894	0.00088	0.00137
30	0.00487	0.00895	0.00092	0.00137
31	0.00516	0.00898	0.00095	0.00135
32	0.00555	0.00903	0.00097	0.00132
33	0.00602	0.00910	0.00096	0.00128
34	0.00660	0.00921	0.00094	0.00128
35	0.00727	0.00940	0.00090	0.00128
36	0.00803	0.00968	0.00084	0.00128
37	0.00803	0.01006	0.00084	0.00128
38	0.00803	0.01055	0.00084	0.00128
39	0.00803	0.01111	0.00084	0.00128
40	0.00803	0.01173	0.00084	0.00128
41	0.00803	0.01173	0.00084	0.00128

**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 Blow-up Factors

By Modeling Type and Paygrade

Age	Person		Pay	
	Officer	Enlisted	Officer	Enlisted
17	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000
59	1.031	1.072	0.990	0.977
60	1.054	1.091	0.986	0.977
61	1.443	2.609	0.910	0.917
62	2.870	6.591	0.823	1.045
>62	2.313	5.818	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.







Officer Selected Reserve Promotion and Merit Scales (PAMS)

Table with columns for PEBD Service, By Entry Age (16-62), and rows for Under 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 62+.

DESCRIPTION: Selected Reserve Promotion and Merit Scales (PAMS)
Arayed 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).







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” non-death losses, and temporary-to-permanent disability transfer. Other losses consist of moving to non-paid status due to receipt of VA disability compensation amount in excess of gross retired pay. In order to compute the Treasury Concurrent Receipt normal cost percentages, separate net other loss rates for DoD and Treasury are determined. The rates are arrayed by age nearest birthday for officers and enlisted separately, and by retirement type--nondisability, temporary disability, and permanent disability.

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 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.

### **Note to Reader:**

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



## RETIREE AND SURVIVOR DECREMENT RATE FORMULAS

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

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

DEATH OF PERMANENT DISABILITY RETIREES (by age nearest birthday)

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

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

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

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

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

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

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

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

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

OTHER LOSSES FROM PERMANENT DISABILITY (by age nearest birthday)

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

---

<sup>1</sup> Includes deaths of members who were temporarily disabled at the beginning of the year, then transferred to permanent disability, and later died before the end of the year. Determined for each year of the temporary disability retirement category.

RETIREE AND SURVIVOR DECREMENT RATE FORMULAS  
(cont.)

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

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

REMARRIAGE OF SURVIVING SPOUSE (by age nearest birthday)

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

TERMINATION OF SURVIVING CHILD (by age nearest birthday)

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

DEATH OF SURVIVING SPOUSE (by age nearest birthday) <sup>1</sup>

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

OTHER LOSS OF SURVIVING SPOUSE (by age nearest birthday)

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

---

<sup>1</sup> Death rates of spouses of living retirees who elected SBP spouse or spouse/child coverage are based on a standard actuarial mortality table using data from private and public pension plans. This table is published by the Society of Actuaries (SOA) as “RPH-2014 – Female/Male Tables.”

SUMMARY OF YEARS ON WHICH RETIREE AND SURVIVOR RATES ARE BASED

By Fiscal Year

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
<u>DEATH RATES</u>							
ND Officer/Enlisted				X	X	X	X
Disabled Officer/Enlisted				X	X	X	X
<u>OTHER LOSS RATES</u>							
ND Officer/Enlisted				X	X	X	X
Disabled Officer/Enlisted				X	X	X	X
<u>TRANSFER RATES FROM TD TO PD</u>							
Officer/Enlisted				X	X	X	X
<u>RETIREE DIVORCE</u>							
				X	X		
<u>SURVIVOR RATES</u>							
Remarriage	X	X	X				
Child Coverage Termination	X	X	X				
Surviving Spouse Death	X	X	X				
Surviving Spouse Other Loss	X	X	X				

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

OFFICER RETIRED DEATH RATES

(Age Nearest Birthday)

<u>Age</u>	<u>Non-Disability</u>	<u>Permanent Disability</u>	<u>Temporary Disability*</u>
16	0.00014	0.00021	0.00024
17	0.00014	0.00023	0.00026
18	0.00014	0.00025	0.00028
19	0.00014	0.00028	0.00031
20	0.00014	0.00030	0.00034
21	0.00014	0.00033	0.00037
22	0.00014	0.00036	0.00041
23	0.00014	0.00039	0.00044
24	0.00014	0.00043	0.00048
25	0.00014	0.00047	0.00053
26	0.00014	0.00051	0.00058
27	0.00014	0.00056	0.00063
28	0.00014	0.00061	0.00069
29	0.00014	0.00067	0.00075
30	0.00014	0.00073	0.00082
31	0.00016	0.00080	0.00090
32	0.00018	0.00087	0.00098
33	0.00020	0.00095	0.00107
34	0.00022	0.00104	0.00117
35	0.00025	0.00114	0.00128
36	0.00028	0.00124	0.00140
37	0.00032	0.00135	0.00153
38	0.00036	0.00148	0.00167
39	0.00040	0.00162	0.00182
40	0.00045	0.00177	0.00199
41	0.00052	0.00193	0.00217
42	0.00058	0.00211	0.00238
43	0.00065	0.00230	0.00259
44	0.00073	0.00252	0.00283
45	0.00083	0.00275	0.00310
46	0.00085	0.00301	0.00338
47	0.00089	0.00329	0.00370
48	0.00093	0.00359	0.00404
49	0.00098	0.00386	0.00434
50	0.00102	0.00415	0.00466
51	0.00109	0.00447	0.00501
52	0.00116	0.00481	0.00539
53	0.00124	0.00519	0.00580
54	0.00134	0.00560	0.00625
55	0.00146	0.00605	0.00674
56	0.00161	0.00655	0.00727
57	0.00179	0.00709	0.00786
58	0.00200	0.00769	0.00850
59	0.00225	0.00835	0.00921
60	0.00255	0.00908	0.00999
61	0.00292	0.00989	0.01086
62	0.00332	0.01079	0.01181
63	0.00378	0.01177	0.01286
64	0.00430	0.01286	0.01402
65	0.00490	0.01405	0.01528

\* Death rates for temporarily disabled retirees are not improved with mortality improvement.

OFFICER RETIRED DEATH RATES (continued)

(Age Nearest Birthday)			
<u>Age</u>	<u>Non-Disability</u>	<u>Permanent Disability</u>	<u>Temporary Disability*</u>
66	0.00556	0.01535	
67	0.00634	0.01678	
68	0.00722	0.01835	
69	0.00825	0.02011	
70	0.00944	0.02206	
71	0.01082	0.02425	
72	0.01244	0.02673	
73	0.01433	0.02953	
74	0.01651	0.03269	
75	0.01906	0.03626	
76	0.02201	0.04031	
77	0.02543	0.04490	
78	0.02935	0.05009	
79	0.03383	0.05597	
80	0.03893	0.06259	
81	0.04474	0.07002	
82	0.05143	0.07836	
83	0.05920	0.08767	
84	0.06833	0.09802	
85	0.07906	0.10949	
86	0.09150	0.12214	
87	0.10567	0.13598	
88	0.12155	0.15109	
89	0.13910	0.16752	
90	0.15834	0.18526	
91	0.17956	0.20448	
92	0.20302	0.22525	
93	0.22905	0.24770	
94	0.25773	0.27192	
95	0.28907	0.29818	
96	0.32259	0.32637	
97	0.35838	0.35714	
98	0.39611	0.39063	
99	0.43611	0.42741	
100	0.47842	0.47003	
101	0.52097	0.51477	
102	0.56603	0.56395	
103	0.61292	0.61693	
104	0.66211	0.67415	
105	0.71390	0.73577	
106	0.80201	0.80197	
107	0.90067	0.87380	
108	1.01125	0.95187	
109	1.13547	1.03697	
110	1.27487	1.12961	
111	1.27163	1.12674	
112	1.26799	1.12352	
113	1.26437	1.12031	
114	1.26102	1.11734	
115	1.25741	1.11415	
116	1.22311	1.08375	
117	1.22311	1.08375	

\* None after age 65.

ENLISTED RETIRED DEATH RATES

(Age Nearest Birthday)			
Age	Non-Disability	Permanent Disability	Temporary Disability*
16	0.00023	0.00069	0.00104
17	0.00023	0.00075	0.00112
18	0.00023	0.00081	0.00121
19	0.00023	0.00087	0.00131
20	0.00023	0.00094	0.00141
21	0.00023	0.00101	0.00152
22	0.00023	0.00110	0.00164
23	0.00023	0.00120	0.00177
24	0.00023	0.00131	0.00190
25	0.00023	0.00143	0.00205
26	0.00023	0.00157	0.00221
27	0.00023	0.00173	0.00239
28	0.00023	0.00191	0.00258
29	0.00023	0.00195	0.00258
30	0.00023	0.00200	0.00259
31	0.00027	0.00205	0.00260
32	0.00031	0.00211	0.00262
33	0.00035	0.00217	0.00263
34	0.00039	0.00223	0.00265
35	0.00045	0.00229	0.00267
36	0.00052	0.00235	0.00269
37	0.00058	0.00241	0.00270
38	0.00066	0.00247	0.00271
39	0.00075	0.00251	0.00271
40	0.00083	0.00255	0.00271
41	0.00091	0.00260	0.00272
42	0.00100	0.00266	0.00275
43	0.00109	0.00275	0.00281
44	0.00118	0.00289	0.00292
45	0.00128	0.00306	0.00309
46	0.00138	0.00329	0.00331
47	0.00149	0.00356	0.00357
48	0.00163	0.00386	0.00389
49	0.00178	0.00418	0.00424
50	0.00194	0.00453	0.00463
51	0.00213	0.00490	0.00506
52	0.00235	0.00529	0.00552
53	0.00257	0.00570	0.00602
54	0.00281	0.00612	0.00655
55	0.00308	0.00657	0.00712
56	0.00339	0.00708	0.00776
57	0.00376	0.00770	0.00852
58	0.00422	0.00849	0.00947
59	0.00478	0.00953	0.01068
60	0.00546	0.01091	0.01226
61	0.00626	0.01263	0.01420
62	0.00719	0.01465	0.01644
63	0.00822	0.01687	0.01884
64	0.00937	0.01909	0.02119
65	0.01066	0.02108	0.02324

\* Death rates for temporarily disabled retirees are not improved with mortality improvement.

ENLISTED RETIRED DEATH RATES (continued)

(Age Nearest Birthday)

<u>Age</u>	<u>Non-Disability</u>	<u>Permanent Disability</u>	<u>Temporary Disability*</u>
66	0.01207	0.02284	
67	0.01367	0.02448	
68	0.01544	0.02616	
69	0.01745	0.02811	
70	0.01974	0.03058	
71	0.02237	0.03367	
72	0.02545	0.03741	
73	0.02901	0.04179	
74	0.03308	0.04682	
75	0.03760	0.05241	
76	0.04248	0.05851	
77	0.04762	0.06506	
78	0.05301	0.07197	
79	0.05874	0.07909	
80	0.06499	0.08627	
81	0.07195	0.09348	
82	0.07985	0.10091	
83	0.08877	0.10877	
84	0.09877	0.11742	
85	0.10991	0.12727	
86	0.12222	0.13867	
87	0.13578	0.15167	
88	0.15089	0.16640	
89	0.16782	0.18287	
90	0.18703	0.20117	
91	0.20888	0.22115	
92	0.23344	0.24274	
93	0.26029	0.26561	
94	0.28891	0.28944	
95	0.31839	0.31367	
96	0.34806	0.33787	
97	0.37812	0.36207	
98	0.40928	0.38671	
99	0.44238	0.41222	
100	0.47831	0.43900	
101	0.51423	0.47509	
102	0.55335	0.51437	
103	0.59450	0.55584	
104	0.63768	0.59958	
105	0.70976	0.64534	
106	0.78851	0.69329	
107	0.87528	0.74418	
108	0.97168	0.79888	
109	1.07855	0.85748	
110	1.19721	0.92042	
111	1.19153	0.91605	
112	1.18598	0.91179	
113	1.18045	0.90754	
114	1.17482	0.90321	
115	1.16950	0.89911	
116	1.13589	0.87328	
117	1.13589	0.87328	

\* None after age 65.

ACTIVE DUTY OTHER LOSSES FROM NONDISABILITY

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury*	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0000	0.0000	0.0000	0.0000	56	0.0020	0.0187	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	57	0.0018	0.0185	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	58	0.0018	0.0182	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	59	0.0018	0.0177	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	60	0.0018	0.0172	0.0000	0.0000
21	0.0000	0.0000	0.0000	0.0000	61	0.0019	0.0166	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	62	0.0020	0.0160	0.0000	0.0000
23	0.0000	0.0000	0.0000	0.0000	63	0.0020	0.0154	0.0000	0.0000
24	0.0000	0.0000	0.0000	0.0000	64	0.0021	0.0148	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	65	0.0021	0.0144	0.0000	0.0000
26	0.0000	0.0000	0.0000	0.0000	66	0.0021	0.0140	0.0000	0.0000
27	0.0000	0.0000	0.0000	0.0000	67	0.0021	0.0137	0.0000	0.0000
28	0.0000	0.0000	0.0000	0.0000	68	0.0020	0.0136	0.0000	0.0000
29	0.0000	0.0000	0.0000	0.0000	69	0.0020	0.0135	0.0000	0.0000
30	0.1564	0.5286	0.0000	0.0000	70	0.0020	0.0135	0.0000	0.0000
31	0.1564	0.5286	0.0000	0.0000	71	0.0020	0.0135	0.0000	0.0000
32	0.1564	0.5286	0.0000	0.0000	72	0.0020	0.0136	0.0000	0.0000
33	0.1564	0.5286	0.0000	0.0000	73	0.0020	0.0137	0.0000	0.0000
34	0.1564	0.4548	0.0000	0.0000	74	0.0021	0.0138	0.0000	0.0000
35	0.1564	0.3878	0.0000	0.0000	75	0.0023	0.0138	0.0000	0.0000
36	0.1564	0.3274	0.0000	0.0000	76	0.0024	0.0138	0.0000	0.0000
37	0.1564	0.2736	0.0000	0.0000	77	0.0025	0.0137	0.0000	0.0000
38	0.1564	0.2263	0.0000	0.0000	78	0.0026	0.0136	0.0000	0.0000
39	0.1118	0.1851	0.0000	0.0000	79	0.0027	0.0134	0.0000	0.0000
40	0.0760	0.1497	0.0000	0.0000	80	0.0026	0.0131	0.0000	0.0000
41	0.0487	0.1197	0.0000	0.0000	81	0.0025	0.0128	0.0000	0.0000
42	0.0293	0.0948	0.0000	0.0000	82	0.0024	0.0124	0.0000	0.0000
43	0.0165	0.0746	0.0000	0.0000	83	0.0022	0.0119	0.0000	0.0000
44	0.0088	0.0584	0.0000	0.0000	84	0.0020	0.0114	0.0000	0.0000
45	0.0048	0.0460	0.0000	0.0000	85	0.0019	0.0109	0.0000	0.0000
46	0.0032	0.0366	0.0000	0.0000	86	0.0017	0.0103	0.0000	0.0000
47	0.0030	0.0299	0.0000	0.0000	87	0.0016	0.0098	0.0000	0.0000
48	0.0032	0.0252	0.0000	0.0000	88	0.0016	0.0092	0.0000	0.0000
49	0.0036	0.0221	0.0000	0.0000	89	0.0000	0.0000	0.0000	0.0000
50	0.0038	0.0203	0.0000	0.0000	90	0.0000	0.0000	0.0000	0.0000
51	0.0037	0.0193	0.0000	0.0000	91	0.0000	0.0000	0.0000	0.0000
52	0.0034	0.0189	0.0000	0.0000	92	0.0000	0.0000	0.0000	0.0000
53	0.0030	0.0187	0.0000	0.0000	93	0.0000	0.0000	0.0000	0.0000
54	0.0026	0.0187	0.0000	0.0000	94	0.0000	0.0000	0.0000	0.0000
55	0.0023	0.0187	0.0000	0.0000	95	0.0000	0.0000	0.0000	0.0000

\* The DoD/Treasury distinction is needed for P.L. 108-136 calculations.  
Treasury rates of "0.0000" are shown for effect.



RESERVE DUTY OTHER LOSSES FROM NONDISABILITY

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury*	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0000	0.0000	0.0000	0.0000	56	0.0083	0.0834	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	57	0.0083	0.0834	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	58	0.0083	0.0665	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	59	0.0083	0.0520	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	60	0.0072	0.0398	0.0000	0.0000
21	0.0000	0.0000	0.0000	0.0000	61	0.0063	0.0299	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	62	0.0056	0.0222	0.0000	0.0000
23	0.0000	0.0000	0.0000	0.0000	63	0.0050	0.0165	0.0000	0.0000
24	0.0000	0.0000	0.0000	0.0000	64	0.0046	0.0126	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	65	0.0044	0.0102	0.0000	0.0000
26	0.0000	0.0000	0.0000	0.0000	66	0.0042	0.0090	0.0000	0.0000
27	0.0000	0.0000	0.0000	0.0000	67	0.0042	0.0086	0.0000	0.0000
28	0.0000	0.0000	0.0000	0.0000	68	0.0042	0.0089	0.0000	0.0000
29	0.0000	0.0000	0.0000	0.0000	69	0.0043	0.0094	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	70	0.0044	0.0100	0.0000	0.0000
31	0.0000	0.0000	0.0000	0.0000	71	0.0046	0.0106	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	72	0.0047	0.0110	0.0000	0.0000
33	0.0000	0.0000	0.0000	0.0000	73	0.0048	0.0111	0.0000	0.0000
34	0.0000	0.0000	0.0000	0.0000	74	0.0048	0.0110	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	75	0.0048	0.0107	0.0000	0.0000
36	0.0000	0.0000	0.0000	0.0000	76	0.0047	0.0102	0.0000	0.0000
37	0.0000	0.0000	0.0000	0.0000	77	0.0046	0.0096	0.0000	0.0000
38	0.0000	0.0000	0.0000	0.0000	78	0.0044	0.0090	0.0000	0.0000
39	0.0000	0.0000	0.0000	0.0000	79	0.0042	0.0083	0.0000	0.0000
40	0.0000	0.0000	0.0000	0.0000	80	0.0040	0.0077	0.0000	0.0000
41	0.0000	0.0000	0.0000	0.0000	81	0.0037	0.0072	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	82	0.0035	0.0067	0.0000	0.0000
43	0.0000	0.0000	0.0000	0.0000	83	0.0033	0.0063	0.0000	0.0000
44	0.0000	0.0000	0.0000	0.0000	84	0.0031	0.0061	0.0000	0.0000
45	0.0000	0.0000	0.0000	0.0000	85	0.0029	0.0059	0.0000	0.0000
46	0.0000	0.0000	0.0000	0.0000	86	0.0028	0.0058	0.0000	0.0000
47	0.0000	0.0000	0.0000	0.0000	87	0.0027	0.0058	0.0000	0.0000
48	0.0000	0.0000	0.0000	0.0000	88	0.0026	0.0058	0.0000	0.0000
49	0.0000	0.0000	0.0000	0.0000	89	0.0026	0.0059	0.0000	0.0000
50	0.0083	0.0834	0.0000	0.0000	90	0.0027	0.0060	0.0000	0.0000
51	0.0083	0.0834	0.0000	0.0000	91	0.0028	0.0062	0.0000	0.0000
52	0.0083	0.0834	0.0000	0.0000	92	0.0029	0.0065	0.0000	0.0000
53	0.0083	0.0834	0.0000	0.0000	93	0.0032	0.0068	0.0000	0.0000
54	0.0083	0.0834	0.0000	0.0000	94	0.0034	0.0069	0.0000	0.0000
55	0.0083	0.0834	0.0000	0.0000	95	0.0000	0.0000	0.0000	0.0000

\* The DoD/Treasury distinction is needed for P.L. 108-136 calculations.  
 Treasury rates of "0.0000" are shown for effect.

**TRANSFER RATES FROM TEMPORARY DISABILITY TO PERMANENT DISABILITY\***

(Age Nearest Birthday)				
Age	Officers		Enlisted	
	Year of Retirement		Year of Retirement	
	One	Two	One	Two
16	0.1501	0.5440	0.1641	0.5335
17	0.1501	0.5440	0.1641	0.5335
18	0.1501	0.5440	0.1641	0.5335
19	0.1501	0.5440	0.1641	0.5335
20	0.1501	0.5440	0.1641	0.5335
21	0.1501	0.5440	0.1641	0.5335
22	0.1501	0.5440	0.1641	0.5335
23	0.1501	0.5440	0.1641	0.5335
24	0.1501	0.5440	0.1641	0.5335
25	0.1501	0.5440	0.1641	0.5335
26	0.1501	0.5440	0.1641	0.5335
27	0.1501	0.5440	0.1641	0.5335
28	0.1501	0.5440	0.1641	0.5335
29	0.1501	0.5440	0.1641	0.5335
30	0.1501	0.5440	0.1641	0.5335
31	0.1501	0.5440	0.1641	0.5335
32	0.1501	0.5440	0.1641	0.5335
33	0.1501	0.5440	0.1641	0.5335
34	0.1501	0.5440	0.1641	0.5335
35	0.1501	0.5440	0.1641	0.5335
36	0.1501	0.5440	0.1641	0.5335
37	0.1501	0.5440	0.1641	0.5335
38	0.1501	0.5440	0.1641	0.5335
39	0.1501	0.5440	0.1641	0.5335
40	0.1501	0.5440	0.1641	0.5335
41	0.1501	0.5440	0.1641	0.5335
42	0.1501	0.5440	0.1641	0.5335
43	0.1501	0.5440	0.1641	0.5335
44	0.1501	0.5440	0.1641	0.5335
45	0.1501	0.5440	0.1641	0.5335
46	0.1501	0.5440	0.1641	0.5335
47	0.1501	0.5440	0.1641	0.5335
48	0.1501	0.5440	0.1641	0.5335
49	0.1501	0.5440	0.1641	0.5335
50	0.1501	0.5440	0.1641	0.5335
51	0.1501	0.5440	0.1641	0.5335
52	0.1501	0.5440	0.1641	0.5335
53	0.1501	0.5440	0.1641	0.5335
54	0.1501	0.5440	0.1641	0.5335
55	0.1501	0.5440	0.1641	0.5335
56	0.1501	0.5440	0.1641	0.5335
57	0.1501	0.5440	0.1641	0.5335
58	0.1501	0.5440	0.1641	0.5335
59	0.1501	0.5440	0.1641	0.5335
60	0.1501	0.5440	0.1641	0.5335
61	0.1501	0.5440	0.1641	0.5335
62	0.1501	0.5440	0.1641	0.5335
63	0.1501	0.5440	0.1641	0.5335
64	0.1501	0.5440	0.1641	0.5335
65	0.1501	0.5440	0.1641	0.5335

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

**OTHER LOSSES FROM PERMANENT AND TEMPORARY DISABILITY\***

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0591	0.3069	0.0441	0.3316	54	0.0108	0.0432	0.0063	0.0138
17	0.0591	0.3069	0.0441	0.3316	55	0.0107	0.0414	0.0063	0.0135
18	0.0591	0.3069	0.0441	0.3316	56	0.0106	0.0397	0.0062	0.0128
19	0.0591	0.3069	0.0441	0.3316	57	0.0107	0.0381	0.0062	0.0118
20	0.0591	0.3069	0.0441	0.3316	58	0.0107	0.0366	0.0062	0.0107
21	0.0591	0.2634	0.0441	0.2527	59	0.0108	0.0351	0.0063	0.0099
22	0.0591	0.2252	0.0441	0.1862	60	0.0109	0.0338	0.0065	0.0096
23	0.0591	0.1923	0.0441	0.1318	61	0.0109	0.0325	0.0068	0.0097
24	0.0591	0.1644	0.0441	0.0891	62	0.0110	0.0313	0.0073	0.0101
25	0.0591	0.1415	0.0441	0.0569	63	0.0110	0.0303	0.0079	0.0105
26	0.0591	0.1231	0.0441	0.0335	64	0.0110	0.0294	0.0087	0.0107
27	0.0591	0.1089	0.0441	0.0175	65	0.0109	0.0286	0.0096	0.0104
28	0.0531	0.0985	0.0363	0.0072	66	0.0108	0.0280	0.0095	0.0097
29	0.0479	0.0911	0.0296	0.0012	67	0.0106	0.0274	0.0094	0.0086
30	0.0435	0.0864	0.0240	-0.0020	68	0.0104	0.0270	0.0093	0.0073
31	0.0398	0.0836	0.0194	-0.0033	69	0.0102	0.0266	0.0092	0.0061
32	0.0369	0.0822	0.0157	-0.0037	70	0.0101	0.0263	0.0091	0.0051
33	0.0346	0.0818	0.0129	-0.0037	71	0.0099	0.0259	0.0090	0.0044
34	0.0327	0.0819	0.0108	-0.0035	72	0.0097	0.0256	0.0089	0.0042
35	0.0312	0.0821	0.0092	-0.0033	73	0.0095	0.0251	0.0088	0.0044
36	0.0300	0.0821	0.0082	-0.0031	74	0.0093	0.0247	0.0087	0.0048
37	0.0289	0.0818	0.0074	-0.0030	75	0.0091	0.0241	0.0087	0.0054
38	0.0279	0.0811	0.0070	-0.0028	76	0.0089	0.0236	0.0086	0.0061
39	0.0268	0.0799	0.0067	-0.0025	77	0.0087	0.0229	0.0085	0.0068
40	0.0257	0.0782	0.0066	-0.0022	78	0.0086	0.0222	0.0084	0.0074
41	0.0245	0.0761	0.0065	-0.0017	79	0.0084	0.0215	0.0083	0.0078
42	0.0232	0.0736	0.0065	-0.0010	80	0.0082	0.0206	0.0082	0.0079
43	0.0218	0.0708	0.0064	-0.0002	81	0.0080	0.0197	0.0081	0.0077
44	0.0203	0.0679	0.0063	0.0008	82	0.0079	0.0188	0.0081	0.0072
45	0.0187	0.0650	0.0063	0.0021	83	0.0077	0.0177	0.0080	0.0065
46	0.0172	0.0620	0.0062	0.0035	84	0.0076	0.0167	0.0079	0.0055
47	0.0158	0.0592	0.0061	0.0051	85	0.0074	0.0155	0.0078	0.0043
48	0.0145	0.0565	0.0061	0.0069	86	0.0073	0.0144	0.0077	0.0029
49	0.0134	0.0539	0.0061	0.0086	87	0.0071	0.0132	0.0076	0.0029
50	0.0125	0.0515	0.0061	0.0103	88	0.0070	0.0120	0.0076	0.0028
51	0.0119	0.0492	0.0062	0.0118	89	0.0068	0.0107	0.0075	0.0028
52	0.0113	0.0471	0.0062	0.0130	90	0.0067	0.0100	0.0074	0.0027
53	0.0110	0.0451	0.0063	0.0136					

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

**RETIREE DIVORCE RATES\***

(Age Nearest Birthday)

Age	Active		Reserve		Age	Active		Reserve	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0408	0.0408	0.0408	0.0408	50	0.0068	0.0068	0.0068	0.0068
17	0.0376	0.0376	0.0376	0.0376	51	0.0059	0.0059	0.0059	0.0059
18	0.0345	0.0345	0.0345	0.0345	52	0.0051	0.0051	0.0051	0.0051
19	0.0318	0.0318	0.0318	0.0318	53	0.0043	0.0043	0.0043	0.0043
20	0.0292	0.0292	0.0292	0.0292	54	0.0037	0.0037	0.0037	0.0037
21	0.0269	0.0269	0.0269	0.0269	55	0.0031	0.0031	0.0031	0.0031
22	0.0247	0.0247	0.0247	0.0247	56	0.0028	0.0028	0.0028	0.0028
23	0.0227	0.0227	0.0227	0.0227	57	0.0026	0.0026	0.0026	0.0026
24	0.0208	0.0208	0.0208	0.0208	58	0.0026	0.0026	0.0026	0.0026
25	0.0190	0.0190	0.0190	0.0190	59	0.0026	0.0026	0.0026	0.0026
26	0.0175	0.0175	0.0175	0.0175	60	0.0027	0.0027	0.0027	0.0027
27	0.0161	0.0161	0.0161	0.0161	61	0.0027	0.0027	0.0027	0.0027
28	0.0148	0.0148	0.0148	0.0148	62	0.0025	0.0025	0.0025	0.0025
29	0.0138	0.0138	0.0138	0.0138	63	0.0021	0.0021	0.0021	0.0021
30	0.0129	0.0129	0.0129	0.0129	64	0.0016	0.0016	0.0016	0.0016
31	0.0124	0.0124	0.0124	0.0124	65	0.0010	0.0010	0.0010	0.0010
32	0.0121	0.0121	0.0121	0.0121	66	0.0004	0.0004	0.0004	0.0004
33	0.0121	0.0121	0.0121	0.0121	67	0.0000	0.0000	0.0000	0.0000
34	0.0123	0.0123	0.0123	0.0123	68	0.0000	0.0000	0.0000	0.0000
35	0.0129	0.0129	0.0129	0.0129	69	0.0000	0.0000	0.0000	0.0000
36	0.0136	0.0136	0.0136	0.0136	70	0.0000	0.0000	0.0000	0.0000
37	0.0144	0.0144	0.0144	0.0144	71	0.0000	0.0000	0.0000	0.0000
38	0.0151	0.0151	0.0151	0.0151	72	0.0000	0.0000	0.0000	0.0000
39	0.0156	0.0156	0.0156	0.0156	73	0.0000	0.0000	0.0000	0.0000
40	0.0157	0.0157	0.0157	0.0157	74	0.0000	0.0000	0.0000	0.0000
41	0.0155	0.0155	0.0155	0.0155	75	0.0000	0.0000	0.0000	0.0000
42	0.0150	0.0150	0.0150	0.0150	76	0.0000	0.0000	0.0000	0.0000
43	0.0142	0.0142	0.0142	0.0142	77	0.0000	0.0000	0.0000	0.0000
44	0.0132	0.0132	0.0132	0.0132	78	0.0000	0.0000	0.0000	0.0000
45	0.0121	0.0121	0.0121	0.0121	79	0.0000	0.0000	0.0000	0.0000
46	0.0109	0.0109	0.0109	0.0109	80	0.0000	0.0000	0.0000	0.0000
47	0.0098	0.0098	0.0098	0.0098	81	0.0000	0.0000	0.0000	0.0000
48	0.0088	0.0088	0.0088	0.0088	82	0.0000	0.0000	0.0000	0.0000
49	0.0078	0.0078	0.0078	0.0078					

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

SURVIVING SPOUSE REMARRIAGE RATES

(Age Nearest Birthday)

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

SURVIVING CHILD COVERAGE TERMINATION RATES

(Age Nearest Birthday)

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

SURVIVOR DEATH RATES \*

(Age Nearest Birthday)

Age	Rate	Age	Rate
0	0.00568	60	0.00835
1	0.00034	61	0.00880
2	0.00023	62	0.00940
3	0.00018	63	0.01015
4	0.00014	64	0.01103
5	0.00013	65	0.01204
6	0.00011	66	0.01317
7	0.00010	67	0.01442
8	0.00009	68	0.01574
9	0.00008	69	0.01717
10	0.00007	70	0.01867
11	0.00007	71	0.02025
12	0.00010	72	0.02192
13	0.00013	73	0.02371
14	0.00016	74	0.02565
15	0.00020	75	0.02780
16	0.00024	76	0.03020
17	0.00027	77	0.03297
18	0.00040	78	0.03611
19	0.00046	79	0.03974
20	0.00052	80	0.04392
21	0.00057	81	0.04874
22	0.00062	82	0.05425
23	0.00065	83	0.06050
24	0.00068	84	0.06761
25	0.00071	85	0.07563
26	0.00074	86	0.08463
27	0.00077	87	0.09469
28	0.00081	88	0.10583
29	0.00086	89	0.11811
30	0.00091	90	0.13158
31	0.00097	91	0.14625
32	0.00102	92	0.16222
33	0.00109	93	0.17945
34	0.00116	94	0.19799
35	0.00124	95	0.21789
36	0.00133	96	0.23902
37	0.00143	97	0.26141
38	0.00153	98	0.28511
39	0.00164	99	0.31007
40	0.00177	100	0.33636
41	0.00191	101	0.36429
42	0.00208	102	0.39346
43	0.00229	103	0.42404
44	0.00251	104	0.45596
45	0.00275	105	0.48924
46	0.00302	106	0.51362
47	0.00331	107	0.53913
48	0.00363	108	0.56598
49	0.00399	109	0.59418
50	0.00437	110	1.00000
51	0.00477	111	1.00000
52	0.00517	112	1.00000
53	0.00558	113	1.00000
54	0.00597	114	1.00000
55	0.00643	115	1.00000
56	0.00692	116	1.00000
57	0.00742	118	1.00000
58	0.00790	118	1.00000
59	0.00805	119	1.00000

\* Survivor is defined as annuitant(s) of deceased retirees who elected to be covered by SBP.  
Rates based on actual plan experience.

BENEFICIARY DEATH RATES \*

(Age Nearest Birthday)

Age	Rate	Age	Rate
0	0.00782	60	0.00600
1	0.00047	61	0.00640
2	0.00031	62	0.00684
3	0.00025	63	0.00735
4	0.00019	64	0.00793
5	0.00017	65	0.00857
6	0.00016	66	0.00931
7	0.00014	67	0.01015
8	0.00012	68	0.01110
9	0.00011	69	0.01217
10	0.00010	70	0.01338
11	0.00010	71	0.01472
12	0.00013	72	0.01621
13	0.00017	73	0.01788
14	0.00022	74	0.01971
15	0.00028	75	0.02174
16	0.00033	76	0.02396
17	0.00038	77	0.02645
18	0.00032	78	0.02920
19	0.00034	79	0.03228
20	0.00037	80	0.03574
21	0.00040	81	0.03965
22	0.00044	82	0.04409
23	0.00047	83	0.04911
24	0.00051	84	0.05481
25	0.00054	85	0.06127
26	0.00059	86	0.06857
27	0.00064	87	0.07681
28	0.00069	88	0.08607
29	0.00075	89	0.09645
30	0.00080	90	0.10806
31	0.00086	91	0.12066
32	0.00092	92	0.13417
33	0.00098	93	0.14846
34	0.00105	94	0.16352
35	0.00113	95	0.17938
36	0.00121	96	0.19596
37	0.00132	97	0.21329
38	0.00144	98	0.23142
39	0.00157	99	0.25025
40	0.00172	100	0.26977
41	0.00189	101	0.29005
42	0.00208	102	0.31050
43	0.00230	103	0.33113
44	0.00251	104	0.35166
45	0.00274	105	0.37196
46	0.00297	106	0.39193
47	0.00322	107	0.41128
48	0.00349	108	0.42999
49	0.00377	109	0.44791
50	0.00408	110	0.46499
51	0.00416	111	0.48103
52	0.00425	112	0.49613
53	0.00436	113	0.50349
54	0.00450	114	0.50399
55	0.00467	115	0.50444
56	0.00486	116	0.50000
57	0.00508	118	0.50000
58	0.00534	118	0.50000
59	0.00565	119	0.50000

\* Beneficiary is defined as the selected annuitant(s) of living retirees who elected to be covered by SBP.

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



APPENDIX J

MORTALITY IMPROVEMENT FACTORS

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## MORTALITY IMPROVEMENT FACTORS DESCRIPTION

Mortality improvement (MI) factors project increasing life expectancies. The MI full generational factors in this valuation are based on military experience from FY 2000 through FY 2020. Methods and assumptions for smoothing and projection are similar to those in the Society of Actuaries (SOA) report on mortality improvement factors, titled “MP-2021<sup>1</sup>”. These factors are used to improve death rates for retirees, survivors, and spouses of retirees. Retiree factors are separate by enlisted and officer. We applied loads to the factors’ underlying death rates to reflect COVID-19 similar to those in the 2021 Social Security Trustees Report<sup>2</sup>.

Gender-specific adjustment factors are used to account for changes in the gender distribution expected to occur over time. These adjustment factors are similar to mortality improvement factors. From FY 2000 through 2020, the percentage of females among all retirees increased from 3% to 8%. These female percentages underlying the adjustment factors are projected to increase to an ultimate level of 15%.

Active duty and reserve personnel mortality improvement factors are based on the SOA standard actuarial mortality projection table, “MP-2021.” They are adjusted to reflect an 80%/20% male/female military population composition.

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<sup>1</sup> For an in-depth discussion of MP-2021, see:

<https://www.soa.org/resources/experience-studies/2021/mortality-improvement-scale-MP-2021/>

<sup>2</sup> <https://www.ssa.gov/OACT/TR/2021/tr2021.pdf>, page 87.



















APPENDIX K

25 YEAR PROJECTIONS

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NOTES

- Refer to the “NOTE REGARDING OPEN GROUP PROJECTIONS” in the Table 8 Footnotes in the FY 2022 Valuation Report for information related to this appendix.
- Non-CSB/REDUX includes High-3 and BRS benefit tiers.
- 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.
- P.L. 111-383 required amounts of retired pay and survivor annuities be paid on the first day of each of each month. When the first day of the month falls on a non-business day (weekend/holiday), the pay must be paid the preceding business day. 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 FY 2022 Valuation Report:

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

<u>Fiscal Year</u>	<u>COLA</u>	<u>Basic Pay</u>
2023	8.7%	4.6%
2024	3.1	5.2
2025	2.7	2.6
2026	2.3	2.6
2027	2.3	2.6
2028	2.3	2.6
2029	2.3	2.6
2030	2.3	2.6
2031	2.3	2.6
2032	2.5	2.6
2033+	2.5	2.75

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

(Dollar Amounts in Thousands)

<b>Fiscal Year</b>	<b>People at Year End (September 30th)</b>			<b>Dollars During Fiscal Year</b>		
	<b>Officers</b>	<b>Enlisted</b>	<b>Total</b>	<b>Officers</b>	<b>Enlisted</b>	<b>Total</b>
2022	264,235	1,168,999	1,433,234			
2023	263,196	1,156,583	1,419,779	\$23,888,111	\$47,854,783	\$71,742,894
2024	263,026	1,167,860	1,430,886	\$25,101,751	\$50,070,976	\$75,172,727
2025	262,292	1,162,012	1,424,304	\$25,770,368	\$51,315,571	\$77,085,939
2026	260,457	1,157,780	1,418,237	\$26,424,754	\$52,420,296	\$78,845,051
2027	259,382	1,153,574	1,412,956	\$27,075,076	\$53,592,345	\$80,667,421
2028	258,790	1,152,479	1,411,270	\$27,771,205	\$54,827,263	\$82,598,468
2029	258,790	1,152,479	1,411,270	\$28,517,713	\$56,158,570	\$84,676,283
2030	258,790	1,152,479	1,411,270	\$29,309,028	\$57,575,553	\$86,884,581
2031	258,790	1,152,479	1,411,270	\$30,141,160	\$59,050,704	\$89,191,863
2032	258,790	1,152,479	1,411,270	\$31,017,154	\$60,573,359	\$91,590,513
2033	258,790	1,152,479	1,411,270	\$31,975,380	\$62,195,394	\$94,170,774
2034	258,790	1,152,479	1,411,270	\$32,971,258	\$63,853,951	\$96,825,208
2035	258,790	1,152,479	1,411,270	\$34,003,250	\$65,591,568	\$99,594,818
2036	258,790	1,152,479	1,411,270	\$35,052,311	\$67,381,485	\$102,433,796
2037	258,790	1,152,479	1,411,270	\$36,114,601	\$69,189,215	\$105,303,816
2038	258,790	1,152,479	1,411,270	\$37,176,354	\$71,011,548	\$108,187,902
2039	258,790	1,152,479	1,411,270	\$38,252,138	\$72,881,774	\$111,133,912
2040	258,790	1,152,479	1,411,270	\$39,368,445	\$74,826,418	\$114,194,863
2041	258,790	1,152,479	1,411,270	\$40,522,449	\$76,871,115	\$117,393,565
2042	258,790	1,152,479	1,411,270	\$41,688,542	\$79,019,774	\$120,708,315
2043	258,790	1,152,479	1,411,270	\$42,867,444	\$81,245,679	\$124,113,123
2044	258,790	1,152,479	1,411,270	\$44,075,084	\$83,469,458	\$127,544,541
2045	258,790	1,152,479	1,411,270	\$45,305,354	\$85,734,651	\$131,040,005
2046	258,790	1,152,479	1,411,270	\$46,596,404	\$88,119,408	\$134,715,812
2047	258,790	1,152,479	1,411,270	\$47,933,921	\$90,583,474	\$138,517,395

**NONRETIRED RESERVISTS PERSONNEL AND PAY BY FISCAL YEAR**

(Dollar Amounts in Thousands)

<b>Fiscal Year</b>	<b>People at Year End (September 30th)</b>			<b>Dollars During Fiscal Year</b>		
	<b>Officers</b>	<b>Enlisted</b>	<b>Total</b>	<b>Officers</b>	<b>Enlisted</b>	<b>Total</b>
2022	117,144	564,835	681,979			
2023	115,598	569,420	685,018	\$3,046,057	\$5,614,791	\$8,660,848
2024	114,005	569,773	683,778	\$3,210,710	\$5,953,613	\$9,164,323
2025	114,317	572,478	686,795	\$3,311,649	\$6,093,879	\$9,405,527
2026	114,588	571,996	686,584	\$3,428,245	\$6,248,043	\$9,676,288
2027	115,099	573,791	688,890	\$3,548,727	\$6,392,200	\$9,940,927
2028	114,902	573,267	688,169	\$3,675,191	\$6,548,860	\$10,224,051
2029	114,902	573,267	688,169	\$3,801,890	\$6,708,844	\$10,510,734
2030	114,902	573,267	688,169	\$3,930,721	\$6,889,166	\$10,819,887
2031	114,902	573,267	688,169	\$4,060,462	\$7,069,414	\$11,129,876
2032	114,902	573,267	688,169	\$4,192,383	\$7,256,533	\$11,448,916
2033	114,902	573,267	688,169	\$4,333,305	\$7,454,527	\$11,787,832
2034	114,902	573,267	688,168	\$4,476,126	\$7,655,465	\$12,131,591
2035	114,902	573,267	688,168	\$4,619,219	\$7,861,480	\$12,480,699
2036	114,902	573,267	688,169	\$4,768,019	\$8,078,618	\$12,846,637
2037	114,902	573,267	688,169	\$4,928,160	\$8,302,464	\$13,230,624
2038	114,902	573,267	688,169	\$5,099,855	\$8,535,177	\$13,635,032
2039	114,902	573,267	688,169	\$5,273,054	\$8,773,241	\$14,046,295
2040	114,902	573,267	688,169	\$5,445,772	\$9,015,718	\$14,461,490
2041	114,902	573,267	688,169	\$5,618,762	\$9,261,777	\$14,880,538
2042	114,902	573,267	688,169	\$5,800,944	\$9,515,269	\$15,316,213
2043	114,902	573,267	688,169	\$5,994,556	\$9,777,638	\$15,772,194
2044	114,902	573,267	688,169	\$6,201,141	\$10,048,902	\$16,250,042
2045	114,902	573,267	688,169	\$6,415,171	\$10,327,167	\$16,742,338
2046	114,902	573,267	688,169	\$6,632,298	\$10,613,154	\$17,245,452
2047	114,902	573,267	688,169	\$6,851,743	\$10,905,663	\$17,757,406

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

Fiscal Year	Nondisabled (non-CSB/Redux)			Nondisabled (CSB/Redux)			Disabled			Grand Total
	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	
2022	535,073	1,278,917	1,813,990	6,366	86,871	93,237	24,054	112,414	136,468	2,043,695
2023	537,761	1,282,305	1,820,066	6,633	89,643	96,276	24,808	115,355	140,163	2,056,501
2024	539,757	1,284,745	1,824,502	6,829	91,193	98,022	25,574	118,146	143,720	2,066,238
2025	541,220	1,284,338	1,825,558	6,988	92,237	99,225	26,344	120,825	147,169	2,071,942
2026	542,327	1,283,571	1,825,898	7,120	92,926	100,046	27,111	123,411	150,523	2,076,379
2027	542,979	1,280,824	1,823,803	7,224	93,309	100,533	27,876	125,959	153,834	2,077,940
2028	543,175	1,277,036	1,820,211	7,306	93,427	100,733	28,632	128,424	157,056	2,077,569
2029	543,040	1,271,902	1,814,942	7,368	93,378	100,746	29,382	130,811	160,192	2,075,164
2030	542,623	1,266,218	1,808,842	7,411	93,180	100,591	30,127	133,137	163,264	2,071,569
2031	541,690	1,259,040	1,800,730	7,440	92,895	100,334	30,869	135,423	166,293	2,065,693
2032	540,073	1,250,439	1,790,512	7,456	92,532	99,988	31,607	137,665	169,271	2,057,385
2033	538,081	1,241,056	1,779,136	7,461	92,086	99,547	32,343	139,880	172,223	2,047,586
2034	535,788	1,230,528	1,766,317	7,454	91,549	99,003	33,075	142,076	175,151	2,036,075
2035	533,232	1,219,084	1,752,316	7,440	90,943	98,383	33,801	144,228	178,029	2,023,102
2036	530,606	1,207,503	1,738,109	7,420	90,268	97,687	34,525	146,347	180,871	2,009,630
2037	528,249	1,196,417	1,724,666	7,394	89,520	96,915	35,246	148,450	183,696	1,996,564
2038	526,236	1,185,541	1,711,777	7,363	88,693	96,057	35,972	150,553	186,524	1,983,235
2039	524,359	1,174,861	1,699,220	7,327	87,778	95,105	36,696	152,652	189,348	1,969,208
2040	522,679	1,163,724	1,686,403	7,285	86,766	94,051	37,411	154,741	192,152	1,954,555
2041	521,243	1,152,410	1,673,653	7,237	85,647	92,884	38,116	156,799	194,915	1,939,642
2042	520,262	1,140,711	1,660,973	7,183	84,409	91,592	38,816	158,813	197,628	1,924,538
2043	519,220	1,129,807	1,649,027	7,122	83,043	90,164	39,508	160,780	200,288	1,909,571
2044	518,504	1,119,925	1,638,429	7,052	81,536	88,589	40,192	162,746	202,938	1,895,327
2045	517,643	1,109,006	1,626,649	6,974	79,881	86,855	40,870	164,727	205,597	1,879,847
2046	516,649	1,097,759	1,614,408	6,886	78,068	84,954	41,531	166,672	208,203	1,863,680
2047	515,803	1,086,924	1,602,727	6,787	76,091	82,878	42,178	168,582	210,760	1,847,758

\*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.

*Technical Reference to the FY 2022 Valuation of the Military Retirement Fund*

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

(Dollar Amounts in Thousands)

Fiscal Year	Nondisabled (non-CSB/Redux)			Nondisabled (CSB/Redux)			Disabled			Grand Total
	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	
2023	\$29,624,942	\$34,204,080	\$63,829,021	\$336,732	\$2,340,352	\$2,677,085	\$823,927	\$1,591,970	\$2,415,897	\$68,922,003
2024	\$31,136,542	\$35,823,796	\$66,960,338	\$367,410	\$2,510,561	\$2,877,971	\$880,701	\$1,713,054	\$2,593,755	\$72,432,065
2025	\$32,194,010	\$36,921,173	\$69,115,184	\$392,021	\$2,627,937	\$3,019,957	\$928,342	\$1,813,920	\$2,742,262	\$74,877,403
2026	\$33,150,768	\$37,905,689	\$71,056,456	\$414,525	\$2,728,737	\$3,143,262	\$975,401	\$1,911,576	\$2,886,977	\$77,086,696
2027	\$34,091,192	\$38,868,168	\$72,959,360	\$436,289	\$2,822,964	\$3,259,253	\$1,024,093	\$2,010,975	\$3,035,068	\$79,253,681
2028	\$35,036,414	\$39,827,080	\$74,863,495	\$458,296	\$2,915,166	\$3,373,462	\$1,075,170	\$2,113,518	\$3,188,688	\$81,425,644
2029	\$35,988,833	\$40,786,190	\$76,775,023	\$480,403	\$3,012,038	\$3,492,441	\$1,128,449	\$2,218,503	\$3,346,952	\$83,614,416
2030	\$36,952,554	\$41,757,917	\$78,710,471	\$503,555	\$3,124,452	\$3,628,007	\$1,184,163	\$2,326,269	\$3,510,432	\$85,848,910
2031	\$37,921,298	\$42,727,885	\$80,649,183	\$530,571	\$3,265,496	\$3,796,067	\$1,242,535	\$2,437,275	\$3,679,810	\$88,125,060
2032	\$38,942,887	\$43,760,917	\$82,703,804	\$561,220	\$3,435,966	\$3,997,187	\$1,305,573	\$2,555,421	\$3,860,994	\$90,561,985
2033	\$39,979,279	\$44,822,301	\$84,801,579	\$590,094	\$3,606,175	\$4,196,269	\$1,372,119	\$2,678,788	\$4,050,907	\$93,048,756
2034	\$41,016,550	\$45,864,870	\$86,881,420	\$615,913	\$3,758,805	\$4,374,718	\$1,441,842	\$2,806,968	\$4,248,811	\$95,504,949
2035	\$42,058,979	\$46,896,562	\$88,955,541	\$638,044	\$3,898,465	\$4,536,509	\$1,514,698	\$2,939,709	\$4,454,407	\$97,946,456
2036	\$43,112,174	\$47,939,691	\$91,051,864	\$657,644	\$4,026,123	\$4,683,767	\$1,590,856	\$3,076,807	\$4,667,664	\$100,403,295
2037	\$44,196,536	\$49,025,382	\$93,221,918	\$675,090	\$4,143,492	\$4,818,582	\$1,670,327	\$3,218,775	\$4,889,102	\$102,929,601
2038	\$45,326,738	\$50,223,014	\$95,549,752	\$691,172	\$4,248,969	\$4,940,141	\$1,753,867	\$3,366,418	\$5,120,285	\$105,610,178
2039	\$46,485,344	\$51,448,867	\$97,934,212	\$705,559	\$4,343,615	\$5,049,174	\$1,841,738	\$3,519,789	\$5,361,527	\$108,344,913
2040	\$47,665,766	\$52,494,705	\$100,160,470	\$718,632	\$4,429,910	\$5,148,542	\$1,933,201	\$3,678,636	\$5,611,837	\$110,920,849
2041	\$48,873,929	\$53,500,610	\$102,374,538	\$730,490	\$4,506,347	\$5,236,837	\$2,027,867	\$3,841,950	\$5,869,817	\$113,481,193
2042	\$50,151,499	\$54,451,500	\$104,602,998	\$741,538	\$4,574,019	\$5,315,557	\$2,126,055	\$4,009,268	\$6,135,323	\$116,053,878
2043	\$51,440,712	\$55,468,646	\$106,909,358	\$751,186	\$4,629,439	\$5,380,625	\$2,227,852	\$4,179,797	\$6,407,649	\$118,697,632
2044	\$52,760,315	\$56,517,955	\$109,278,270	\$759,229	\$4,672,943	\$5,432,173	\$2,333,406	\$4,354,555	\$6,687,961	\$121,398,404
2045	\$54,089,137	\$57,406,426	\$111,495,563	\$765,850	\$4,701,204	\$5,467,055	\$2,442,652	\$4,535,209	\$6,977,861	\$123,940,479
2046	\$55,425,587	\$58,279,267	\$113,704,854	\$771,711	\$4,711,009	\$5,482,719	\$2,555,122	\$4,721,094	\$7,276,216	\$126,463,789
2047	\$56,788,917	\$59,170,723	\$115,959,639	\$776,530	\$4,699,274	\$5,475,805	\$2,670,216	\$4,910,828	\$7,581,043	\$129,016,487

\*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.



**RETIREE GAIN STATEMENT**

Fiscal Year	Gains During the Fiscal Year						Average Starting Net Retired Pay Before CPI Increase					
	Nondisabled (non-CSB/Redux)		Nondisabled (CSB/Redux)		Disabled		Nondisabled (non-CSB/Redux)		Nondisabled (CSB/Redux)		Disabled	
	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted
2023	16,372	39,545	275	2,977	1,419	5,356	\$53,832	\$23,855	\$75,336	\$34,950	\$52,385	\$25,753
2024	15,656	38,595	205	1,773	1,418	5,270	\$56,400	\$26,074	\$84,916	\$41,857	\$55,415	\$27,662
2025	15,258	36,074	169	1,286	1,417	5,210	\$59,451	\$27,721	\$93,914	\$46,902	\$59,010	\$29,818
2026	15,051	35,932	142	953	1,414	5,156	\$62,276	\$29,310	\$102,706	\$52,190	\$62,544	\$31,742
2027	14,755	34,154	116	671	1,410	5,154	\$64,348	\$30,648	\$109,950	\$57,625	\$66,090	\$33,799
2028	14,465	33,309	95	432	1,404	5,107	\$66,392	\$31,783	\$117,593	\$64,939	\$69,707	\$35,742
2029	14,303	32,131	75	296	1,399	5,058	\$68,214	\$32,854	\$124,167	\$71,217	\$73,576	\$37,791
2030	14,190	31,712	58	180	1,398	5,026	\$70,145	\$34,077	\$131,967	\$79,940	\$77,914	\$39,951
2031	13,842	30,351	45	131	1,397	5,017	\$72,485	\$35,225	\$139,895	\$84,736	\$82,701	\$42,333
2032	13,316	29,009	35	96	1,395	5,003	\$75,457	\$36,955	\$147,117	\$89,247	\$87,784	\$44,725
2033	13,091	28,281	25	60	1,398	5,009	\$77,499	\$38,423	\$157,071	\$94,663	\$93,439	\$47,341
2034	12,929	27,251	16	21	1,396	5,021	\$79,497	\$39,559	\$171,323	\$102,941	\$99,496	\$50,179
2035	12,778	26,425	11	9	1,394	5,005	\$81,751	\$40,822	\$184,283	\$110,916	\$105,499	\$52,910
2036	12,795	26,326	8	4	1,394	4,997	\$83,896	\$42,026	\$196,184	\$118,947	\$111,882	\$55,769
2037	13,105	26,751	5	2	1,395	5,001	\$85,603	\$42,979	\$208,831	\$126,465	\$118,489	\$58,691
2038	13,460	26,437	4	1	1,402	5,018	\$87,094	\$43,016	\$222,353	\$133,724	\$125,951	\$62,359
2039	13,571	25,860	2	0	1,404	5,027	\$88,384	\$42,616	\$236,391	\$140,865	\$133,989	\$66,632
2040	13,721	25,243	1	0	1,399	5,026	\$90,144	\$42,920	\$251,025	\$147,409	\$141,066	\$70,772
2041	13,891	24,901	1	0	1,394	5,004	\$92,122	\$43,112	\$261,036	\$152,069	\$146,827	\$74,321
2042	14,182	24,419	0	0	1,394	4,971	\$93,296	\$43,258	\$260,073	\$153,825	\$156,032	\$77,330
2043	13,950	24,703	0	0	1,394	4,937	\$95,121	\$43,445	\$260,729	\$158,477	\$165,359	\$79,566
2044	14,072	25,083	0	0	1,393	4,952	\$96,927	\$43,973	\$271,989	\$156,644	\$172,807	\$81,392
2045	13,738	23,868	0	0	1,396	4,989	\$99,540	\$44,682	\$0	\$0	\$180,663	\$82,999
2046	13,410	23,188	0	0	1,389	4,979	\$102,218	\$45,673	\$0	\$0	\$188,014	\$83,821
2047	13,355	23,103	0	0	1,387	4,975	\$104,527	\$46,627	\$0	\$0	\$195,071	\$83,929

\*This projection includes retired from active and reserve duty. The retired pay does not include the BRS lump sum payouts.

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

\*\*The difference in average retired pay between Non-CSB/Redux and CSB/Redux is due to CSB/Redux retirees typically retiring with higher years of service and pay than non-CSB/Redux retirees.

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

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

<u>Fiscal Year</u>	<u>Active Non-CSB/Redux</u>	<u>Active CSB/Redux</u>	<u>Reserve</u>	<u>Minimum Income</u>	<u>Death on Active Duty</u>	<u>RSFPP</u>	<u>Total</u>
2022	206,163	579	95,088	39	14,839	2,530	319,238
2023	206,667	652	98,713	29	13,950	2,169	322,180
2024	206,721	734	102,154	24	13,162	1,852	324,647
2025	206,426	826	105,535	20	12,460	1,577	326,843
2026	205,837	929	108,842	16	11,903	1,341	328,868
2027	204,984	1,044	112,042	13	11,486	1,139	330,709
2028	203,892	1,173	115,108	11	11,151	969	332,304
2029	202,602	1,317	118,015	9	10,863	827	333,631
2030	201,166	1,477	120,735	8	10,625	708	334,717
2031	199,639	1,655	123,241	6	10,437	611	335,586
2032	198,063	1,852	125,505	5	10,296	531	336,249
2033	196,485	2,071	127,509	4	10,189	466	336,717
2034	194,944	2,313	129,233	3	10,105	413	337,003
2035	193,469	2,580	130,661	3	10,047	370	337,117
2036	192,076	2,874	131,774	2	10,009	335	337,054
2037	190,778	3,197	132,562	2	9,980	307	336,804
2038	189,589	3,551	133,028	1	9,966	284	336,392
2039	188,507	3,940	133,169	1	9,967	265	335,815
2040	187,519	4,366	132,993	1	9,972	248	335,054
2041	186,609	4,831	132,508	1	9,978	234	334,105
2042	185,760	5,339	131,735	0	9,992	222	332,979
2043	184,955	5,890	130,705	0	10,009	211	331,684
2044	184,173	6,487	129,451	0	10,023	201	330,232
2045	183,397	7,132	128,012	0	10,035	191	328,642
2046	182,604	7,822	126,430	0	10,045	182	326,935
2047	181,779	8,559	124,745	0	10,052	173	325,131

\*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.

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

(Dollar Amounts in Thousands)

<b>Fiscal Year</b>	<b>Active Non-CSB/Redux</b>	<b>Active CSB/Redux</b>	<b>Reserve</b>	<b>Minimum Income</b>	<b>Death on Active Duty</b>	<b>RSFPP</b>	<b>Total</b>
2023	\$3,993,873	\$9,621	\$988,653	\$355	\$241,509	\$6,264	\$5,240,274
2024	\$4,161,410	\$11,475	\$1,071,994	\$282	\$244,005	\$5,535	\$5,494,701
2025	\$4,263,645	\$13,441	\$1,142,272	\$238	\$243,457	\$4,848	\$5,667,900
2026	\$4,347,381	\$15,700	\$1,211,212	\$200	\$243,614	\$4,247	\$5,822,353
2027	\$4,424,798	\$18,324	\$1,281,617	\$168	\$245,662	\$3,727	\$5,974,295
2028	\$4,499,972	\$21,316	\$1,354,307	\$142	\$249,186	\$3,283	\$6,128,206
2029	\$4,573,160	\$24,858	\$1,428,949	\$120	\$253,515	\$2,907	\$6,283,511
2030	\$4,644,970	\$28,923	\$1,505,232	\$102	\$258,671	\$2,592	\$6,440,490
2031	\$4,716,007	\$33,622	\$1,582,781	\$86	\$264,679	\$2,330	\$6,599,504
2032	\$4,794,122	\$39,037	\$1,663,625	\$73	\$271,773	\$2,114	\$6,770,745
2033	\$4,875,685	\$45,182	\$1,745,912	\$62	\$279,465	\$1,939	\$6,948,244
2034	\$4,959,255	\$52,126	\$1,828,429	\$52	\$287,547	\$1,797	\$7,129,206
2035	\$5,045,747	\$60,003	\$1,910,682	\$43	\$296,052	\$1,683	\$7,314,210
2036	\$5,135,817	\$68,840	\$1,992,107	\$36	\$304,947	\$1,591	\$7,503,339
2037	\$5,230,154	\$78,765	\$2,072,073	\$29	\$314,018	\$1,518	\$7,696,556
2038	\$5,329,312	\$89,916	\$2,150,083	\$24	\$323,354	\$1,459	\$7,894,148
2039	\$5,433,802	\$102,531	\$2,225,752	\$20	\$333,055	\$1,412	\$8,096,571
2040	\$5,543,913	\$116,718	\$2,298,672	\$16	\$342,982	\$1,373	\$8,303,673
2041	\$5,659,663	\$132,713	\$2,368,541	\$13	\$353,103	\$1,340	\$8,515,373
2042	\$5,781,116	\$150,710	\$2,435,183	\$10	\$363,526	\$1,312	\$8,731,856
2043	\$5,908,063	\$170,968	\$2,498,576	\$8	\$374,227	\$1,286	\$8,953,128
2044	\$6,040,735	\$193,737	\$2,558,828	\$6	\$385,083	\$1,261	\$9,179,650
2045	\$6,179,017	\$219,285	\$2,616,228	\$5	\$396,097	\$1,236	\$9,411,869
2046	\$6,322,516	\$247,816	\$2,671,105	\$3	\$407,282	\$1,210	\$9,649,932
2047	\$6,471,305	\$279,525	\$2,723,865	\$3	\$418,627	\$1,182	\$9,894,506

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

**TOTAL PROJECTED BASIC PAY AND RETIRED OUTLAYS**

(Dollar Amounts in Thousands)

<b>Fiscal Year</b>	<b>Total Projected Basic Pay</b>	<b>Total Projected Outlays</b>	<b>Retired Outlays Over Basic Pay</b>
2023	\$80,403,742	\$74,162,277	92.2%
2024	\$84,337,050	\$77,926,766	92.4%
2025	\$86,491,466	\$80,545,303	93.1%
2026	\$88,521,339	\$82,909,049	93.7%
2027	\$90,608,349	\$85,227,976	94.1%
2028	\$92,822,520	\$87,553,850	94.3%
2029	\$95,187,017	\$89,897,927	94.4%
2030	\$97,704,468	\$92,289,399	94.5%
2031	\$100,321,739	\$94,724,564	94.4%
2032	\$103,039,429	\$97,332,729	94.5%
2033	\$105,958,607	\$99,997,000	94.4%
2034	\$108,956,799	\$102,634,155	94.2%
2035	\$112,075,517	\$105,260,666	93.9%
2036	\$115,280,433	\$107,906,634	93.6%
2037	\$118,534,440	\$110,626,157	93.3%
2038	\$121,822,933	\$113,504,326	93.2%
2039	\$125,180,207	\$116,441,485	93.0%
2040	\$128,656,353	\$119,224,523	92.7%
2041	\$132,274,103	\$121,996,566	92.2%
2042	\$136,024,528	\$124,785,735	91.7%
2043	\$139,885,317	\$127,650,760	91.3%
2044	\$143,794,584	\$130,578,054	90.8%
2045	\$147,782,343	\$133,352,347	90.2%
2046	\$151,961,264	\$136,113,721	89.6%
2047	\$156,274,801	\$138,910,994	88.9%

\*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.

APPENDIX L

TREASURY PAYMENTS

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

### **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 MRF. The section also states that these methods and assumptions must be approved by the Board. The resulting payments are made by the Treasury to the MRF and do not affect the DoD budget.

There are three causes of changes in the Military Retirement Fund's unfunded liability—changes in benefits, annual experience gains or losses resulting from actual experience deviating from expected experience, and changes in actuarial assumptions used in the projected liability calculations. When a change in the unfunded liability does not fit into one of the three categories, the Board determines 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 20 years weighted by the absolute value of the new liability and 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. At its July 2021 meeting, the Board adopted a methodology change for amortizing the unfunded liability, moving from maintaining separate remaining amortization periods for amortizing experience gains and losses, assumption changes, and benefit changes bases to a combined 20-year layered basis.

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 offset any positive amortization payments otherwise payable, including the (positive) payments amortizing the system's initial UFL.

CALCULATION OF THE OCTOBER 1, 2023,  
TREASURY PAYMENT

The following pages display the calculation of the October 1, 2023, Treasury payment based on the September 30, 2022, valuation results and amortization methods and assumptions approved by the Board.

NDAA 2021 added the USCG to the MRF in FY 2023. USCG is included in the September 30, 2022, MRF valuation. In the July 2023 meeting, the Board approved a 3-year amortization period to pay off the initial unfunded liability for the USCG with the first payment in FY 2024.

Treasury concurrent receipt normal costs displayed on the next page reflect actuarially calculated amounts. However, due to the Budget Control Act of 2011, in both FY 2022 and 2023, actual Treasury contributions for these amounts were reduced (or sequestered). The reductions were 8.3% (or \$0.961 billion) in FY 2023 and 8.3% (or \$1.80 billion) in FY 2024. The Board decided to treat the FY 2023 sequestered amount of \$0.961 billion as an experience loss in the FY 2022 valuation, and amortized it (brought forward with valuation interest rate) over one year.

TABLE L-1

TOTAL TREASURY PAYMENT  
OCTOBER 1, 2023 AND OCTOBER 1, 2022

(\$ in billions)

	<u>October 1, 2023</u>	<u>October 1, 2022</u>
Amortization payment for:		
1. Initial unfunded liability	\$108.303	\$105.404
2. Initial unfunded liability amortization for Coast Guard	\$20.953	
2. Changes in benefits	\$7.768	\$7.676
3. Gains and Losses Amortization		
a. Changes in actuarial assumptions	\$21.608	\$17.162
b. Actuarial experience	-\$8.11	-\$10.80
c. Unpaid contribution	\$0.999	\$0.995
Total amortization payment	<u>\$151.521</u>	<u>\$120.438</u>
Normal cost payment	<u>\$21.673</u>	<u>\$11.573</u>
Total Treasury payment	\$173.194	\$132.011

Note: Normal cost payments have not reflected the sequestration-mandated reductions.



TABLE L-2

CALCULATION OF OCTOBER 1, 2023,  
PAYMENT ON INITIAL UNFUNDED LIABILITY (UFL)

(\$ in billions)

		<u>MRF Initial Unfunded Liability</u>	<u>USCG Initial Unfunded Liability</u>
1. Unamortized balance of initial UFL (10/1/21 balance x 1.0400)	9/30/22	\$414.077	\$59.719
2. Payment on UFL	10/1/22	\$105.404	\$0.000
3. Unamortized balance of UFL (1. - 2.)	10/1/22	\$308.673	\$59.719
4. Balance on 9/30/23 (3. x 1.0400)	9/30/23	\$321.020	\$62.108
5. Number of Annual Payments Remaining	9/30/23	3	3
6. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0400 \div 1.0275) - 1$		2.964	2.964
7. Payment on initial UFL due 10/1/23 (4. ÷ 6.)		<u>\$108.303</u>	<u>\$20.953</u>

TABLE L-3

CALCULATION OF OCTOBER 1, 2023,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM BENEFIT CHANGES

(\$ in billions)

1. Unamortized UFL balance due to benefit changes (10/1/21 balance x 1.0400)	9/30/22	\$131.674
2. Payment on UFL	10/01/22	\$7.676
3. Unamortized UFL balance after payment (1. - 2.)	10/01/22	\$123.998
4. Additional (new) UFL due to benefit changes	9/30/22	\$0.000
5. Unamortized UFL balance due to benefit changes (3. + 4.)	10/01/22	\$123.998
6. Balance on 9/30/23 (5. x 1.0400)	9/30/23	\$128.958
7. Number of years in new amortization schedule (absolute values used for all numbers)		18.406
8. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0400 \div 1.0275) - 1$		\$16.602
9. Payment on UFL due to benefit changes (6. $\div$ 8.)	10/01/23	\$7.768

TABLE L-4

CALCULATION OF OCTOBER 1, 2023,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM ASSUMPTION CHANGES

(\$ in billions)

1. Unamortized balance of UFL due to assumption changes (10/1/21 balance x 1.0400)	9/30/22	294.387
2. Payment on UFL	10/1/22	17.162
3. Unamortized UFL balance after payment (1. - 2.)	10/1/22	277.225
4. Additional (new) UFL	9/30/22	67.709
5. Unamortized UFL balance due to assumption changes (3. + 4.)	10/1/22	344.934
6. Balance on 9/30/23 (5. x 1.0400)	9/30/23	358.731
7. Number of years in new amortization schedule (absolute values used for all numbers)		18.406
8. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0400 \div 1.0275) - 1$		16.602
9. Payment on UFL due to assumption changes (6. $\div$ 8.)	10/1/23	<u>\$21.608</u>

TABLE L-5

CALCULATION OF OCTOBER 1, 2023,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM EXPERIENCE GAINS AND LOSSES

(\$ in billions)

1. Unamortized UFL balance of UFL due to experience gains and losses (10/1/21 balance x 1.0400)	9/30/22	(\$184.233)
2. Payment on UFL	10/01/22	(\$9.804)
3. Unamortized UFL balance after payment (1. - 2.)	10/01/22	(\$174.429)
4. Additional (new) UFL	9/30/22	\$44.960
5. Unamortized UFL balance due to experience gains and losses (3. + 4.)	10/01/22	(\$129.469)
6. Balance on 9/30/23 (5. x 1.0400)	9/30/23	(\$134.648)
7. Number of years in amortization schedule (absolute values used for all numbers)		18.406
8. Value of an annuity due for remaining amortization period at interest rate equal to $(1.0400 \div 1.0275) - 1$		16.602
9. Payment* on UFL due to experience gains and losses (6. ÷ 8.)	10/1/23	<u>(\$8.110)</u>

\* Excludes payment on loss due to 10/1/22 unpaid (sequestered) contribution.